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Tuesday  
April 13, 1999

# Federal Register

**Briefings on how to use the Federal Register**  
For information on briefings in Washington, DC, see  
announcement on the inside cover of this issue.



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- WHO:** Sponsored by the Office of the Federal Register.
- WHAT:** Free public briefings (approximately 3 hours) to present:
1. The regulatory process, with a focus on the Federal Register system and the public's role in the development regulations.
  2. The relationship between the Federal Register and Code of Federal Regulations.
  3. The important elements of typical Federal Register documents.
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- WHY:** To provide the public with access to information necessary to research Federal agency regulations which directly affect them. There will be no discussion of specific agency regulations.

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- WHERE:** Office of the Federal Register  
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800 North Capitol Street, NW.  
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(3 blocks north of Union Station Metro)
- RESERVATIONS:** 202-523-4538



# Contents

## Federal Register

Vol. 64, No. 70

Tuesday, April 13, 1999

### Agriculture Department

See Cooperative State Research, Education, and Extension Service  
 See Farm Service Agency  
 See Foreign Agricultural Service  
 See Forest Service  
 See Grain Inspection, Packers and Stockyards Administration  
 See Natural Resources Conservation Service

### Alcohol, Tobacco and Firearms Bureau

#### NOTICES

Agency information collection activities:  
 Proposed collection; comment request, 18068–18070

### Centers for Disease Control and Prevention

#### NOTICES

Grants and cooperative agreements; availability, etc.:  
 Health communication research, 18033–18034

### Children and Families Administration

#### NOTICES

Grants and cooperative agreements; availability, etc.:  
 Head Start—  
 University-head start partnerships and headstart research scholars, 18035

### Commerce Department

See Export Administration Bureau  
 See International Trade Administration  
 See National Oceanic and Atmospheric Administration  
 See National Telecommunications and Information Administration

### Cooperative State Research, Education, and Extension Service

#### NOTICES

Meetings:  
 Strategic Planning Task Force on Research Facilities, 17993

### Corporation for National and Community Service

#### NOTICES

AmeriCorps funds; match requirements waiver:  
 Virgin Islands, Guam, American Samoa, and Northern Mariana Islands, 18004–18005

### Defense Department

#### NOTICES

Travel per diem rates, civilian personnel; changes; correction, 18075–18080

### Drug Enforcement Administration

#### NOTICES

*Applications, hearings, determinations, etc.:*  
 Church of the Living Tree, 18056  
 Ethical Nutritionals, LLC, 18056–18057  
 High Standard Products, 18057

### Education Department

#### NOTICES

Grants and cooperative agreements; availability, etc.:  
 Bilingual education and minority languages affairs—  
 Bilingual training for all teachers; correction, 18005

### Energy Department

See Federal Energy Regulatory Commission

#### NOTICES

Electric energy; export and import authorizations, permits, etc.:  
 Sumas Energy 2, Inc., 18005  
 Grants and cooperative agreements; availability, etc.:  
 On-line temperature measurement instrumentation for gasification process control, 18005–18006  
 Meetings:  
 Environmental Management Advisory Board; correction, 18006  
 Reports and guidance documents; availability, etc.:  
 Foreign research reactor spent fuel fee policy, 18006–18007

### Environmental Protection Agency

#### RULES

Air quality implementation plans; approval and promulgation; various States:  
 District of Columbia, 17982

#### PROPOSED RULES

Air quality implementation plans; approval and promulgation; various States:  
 Idaho; correction, 17990–17991

#### NOTICES

Agency information collection activities:  
 Submission for OMB review; comment request, 18015–18016  
 Meetings:  
 State FIFRA Issues Research and Evaluation Group, 18016  
 Superfund; response and remedial actions, proposed settlements, etc.:  
 Evergreen Manor Groundwater Contamination Site, IL, 18016–18017  
 Metal Bank Superfund Site, PA, 18017  
 Toxic and hazardous substances control:  
 Lead-based paint activities in target housing and child-occupied facilities; State and Indian Tribe authorization applications—  
 Colorado, 18017–18020

### Executive Office of the President

See Presidential Documents

### Export Administration Bureau

#### RULES

Export licensing:  
 Organization of American States (OAS); model regulations for control of international movement of firearms, parts, components, and ammunition, 17968–17975

**Farm Service Agency****RULES**

## Special programs:

Dairy indemnity payment program, 17942-17943

**Federal Aviation Administration****RULES**

## Airworthiness directives:

CFM International, 17962-17964

General Electric Co., 17951-17954, 17958-17962

International Aero Engines, 17956-17958

Pratt &amp; Whitney, 17947-17956

Robinson Helicopter Co., 17964-17968

**PROPOSED RULES**

## Air traffic operating and flight rules, etc.:

Parachute operations, 18301-18314

## Class E airspace, 17983-17985

**NOTICES**

## Environmental statements; availability, etc.:

Toledo Express Airport, OH; noise compatibility plan, 18065

## Environmental statements; notice of intent:

T.F. Green Airport, Warwick, RI; noise compatibility program, 18065

## Passenger facility charges; applications, etc.:

John F. Kennedy International Airport, NY, et al., 18065-18066

Metropolitan Oakland International Airport, CA, 18066-18067

**Federal Communications Commission****NOTICES**

## Agency information collection activities:

Proposed collection; comment request, 18020-18021

Submission for OMB review; comment request, 18021-18023

## Meetings; Sunshine Act, 18023-18024

**Federal Deposit Insurance Corporation****NOTICES**

## Meetings; Sunshine Act, 18024

**Federal Energy Regulatory Commission****NOTICES**

## Electric rate and corporate regulation filings:

Electrade Corp. et al., 18012-18014

## Hydroelectric applications, 18014-18015

*Applications, hearings, determinations, etc.:*

ANR Pipeline Co., 18007-18008

CNG Transmission Corp., 18008

Columbia Gas Transmission Corp., 18008

El Paso Natural Gas Co., 18008-18009

Iroquois Gas Transmission System, L.P., 18009

Kern River Gas Transmission Co., 18009

Mississippi River Transmission Corp., 18009-18010

Reliant Energy Gas Transmission Co., 18010

Transcontinental Gas Pipe Line Corp., 18010-18012

Williams Gas Pipelines Central, Inc., 18012

**Federal Housing Enterprise Oversight Office****PROPOSED RULES**

## Risk-based capital:

Stress tests; house price index (HPI) use and benchmark loss experience establishment, 18083-18300

**Federal Maritime Commission****NOTICES**

## Freight forwarder licenses:

Air-Mar Shipping, Inc., et al., 18024-18025

Irwin Brown Co., 18025

**Federal Reserve System****NOTICES**

## Banks and bank holding companies:

Formations, acquisitions, and mergers, 18025

## Meetings; Sunshine Act, 18025

**Federal Trade Commission****PROPOSED RULES**

## Industry guides:

Dog and cat food industry; correction, 18081

Law book industry; correction, 18081

**NOTICES**

Premerger notification waiting periods; early terminations, 18025-18032

**Fish and Wildlife Service****PROPOSED RULES**

## National wildlife refuge system:

Lead Free Fishing Areas; fishing sinkers and jigs made with lead; prohibited use, 17992

**Food and Drug Administration****PROPOSED RULES**

## Human drugs:

Progestational drug products; labeling directed to patient, 17985-17988

**NOTICES**

## Human drugs:

Progestational drug products; warnings and contraindications on physician and patient labeling, 18035-18036

**Foreign Agricultural Service****NOTICES**

## Committees; establishment, renewal, termination, etc.:

Agricultural Policy Advisory Committee for Trade, et al., 17993-17994

**Forest Service****NOTICES**

## Environmental statements; notice of intent:

Delta and Gunnison Counties, CO; coal lease and exploration, 18044-18046

## Meetings:

Oregon Coast Provincial Advisory Committee, 17994

**General Accounting Office****NOTICES**

## Meetings:

Federal Accounting Standards Advisory Board, 18032

**Grain Inspection, Packers and Stockyards Administration****NOTICES**

## Meetings:

Grain Inspection Advisory Committee, 17994

**Health and Human Services Department**

See Centers for Disease Control and Prevention

See Children and Families Administration

See Food and Drug Administration

See National Institutes of Health

See Public Health Service

**Housing and Urban Development Department**  
See Federal Housing Enterprise Oversight Office  
**NOTICES**

Agency information collection activities:  
Proposed collection; comment request, 18040  
Grants and cooperative agreements awards:  
Public and Indian housing—  
Economic Development and Supportive Services and  
Tenant Opportunities Programs, 18040-18044

**Immigration and Naturalization Service**  
**RULES**

Immigration:  
Commercial delivery service as a form of personal service  
for the delivery of Notices of Intention to Fine,  
17943-17944

**Interior Department**

See Fish and Wildlife Service  
See Land Management Bureau  
See Minerals Management Service  
See National Park Service  
See Surface Mining Reclamation and Enforcement Office

**Internal Revenue Service**

**NOTICES**  
Agency information collection activities:  
Proposed collection; comment request, 18070-18073  
Meetings:  
Citizen Advocacy Panel, 18073-18074

**International Trade Administration**

**NOTICES**  
Antidumping:  
Steel wire rope from—  
Korea, 17995-17998  
Welded carbon steel pipes and tubes from—  
Thailand, 17998-18001  
Countervailing duties:  
Cut-to-length carbon steel plate from—  
Belgium, 18001-18003

**Justice Department**

See Drug Enforcement Administration  
See Immigration and Naturalization Service

**RULES**

Privacy Act:  
Systems of records, 17977-17978

**NOTICES**

Pollution control; consent judgments:  
Gallatin Steel Co., 18049-18050  
Prairie Sand & Gravel, Inc., 18050  
Ribi Immunochem Research, Inc., et al., 18050-18051  
Riehl, Ralph, Jr., et al., 18051  
Yellowstone Pipe Line Co. et al., 18051  
Privacy Act:  
Systems of records, 18051-18056

**Land Management Bureau**

**NOTICES**

Closure of public lands:  
Nevada, 18044  
Environmental statements; notice of intent:  
Delta and Gunnison Counties, CO; coal lease and  
exploration, 18044-18046  
Meetings:  
Resource advisory councils—  
Southeast Oregon, 18047

Southwest, 18046  
Survey plat filings:  
Nevada, 18047  
Wisconsin, 18047-18048  
Withdrawal and reservation of lands:  
Idaho; correction, 18048

**Minerals Management Service**

**PROPOSED RULES**

Royalty management:  
Oil value for royalty due on Federal leases; comment  
extension, 17990

**National Institutes of Health**

**NOTICES**

Meetings:  
National Cancer Institute, 18036  
National Heart, Lung, and Blood Institute, 18036-18037  
National Institute of Allergy and Infectious Diseases,  
18037-18038  
National Institute of Diabetes and Digestive and Kidney  
Diseases, 18037-18038  
Scientific Review Center, 18038-18039

**National Oceanic and Atmospheric Administration**

**NOTICES**

Meetings:  
Western Pacific Fishery Management Council, 18003-  
18004

**National Park Service**

**NOTICES**

Boundary establishment, descriptions, etc.:  
Point Reyes National Seashore, CA, 18048  
Meetings:  
Kaloko-Honokohau National Historical Park Advisory  
Commission, 18048  
National Register of Historic Places:  
Pending nominations, 18048-18049  
Official insignia:  
Bicentennial Anniversary of the Lewis and Clark  
Expedition, 20003-20006; designation, 18049

**National Telecommunications and Information  
Administration**

**NOTICES**

Grants and cooperative agreements; availability, etc.:  
Public telecommunications facilities program, 18004

**National Transportation Safety Board**

**NOTICES**

Meetings; Sunshine Act, 18057

**Natural Resources Conservation Service**

**NOTICES**

Field office technical guides; changes:  
Indiana, 17994  
Louisiana, 17995

**Nuclear Regulatory Commission**

**RULES**

Production and utilization facilities; domestic licensing:  
Nuclear power plants—  
IEEE national consensus standard; safety systems;  
power, instrumentation and control portions;  
incorporation by reference, 17944-17946

Nuclear power reactors—  
Emergency preparedness programs, safeguards  
contingency plans, and security programs;  
licensees' independent reviews and audits;  
correction, 17947

**NOTICES**

Agency information collection activities:  
Proposed collection; comment request, 18057–18058  
Submission for OMB review; comment request, 18058  
Environmental statements; availability, etc.:  
Niagara Mohawk Power Corp., 18059–18062  
*Applications, hearings, determinations, etc.:*  
Baltimore Gas & Electric Co., 18058–18059

**Office of Federal Housing Enterprise Oversight**  
See Federal Housing Enterprise Oversight Office

**Personnel Management Office****RULES**

Prevailing rate systems, 17941–17941

**Presidential Documents****PROCLAMATIONS**

*Special observances:*  
Former Prisoner of War Recognition Day, National (Proc.  
7182), 18319–18322  
Pan American Day and Pan American Week (Proc. 7181),  
18315–18318

**Public Health Service**

See Centers for Disease Control and Prevention  
See Food and Drug Administration  
See National Institutes of Health

**NOTICES**

Meetings:  
National Toxicology Program—  
Special Emphasis Panel, 18040

**Securities and Exchange Commission****NOTICES**

*Applications, hearings, determinations, etc.:*  
Goldman Sachs Group, Inc., et al., 18062–18063

**Small Business Administration****NOTICES**

Intergovernmental review of agency programs and  
activities, 18064–18065

**Surface Mining Reclamation and Enforcement Office****RULES**

Permanent program and abandoned mine land reclamation  
plan submissions:  
Maryland, 17978–17980  
Ohio, 17980–17982

**Surface Transportation Board****NOTICES**

Railroad operation, acquisition, construction, etc.:  
CSX Transportation, Inc., 18067

**Transportation Department**

See Federal Aviation Administration  
See Surface Transportation Board

**Treasury Department**

See Alcohol, Tobacco and Firearms Bureau  
See Internal Revenue Service

**NOTICES**

Meetings:  
Debt Management Advisory Committee, 18067–18068

**United States Information Agency****RULES**

Exchange visitor program:  
Short-term scholars; participation in seminars,  
workshops, etc., 17975–17976  
Summer travel/work programs, 17976–17977

**PROPOSED RULES**

Exchange visitor program:  
Au pair programs; oversight and general accountability,  
17988–17990

**NOTICES**

Art objects; importation for exhibition:  
Portraits by Ingres: Image of an Epoch, 18074

**Separate Parts In This Issue****Part II**

Federal Housing Enterprise Oversight Office, 18083–18300

**Part III**

Department of Transportation, Federal Aviation  
Administration, 18301–18314

**Part IV**

The President, 18315–18318

**Part V**

The President, 18319–18322

**Reader Aids**

Consult the Reader Aids section at the end of this issue for  
phone numbers, online resources, finding aids, reminders,  
and notice of recently enacted public laws.

**CFR PARTS AFFECTED IN THIS ISSUE**

A cumulative list of the parts affected this month can be found in the Reader Aids section at the end of this issue.

**3 CFR****Proclamations:**

7181 .....18317  
7182 .....18321

**5 CFR**

532 (2 documents) .....17941

**7 CFR**

760 .....17942

**8 CFR**

103 .....17943

**10 CFR**

50 (2 documents) .....17944,  
17947  
73 .....17947

**12 CFR****Proposed Rules:**

1750 .....18084

**14 CFR**

39 (10 documents) .....17947,  
17949, 17951, 17954, 17956,  
17950, 17961, 17962, 17964,  
17966

**Proposed Rules:**

65 .....18302  
71 (2 documents) .....17983,  
17984  
91 .....18302  
105 .....18302  
119 .....18302

**15 CFR**

738 .....17968  
740 .....17968  
742 .....17968  
748 .....17968  
762 .....17968  
774 .....17968

**16 CFR****Proposed Rules:**

241 .....18081  
256 .....18081

**21 CFR****Proposed Rules:**

310 .....17985

**22 CFR**

514 (2 documents) .....17975,  
17976

**Proposed Rules:**

514 .....17988

**28 CFR**

16 .....17977

**30 CFR**

920 .....17978  
935 .....17980

**Proposed Rules:**

206 .....17990

**40 CFR**

52 .....17982

**Proposed Rules:**

52 .....17990

**50 CFR****Proposed Rules:**

32 .....17992

---

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Federal Register

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## OFFICE OF PERSONNEL MANAGEMENT

### 5 CFR Part 532

RIN 3206-A104

#### Prevailing Rate Systems; Abolishment of the Orlando, FL, Appropriated Fund Wage Area

**AGENCY:** Office of Personnel Management.

**ACTION:** Final rule.

**SUMMARY:** The Office of Personnel Management is issuing a final rule to abolish the Orlando, Florida, appropriated fund Federal Wage System wage area. This change is being made because of the closure of the Orlando wage area's host installation, the Orlando Naval Training Station. This closure left the lead agency for the Orlando wage area, the Department of Defense, without an installation in the wage area capable of hosting annual local wage surveys.

**DATES:** This final regulation is effective on May 13, 1999.

**FOR FURTHER INFORMATION CONTACT:** Jennifer Hopkins at (202) 606-2848, FAX: (202) 606-0824, or email to [jdhopkin@opm.gov](mailto:jdhopkin@opm.gov).

**SUPPLEMENTARY INFORMATION:** On October 3, 1997, the Office of Personnel Management (OPM) published an interim rule (62 FR 51759) to remove the requirement that a full-scale wage survey be conducted in the Orlando, Florida, appropriated fund Federal Wage System (FWS) wage area. The Orlando wage area consisted of Orange, Osceola, Seminole, and Volusia Counties in Florida. The Federal Prevailing Rate Advisory Committee (FPRAC), the national labor-management committee responsible for advising OPM on matters concerning the pay of FWS employees, recommended by consensus that we

abolish the Orlando wage area. A full-scale wage survey was scheduled to begin in the wage area in September 1997. However, at that time, the Orlando wage area's host installation, the Orlando Naval Training Station, was preparing to close. The Department of Defense (DOD), the lead agency for the Orlando wage area, was left without an installation in the wage area capable of hosting annual local wage surveys. Without a host installation, DOD was unable to conduct the scheduled 1997 full-scale wage survey.

The interim rule provided a 30-day public comment period, during which OPM did not receive any comments. Based on FPRAC's previous consensus recommendation, the interim rule is being adopted as a final rule with no changes.

#### Regulatory Flexibility Act

I certify that these regulations will not have a significant economic impact on a substantial number of small entities because they will affect only Federal agencies and employees.

#### List of Subjects in 5 CFR Part 532

Administrative practice and procedure, Freedom of information, Government employees, Reporting and recordkeeping requirements, Wages.

Accordingly, under the authority of 5 U.S.C. 5343, the interim rule (62 FR 51759) amending 5 CFR part 532 published on October 3, 1997, is being adopted as final with no changes.

Office of Personnel Management.

**Janice R. Lachance,**

*Director.*

[FR Doc. 99-9159 Filed 4-12-99; 8:45 am]

BILLING CODE 6325-01-P

## OFFICE OF PERSONNEL MANAGEMENT

### 5 CFR Part 532

RIN 3206-A113

#### Prevailing Rate Systems; Redefinition of the Orlando, FL, Appropriated Fund Wage Area

**AGENCY:** Office of Personnel Management.

**ACTION:** Final rule.

**SUMMARY:** The Office of Personnel Management is issuing a final rule to

redefine Orange, Osceola, Seminole, and Volusia Counties, Florida, from the Orlando, FL, appropriated fund Federal Wage System (FWS) wage area to the Jacksonville, FL, FWS wage area. This change is being made because the closure of the Orlando wage area's host installation, the Orlando Naval Training Station, left the Department of Defense without an installation in the Orlando wage area capable of hosting local wage surveys.

**DATES:** This final rule is effective on May 13, 1999.

**FOR FURTHER INFORMATION CONTACT:** Jennifer Hopkins, (202) 606-2848, FAX: (202) 606-0824, or email to [jdhopkin@opm.gov](mailto:jdhopkin@opm.gov).

**SUPPLEMENTARY INFORMATION:** On February 9, 1998, the Office of Personnel Management (OPM) published an interim rule (63 FR 6471) to redefine the Orlando, Florida, Federal Wage System (FWS) wage area. The Federal Prevailing Rate Advisory Committee (FPRAC), the national labor-management committee responsible for advising OPM on matters concerning the pay of FWS employees, recommended by consensus that we redefine Orange, Osceola, Seminole, and Volusia Counties, FL, from the Orlando wage area to the Jacksonville, FL, FWS wage area. In September 1997, a full-scale wage survey was scheduled to begin in the Orlando wage area; however, the Orlando wage area's host installation, the Orlando Naval Training Station, was preparing to close. The lead agency for the Orlando wage area, the Department of Defense (DOD), was left without an activity in the wage area capable of hosting local wage surveys. Because DOD was unable to conduct the survey, OPM abolished the Orlando wage area (62 FR 51759) and removed the requirement that a local wage survey be conducted in the Orlando wage area.

Employees being paid rates from the Orlando wage schedule were converted to the Jacksonville wage schedule on the first day of the first applicable pay period beginning on or after March 11, 1998. OPM did not receive any comments on the interim rule during its 30-day public comment period. Based on the previous consensus recommendation of FPRAC, the interim rule is being adopted as a final rule without any changes.

**Regulatory Flexibility Act**

I certify that these regulations will not have a significant economic impact on a substantial number of small entities because they will affect only Federal agencies and employees.

**List of Subjects in 5 CFR Part 532**

Administrative practice and procedure, Freedom of information, Government employees, Reporting and recordkeeping requirements, Wages.

Accordingly, under the authority of 5 U.S.C. 5343, the interim rule (63 FR 6471) amending 5 CFR part 532 published on February 9, 1998, is being adopted as final with no changes.

Office of Personnel Management.

**Janice R. Lachance,**

*Director.*

[FR Doc. 99-9158 Filed 4-12-99; 8:45 am]

BILLING CODE 6325-01-P

**DEPARTMENT OF AGRICULTURE****Farm Service Agency****7 CFR Part 760**

RIN 0560-AF66

**Dairy Indemnity Payment Program**

**AGENCY:** Farm Service Agency, USDA.

**ACTION:** Final rule.

**SUMMARY:** This final rule amends the authority citation for the Dairy Indemnity Payment Program (DIPP) regulations to cover the expenditure of additional funds that were recently appropriated. The DIPP indemnifies dairy farmers for milk and manufacturers of dairy products who have been directed to remove their milk or dairy products from commercial markets because of the presence of certain specified forms of contamination.

**EFFECTIVE DATE:** April 13, 1999.

**FOR FURTHER INFORMATION CONTACT:** Raellen Erickson, Agricultural Program Specialist, Price Support Division, FSA, USDA, STOP 0512, 1400 Independence Avenue, SW, Washington, DC 20250-0512; telephone (202) 720-7320; e-mail address is raellen\_erickson@wdc.fsa.usda.gov.

**SUPPLEMENTARY INFORMATION:**

**Executive Order 12866**

This rule has been determined to be not significant for purposes of Executive Order 12866 and therefore has not been reviewed by the Office of Management and Budget (OMB).

**Federal Assistance Program**

The title and number of the Federal Assistance Program, as found in the Catalog of Federal Domestic Assistance, to which this rule applies are Dairy Indemnity Payments, Number 10.053.

**Regulatory Flexibility Act**

It has been determined that the Regulatory Flexibility Act is not applicable to this final rule because the Farm Service Agency is not required by 5 U.S.C. 533 or any other provision of law to publish a notice of proposed rulemaking with respect to the subject matter of these determinations.

**Environmental Evaluation**

It has been determined by an environmental evaluation that this action will have no significant impact on the quality of the human environment. Therefore, neither an environmental assessment nor an Environmental Impact Statement is needed.

**Executive Order 12372**

This program is not subject to the provisions of Executive Order 12372, which requires intergovernmental consultation with State and local officials. See the Notice related to 7 CFR part 3015, subpart V, published at 48 FR 29115 (June 24, 1983).

**Executive Order 12988**

This rule has been reviewed pursuant to Executive Order 12988. To the extent State and local laws are in conflict with these regulatory provisions, it is the intent of CCC that the terms of the regulations prevail. The provisions of this rule are not retroactive. Prior to any judicial action in a court of competent jurisdiction, administrative review under 7 CFR part 780 must be exhausted.

**Paperwork Reduction Act**

The amendment to 7 CFR part 760 set forth in this final rule does not contain additional information collections that require clearance by the Office of Management and Budget under the provisions of 44 U.S.C. chapter 35. Existing information collections were approved by OMB and assigned OMB Control Number 0560-0116.

**Background**

The DIPP was originally authorized by section 331 of the Economic Opportunity Act of 1964, Pub. L. 88-452. The statutory authority for the program has been amended and extended several times. Funds were appropriated for DIPP by the Agriculture, Rural Development, Food

and Drug Administration, and Related Agencies Act, 1998 ("the 1998 Act"), Pub. L. 105-86, 111 Stat. 2079, which authorizes the program until the \$550,000 in funds appropriated under that act are expended. More recently, funds were appropriated for this program by the Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 1999 ("the 1999 Act"), Pub. L. 105-277, 112 Stat. 2681, which authorizes the program to be carried out until the \$450,000 in funds appropriated under the 1999 Act are expended. Not all the funds appropriated under the 1998 Act have been expended and the remaining funds are still available in addition to the funds appropriated under the 1999 Act.

The objective of DIPP is to indemnify dairy farmers for milk and manufacturers of dairy products who have been directed to remove their milk or dairy products from commercial markets because such milk or dairy products contain certain harmful chemical residues. In addition, the DIPP also indemnifies dairy farmers who have been directed to remove milk from commercial markets due to residues of certain other chemicals or toxic substances, or contamination by nuclear radiation or fallout.

The regulations governing the program are set forth at 7 CFR part 760. This final rule makes no changes in the substantive provisions of the regulations. Because the only purpose of this final rule is to revise the authority citation to include the reference to the 1999 Act, it has been determined that no further public rulemaking is required. In addition, section 1133 of the 1999 Act provides statutory authority to issue final regulations without a notice and comment period. Therefore, this final rule shall become effective upon the date of publication in the **Federal Register**.

**List of Subjects in 7 CFR Part 760**

Dairy products, Indemnity payments, Pesticides and pests.

Accordingly, 7 CFR part 760 is amended as follows:

**PART 760—INDEMNITY PAYMENT PROGRAMS****Subpart—Dairy Indemnity Payment Program**

The authority citation for Subpart—Dairy Indemnity Payment Program is revised to read as follows:

**Authority:** Dairy Indemnity Program, Pub. L. 105-86, 111 Stat. 2079 and Pub. L. 105-277, 112 Stat. 2681.

Signed in Washington, DC, on March 30, 1999.

**Parks Shackelford,**

*Acting Administrator, Farm Service Agency.*

[FR Doc. 99-9129 Filed 4-12-99; 8:45 am]

BILLING CODE 3410-05-P

**DEPARTMENT OF JUSTICE**

**Immigration and Naturalization Service**

**8 CFR Part 103**

[INS No. 1952-98]

**The Addition of Commercial Delivery Service as a Form of Personal Service**

RIN 1115-AF30

**AGENCY:** Immigration and Naturalization Service, Justice.

**ACTION:** Final rule.

**SUMMARY:** This rule amends the Immigration and Naturalization Service (Service) regulations by adding the use of commercial delivery service as a form of personal service for the delivery of Notices of Intention to Fine (NIFs), Form I-79, by the Service. A commercial delivery service allows for the registered signature of the addressee or other responsible party to be on record, allows Service personnel to be able to track the mailing status of the copy on a computer information system, and allows the addressee to receive the copy in a timely and efficient manner. The change is intended to facilitate and improve the personal service of NIFs.

**DATES:** This final rule is effective April 13, 1999.

**FOR FURTHER INFORMATION CONTACT:** Marylena S. Kruszka, Immigration Fines Officer, National Fines Office, Immigration and Naturalization Service, 1400 Wilson Blvd., Suite 210, Arlington, VA 22209, telephone (202) 305-7018.

**SUPPLEMENTARY INFORMATION:** Currently, § 103.5a(a)(2) permits the Service to personally serve notices, decisions, or orders by: (1) Personally delivering the paperwork to the person in question; (2) delivering the paperwork to the person's residence; (3) delivering the paperwork to the person's attorney; or by (4) mailing a copy by certified or registered mail with a return receipt. This rule adds commercial overnight delivery service as a form of personal service for NIFs.

**Why Is the Service Making This Change?**

Currently, the National Fines Office (NFO) mails out approximately 7,000 NIFs per year via certified mail. By permitting commercial delivery, Service

personnel can use a commercial computer information system to complete the mail delivery forms, instantly track the status of the package, and retrieve the registered signature of the addressee. Commercial delivery services generally guarantee delivery within one or two business days. The NFO currently pays \$2.32 per NIF sent via certified mail, and \$3.50 via commercial delivery service. Even though commercial delivery is more expensive per NIF sent, multiple NIFs can be included and tracked in one overnight package; this is not the case with certified mail. There is also a cost involved in preparing the certified mail envelopes and filing the return receipts. The NFO has developed a method to record the overnight delivery tracking number for each NIF sent via commercial delivery service so there is no need to file a receipt. Moreover, since the commercial delivery system is automated, preparing the packages for mailing is less time consuming. Overall, there is a cost savings that will flow from the time and effort saved by using a commercial delivery service. Notice of Intention to Fine require timely responses by the recipient; therefore, guaranteed, verifiable delivery is beneficial to both the Service and the public. Accordingly, the Service is amending § 103.5a(a) to include commercial delivery service as a form of personal service for NIFs.

**Good Cause Exception**

This final rule is effective upon publication in the **Federal Register**. Compliance with 5 U.S.C. 553 with regard to proposed rulemaking and delayed effective date is unnecessary in this instance and would serve no useful purpose because the amendment relates to agency procedure and practice.

**Regulatory Flexibility Act**

The Commissioner of the Immigration and Naturalization Service, in accordance with the Regulatory Flexibility Act (5 U.S.C. 605(b)), has reviewed this regulation and, by approving it, certifies that this rule does not have a significant economic impact on a substantial number of small entities. This rule is intended to increase Service efficiency and reduce costs to the Government.

**Unfunded Mandates Reform Act of 1995**

This rule will not result in the expenditure by State, local, and tribal governments, in the aggregate, or by the private sector, of \$100 million or more in any 1 year, and it will not significantly or uniquely affect small

governments. Therefore, no actions were deemed necessary under the provisions of the Unfunded Mandates Reform Act of 1995.

**Small Business Regulatory Enforcement Fairness Act of 1996**

This rule is not a major rule as defined by section 804 of the Small Business Regulatory Enforcement Act of 1996. This rule will not result in an annual effect on the economy of \$100 million or more; a major increase in costs or prices; or significant adverse effects or competition, employment, investment, productivity, innovation, or on the ability of United States-based companies to compete with foreign-based companies in domestic and export markets.

**Executive Order 12866**

This rule is not considered by the Department of Justice, Immigration and Naturalization Service, to be a "significant regulatory action" under Executive Order 12866, section 3(f), Regulatory Planning and Review, and the Office of Management and Budget has waived its review process under section 6(a)(3)(A).

**Executive Order 12612**

The regulation adopted herein will not have substantial direct effects on the States, on the relationship between the National Government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

**Executive Order 12988 Civil Justice Reform**

This final rule meets the applicable standards set forth in sections 3(a) and 3(b)(2) of E.O. 12988.

**List of Subjects in 8 CFR Part 103**

Administrative practice and procedure, Authority delegations (Government agencies), Freedom of information, Privacy, Reporting and recordkeeping requirements, Surety bonds.

Accordingly, part 103 of chapter I of title 8 of the Code of Federal Regulations is amended as follows:

**PART 103—POWERS AND DUTIES OF SERVICE OFFICERS; AVAILABILITY OF SERVICE RECORDS**

1. The authority citation for part 103 continues to read as follows:

**Authority:** 5 U.S.C. 552, 552(a); 8 U.S.C. 1101, 1103, 1201, 1252 note, 1252b, 1304, 1356; 31 U.S.C. 9701; E.O. 12356; 47 FR 14874, 15557; 3 CFR, 1982 Comp., p 166; 8 CFR part 2.

2. Section 103.5a is amended by adding a new paragraph (a)(3) to read as follows:

**§ 103.5a Service of notification, decisions, and other papers by the Service.**

\* \* \* \* \*

(a) \* \* \*

(3) *Personal service involving notices of intention to fine.* In addition to any of the methods of personal service listed in paragraph (a)(2) of this section, personal service of Form I-79, Notice of Intention to Fine, may also consist of delivery of the Form I-79 by a commercial delivery service at the carrier's address on file with the National Fines Office, the address listed on the Form I-849, Record for Notice of Intent to Fine, or to the office of the attorney or agent representing the carrier, provided that such a commercial delivery service requires the addressee or other responsible party accepting the package to sign for the package upon receipt.

\* \* \* \* \*

Dated: March 12, 1999.

**Doris Meissner,**

*Commissioner, Immigration and Naturalization Service.*

[FR Doc. 99-9162 Filed 4-12-99; 8:45 am]

BILLING CODE 4410-10-M

## NUCLEAR REGULATORY COMMISSION

### 10 CFR Part 50

RIN 3150-AF96

### Codes and Standards: IEEE National Consensus Standard

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Final rule.

**SUMMARY:** The Nuclear Regulatory Commission is amending its regulations to incorporate by reference IEEE Std. 603-1991, a national consensus standard for power, instrumentation, and control portions of safety systems in nuclear power plants. Use of IEEE Std. 603-1991 is mandatory for new nuclear power plants and design approvals or certifications and is voluntary for existing nuclear power plants and design approvals. This action is necessary to endorse the latest version of this national consensus standard in NRC's regulations because IEEE has withdrawn IEEE Std. 279-1971.

**EFFECTIVE DATE:** The final rule is effective on May 13, 1999. The incorporation by reference of IEEE Std. 603-1991 is approved by the Director of the Federal Register as of May 13, 1999.

**FOR FURTHER INFORMATION CONTACT:**

Satish K. Aggarwal, Senior Program Manager, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, Telephone: 301-415-6005, Fax: 301-415-5074, E-mail: SKA@NRC.GOV.

**SUPPLEMENTARY INFORMATION:** 10 CFR part 50, "Domestic Licensing of Production and Utilization Facilities," § 50.55a(h) requires that the protection systems in nuclear power plants meet the requirements stated in IEEE Std. 279-1971, "Criteria for Protection Systems for Nuclear Power Generating Stations," in effect on the formal docket date of the application. However, IEEE has withdrawn IEEE Std. 279-1971 and has superseded it with IEEE Std. 603-1991, "Criteria for Safety Systems for Nuclear Power Generating Stations." On April 23, 1998 (63 FR 20136), the NRC published a proposed rule in the **Federal Register** that would amend its regulations to incorporate IEEE Std. 603-1991 for power, instrumentation, and control portions of safety systems. This action is consistent with the provisions of the National Technology Transfer and Advancement Act of 1995, Pub. L. 104-113, which encourages Federal regulatory agencies to consider adopting industry consensus standards as an alternative to de novo agency development of standards affecting an industry. This action is also consistent with the NRC policy of evaluating the latest versions of national consensus standards in terms of their suitability for endorsement by regulations or regulatory guides.

Currently, 10 CFR 50.55a(h) specifies that "protection systems" for plants with construction permits issued after January 1, 1971, must meet the requirements in IEEE Std. 279-1971 in effect on the formal docket date of the application for a construction permit. IEEE Std. 279-1971 states that a "protection system" encompasses all electric and mechanical devices and circuitry (from sensors to actuation device input terminals) involved in generating those signals associated with the protective function. These signals include those that actuate reactor trip and that, in the event of a serious reactor accident, actuate engineered safety features (ESFs), such as containment isolation, core spray, safety injection, pressure reduction, and air cleaning. "Protective function" is defined in IEEE Std. 279-1971 as "the sensing of one or more variables

associated with a particular generating station condition, signal processing, and the initiation and completion of the protective action at values of the variables established in the design bases."

IEEE Std. 603-1991 uses the term "safety systems" rather than "protection systems" to define its scope. A "safety system" is defined in IEEE Std. 603-1991 as "a system that is relied upon to remain functional during and following design basis events to ensure: (i) The integrity of the reactor coolant pressure boundary, (ii) the capability to shut down the reactor and maintain it in a safe shutdown condition, or (iii) the capability to prevent or mitigate the consequences of accidents that could result in potential offsite exposures comparable to the 10 CFR Part 100 guidelines." A "safety function" is defined in IEEE Std. 603-1991 as "one of the processes or conditions (for example, emergency negative reactivity insertion, post-accident heat removal, emergency core cooling, post-accident radioactivity removal, and containment isolation) essential to maintain plant parameters within acceptable limits established for a design basis event."

The NRC recognizes that "protection systems" are a subset of "safety systems." Safety system is a broad-based and all-encompassing term, embracing the protection system in addition to other electrical systems. Thus, the term "protection system" is not synonymous with the term "safety system." The final rule is not intended to change the scope of the systems covered in the final safety analysis report (FSAR) for currently operating nuclear power plants.

This final rule sets forth the standards for the design of safety systems for future power plants. The final rule mandates the use of IEEE Std. 603-1991 (including the correction sheet dated January 30, 1995) for applications for design approvals pursuant to 10 CFR Part 52, Appendix O and design certifications pursuant to 10 CFR Part 52, Subpart B which are filed after the effective date of this rule. Although the Westinghouse AP-600 design certification was filed prior to the effective date of this rule, it has been reviewed to IEEE Std. 603-1991. In addition, the final rule mandates the use of IEEE Std. 603-1991 (including the correction sheet dated January 30, 1995) for all applications for a construction permit, operating license or combined license filed on or after the effective date of the rule that do not reference a certified design. Any application for a construction permit, operating license or combined license that references a certified design is required to comply

with the IEEE standards approved in the referenced design certification rule. Current holders of operating licenses may continue to meet the requirements for protection systems in their licensing basis, or may voluntarily comply with IEEE Std. 603–1991 (including the correction sheet dated January 30, 1995).

### Significant Comments on the Proposed Rule

The NRC received 16 public comment letters. Copies of these letters are available for public inspection, and copying for a fee, at the NRC's Public Document Room. The major issues raised by the commenters and the NRC staff responses to these issues are as follows.

#### (1) Ambiguity in the Definition of "System-Level Replacements"

*Issue:* The term "system-level replacement" is not clearly defined. The rule would create a dual licensing basis for plant protection systems.

*Response:* "System-level replacement" for a protection system must involve complete replacement from the process sensors to the actuation signals used for the initiation of execute features (e.g., reactor trip system trip breaker, scram solenoid-operated valves, and ESF motive equipment operation). A licensee's current licensing basis applies when defining protection system boundaries. A licensee's protection systems are typically defined and discussed in Final Safety Analysis Report Sections 7.1, 7.2, and 7.3. The decision to establish and manage a dual licensing basis is voluntary, not mandatory. Reference to system-level replacements has been removed in this final rule because the compliance with the requirements of IEEE Std. 603–1991 is voluntary for changes to protection systems.

#### (2) Referenced Standards

*Issue:* The NRC staff states that the other IEEE standards referenced in IEEE Std. 603–1991 will not by themselves become mandatory. However, this position was not restated in the rule itself.

*Response:* As a matter of law, the other IEEE standards referenced in IEEE Std. 603–1991 are not rulemaking requirements, inasmuch as (i) Section 50.55a does not contain language explicitly requiring the use of the other IEEE standards referenced in IEEE Std. 603–1991, and (ii) the other IEEE standards referenced in IEEE Std. 603–1991 have not been approved for incorporation by reference by the Office of Federal Register.

#### (3) Backfit Analysis

*Issue:* Incorporating the additional requirements of IEEE Std. 603–1991 as a binding regulation would impose a change to the current licensing basis and constitutes a backfit.

*Response:* The NRC has revised the rule to make compliance with the requirements of IEEE Std. 603–1991 voluntary. Current licensees may continue to satisfy NRC regulations by meeting the requirements stated in the edition or revision of IEEE Std. 279 in effect on the formal date of their application for a construction permit. Therefore, any further discussion of backfit is unnecessary.

#### Consensus Standards

The National Technology Transfer Act of 1995, Pub. L. 104–113, requires that Federal agencies use technical standards that are developed or adopted by voluntary consensus standards bodies unless the use of these standards is inconsistent with applicable law or otherwise impractical. In this final rule, the NRC is using the following voluntary consensus standards, IEEE Std. 603–1991, including the correction sheet dated January 30, 1995. No alternative voluntary consensus standard(s) were identified for use in this final rule.

#### Finding of No Environmental Impact: Availability of Environmental Assessment

The NRC has determined under the National Environmental Policy Act of 1969, as amended, and the NRC's regulations in subpart A of 10 CFR Part 51, that because this final rule would not be a major Federal action significantly affecting the quality of the human environment, an environmental impact statement is not required. The NRC has prepared an environmental assessment supporting this finding of no significant environmental impact.

The NRC had sent a copy of the environmental assessment and a copy of the **Federal Register** notice to every State liaison officer and requested their comments on the environmental assessment. No comments were received. The environmental assessment is available for inspection, and copying for a fee, at the NRC Public Document Room, 2120 L Street, NW., Washington, D.C. Also, the NRC has committed itself to complying in all its actions with Presidential Executive Order 12898, "Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations" (February 11, 1994). Therefore, the NRC also has determined

that there are no disproportionate, high, and adverse impacts on minority and low-income populations. The NRC uses the following working definition of environmental justice: Environmental justice means the fair treatment and meaningful involvement of all people—regardless of race, ethnicity, culture, income, or educational level—with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.

#### Paperwork Reduction Act Statement

This final rule does not contain a new or amended information collection requirement subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501, *et seq.*). Existing requirements were approved by the Office of Management and Budget, Approval No. 3150–0011.

#### Public Protection Notification

If an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

#### Regulatory Analysis

The NRC has prepared a regulatory analysis that shows this amendment does not impose any new requirements or costs on current licensees because compliance with the requirements of IEEE Std. 603–1991 is voluntary. The regulatory analysis is available for inspection, and copying for a fee, in the NRC Public Document Room, 2120 L Street NW., Washington, DC.

#### Regulatory Flexibility Certification

As required by the Regulatory Flexibility Act of 1980 (5 U.S.C. 605(b)), the NRC certifies that this rule does not have a significant economic impact on small entities. This rule affects only the operation of nuclear power plants. The companies that own these plants do not fall within the scope of the definition of "small entities" stated in the Regulatory Flexibility Act or the small business size standards adopted by the NRC (10 CFR 2.810). Because these companies are dominant in their service areas, this rule does not fall within the purview of the act.

#### Backfit Analysis

The final rule requires applicants for new design approvals and new design certifications to comply with IEEE Std. 603–1991 (including the correction sheet dated January 30, 1995). The final rule also requires applicants for new construction permits, new operating licenses, and combined licenses that do not reference a certified design to

comply with IEEE Std. 603-1991 (including the correction sheet dated January 30, 1995). Current holders of operating licenses may continue to meet the requirements for protection systems in their licensing basis, or may voluntarily comply with IEEE Std. 603-1991 (including the correction sheet dated January 30, 1995).

The backfit rule was not intended to apply to regulatory actions that change expectations of prospective applicants and, therefore, the backfit rule does not apply to the portion of the rule applicable to new construction permits, new operating licenses, new design approvals, new design certifications, and combined licenses that do not reference a certified design. Because the IEEE Std. 603-1991 is voluntary for licensees of currently operating plants, this rule does not constitute a backfit with respect to those plants.

The NRC staff believes that newer consensus standards reflect progress and the current "state of the practice" of the technology. Specifically, IEEE Std. 603-1991 is a major improvement over IEEE Std. 279-1971. IEEE Std. 279-1971 provides basic criteria for protection systems, which remain unchanged in IEEE Std. 603-1991. If a licensee proposes to replace an existing analog protection system with a digital system, IEEE Std. 279-1971 provides no specific guidance. Therefore, licensees are likely to consider the guidance in IEEE Std. 603-1991 and other standards that address digital system design. The NRC staff encourages the use of digital technology and encourages the use of new standards such as IEEE Std. 603-1991. Thus, the final rule provides an option for complying with the new standard for changes to existing power and instrumentation and control portions of protection systems. This is not considered a backfit because the adoption of IEEE Std. 603-1991 would be voluntary.

In summary, the NRC has determined that the backfit rule, 10 CFR 50.109, does not apply to this rule because it does not impose any backfits as defined in 10 CFR 50.109(a)(1). Therefore, a backfit analysis has not been prepared for this final rule.

#### Small Business Regulatory Enforcement Fairness Act

In accordance with the Small Business Regulatory Enforcement Fairness Act of 1996 the NRC has determined that this action is not a major rule and has verified this determination with the Office of Information and Regulatory Affairs of OMB.

#### List of Subjects in 10 CFR Part 50

Antitrust, Classified information, Criminal penalties, Fire protection, Incorporation by reference, Intergovernmental relations, Nuclear power plants and reactors, Radiation protection, Reactor siting criteria, and Reporting and recordkeeping requirements.

For the reasons stated in the preamble and under the authority of the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, the Energy Reorganization Act of 1974, as amended, and 5 U.S.C. 552 and 553, the NRC is adopting the following amendment to 10 CFR part 50.

#### PART 50—DOMESTIC LICENSING OF PRODUCTION AND UTILIZATION FACILITIES

1. The authority citation for Part 50 continues to read as follows:

**Authority:** Secs. 102, 103, 104, 105, 161, 182, 183, 186, 189, 68 Stat. 936, 937, 938, 948, 953, 954, 955, 956, as amended, sec. 234, 83 Stat. 1244, as amended (42 U.S.C. 2132, 2133, 2134, 2135, 2201, 2232, 2233, 2236, 2239, 2282); secs. 201, as amended, 202, 206, 88 Stat. 1242, as amended, 1244, 1246 (42 U.S.C. 5841, 5842, 5846).

Section 50.7 also issued under Pub. L. 95-601, sec. 10, 92 Stat. 2951 (42 U.S.C. 5851). Section 50.10 also issued under secs. 101, 185, 68 Stat. 955 as amended (42 U.S.C. 2131, 2235), sec. 102, Pub. L. 91-190, 83 Stat. 853 (42 U.S.C. 4332). Sections 50.13, and 50.54(dd), and 50.103 also issued under sec. 108, 68 Stat. 939, as amended (42 U.S.C. 2138), Sections 50.23, 50.35, 50.55, and 50.56 also issued under sec. 185, 68 Stat. 955 (42 U.S.C. 2235), Sections 50.33a, 50.55a and Appendix Q also issued under sec. 102, Pub. L. 91-190, 83 Stat. 853 (42 U.S.C. 4332). Sections 50.34 and 50.54 also issued under sec. 204, 88 Stat. 1245 (42 U.S.C. 5844). Sections 50.58, 50.91, and 50.92 also issued under Pub. L. 97-415, 96 Stat. 2073 (42 U.S.C. 2239). Section 50.78 also issued under sec. 122, 68 Stat. 939 (42 U.S.C. 2152). Sections 50.80-50.81 also issued under sec. 184, 68 Stat. 954, as amended (42 U.S.C. 2234). Appendix F also issued under sec. 187, 68 Stat. 955 (42 U.S.C. 2237).

2. In § 50.55a, footnotes 7 and 8 are removed and reserved, and paragraph (h) is revised to read as follows:

#### § 50.55a Codes and standards.

\* \* \* \* \*

(h) Protection and safety systems. (1) IEEE Std. 603-1991, including the correction sheet dated January 30, 1995, which is referenced in paragraphs (h)(2) and (h)(3) of this section, is approved

for incorporation by reference by the Director of the Office of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR Part 51. Copies of IEEE Std. 603-1991 may be purchased from the Institute of Electrical and Electronics Engineers Service Center, 445 Hoes Lane, Piscataway, NJ 08855. The standard is also available for inspection at the NRC Library, 11545 Rockville Pike, Rockville, Md; and at the Office of the Federal Register, 800 North Capitol Street, NW., Suite 700, Washington, D.C. IEEE Std. 279-1971, which is referenced in paragraph (h)(2) of this section, was approved for incorporation by reference by the Director of the Office of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR Part 51. Copies of IEEE Std. 279-1971 are also available as indicated for IEEE Std. 603-1991.

(2) Protection systems. For nuclear power plants with construction permits issued after January 1, 1971, but before May 13, 1999, protection systems must meet the requirements stated in either IEEE Std. 279-1971, "Criteria for Protection Systems for Nuclear Power Generating Stations," or in IEEE Std. 603-1991, "Criteria for Safety Systems for Nuclear Power Generating Stations," and the correction sheet dated January 30, 1995. For nuclear power plants with construction permits issued before January 1, 1971, protection systems must be consistent with their licensing basis or may meet the requirements of IEEE Std. 603-1991 and the correction sheet dated January 30, 1995.

(3) Safety systems. Applications filed on or after May 13, 1999 for preliminary and final design approvals (10 CFR Part 52, Appendix O), design certifications, and construction permits, operating licenses and combined licenses that do not reference a final design approval or design certification, must meet the requirements for safety systems in IEEE Std. 603-1991 and the correction sheet dated January 30, 1995.

\* \* \* \* \*

Dated at Rockville, Maryland, this 6th day of April, 1999.

For the Nuclear Regulatory Commission.

**Annette L. Vietti-Cook,**

*Secretary of the Commission.*

[FR Doc. 99-9038 Filed 4-12-99; 8:45 am]

BILLING CODE 7590-01-P

**NUCLEAR REGULATORY COMMISSION****10 CFR Parts 50 and 73**

RIN 3150-AF63

**Frequency of Reviews and Audits for Emergency Preparedness Programs, Safeguards Contingency Plans, and Security Programs for Nuclear Power Reactors; Correction**

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule; correction.

**SUMMARY:** This document corrects a rule appearing in the **Federal Register** on March 29, 1999 (64 FR 14814), that allows nuclear power reactor licensees the option to change the frequency of licensees' independent reviews and audits of their emergency preparedness programs, safeguards contingency plans, and security programs. This action is necessary to correct erroneous citations.

EFFECTIVE DATE: April 28, 1999.

**FOR FURTHER INFORMATION CONTACT:**

David L. Meyer, Chief, Rules and Directives Branch, Division of Administrative Services, Office of Administration, telephone (301) 415-7162.

**SUPPLEMENTARY INFORMATION:** On page 14818, in the first column, in the codified text of § 73.55(g), paragraph "(g)(4)(1)" is corrected to read "(g)(4)(i)", paragraph "(g)(4)(i)" is corrected to read "(g)(4)(A)", paragraph "(g)(4)(ii)" is corrected to read "(g)(4)(B)", and paragraph "(g)(4)(2)" is corrected to read "(g)(4)(ii)."

Dated at Rockville, Maryland, this 7th day of April 1999.

For the Nuclear Regulatory Commission.

**David L. Meyer,**

*Chief, Rules and Directives Branch, Division of Administrative Services, Office of Administration.*

[FR Doc. 99-9171 Filed 4-12-99; 8:45 am]

BILLING CODE 7590-01-P

**DEPARTMENT OF TRANSPORTATION****Federal Aviation Administration****14 CFR Part 39**

[Docket No. 98-ANE-66-AD; Amendment 39-11121; AD 99-08-15]

RIN 2120-AA64

**Airworthiness Directives; Pratt & Whitney PW4000 Series Turbofan Engines**

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

**SUMMARY:** This amendment adopts a new airworthiness directive (AD), that requires revisions to the Time Limits Section (TLS) of the manufacturer's Engine Manuals (EMs) for Pratt & Whitney (PW) PW4000 series turbofan engines to include required enhanced inspection of selected critical life-limited parts at each piece-part exposure. This amendment will also require an air carrier's approved continuous airworthiness maintenance program to incorporate these inspection procedures. This amendment is prompted by a Federal Aviation Administration (FAA) study of in-service events involving uncontained failures of critical rotating engine parts that indicated the need for improved inspections. The improved inspections are needed to identify those critical rotating parts with conditions that if allowed to continue in service, could result in uncontained failures. The actions specified by this AD are intended to prevent critical life-limited rotating engine part failure, which could result in an uncontained engine failure and damage to the airplane.

DATES: Effective May 13, 1999.

**ADDRESSES:** The information contained in this AD may be examined at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA.

**FOR FURTHER INFORMATION CONTACT:**

Peter White, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (781) 238-7128, fax (781) 238-7199.

**SUPPLEMENTARY INFORMATION:** A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an airworthiness directive (AD) that is applicable to Pratt & Whitney (PW) PW4000 series turbofan engines was published in the **Federal Register** on November 5, 1998 (63 FR 5943). That action proposed to require within the next 30 days after the effective date of this AD, revisions to the Time Limits Section (TLS) of the Engine Manuals, and, for air carriers, the approved continuous airworthiness maintenance program. Pratt & Whitney, the manufacturer of PW4000 series turbofan engines has provided the FAA with a detailed proposal that identifies and prioritizes the critical life-limited rotating engine parts with the highest potential to hazard the airplane in the event of failure, along with instructions for enhanced, focused inspection methods. These enhanced inspections

will be conducted at piece-part opportunity, as defined below in the compliance section, rather than specific inspection intervals.

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comments received. One commenter suggests three changes to the final rule:

(a) The commenter states that paragraph (a)(2)(ii) is confusing as to inspection requirements for damaged parts. The FAA disagrees. Standardized language to define the piece-part condition, and thus trigger focused inspection, is required for uniform application of these new requirements for all operators. The language contained in this NPRM was developed by a broad group of FAA and industry members. Therefore, the piece-part definition will remain as written.

(b) The commenter also recommends that to clearly specify the level to which the fan hub must be disassembled prior to FPI, each manual section referenced for the required inspections should also clearly state whether miscellaneous parts are to be removed. The FAA agrees. There are two areas on the PW4000 disks that are not typically disassembled, and after review, are not required to be disassembled to meet the intent of the proposed inspection. One of these areas is the tie-rod bolt holes, which may in some cases have repair bushings installed. The removal of these bushings would likely introduce more problems than they would solve, and a crack/failure in this region (at the disk OD) would not result in uncontainment. The other area is the spinner flange flared nuts. These are captive nuts and must be drilled/machined to be removed. Again, their removal/replacement would likely introduce more problems than would be solved, and crack/failure in this region would also not result in uncontainment. The final rule will be modified to clarify the required level of disassembly. This level of assembly is P/N 1A9021-3 the piece-part level is 1A9001. Inspection at either level will satisfy the requirements of this AD.

(c) The commenter also states that the FAA should urge the OEMs to agree upon universal pre-cleaning and fluorescent penetrant inspection procedures and to call them out in their service documents. The FAA partially agrees. The agency recognizes the need for, and is currently engaged in, several other initiatives that will provide standardized guidance on FPI pre-cleaning, and several other procedural aspects of FPI inspection. The FAA will take future action once



standardized procedures are developed and industry consensus is reached. Therefore, no changes will be made to this AD at this time.

Another commenter recommends four changes to this AD:

(a) The commenter believes that critical compliance data is contained in the Discussion section of this AD, in the statement "For engines or engines modules that are approved for return to service. \* \* \*" The FAA does not agree. The AD mandates changes to the OEM's manual and Operators Continuous Airworthiness Program. The information referenced by the commenter is background information, not critical compliance data.

(b) The commenter also believes that paragraph (e) of the proposed rule is unclear, and recommends that it be revised by eliminating the word "or" from the first sentence, and beginning a second sentence with "In lieu of the record. \* \* \*" The FAA concurs in part. Generally, record keeping requirements are addressed in other regulations and this AD does not change those requirements. The FAA has revised paragraph (e) of this AD with new language to clarify the record keeping aspects of the new mandatory inspections.

(c) The commenter also suggests that disks be referred to by utilizing the term "All" instead of identifying them by specific P/N. The FAA partially agrees. Utilizing the reference ALL instead of specific P/N's is preferable in some aspects; it eliminates the possibility of underspecifying (omitting parts) that exists whenever using specific P/N's. However, because P & W has initiated the proposed manual changes and they are accurate, they will not be changed at this time. In addition, future parts will be addressed via Intro into Service documentation, rather than with further AD's. These inspections will be built into the maintenance plan/ documentation for new parts from the beginning. AD's were meant to deal only with parts already in service—new parts will incorporate these inspections from the beginning in the manufacturers' documentation.

(d) The commenter also points out that "Inspection 06" referred to in the NPRM does not exist in the present manual. "Inspection 06" is not included in the present manual edition. P & W has submitted this change to their Tech Services group and it will appear in the next manual revision.

No comments were received on the economic analysis contained in the

proposed rules. Based on that analysis, the FAA has determined that the annual per engine cost of \$156 does not create a significant economic impact on small entities.

Additional editorial comments—Engine model PW2168A was omitted from the proposed rule and has been added to the Applicability section of this AD.

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule with the changes described previously. The FAA has determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

The regulations adopted herein will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, I certify that this action (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained from the Rules Docket at the location provided under the caption ADDRESSES.

#### List of Subjects in 14 CFR Part 39

Air Transportation, Aircraft, Aviation safety, Safety.

#### Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

#### PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### § 39.13 [Amended]

2. Section 39.13 is amended by adding the following new airworthiness directive:

**99-08-15 Pratt & Whitney:** Amendment 39-11121. Docket 98-ANE-66-AD.

*Applicability:* Pratt & Whitney PW4050, PW4052, PW4056, PW4060, PW4060A, PW4062, PW4060C, PW4152, PW4156, PW4156A, PW4158, PW4160, PW4168, PW4168A, PW4460, PW4462, PW4164, PW4074, PW4074D, PW4077, PW4077D, PW4084, PW4084D, and PW4090 series turbofan engines, installed on but not limited to Airbus A300, A310, and A330 series, Boeing 747, 767, 777 series, and McDonnell Douglas MD-11 series airplanes.

**Note 1:** This airworthiness directive (AD) applies to each engine identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For engines that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph . The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

*Compliance:* Required as indicated, unless accomplished previously. To prevent critical life-limited rotating engine part failure, which could result in an uncontained engine failure and damage to the airplane, accomplish the following:

(a) Within the next 30 days after the effective date of this AD, revise the manufacturer's Time Limits section of the manufacturer's Engine Manual, Part Numbers (P/Ns) 50A605, 50A443, 51A342, 50A822, 51A751, and 51A345, as applicable, for Pratt & Whitney PW4050, PW4052, PW4056, PW4060, PW4060A, PW4062, PW4060C, PW4152, PW4156, PW4156A, PW4158, PW4160, PW4460, PW4462, PW4164, PW4168, PW4074, PW4074D, PW4077, PW4077D, PW4084, PW4084D, and PW4090 series turbofan engines, and for air carrier operations revise the approved continuous airworthiness maintenance program, by adding the following:

"MANDATORY INSPECTIONS

(1) Perform inspections of the following parts at each piece-part opportunity in accordance with the instructions provided in the PW4000 series Engine Cleaning, Inspection, and Repair (CIR) Manuals:

| Part Nomenclature       | P/N                          | Manual Section | Inspection | CIR Manual |
|-------------------------|------------------------------|----------------|------------|------------|
| Hub, LPC Assembly ..... | 50B221 (50B201 Detail) ..... | 72-31-07       | 02         | 51A357     |
| Hub, LPC Assembly ..... | 50B321 (50B301 Detail) ..... | 72-31-07       | 02         | 51A357     |
| Hub, LPC Assembly ..... | 51B321 (51B301 Detail) ..... | 72-31-07       | 02         | 51A357     |
| Hub, LPC Assembly ..... | 52B021 (52B001 Detail) ..... | 72-31-07       | 02         | 51A357     |
| Hub, LPC Assembly ..... | 51B631 (50B601 Detail) ..... | 72-31-07       | 02         | 51A750     |
| Hub, LPC Assembly ..... | 51B821 (51B801 Detail) ..... | 72-31-07       | 02         | 51A750     |
| Hub, LPC Assembly ..... | 52B521 (52B501 Detail) ..... | 72-31-07       | 02         | 51A750     |

(2) For the purposes of these mandatory inspections, piece-part opportunity means:

(i) The part is considered completely disassembled when accomplished in accordance with the disassembly instructions in the engine manufacturer's Engine Manual; and

(ii) The part has accumulated more than 100 cycles in service since the last piece-part opportunity inspection, provided that the part was not damaged or related to the cause for its removal from the engine."

(b) Except as provided in paragraph (c) of this AD, and notwithstanding contrary provisions in section 43.16 of the Federal Aviation Regulations (14 CFR 43.16), these mandatory inspections shall be performed only in accordance with the Time Limits section of the applicable PW4000 series Engine Manuals.

(c) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Engine Certification Office. Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector (PMI), who may add comments and then send it to the Engine Certification Office.

**Note 2:** Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the Engine Certification Office.

(d) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be accomplished.

(e) FAA-certificated air carriers that have an approved continuous airworthiness maintenance program in accordance with the record keeping requirement of § 121.369 (c) of the Federal Aviation Regulations [14 CFR 121.369(c)] of this chapter must maintain records of the mandatory inspections that result from revising the Time Limits section of the Instructions for Continuous Airworthiness (ICA) and the air carrier's continuous airworthiness program. Alternately, certificated air carriers may establish an approved system of record retention that provides a method for preservation and retrieval of the maintenance records that include the inspections resulting from this AD, and include the policy and procedures for implementing this alternate method in the air carrier's maintenance manual required by § 121.369(c) of the Federal Aviation Regulations [14 CFR 121.369(c)]; however, the alternate system must be accepted by the appropriate PMI and

require the maintenance records be maintained either indefinitely or until the work is repeated. Records of the piece-part inspections are not required under § 121.380(a)(2)(vi) of the Federal Aviation Regulations [14 CFR 121.380(a)(2)(vi)]. All other Operators must maintain the records of mandatory inspections required by the applicable regulations governing their operations.

**Note 3:** The requirements of this AD have been met when the engine manual changes are made and air carriers have modified their continuous airworthiness maintenance plans to reflect the requirements in the engine manuals.

(f) This amendment becomes effective on May 13, 1999.

Issued in Burlington, Massachusetts, on April 2, 1999.

**Jay J. Pardee,**  
*Manager, Engine and Propeller Directorate, Aircraft Certification Service.*

[FR Doc. 99-8865 Filed 4-12-99; 8:45 am]

**BILLING CODE 4910-13-P**

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. 98-ANE-61-AD; Amendment 39-11120; AD 99-08-14]**

**RIN 2120-AA64**

**Airworthiness Directives; Pratt & Whitney PW2000 Series Turbofan Engines**

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Final rule.

**SUMMARY:** This amendment adopts a new airworthiness directive (AD), applicable to Pratt & Whitney (PW) PW2000 series turbofan engines, that requires revisions to the engine manufacturers time limits section (TLS) to include enhanced inspection of selected critical life-limited parts at each piece-part exposure. This amendment will also require an air carrier's approved continuous airworthiness maintenance program to incorporate these inspection procedures. This amendment is prompted by a Federal Aviation

Administration (FAA) study of in-service events involving uncontained failures of critical rotating engine parts that indicated the need for improved inspections. The improved inspections are needed to identify those critical rotating parts with conditions that if allowed to continue in service, could result in uncontained failures. The actions specified by this AD are intended to prevent critical life-limited rotating engine part failure, which could result in an uncontained engine failure and damage to the airplane.

**DATES:** Effective May 13, 1999.

**ADDRESSES:** The information contained in this AD may be examined at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA.

**FOR FURTHER INFORMATION CONTACT:** Peter White, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (781) 238-7128, fax (781) 238-7199.

**SUPPLEMENTARY INFORMATION:** A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an airworthiness directive (AD) that is applicable to PW PW2000 series turbofan engines was published in the **Federal Register** on August 31, 1998 (63 FR 46202). That action proposed to require within the next 30 days after the effective date of this AD, revisions to the Time Limits Section (TLS) of the Engine Manuals, and, for air carriers, the approved continuous airworthiness maintenance program. The manufacturer of PW2000 series turbofan engines has provided the FAA with a detailed proposal that identifies and prioritizes the critical life-limited rotating engine parts with the highest potential to hazard the airplane in the event of failure, along with instructions for enhanced, focused inspection methods. The enhanced inspections resulting from this AD will be conducted at piece-part opportunity, as defined in this AD, rather than specific inspection intervals.

Interested persons have been afforded an opportunity to participate in the

making of this amendment. Due consideration has been given to the comments received.

One commenter supports the measures outlined in the proposed rule.

One commenter states that the manual references are not specific enough and requests that the manual references include the specific task or subtask that is to be performed. The FAA partially concurs. The reference method in this ad will not be changed. The FAA agrees that there is a benefit to using the tasks and subtasks. However, in the case of this AD, the FAA believes that the manner of referencing is arbitrary since either the reference method employed within this AD, or the task and subtask codes method will direct the reader to the desired inspection in the engine manual.

One commenter states that paragraph (a)(2)(ii) is confusing as to inspection requirements for damaged parts and wants the piece part language used to trigger inspections modified. The FAA does not concur. Standardized language to define the piece-part condition and trigger focused inspection is required for uniform application of these new requirements across all operators. The language contained in the proposed rule has been developed by and agreed to by a broad group of FAA and Industry members. Therefore, the piece-part definition will not be changed.

One commenter asks that each referenced manual section for the required inspections should also clearly state whether miscellaneous parts are to be removed or left in place. The FAA concurs. This AD has been reviewed relative to this suggestion. There are two areas on the PW2000 disks that are not typically disassembled, and after review, are not required to be disassembled to meet the intent of the proposed inspection. One of these areas is the tie-rod bolthole that, in some cases, has a repair bushing installed. The removal of these bushings would likely introduce more problems than they would solve, and a crack or failure in this region, at the disk outside diameter (OD), would not result in an uncontained failure. The other area is the spinner flange flared nuts. These are captive nuts and must be drilled or machined to be removed. Again, their removal or replacement would likely introduce more problems than would be solved, and cracking or failure in this region would also not result in an uncontained failure.

One commenter believes that the FAA should urge the original equipment manufacturers (OEM's) to agree on universal precleaning and fluorescent penetrant inspection (FPI) procedures

and to call them out in their service documents. The commenter believes that there is a lack of uniform cleaning procedures that are employed by the industry before conducting FPI inspections. The FAA partially concurs. The FAA recognizes the need for, and is currently engaged in, several other initiatives that will provide standardized guidance on precleaning and several other procedural aspects of FPI. The FAA will take action on standardized procedures when standardized procedures are developed and consensus is reached in the industry. No changes will be made to this AD.

Several commenters ask that the FAA clarify the record keeping aspects of the mandatory inspections resulting from the required changes to the Original Equipment Manufacturer's manual and operator's continuous airworthiness maintenance program. One commenter believes that paragraph (e) of the proposed rule is unclear and suggests that it be revised by eliminating the word "or" from the first sentence and beginning a second sentence with "In lieu of the record \* \* \*." Two commenters state that the AD should be revised to clearly specify which types of maintenance records must be retained (i.e., inspection results, defect reporting requirements, date of performed maintenance, signature of the person performing the maintenance). These commenters believe that these revisions are necessary in order to avoid potential differences in interpretation between the air carriers and the FAA. And, one commenter states that the AD should clarify that there is no need for a special form to comply with the AD record keeping requirements. The FAA concurs in part. Generally, record keeping requirements are addressed in other regulations and this AD does not change those requirements. In order to allow flexibility from operator to operator, the FAA does not concur that the AD itself specify the precise nature of the records that will result from the required changes to the manufacturer's manual and operator's maintenance program. The FAA has, however, revised Paragraph (e) of this AD to clarify record keeping aspects of the new mandatory inspections.

Two commenters point out that inspection 06 referred to in the NPRM does not exist in the present manual. Inspection 06 is the inspection that is being mandated by this proposed AD. The FAA concurs. PW will include inspection 06 in the next manual revision.

Several commenters ask that the disks be identified by using the term "all"

instead of identifying the disks by specific part numbers. The commenters believe that using the term "all" to identify the disks will eliminate the need for issuing a future AD every time a new P/N is added. The FAA partially concurs. Using the reference "all" instead of specific P/N's is preferable in some aspects. Using "all" eliminates the possibility of omitting parts that exists whenever using specific P/N's. However, P&W has initiated the manual changes, they are accurate, and will not be changed at this time. Future parts will be addressed by introduction into the service documentation instead of future AD's. These inspections will be incorporated into the maintenance plan and documentation for new parts from the beginning. This AD deals only with parts that are already in service. This proposed AD will not be changed to use "all."

No comments were received on the economic analysis contained in the proposed rules. Based on that analysis, the FAA has determined that the annual per engine cost of \$223 does not create a significant economic impact on small entities.

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule with the changes described previously. The FAA has determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

The regulations adopted herein will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, I certify that this action (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained from the Rules Docket at the location provided under the caption ADDRESSES.

**List of Subjects in 14 CFR Part 39**

Air Transportation, Aircraft, Aviation safety, Safety.

**Adoption of the Amendment**

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

**PART 39—AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

**Authority:** 49 U.S.C. 106(g), 40113, 44701.

**§ 39.13 [Amended]**

2. Section 39.13 is amended by adding the following new airworthiness directive:

**99-08-14 Pratt & Whitney:** Amendment 39-11120. Docket 98-ANE-61-AD.

*Applicability:* Pratt & Whitney (PW) PW2037, PW2040, PW2037M, PW2240, PW2337, PW2043, PW2643, and PW2143, series turbofan engines, installed on but not limited to Boeing 757 series and Ilyushin IL-96T series airplanes.

**Note 1:** This airworthiness directive (AD) applies to each engine identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For engines that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (c) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe

condition has not been eliminated, the request should include specific proposed actions to address it.

*Compliance:* Required as indicated, unless accomplished previously. To prevent critical life-limited rotating engine part failure, which could result in an uncontained engine failure and damage to the airplane, accomplish the following:

(a) Within the next 30 days after the effective date of this AD, revise the manufacturer's Time Limits section (TLS) of the manufacturer's engine manual, Part Numbers (P/N's) 1A6231 and 1B2412, as appropriate for the PW PW2037, PW2040, PW2037M, PW2240, PW2337, PW2043, PW2643, and PW2143 series turbofan engines, and for air carriers revise the approved continuous airworthiness maintenance program, by adding the following:

**"MANDATORY INSPECTIONS**

(1) Perform inspections of the following parts at each piece-part opportunity in accordance with the instructions provided in the PW2000 series Engine Manuals:

| Part nomenclature       | Part No. (P/N)                 | Manual section | Inspection     |
|-------------------------|--------------------------------|----------------|----------------|
| Hub, 1st Stg Comp ..... | 1A9001 (Assy P/N 1A9021) ..... | 72-31-04       | Inspection-06. |

(2) For the purposes of these mandatory inspections, piece-part opportunity means:

(i) The part is considered completely disassembled when done in accordance with the disassembly instructions in the manufacturer's engine manual to either part number level listed in the table above, and

(ii) The part has accumulated more than 100 cycles in service since the last piece-part opportunity inspection, provided that the part was not damaged or related to the cause for its removal from the engine."

(b) Except as provided in paragraph (c) of this AD, and notwithstanding contrary provisions in § 43.16 of Federal Aviation Regulations (14 CFR 43.16), these enhanced inspections shall be performed only in accordance with the TLS of the appropriate PW2000 series engine manuals.

(c) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Engine Certification Office. Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector (PMI), who may add comments and then send it to the Manager, Engine Certification Office.

**Note 2:** Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the Engine Certification Office.

(d) Special flight permits may be issued in accordance with §§ 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the aircraft to a location where the requirements of this AD can be accomplished.

(e) FAA-certificated air carriers that have an approved continuous airworthiness maintenance program in accordance with the record keeping requirement of § 121.369(c) of the Federal Aviation Regulations [14 CFR 121.369(c)] of this chapter must maintain records of the mandatory inspections that result from revising the Time Limits section of the Instructions for Continuous Airworthiness (ICA) and the air carrier's continuous airworthiness program.

Alternately, certificated air carriers may establish an approved system of record retention that provides a method for preservation and retrieval of the maintenance records that include the inspections resulting from this AD, and include the policy and procedures for implementing this alternate method in the air carrier's maintenance manual required by § 121.369(c) of the Federal Aviation Regulations [14 CFR 121.369(c)]; however, the alternate system must be accepted by the appropriate PMI and require the maintenance records be maintained either indefinitely or until the work is repeated. Records of the piece-part inspections are not required under § 121.380(a)(2)(vi) of the Federal Aviation Regulations [14 CFR 121.380(a)((2)(vi)]. All other Operators must maintain the records of mandatory inspections required by the applicable regulations governing their operations.

**Note 3:** The requirements of this AD have been met when the engine manual changes are made and air carriers have modified their continuous airworthiness maintenance plans to reflect the requirements in the engine manuals.

(f) This amendment becomes effective on May 13, 1999.

Issued in Burlington, Massachusetts, on April 2, 1999.

**Jay J. Pardee,**  
*Manager, Engine and Propeller Directorate,*  
*Aircraft Certification Service.*

[FR Doc. 99-8864 Filed 4-12-99; 8:45 am]

**BILLING CODE 4910-13-P**

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. 98-ANE-49-AD; Amendment 39-11119; AD 99-08-13]**

**RIN 2120-AA64**

**Airworthiness Directives; General Electric Company CF6-80A, CF6-80C2, and CF6-80E1 Series Turbofan Engines**

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Final rule.

**SUMMARY:** This amendment adopts a new airworthiness directive (AD), that requires revisions to the Life Limits Section of the manufacturer's Instructions for Continued Airworthiness (ICA) for General Electric Company (GE) CF6-80A, CF6-80C2 and CF6-80E1 series turbofan engines to

include required enhanced inspection of selected critical life-limited parts at each piece-part exposure. This AD also requires that an air carrier's approved continuous airworthiness maintenance program incorporate these inspection procedures. This amendment is prompted by a Federal Aviation Administration (FAA) study of in-service events involving uncontained failures of critical rotating engine parts that indicated the need for improved inspections. The improved inspections are needed to identify those critical rotating parts with conditions, which if allowed to continue in service, could result in uncontained failures. The actions specified by this AD are intended to prevent critical life-limited rotating engine part failure, which could result in an uncontained engine failure and damage to the airplane.

**DATES:** Effective May 13, 1999.

**ADDRESSES:** The information contained in this AD may be examined at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA.

**FOR FURTHER INFORMATION CONTACT:**

Karen Curtis, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (781) 238-7192, fax (781) 238-7199.

**SUPPLEMENTARY INFORMATION:**

A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an airworthiness directive (AD) that is applicable to GE CF6-80A, CF6-80C2 and CF6-80E1 series turbofan engines was published in the **Federal Register** on July 28, 1998 (63 FR 40223). That action proposed to require within the next 30 days after the effective date of this AD, revisions to the Life Limits section of the Engine Manuals, and, for air carriers, their approved continuous airworthiness maintenance program. The manufacturer of CF6-80A, CF6-80C, and CF6-80E1 series turbofan engines, has provided the FAA with a detailed proposal that identifies and prioritizes the critical life-limited rotating engine parts with the highest potential to hazard the airplane in the event of failure, along with instructions for enhanced, focused inspection methods. These enhanced inspections will be conducted at piece-part opportunity, as defined in this AD, rather than at specific inspection intervals.

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comments received.

Four commenters note that some of the tasks and subtasks that are referenced in the Notice for Proposed Rule Making (NPRM) require visual and dimensional inspections in addition to the nondestructive inspections identified as part of the enhanced inspection initiative. The commenters recommend that the final rule be revised to reflect only those tasks or subtasks that are intended to be mandated by the AD. The FAA concurs. The requested changes are consistent with the enhanced inspection initiative. The compliance section of this final rule has been changed to reference only the tasks and subtasks of the mandated inspections.

One commenter notes that the chapter referenced for the CF6-80A high pressure turbine (HPT) stage 1 disk inspection in the table in paragraph (a) of the NPRM is in error. The commenter recommends changing the final rule to reference the correct chapter (72-53-02 instead of 72-53-03). The FAA concurs. The chapter reference for the CF6-80A HPT stage 1 disk in the table in paragraph (a) of the compliance section of this AD has been changed to reference chapter 72-53-02.

One commenter notes that the work hours that are stated in the preamble for the HPT rotor stage 1 and stage 2 disk inspections are less than the commenter's estimate. The commenter recommends that the final rule be revised to note 18 hours instead of 8 hours for the mandated inspections. The FAA does not concur. The FAA has reviewed the work hour estimate that includes 3 hours for eddy current inspection and 5 hours for fluorescent-penetrant inspection (FPI) for each HPT rotor disk for a total of 16 hours for the two HPT rotor disks. The FAA believes that 8 hours is a conservative estimate for a part of average cleanliness that's being inspected under typical shop conditions.

No other comments were received on the economic analysis contained in the NPRM. Based on that analysis, the FAA has determined that the annual per engine cost of \$308 does not create a significant economic impact on small entities.

One commenter requests that the FAA link the conduct of mandatory inspections on whether the subject part was removed from an engine while the engine was installed on the airplane or while the engine was removed and in an overhaul shop. The commenter wishes to exempt those parts that are removed from installed engines from the focused inspections. The FAA does not concur. The mandatory inspections are based on a single trigger. The trigger is a part

being completely disassembled using the engine manual instructions (piece-part opportunity), and is not dependent on whether an engine is installed on the airplane. This final rule mandates that the definition of piece-part opportunity appears in the mandatory section of each affected engine manual. This final rule further mandates that an operator's continuous airworthiness maintenance program be modified to capture those engine manual changes.

Several commenters ask that the FAA clarify the record keeping aspects of the mandatory inspections resulting from the required changes to the Original Equipment Manufacturer's manual and operator's continuous airworthiness maintenance program. One commenter believes that paragraph (e) of the proposed AD is unclear and suggests that it be revised by eliminating the word "or" from the first sentence and beginning a second sentence with "In lieu of the record. \* \* \*" Two commenters state that the AD should be revised to clearly specify which types of maintenance records must be retained (i.e., inspection results, defect reporting requirements, date of performed maintenance, signature of the person performing the maintenance). These commenters believe that these revisions are necessary in order to avoid potential differences in interpretation between the air carriers and the FAA. And, one commenter states that the AD should clarify that there is no need for a special form to comply with the AD record keeping requirements. The FAA concurs in part. Generally, record keeping requirements are addressed in other regulations and this AD does not change those requirements. In order to allow flexibility from operator to operator, the FAA does not agree that the AD itself specify the precise nature of the records that will result from the required changes to the manufacturer's manual and operator's maintenance program. The FAA has, however, revised Paragraph (e) of this AD to clarify record keeping aspects of the new mandatory inspections.

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule with the changes described previously. The FAA has determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

The regulations adopted herein will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and

responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, I certify that this action (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained from the Rules Docket at the location provided under the caption ADDRESSES.

**List of Subjects in 14 CFR Part 39**

Air Transportation, Aircraft, Aviation safety, Safety.

**Adoption of the Amendment**

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

**PART 39—AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

**Authority:** 49 U.S.C. 106(g), 40113, 44701.

**§ 39.13 [Amended]**

2. Section 39.13 is amended by adding the following new airworthiness directive:

**99-08-13 General Electric Company:**

Amendment 39-11119. Docket 98-ANE-49-AD.

*Applicability:* General Electric Company CF6-80A, CF6-80C2 and CF6-80E1 series turbofan engines, installed on but not limited to Airbus A300, A310, and A330 series, Boeing 747 and 767 series, and McDonnell Douglas MD-11 series airplanes.

**Note 1:** This airworthiness directive (AD) applies to each engine identified in the preceding applicability provision, regardless of whether it has been modified, altered, or

repaired in the area subject to the requirements of this AD. For engines that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (c) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

*Compliance:* Required as indicated, unless accomplished previously. To prevent critical life-limited rotating engine part failure, which could result in an uncontained engine failure and damage to the airplane, accomplish the following:

(a) Within the next 30 days after the effective date of this AD, revise the manufacturer's Life Limits Section of the Instructions for Continued Airworthiness (ICA), and for air carrier operations revise the approved continuous airworthiness maintenance program, by adding the following:

**"MANDATORY INSPECTIONS**

(1) Perform inspections of the following parts at each piece-part opportunity in accordance with the instructions provided in the applicable manual provisions:

| Part Nomenclature                                     | Part number (P/N) | Inspect per engine manual chapter  |
|---|-------------------|--|
| For CF6-80A Engines:                                  |                   |  |
| Fan Rotor Disk Stage 1 .....                          | All .....         | 72-21-03, paragraph 3, Fluorescent-Penetrant Inspect; and 72-21-03, paragraph 4, Eddy Current Inspect.   |
| High Pressure Turbine Rotor Stage 1 Disk/Shaft.       | All .....         | 72-53-02, paragraph 3, Fluorescent-Penetrant Inspect Disk/Shaft per 70-32-02; and 72-53-02, paragraph 6, Eddy Current Inspection.  |
| High Pressure Turbine Rotor Stage 2 Disk.             | All .....         | 72-53-06, paragraph 3, Fluorescent-Penetrant Inspection; and 72-53-06, paragraph 6, Eddy Current Inspection of Rim Boltholes for Cracks.   |
| For CF6-80C2 Engines:                                 |                   |  |
| Fan Rotor Disk Stage 1 .....                          | All .....         | Task 72-21-03-200-000-004, Fluorescent-Penetrant Inspection; and Task 72-21-03-200-000-008, Eddy Current Inspect Fan Rotor Disk Stage 1 Bore, Forward and Aft Hub Faces, and Bore Radii. |
| High Pressure Turbine (HPT) Rotor Stage 1 Disk/Shaft. | All .....         | Task 72-53-02-200-000-001, Fluorescent-Penetrant Inspect the HPT Rotor Stage 1 Disk/Shaft; and Task 72-53-02-200-000-005, Eddy Current Inspection.                                       |
| High Pressure Turbine (HPT) Rotor Stage 2 Disk.       | All .....         | Task 72-53-06-200-000-002, Fluorescent-Penetrant Inspect the Stage 2 Disk; and Task 72-53-06-200-000-006, Eddy Current Inspection of the HPTR Stage 2 Rim Boltholes.                     |
| For CF6-80E1 Engines:                                 |                   |  |
| Stage 1 Disk, Fan Rotor .....                         | All .....         | Task 72-21-03-230-051, Fluorescent-Penetrant Inspection; and Task 72-21-03-250-051 or 72-21-03-250-052, Eddy Current Inspection.   |
| High Pressure Turbine (HPT) Rotor Stage 1 Disk/Shaft. | All .....         | Task 72-53-02-230-051, Fluorescent-Penetrant Inspection; and Task 72-53-02-200-001-005, Eddy Current Inspection.   |
| High Pressure Turbine (HPT) Rotor Stage 2 Disk.       | All .....         | Task 72-53-06-230-051, Fluorescent-Penetrant Inspection; and Task 72-53-06-200-001-006, Eddy Current Inspection of the HPTR Stage 2 Rim Boltholes.                                       |

(2) For the purposes of these mandatory inspections, piece-part opportunity means:

(i) The part is considered completely disassembled when done in accordance with the disassembly instructions in the manufacturer's engine manual; and

(ii) The part has accumulated more than 100 cycles in service since the last piece-part opportunity inspection, provided that the part was not damaged or related to the cause for its removal from the engine."

(b) Except as provided in paragraph (c) of this AD, and notwithstanding contrary provisions in § 43.16 of the Federal Aviation Regulations (14 CFR 43.16), these mandatory inspections shall be performed only in accordance with the Life Limits Section of the manufacturer's ICA.

(c) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Engine

Certification Office. Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector (PMI), who may add comments and then send it to the Manager, Engine Certification Office.

**Note 2:** Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the Engine Certification Office.

(d) Special flight permits may be issued in accordance with §§ 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the aircraft to a location where the requirements of this AD can be accomplished.

(e) FAA-certificated air carriers that have an approved continuous airworthiness maintenance program in accordance with the recordkeeping requirement of § 121.369 (c) of the Federal Aviation Regulations [14 CFR 121.369 (c)] of this chapter must maintain records of the mandatory inspections that result from revising the Life Limits section of the ICA and the air carrier's continuous airworthiness program. Alternately, certificated air carriers may establish an approved system of record retention that provides a method for preservation and retrieval of the maintenance records that include the inspections resulting from this AD, and include the policy and procedures for implementing this alternate method in the air carrier's maintenance manual required by § 121.369 (c) of the Federal Aviation Regulations [14 CFR 121.369 (c)]; however, the alternate system must be accepted by the appropriate PMI and require the maintenance records be maintained either indefinitely or until the work is repeated. Records of the piece-part inspections are not required under § 121.380(a)(2)(vi) of the Federal Aviation Regulations [14 CFR 121.380(a)(2)(vi)]. All other Operators must maintain the records of mandatory inspections required by the applicable regulations governing their operations.

**Note 3:** The requirements of this AD have been met when the engine manual changes are made and operators have modified their continuous airworthiness maintenance plans to reflect the requirements in the engine manuals.

(f) This amendment becomes effective on May 13, 1999.

Issued in Burlington, Massachusetts, on April 2, 1999.

**Jay J. Pardee,**

*Manager, Engine and Propeller Directorate, Aircraft Certification Service.*

[FR Doc. 99-8863 Filed 4-12-99; 8:45 am]

BILLING CODE 4910-13-U

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. 98-ANE-47-AD; Amendment 39-11118; AD 99-08-12]

RIN 2120-AA64

#### Airworthiness Directives; Pratt & Whitney JT9D Series Turbofan Engines

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Final rule.

**SUMMARY:** This amendment adopts a new airworthiness directive (AD), that requires revisions to the Engine Time

Limits section in the Engine Manual (EM) for Pratt & Whitney (PW) JT9D series turbofan engines to include required enhanced inspection of selected critical life-limited parts at each piece-part exposure. This amendment will also require an air carrier's approved continuous airworthiness maintenance program to incorporate these inspection procedures. This amendment is prompted by a Federal Aviation Administration (FAA) study of in-service events involving uncontained failures of critical rotating engine parts which indicated the need for improved inspections. The improved inspections are needed to identify those critical rotating parts with conditions, that if allowed to continue in service, could result in uncontained failures. The actions specified by this proposed AD are intended to prevent critical life-limited rotating engine part failure, which could result in an uncontained engine failure and damage to the airplane.

**DATES:** Effective May 13, 1999.

**ADDRESSES:** The information referenced in this AD may be examined at the Federal Aviation Administration (FAA), New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA.

**FOR FURTHER INFORMATION CONTACT:** Tara Goodman, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (781) 238-7130, fax (781) 238-7199.

**SUPPLEMENTARY INFORMATION:** A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an airworthiness directive (AD) that is applicable to Pratt & Whitney JT9D series turbofan engines was published in the **Federal Register** on July 28, 1998 (63 FR 40220). That action proposed to require revisions to the Engine Time Limits section in the Engine Manual (EM) for Pratt & Whitney JT9D series turbofan engines to include required enhanced inspection of selected critical life-limited parts at each piece-part exposure. That action also proposed to require an air carrier's approved continuous airworthiness maintenance program to incorporate these inspection procedures.

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comments received.

One commenter notes that the JT9D manual used by the operator [part number (P/N) 770407] to maintain

JT9D-7A and -7J engines is not included in paragraph (a), which lists the JT9D manuals which require revisions to the Engine Time Limits Section by P/N. The FAA concurs. Several engine manuals applicable to certain JT9D-7 models are customized for operators. Part numbers for these engine manuals were inadvertently omitted from the proposed rule. Corrections for the engine manual referenced by the commentor and for other engine manuals have been included in this AD.

Several commenters suggested that the tables used to specify those parts requiring mandatory inspections be given standardized formats and that the parts be identified by "all" rather than by specific part number. The FAA does not concur. FAA intentionally allowed each manufacturer to choose a format that fits their products manual. Identification of parts requiring mandatory inspections has been accomplished by either part number identification or use of the word "all". Part number identification was chosen by some manufacturers since the processes and procedures needed to conduct new inspections were not yet developed for all parts of a certain type, i.e., fan disks/hubs. FAA wants the manufacturers to have flexibility in managing how their manuals are structured within Air Transport Association code requirement and does not consider mandating matters of format appropriate.

Several commenters ask that the FAA clarify the record keeping aspects of the mandatory inspections resulting from the required changes to the Original Equipment Manufacturer's manual and operator's continuous airworthiness maintenance program. One commenter believes that paragraph (e) of the NPRM is unclear and suggests that it be revised by eliminating the word "or" from the first sentence and beginning a second sentence with "In lieu of the record."

\* \* \*

Two commenters state that the AD should be revised to clearly specify which types of maintenance records must be retained (i.e., inspection results, defect reporting requirements, date of performed maintenance, signature of the person performing the maintenance). These commenters believe that these revisions are necessary in order to avoid potential differences in interpretation between the air carriers and the FAA. And, one commenter states that the AD should clarify that there is no need for a special form to comply with the AD record keeping requirements. The FAA concurs in part. Generally, record keeping requirements are addressed in other regulations and this AD does not

change those requirements. In order to allow flexibility from operator to operator, the FAA does not concur that the AD itself specify the precise nature of the records that will result from the required changes to the manufacturer's manual and operator's maintenance program. The FAA has, however, revised Paragraph (e) of the final rule to clarify record keeping aspects of the new mandatory inspections.

One commenter requested that the FAA link the conduct of mandatory inspections with the subject part's removal from an engine either on-wing or in an overhaul shop. The FAA does not concur. Mandatory inspections are based on a single trigger, which is a part being completely disassembled per the engine manual instructions (piece-part opportunity), and are not dependent on an engine's state of installation. This AD mandates that the definition of piece-part opportunity appear in the mandatory section of each affected engine manual. This AD further mandates that an operator's continuous airworthiness maintenance program be modified to capture those engine manual changes.

Several commenters suggest that the 100 cycle inservice inspection waiver provided in the piece-part opportunity definition was too low and could not be justified from a crack growth standpoint or that language be added to the requirements adding a minimum cycles in service threshold after which mandatory inspections would be applicable. The FAA does not concur. The 100 cycle waiver is intended to allow short term alleviation from mandatory inspections for a part recently inspected in accordance with the engine manual requirements. It was specifically aimed at disassembled parts removed from an engine following a test cell reject or some other occurrence that caused the parts removal shortly after successful completion of mandatory inspections. Waiver of mandatory inspections in this instance also requires that the part was not damaged or related to the cause for its removal from the engine. Mandatory inspections are also required on fully disassembled parts regardless of time-since-new (TSN). FAA is aware that cracks can be missed during part inspections and that each time a part is processed through an inspection line, the probability of detecting a crack is increased. Commonly used on-condition maintenance plans make it likely that a given part could be returned to service for thousands of cycles without the need for additional focused inspection. Recognizing two opposing aspects of part removal and inspection, i.e., a need

for a brief exemption period following conduct of mandatory inspections and the benefits of increased frequency of inspection, FAA established the 100 cycle threshold. No consideration for crack growth time was given in the choice of this number nor was TSN considered as a possible reason for exempting parts from focused inspection. It is based strictly on keeping the frequency of mandatory inspection as high as practical and therefore increasing the probability of crack detection while providing a brief window of exemption from mandatory inspection if certain conditions are met. Therefore, the 100 cycle limit will remain in the compliance section of the AD and no exemption will be allowed for low TSN parts.

One commenter states that the mandatory manual chapters were modified to require new inspection requirements prior to issuance of the final rule AD and that FAA should provide written notification to Flight Standards Offices that the inspections proposed in the proposed rule are not mandatory until the establishment of an effectivity date in a published final rule AD. Some confusion between Operators, Manufacturers and Principal Maintenance Inspectors was created when the mandatory manual sections were modified prior to the release of a final rule AD. The FAA concurs in part. The manuals were modified prior to issuance of the final rule to minimize implementation delays from lengthy original equipment manufacturer EM revision cycles. FAA will attempt a higher level of coordination of timing the manual revisions so that the revisions follow final rule AD's in the future. However, to avoid additional confusion with the currently proposed changes, FAA will not issue written notice to the Flight Standards Offices.

No comments were received on the economic analysis contained in the proposed rules. Based on that analysis, the FAA has determined that the annual per engine cost of \$284 does not create a significant economic impact on small entities.

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule as proposed.

The regulations proposed herein would not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this

proposal would not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, I certify that this proposed regulation (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) if promulgated, will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A copy of the draft regulatory evaluation prepared for this action is contained in the Rules Docket. A copy of it may be obtained by contacting the Rules Docket at the location provided under the caption ADDRESSES.

#### List of Subjects in 14 CFR Part 39

Air Transportation, Aircraft, Aviation safety, Safety.

#### Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

#### PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

**Authority:** 49 U.S.C. 106(g), 40113, 44701.

#### § 39.13 [Amended]

2. Section 39.13 is amended by adding the following new airworthiness directive:

**99-08-12 Pratt & Whitney:** Amendment 39-11118. Docket 98-ANE-47-AD.

Applicability: Applicability: Pratt & Whitney (PW) JT9D-3A, -7, -7H, -7A, -7AH, -7F, -7J, -20J, -59A, -70A, -7Q, -7Q3, -7R4D, -7R4D1, -7R4E, -7R4E1, -7R4G2, -7R4H1, and 7R4E4 series turbofan engines, installed on but not limited to Boeing 747 and 767 series, McDonnell Douglas DC-10 series, and Airbus A300 and A310 series airplanes.

**Note 1:** This airworthiness directive (AD) applies to each engine identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For engines that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (c) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe



condition has not been eliminated, the request should include specific proposed actions to address it.

*Compliance:* Required as indicated, unless accomplished previously.

To prevent critical life-limited rotating engine part failure, which could result in an

uncontained engine failure and damage to the airplane, accomplish the following:

(a) Within the next 30 days after the effective date of this AD, revise the Engine Time Limits Section (TLS) of the manufacturer's Engine Manual (EM), JT9D Part Numbers 646028, 754459, 770407, 770408, 777210, 785059, 785058, 789328, as appropriate, and for air carrier operations

revise the approved continuous airworthiness maintenance program, by adding the following:

**"MANDATORY INSPECTIONS**

(1) Perform inspections of the following parts at each piece-part opportunity in accordance with the instructions provided in the applicable manual provisions:

| Part Nomenclature                                | Part No. (P/N) | Inspect per manual section | Inspection               |
|--|----------------|----------------------------|--------------------------|
| Fan hub (Assy. P/N 648621) .....                 | 648501         | 72-31-04                   | Inspection-02.           |
| Fan hub (Assy. P/N 665321) .....                 | 648501         | 72-31-04                   | Inspection-02.           |
| Fan hub (Assy. P/N 665321, 719127, 778621) ..... | 666101         | 72-31-04                   | Inspection-02.           |
| Fan hub (Assy. P/N 678541, 726641, 778631) ..... | 690501         | 72-31-04                   | Inspection-02.           |
| Fan hub (Assy. P/N 726941) .....                 | 734901         | 72-31-04                   | Inspection-02.           |
| Fan hub (Assy. P/N-732721) .....                 | 745401         | 72-31-00                   | Heavy Maintenance-Check. |
| Fan hub (Assy. P/N 804221) .....                 | 745401         | 72-31-00                   | Heavy Maintenance-Check. |
| Fan hub (Assy. P/N 5001331-01) .....             | 5001701-01     | 72-31-00                   | Inspection-03.           |

(2) For the purposes of these mandatory inspections, piece-part opportunity means:

(i) The part is considered completely disassembled when accomplished in accordance with the disassembly instructions in the manufacturer's engine manual to either part number listed in the table above; and

(ii) The part has accumulated more than 100 cycles in service since the last piece-part opportunity inspection, provided that the part was not damaged or related to the cause for its removal from the engine."

(b) Except as provided in paragraph (c) of this AD, and notwithstanding contrary provisions in § 43.16 of the Federal Aviation Regulations (14 CFR 43.16), these mandatory inspections shall be performed only in accordance with the Engine TLS of the PW JT9D EM.

(c) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Engine Certification Office. Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector (PMI), who may add comments and then send it to the Engine Certification Office.

**Note 2:** Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the Engine Certification Office.

(d) Special flight permits may be issued in accordance with §§ 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be accomplished.

(e) FAA-certificated air carriers that have an approved continuous airworthiness maintenance program in accordance with the record keeping requirement of § 121.369(c) of the Federal Aviation Regulations [14 CFR 121.369(c)] of this chapter must maintain records of the mandatory inspections that result from revising the Engine Time Limits section of the Instructions for Continuous Airworthiness (ICA) and the air carrier's continuous airworthiness program. Alternately, certificated air carriers may establish an approved system of record

retention that provides a method for preservation and retrieval of the maintenance records that include the inspections resulting from this AD, and include the policy and procedures for implementing this alternate method in the air carrier's maintenance manual required by § 121.369(c) of the Federal Aviation Regulations [14 CFR 121.369(c)]; however, the alternate system must be accepted by the appropriate PMI and require the maintenance records be maintained either indefinitely or until the work is repeated. Records of the piece-part inspections are not required under § 121.380(a)(2)(vi) of the Federal Aviation Regulations [14 CFR 121.380(a)(2)(vi)]. All other Operators must maintain the records of mandatory inspections required by the applicable regulations governing their operations.

**Note 3:** The requirements of this AD have been met when the engine manual changes are made and air carriers have modified their continuous airworthiness maintenance plans to reflect the requirements in the engine manuals.

(f) This amendment becomes effective on May 13, 1999.

Issued in Burlington, Massachusetts, on April 2, 1999.

**Jay J. Pardee,**  
*Manager, Engine and Propeller Directorate,*  
*Aircraft Certification Service.*

[FR Doc. 99-8862 Filed 4-12-99; 8:45 am]

**BILLING CODE 4910-13-U**

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

[Docket No. 98-ANE-45-AD; Amendment 39-11117; AD 99-08-11]

**RIN 2120-AA64**

**Airworthiness Directives; International Aero Engines AG (IAE) V2500-A1/-A5/-D5 Series Turbofan Engines**

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Final rule.

**SUMMARY:** This amendment adopts a new airworthiness directive (AD), that requires revisions to the Airworthiness Limitations Section (ALS) and Maintenance Scheduling Section (MSS) of the Instructions for Continued Airworthiness (ICA) in the Time Limits Manual (Chapter 05-10-00) of the Engine Manuals for International Aero Engines AG (IAE) V2500-A1/-A5/-D5 series turbofan engines to include required enhanced inspection of selected critical life-limited parts at each piece-part exposure. This AD will also require an air carrier's approved continuous airworthiness maintenance program to incorporate these inspection procedures. This amendment is prompted by a Federal Aviation Administration (FAA) study of in-service events involving uncontained failures of critical rotating engine parts which indicated the need for improved inspections. The improved inspections are needed to identify those critical rotating parts with conditions, that if allowed to continue in service, could result in uncontained failures. The actions specified by this AD are intended to prevent critical life-limited

rotating engine part failure, which could result in an uncontained engine failure and damage to the airplane.

**DATES:** Effective May 13, 1999.

**ADDRESSES:** The information referenced in this AD may be examined at the Federal Aviation Administration (FAA), New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA.

**FOR FURTHER INFORMATION CONTACT:** Diane Cook, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (781) 238-7133, fax (781) 238-7199.

**SUPPLEMENTARY INFORMATION:** A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an airworthiness directive (AD) that is applicable to IAE V2500-A1/-A5/-D5 series turbofan engines was published in the **Federal Register** on July 28, 1998 (63 FR 40218). That action proposed to require revisions to the ALS and MSS of the ICA in the Time Limits Manual (Chapter 05-10-00) of the Engine Manuals for IAE V2500-A1/-A5/-D5 series turbofan engines to include required enhanced inspection of selected critical life-limited parts at each piece-part exposure and the incorporation of these procedures into the air carriers' approved continuous airworthiness maintenance program.

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comments received.

One commenter proposes to remove the current publication dates of the engine manuals specified in paragraphs (a) (1), (2), and (3) of the compliance section of this AD to avoid AD applicability issues in the event of a manual revision prior to the effectivity of the Final Rule AD. The FAA concurs. The purpose of paragraphs (a) (1), (2), and (3) is to identify the engine manuals and the specific areas in the manuals that will be revised by this AD. The publication dates are not necessary to identify these engine manuals since the part number of each manual is specified. Therefore, the dates will be deleted from these subject paragraphs in the AD. Additionally, page numbers have been removed from paragraphs (a) (1), (2), and (3).

One commenter indicates that there is a typographical error in the part number (P/N) of the A1/-A5 Engine Manual. The correct P/N is E-V2500-1IA not M-V2500-1IA. The FAA concurs. The typographical error will be corrected in

paragraph (a)(2) of the compliance section of this AD.

Several commenters ask that the FAA clarify the record keeping aspects of the mandatory inspections resulting from the required changes to the Original Equipment Manufacturer's manual and operator's continuous airworthiness maintenance program. One commenter believes that paragraph (e) of the proposed rule is unclear and suggests that it be revised by eliminating the word "or" from the first sentence and beginning a second sentence with "In lieu of the record. \* \* \*" Two commenters state that the AD should be revised to clearly specify which types of maintenance records must be retained (i.e., inspection results, defect reporting requirements, date of performed maintenance, signature of the person performing the maintenance). These commenters believe that these revisions are necessary in order to avoid potential differences in interpretation between the air carriers and the FAA. And, one commenter states that the AD should clarify that there is no need for a special form to comply with the AD record keeping requirements. The FAA concurs in part. Generally, record keeping requirements are addressed in other regulations and this AD does not change those requirements. In order to allow flexibility from operator to operator, the FAA does not agree that the AD itself specify the precise nature of the records that will result from the required changes to the manufacturer's manual and operator's maintenance program. The FAA has, however, revised Paragraph (e) of this AD to clarify record keeping aspects of the new mandatory inspections.

One commenter supported the rule as proposed.

No comments were received on the economic analysis contained in the proposed rules. Based on that analysis, the FAA has determined that the annual per engine cost of \$61 does not create a significant economic impact on small entities.

**Additional editorial changes:**  
The engine manuals' Airworthiness Limitations sections contain a paragraph that refers to paragraph 2, "Maintenance Scheduling," which meets the intent of this AD. Therefore, the exact wording from the manual will be used in this AD. Paragraph (a)(i) of the compliance section will read: "Refer to Paragraph 2—Maintenance Scheduling for information that sets forth the operators' maintenance requirements for the V2500 On-Condition engine."

In addition, for clarity, Paragraph (a)(ii) of the compliance section will read: "Whenever a Group A part

identified in this paragraph, (see 2.1 for definition of Group A), satisfies both \* \* \* conditions."

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule as proposed.

The regulations adopted herein would not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this final rule would not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, I certify that this action (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A final evaluation has been prepared for this action is contained in the Rules Docket. A copy of it may be obtained by contacting the Rules Docket at the location provided under the caption **ADDRESSES**.

#### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Safety.

#### **Adoption of the Amendment**

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

#### **PART 39—AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

**Authority:** 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. Section 39.13 is amended by adding the following new airworthiness directive:

**99-08-11 International Aero Engines AG (IAE):** Amendment 39-11117. Docket 98-ANE-45-AD.

**Applicability:** International Aero Engines AG (IAE) V2500-A1/-A5/-D5 series turbofan engines, installed on but not limited to Airbus A319, A320, A321, and McDonnell Douglas MD-90 series airplanes.

**Note 1:** This airworthiness directive (AD) applies to each engine identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For engines that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (c) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

**Compliance:** Required as indicated, unless accomplished previously.

To prevent critical life-limited rotating engine part failure, which could result in an uncontained engine failure and damage to the airplane, accomplish the following:

(a) Within the next 30 days after the effective date of this AD, revise the Airworthiness Limitations Section (ALS) and Maintenance Scheduling Section (MSS) of the Instructions for Continued Airworthiness (ICA) in the Time Limits Manuals of the Engine Manuals, part number (P/N) E-V2500-1IA and P/N E-V2500-3IA, and for air carrier operations revise the approved continuous airworthiness maintenance program, by adding the following:

(1) For Engine Manual, P/N E-V2500-1IA, Time Limits Manual, Chapter 5-10-00, Configuration -1, (Effectivity: V2500-A1); and

(2) For Engine Manual, P/N E-V2500-1IA, Time Limits Manual, Chapter 5-10-00, Configuration -2, (Effectivity: V2500-A5), and;

(3) For Engine Manual, P/N E-V2500-3IA, Time Limits Manual, Chapter 5-10-00, (Effectivity: V2500-D5):

(i) Add the following to paragraph 1, entitled "Airworthiness Limitations:" "Refer

to paragraph 2—Maintenance Scheduling for information that sets forth the operators maintenance requirements for the V2500 On-Condition engine."

(ii) Add the following to paragraph 2, entitled "Maintenance Scheduling:" "Whenever a Group A part identified in this paragraph (see 2.1 for definition of group A) satisfies both of the following conditions:

(A) The part is considered completely disassembled when accomplished in accordance with the disassembly instructions in the engine manufacturer's engine manual; and

(B) The part has accumulated more than 100 cycles in service since the last piece-part opportunity inspection, provided that the part was not damaged or related to the cause for its removal from the engine; then that part is considered to be at the piece-part level and it is mandatory to perform the inspections for that part as specified in the following:

| Part nomenclature | Part No. (P/N) | Inspect per engine manual                   |
|-------------------|----------------|---|
| Fan Disk .....    | All .....      | Chapter 72-31-12, Subtask 72-31-12-230-054" |

(b) Except as provided in paragraph (c) of this AD, and notwithstanding contrary provisions in § 43.16 of the Federal Aviation Regulations (14 CFR 43.16), these mandatory inspections shall be performed only in accordance with the ALS and MSS in the applicable Engine Manual.

(c) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Engine Certification Office. Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector (PMI), who may add comments and then send it to the Manager, Engine Certification Office.

**Note 2:** Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the Engine Certification Office.

(d) Special flight permits may be issued in accordance with §§ 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be accomplished.

(e) FAA-certificated air carriers that have an approved continuous airworthiness maintenance program in accordance with the record keeping requirement of § 121.369(c) of the Federal Aviation Regulations [14 CFR 121.369 (c)] of this chapter must maintain records of the mandatory inspections that result from revising the Time Limits section of the Instructions for Continuous Airworthiness (ICA) and the air carrier's continuous airworthiness program. Alternately, certificated air carriers may establish an approved system of record retention that provides a method for preservation and retrieval of the maintenance records that include the inspections resulting from this AD, and include the policy and procedures for implementing this alternate

method in the air carrier's maintenance manual required by § 121.369(c) of the Federal Aviation Regulations [14 CFR 121.369(c)]; however, the alternate system must be accepted by the appropriate PMI and require the maintenance records be maintained either indefinitely or until the work is repeated. Records of the piece-part inspections are not required under § 121.380(a)(2)(vi) of the Federal Aviation Regulations [14 CFR 121.380(a)(2)(vi)]. All other Operators must maintain the records of mandatory inspections required by the applicable regulations governing their operations.

**Note 3:** The requirements of this AD have been met when the engine manual changes are made and air carriers have modified their continuous airworthiness maintenance plans to reflect the requirements in the engine manuals.

(f) This amendment becomes effective on May 13, 1999.

Issued in Burlington, Massachusetts, on April 2, 1999.

**Jay J. Pardee,**

*Manager, Engine and Propeller Directorate, Aircraft Certification Service.*

[FR Doc. 99-8861 Filed 4-12-99; 8:45 am]

**BILLING CODE 4910-13-U**

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

[Docket No. 98-ANE-41-AD; Amendment 39-11124; AD 99-08-18]

**RIN 2120-AA64**

**Airworthiness Directives; General Electric Company CF6-6, CF6-45, and CF6-50 Series Turbofan Engines**

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Final rule.

**SUMMARY:** This amendment adopts a new airworthiness directive (AD), that requires revisions to the Time Limits Section of the manufacturer's Instructions for Continued Airworthiness (ICA) for General Electric Company (GE) CF6-6, CF6-45, and CF6-50 series turbofan engines to include required enhanced inspection of selected critical life-limited parts at each piece-part exposure. This amendment also requires an air carrier's approved continuous airworthiness maintenance program to incorporate these inspection procedures. This amendment is prompted by a Federal Aviation Administration (FAA) study of in-service events involving uncontained failures of critical rotating engine parts which indicated the need for improved inspections. The improved inspections are needed to identify those critical rotating parts with conditions, that if allowed to continue in service, could

result in uncontained failures. The actions specified by this proposed AD are intended to prevent critical life-limited rotating engine part failure, which could result in an uncontained engine failure and damage to the airplane.

**DATES:** Effective May 13, 1999.

**ADDRESSES:** The information referenced in this AD may be examined at the Federal Aviation Administration (FAA), New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA.

**FOR FURTHER INFORMATION CONTACT:** Karen Curtis, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (781) 238-7192, fax (781) 238-7199.

**SUPPLEMENTARY INFORMATION:** A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an airworthiness directive (AD) that is applicable to GE CF6-6, CF6-45, and CF6-50 series turbofan engines was published in the **Federal Register** on July 28, 1998 (63 FR 40213). That action proposed to require revisions to the Time Limits Section of the manufacturer's ICA for GE CF6-6, CF6-45, and CF6-50 series turbofan engines to include required enhanced inspection of selected critical life-limited parts at each piece-part exposure. That action also proposed to require an air carrier's approved continuous airworthiness maintenance program to incorporate these inspection procedures.

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comments received.

Five commenters note that some of the tasks/sub-tasks referenced in the proposed rule call out inspections beyond those identified as part of the enhanced inspection initiative (i.e. visual and dimensional inspection in addition to the intended inspections). The commenters recommend that the final rule be revised to reflect only those tasks or sub-tasks that contain the inspections that are intended to be mandated by the AD. The FAA concurs. The requested change is consistent with the enhanced inspection initiative. The manual temporary revisions have been revised to reflect only those tasks or sub-tasks where the inspections to be mandated are located and the AD will reflect these changes.

One commenter notes that the work hours stated in the preamble for the HPTR stage 1 and 2 disk inspections are less than their estimates and

recommends that the final rule be revised to note 18 hours for the mandated inspections instead of 8 hours. The FAA does not agree. The work hour estimate that includes 3 hours for eddy current inspection and 5 hours for FPI for each HPTR disk, for a total of 16 hours for the 2 HPTR disks, is believed to be accurate for a disk of average cleanliness, being inspected under typical shop conditions.

No other comments were received on the economic analysis contained in the proposed rule. Based on that analysis, the FAA has determined that the annual per engine cost of \$438 does not create a significant economic impact on small entities.

Several commenters ask that the FAA clarify the record keeping aspects of the mandatory inspections resulting from the required changes to the Original Equipment Manufacturer's manual and operator's continuous airworthiness maintenance program. One commenter believes that paragraph (e) of the proposed AD is unclear and suggests that it be revised by eliminating the word "or" from the first sentence and beginning a second sentence with "In lieu of the record. \* \* \*" Two commenters state that the AD should be revised to clearly specify which types of maintenance records must be retained (i.e., inspection results, defect reporting requirements, date of performed maintenance, signature of the person performing the maintenance). These commenters believe that these revisions are necessary in order to avoid potential differences in interpretation between the air carriers and the FAA. And, one commenter states that the AD should clarify that there is no need for a special form to comply with the AD record keeping requirements. The FAA concurs in part. Generally, record keeping requirements are addressed in other regulations and this AD does not change those requirements. In order to allow flexibility from operator to operator, the FAA does not agree that the AD itself specify the precise nature of the records that will result from the required changes to the manufacturer's manual and operator's maintenance program. The FAA has, however, revised Paragraph (e) of this AD to clarify record keeping aspects of the new mandatory inspections.

One commenter requested that the FAA link the conduct of mandatory inspections with the subject part's removal from an engine either on-wing or removed and in an overhaul shop. The FAA does not concur. Mandatory inspections are based on a single trigger, which is a part being completely disassembled using the engine shop

manual instructions (piece-part opportunity), and are not dependent on an engine's state of installation. This AD mandates that the definition of piece-part opportunity appear in the mandatory section of each affected engine shop manual. This AD further mandates that an operator's continuous airworthiness maintenance program be modified to capture those engine shop manual changes.

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule with the changes previously described.

The regulations adopted herein will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, I certify that this action (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained from the Rules Docket at the location provided under the caption **ADDRESSES**.

#### **List of Subjects in 14 CFR Part 39**

Air Transportation, Aircraft, Aviation safety, Safety.

#### **Adoption of the Amendment**

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

#### **PART 39—AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

**Authority:** 49 U.S.C. 106(g), 40113, 44701.

**§ 39.13 [Amended]**

2. Section 39.13 is amended by adding the following new airworthiness directive:

**99-08-18 General Electric Company:**  
Amendment 39-11124. Docket 98-ANE-41-AD.

*Applicability:* General Electric Company (GE) CF6-6, CF6-45, and CF6-50 series turbofan engines, installed on but not limited to Airbus A300 series, Boeing 747 series, and McDonnell Douglas DC-10 series airplanes.

**Note 1:** This airworthiness directive (AD) applies to each engine identified in the preceding applicability provision, regardless of whether it has been modified, altered, or

repaired in the area subject to the requirements of this AD. For engines that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (c) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

*Compliance:* Required as indicated, unless accomplished previously.

To prevent critical life-limited rotating engine part failure, which could result in an uncontained engine failure and damage to the airplane, accomplish the following:

(a) Within the next 30 days after the effective date of this AD, revise the manufacturer's Time Limits Section of the Instructions for Continued Airworthiness (ICA), and for air carrier operations revise the approved continuous airworthiness maintenance program, by adding the following:

**"MANDATORY INSPECTIONS**

(1) Perform inspections of the following parts at each piece-part opportunity in accordance with the instructions provided in the applicable manual provisions:

| Part nomenclature                          | Part No. (P/N) | Inspect per engine shop manual chapter  |
|--|----------------|---|
| For CF6-6 Engines:                         |                |   |
| Fan Rotor Disk, Stage 1 .....              | All .....      | 72-21-03 Paragraph 2.F. or Paragraph 2.A.B. Fluorescent-Penetrant Inspect, and 72-21-03 Paragraph 3 or 3.A. Eddy Current Inspection.  |
| High Pressure Turbine Rotor, Stage 1 Disk. | All .....      | 72-53-03 Paragraph 1. Fluorescent-Penetrant Inspect, and 72-53-03 Paragraph 4. Eddy Current Inspection of the HPTR Disk Rim Boltholes.  |
| High Pressure Turbine Rotor, Stage 2 Disk. | All .....      | 72-53-04 Paragraph 1. Fluorescent-Penetrant Inspect, and Paragraph 4. Eddy Current Inspection of the Stage 2 HPTR Disk Rim Boltholes and 72-53-04 Paragraph 5. Eddy Current Inspection of the Stage 2 Disk Inner Boltholes. |
| For CF6-45, CF6-50 Engines:                |                |   |
| Fan Rotor Disk, Stage 1 .....              | All .....      | Task 72-21-03-230-051 Fluorescent-Penetrant Inspection, and Task 72-21-03-250-002-052 Manual Eddy Current Inspection or 72-21-03-250-003-053 Automated Eddy Current Inspection.   |
| High Pressure Turbine Rotor, Stage 1 Disk. | All .....      | Task 72-53-03-230-001-059 Fluorescent-Penetrant Inspect Disk, and Task 72-53-03-250-052 Eddy Current Inspection of the HPTR Stage 1 Rim Boltholes.  |
| High Pressure Turbine Rotor, Stage 2 Disk. | All .....      | Task 72-53-04-230-001-057 Fluorescent-Penetrant Inspect Disk, and Task 72-53-04-250-053 Eddy Current Inspection of the HPTR Stage 2 Rim and/or Inner Boltholes.   |

(2) For the purposes of these mandatory inspections, piece-part opportunity means:

(i) The part is considered completely disassembled when accomplished in accordance with the disassembly instructions in the engine manufacturer's Engine Shop Manual; and

(ii) The part has accumulated more than 100 cycles in service since the last piece-part opportunity inspection, provided that the part was not damaged or related to the cause for its removal from the engine.

(b) Except as provided in paragraph (c) of this AD, and notwithstanding contrary provisions in § 43.16 of the Federal Aviation Regulations (14 CFR 43.16), these mandatory inspections shall be performed only in accordance with the Time Limits Section of the manufacturer's ICA.

(c) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Engine Certification Office. Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector (PMI), who may add comments and then send it to the Manager, Engine Certification Office.

**Note 2:** Information concerning the existence of approved alternative methods of

compliance with this airworthiness directive, if any, may be obtained from the Engine Certification Office.

(d) Special flight permits may be issued in accordance with §§ 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be accomplished.

(e) FAA-certificated air carriers that have an approved continuous airworthiness maintenance program in accordance with the record keeping requirement of § 121.369(c) of the Federal Aviation Regulations [14 CFR 121.369(c)] of this chapter must maintain records of the mandatory inspections that result from revising the Time Limits section of the ICA and the air carrier's continuous airworthiness program. Alternately, certificated air carriers may establish an alternate system of record retention that provides a method for preservation and retrieval of the maintenance records that include the inspections resulting from this AD, and include the policy and procedures for implementing this alternate method in the air carrier's maintenance manual required by § 121.369(c) of the Federal Aviation Regulations [14 CFR 121.369(c)]; however, the alternate system must be accepted by the

appropriate PMI and require the maintenance records be maintained either indefinitely or until the work is repeated. Records of the piece-part inspections are not required under § 121.380(a)(2)(vi) of the Federal Aviation Regulations [14 CFR 121.380(a)(2)(vi)]. All other Operators must maintain the records of mandatory inspections required by the applicable regulations governing their operations.

**Note 3:** The requirements of this AD have been met when the engine shop manual changes are made and air carriers have modified their continuous airworthiness maintenance plans to reflect the requirements in the engine shop manuals.

(f) This amendment becomes effective on May 13, 1999.

Issued in Burlington, Massachusetts, on April 2, 1999.

**Jay J. Pardee,**

*Manager, Engine and Propeller Directorate, Aircraft Certification Service.*

[FR Doc. 99-8860 Filed 4-12-99; 8:45 am]

**BILLING CODE 4910-13-U**

**DEPARTMENT OF TRANSPORTATION****Federal Aviation Administration****14 CFR Part 39**

[Docket No. 98-ANE-39-AD; Amendment 39-11123; AD 99-08-17]

RIN 2120-AA64

**Airworthiness Directives; General Electric Company GE90 Series Turbofan Engines**

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

**SUMMARY:** This amendment adopts a new airworthiness directive (AD), that requires revisions to the manufacturer's Life Limits Section of the Instructions for Continued Airworthiness (ICA) for General Electric Company (GE) GE90 series turbofan engines to include required enhanced inspection of selected critical life-limited parts at each piece-part exposure. This amendment will also require an air carrier's approved continuous airworthiness maintenance program to incorporate these inspection procedures. This amendment is prompted by a Federal Aviation Administration (FAA) study of in-service events involving uncontained failures of critical rotating engine parts which indicated the need for improved inspections. The improved inspections are needed to identify those critical rotating parts with conditions, that if allowed to continue in service, could result in uncontained failures. The actions specified by this AD are intended to prevent critical life-limited rotating engine part failure, which could result in an uncontained engine failure and damage to the airplane.

**DATES:** Effective May 13, 1999.**ADDRESSES:** The information contained in this AD may be examined at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA.**FOR FURTHER INFORMATION CONTACT:** Karen Curtis, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (781) 238-7192, fax (781) 238-7199.**SUPPLEMENTARY INFORMATION:** A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an airworthiness directive (AD) that is applicable to General Electric Company (GE) GE90 series turbofan engines was published in the **Federal Register** on July, 28, 1998 (63 FR

40210). That action proposed to require, within the next 30 days after the effective date of this AD, revisions to Life Limits section of the manufacturer's Instructions for Continued Airworthiness (ICA) for GE GE90 series turbofan engines, and, for air carriers, the approved continuous airworthiness maintenance program. The manufacturer of GE90 series turbofan engines has provided the FAA with a detailed proposal that identifies critical life-limited rotating engine parts with the potential to hazard the airplane in the event of failure, along with instructions for enhanced, focused inspection methods. These enhanced inspections will be conducted at piece-part opportunity, as defined in this AD, rather than specific inspection intervals.

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comments received.

Two commenters ask that the FAA clarify the record keeping aspects of the mandatory inspections resulting from the required changes to the Original Equipment Manufacturer's manual and operator's continuous airworthiness maintenance program. These commenters state that the AD should be revised to clearly specify which types of maintenance records must be retained (i.e., inspection results, defect reporting requirements, date of performed maintenance, signature of the person performing the maintenance). These commenters believe that these revisions are necessary in order to avoid potential differences in interpretation between the air carriers and the FAA. The FAA concurs in part. Generally, record keeping requirements are addressed in other regulations and this AD does not change those requirements. In order to allow flexibility from operator to operator, the FAA does not agree that the AD itself specify the precise nature of the records that will result from the required changes to the manufacturer's manual and operator's maintenance program. The FAA has, however, revised Paragraph (e) of this AD to clarify record keeping aspects of the new mandatory inspections.

Since the engines affected by this AD are operated only by major air carriers, and there are no US operators, this AD will not create any significant economic impact on small entities.

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule with the changes described previously. The FAA has determined that these changes will

neither increase the economic burden on any operator nor increase the scope of the AD.

The regulations adopted herein will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, I certify that this action (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained from the Rules Docket at the location provided under the caption **ADDRESSES**.

**List of Subjects in 14 CFR Part 39**

Air Transportation, Aircraft, Aviation safety, Safety.

**Adoption of the Amendment**

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

**PART 39—AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

**Authority:** 49 U.S.C. 106(g), 40113, 44701.

**§ 39.13 [Amended]**

2. Section 39.13 is amended by adding the following new airworthiness directive:

**99-08-17 General Electric Company:**

Amendment 39-11123. Docket 98-ANE-39-AD.

**Applicability:** General Electric Company (GE) GE90-76B/-77B/-85B/-90B/-92B series turbofan engines, installed on but not limited to Boeing 777 airplanes.

**Note 1:** This airworthiness directive (AD) applies to each engine identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For engines that have been modified, altered, or repaired so

that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (c) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

**Compliance:** Required as indicated, unless accomplished previously. To prevent critical life-limited rotating engine part failure, which could result in an uncontained engine failure and damage to the airplane, accomplish the following:

(a) Within the next 30 days after the effective date of this AD, revise the manufacturer's Life Limits Section of the Instructions for Continued Airworthiness (ICA), and for air carrier operations revise the

approved continuous airworthiness maintenance program, by adding the following:

**"MANDATORY INSPECTIONS**

(1) Perform inspections of the following parts at each piece-part opportunity in accordance with the instructions provided in the applicable manual provisions:

| Part nomenclature               | Part No (P/N) | Inspect per engine manual chapter   |
|---------------------------------|---------------|---|
| HPCR Stage 7 Disk .....         | All .....     | 72-31-07-200-001-001, Fluorescent-Penetrant Inspection (subtask 72-31-07-230-051) and 72-31-07-200-001-001, Eddy Current Inspection (subtask 72-31-07-250-051, or 72-31-07-250-052, or 72-31-07-250-053). |
| HPT Rotor Interstage Seal ..... | All .....     | 72-53-03-200-001-001 Fluorescent Penetrant Inspection (subtask 72-53-03-230-053).   |

(2) For the purposes of these mandatory inspections, piece-part opportunity means:

(i) The part is considered completely disassembled when done in accordance with the disassembly instructions in the engine manufacturer's maintenance manual; and

(ii) The part has accumulated more than 100 cycles in service since the last piece-part opportunity inspection, provided that the part was not damaged or related to the cause for its removal from the engine."

(b) Except as provided in paragraph (c) of this AD, and notwithstanding contrary provisions in § 43.16 of the Federal Aviation Regulations (14 CFR 43.16), these mandatory inspections shall be performed only in accordance with Life Limits Section of the manufacturer's ICA.

(c) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Engine Certification Office. Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector (PMI), who may add comments and then send it to the Manager, Engine Certification Office.

**Note 2:** Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the Certification Office.

(d) Special flight permits may be issued in accordance with §§ 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the aircraft to a location where the requirements of this AD can be accomplished.

(e) FAA-certificated air carriers that have an approved continuous airworthiness maintenance program in accordance with the record keeping requirement of § 121.369(c) of the Federal Aviation Regulations [14 CFR 121.369(c)] of this chapter must maintain records of the mandatory inspections that result from revising the Life Limits section of the ICA and the air carrier's continuous airworthiness program. Alternately, certificated air carriers may establish an approved system of record retention that provides a method for preservation and retrieval of the maintenance records that include the inspections resulting from this AD, and include the policy and procedures

for implementing this alternate method in the air carrier's maintenance manual required by § 121.369(c) of the Federal Aviation Regulations [14 CFR 121.369(c)]; however, the alternate system must be accepted by the appropriate PMI and require the maintenance records be maintained either indefinitely or until the work is repeated. Records of the piece-part inspections are not required under § 121.380(a)(2)(vi) of the Federal Aviation Regulations [14 CFR 121.380(a)(2)(vi)]. All other Operators must maintain the records of mandatory inspections required by the applicable regulations governing their operations.

**Note 3:** The requirements of this AD have been met when the engine manual changes are made and air carriers have modified their continuous airworthiness maintenance plans to reflect the requirements in the engine manuals.

(f) This amendment becomes effective on May 13, 1999.

Issued in Burlington, Massachusetts, on April 2, 1999.

**Jay J. Pardee,**

*Manager, Engine and Propeller Directorate, Aircraft Certification Service.*

[FR Doc. 99-8859 Filed 4-12-99; 8:45 am]

**BILLING CODE 4910-13-P**

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

[Docket No. 98-ANE-38-AD; Amendment 39-11122; AD 99-08-16]

**RIN 2120-AA64**

**Airworthiness Directives; CFM International (CFMI) CFM56-2, -2A, -2B, -3, -3B, and -3C Series Turbofan Engines**

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Final rule.

**SUMMARY:** This amendment adopts a new airworthiness directive (AD), that requires revisions to the Engine Time Limits section in the Engine Shop Manual (ESM) for CFM International (CFMI) CFM56-2, -2A, -2B, -3, -3B, and -3C series turbofan engines to include required enhanced inspection of selected critical life-limited parts at each piece-part exposure. This amendment will also require an air carrier's approved continuous airworthiness maintenance program to incorporate these inspection procedures. This amendment is prompted by a Federal Aviation Administration (FAA) study of in-service events involving uncontained failures of critical rotating engine parts which indicated the need for improved inspections. The improved inspections are needed to identify those critical rotating parts with conditions, that if allowed to continue in service, could result in uncontained failures. The actions specified by this AD are intended to prevent critical life-limited rotating engine part failure, which could result in an uncontained engine failure and damage to the airplane.

**DATES:** Effective May 13, 1999.

**ADDRESSES:** The information referenced in this AD may be examined at the Federal Aviation Administration (FAA), New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA.

**FOR FURTHER INFORMATION CONTACT:** Robert Ganley, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (781) 238-7138, fax (781) 238-7199.

**SUPPLEMENTARY INFORMATION:** A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an airworthiness directive (AD)

that is applicable to CFM International (CFMI) CFM56-2, -2A, -2B, -3, -3B, and -3C series turbofan engines was published in the **Federal Register** on July 28, 1998 (63 FR 40208). That action proposed to require revisions to the Engine Time Limits section in the Engine Shop Manual (ESM) for CFMI CFM56-2, -2A, -2B, -3, -3B, and -3C series turbofan engines to include required enhanced inspection of selected critical life-limited parts at each piece-part exposure. That action also proposed to require an air carrier's approved continuous airworthiness maintenance program to incorporate these inspection procedures.

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comments received.

Several commenters ask that the FAA clarify the record keeping aspects of the mandatory inspections resulting from the required changes to the Original Equipment Manufacturer's manual and operator's continuous airworthiness maintenance program. One commenter believes that paragraph (e) of the proposed AD is unclear and suggests that it be revised by eliminating the word "or" from the first sentence and beginning a second sentence with "In lieu of the record. \* \* \*" Two commenters state that the AD should be revised to clearly specify which types of maintenance records must be retained (i.e., inspection results, defect reporting requirements, date of performed maintenance, signature of the person performing the maintenance). These commenters believe that these revisions are necessary in order to avoid potential differences in interpretation between the air carriers and the FAA. And, one commenter states that the AD should clarify that there is no need for a special form to comply with the AD record keeping requirements. The FAA concurs in part. Generally, record keeping requirements are addressed in other regulations and this AD does not change those requirements. In order to allow flexibility from operator to operator, the FAA does not agree that the AD itself specify the precise nature of the records that will result from the required changes to the manufacturer's manual and operator's maintenance program. The FAA has, however, revised Paragraph (e) of this AD to clarify record

keeping aspects of the new mandatory inspections.

One commenter believes that the table in paragraph (a)(1) is unclear and suggests it be revised to read "Mandatory Inspection/s" and that both the inspection and the appropriate manual reference (72-xx-xx) be included in this column. The FAA concurs in part. The table format in paragraph (a)(1) of the final rule has been revised to be consistent with the ESM.

Two commenters support the AD as proposed.

No comments were received on the economic analysis contained in the proposed rule. Based on that analysis, the FAA has determined that the annual per engine cost of \$860 does not create a significant economic impact on small entities.

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule as proposed.

The regulations adopted herein will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, I certify that this action (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained from the Rules Docket at the location provided under the caption **ADDRESSES**.

#### List of Subjects in 14 CFR Part 39

Air Transportation, Aircraft, Aviation safety, Safety.

#### Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the

Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

#### PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

**Authority:** 49 U.S.C. 106(g), 40113, 44701.

#### § 39.13 [Amended]

2. Section 39.13 is amended by adding the following new airworthiness directive:

**99-08-16 CFM International:** Amendment 39-11122. Docket 98-ANE-38-AD.

**Applicability:** CFM International (CFMI) CFM56-2, -2A, -2B, -3, -3B, and -3C series turbofan engines, installed on but not limited to McDonnell Douglas DC-8 series, Boeing 737 series, as well as Boeing E-3, E-6, and KC-135 (military) series airplanes.

**Note 1:** This airworthiness directive (AD) applies to each engine identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For engines that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (c) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

**Compliance:** Required as indicated, unless accomplished previously.

To prevent critical life-limited rotating engine part failure, which could result in an uncontained engine failure and damage to the airplane, accomplish the following:

(a) Within the next 30 days after the effective date of this AD, revise the Time Limits section (chapter 05-11-00) of Engine Shop Manual (ESM) CFMI-TP.SM.4, for CFM56-2 series engines, ESM CFMI-TP.SM.6, for CFM56-2A/-2B series engines, and ESM CFMI-TP.SM.5, for CFM56-3/-3B/-3C series engines, and for air carrier operations, revise the approved continuous airworthiness maintenance program, by adding the following:

#### "MANDATORY INSPECTIONS

(1) Perform inspections of the following parts at each piece-part opportunity in accordance with the Inspection/Check section instructions provided in the applicable manual sections listed below:



| Part name                                 | Engine manual section | Inspection  |
|---|-----------------------|---|
| Fan Disk [All Part Numbers (P/N's)] ..... | 72-21-03              | Disk Fluorescent-Penetrant Inspection (FPI) and Disk Bore and Dovetail Eddy Current Inspection (ECI). |
| HPT Disk (All P/N's) .....                | 72-52-02              | Disk FPI and Disk Bolt Holes ECI.   |

(2) For the purposes of these mandatory inspections, piece-part opportunity means:

(i) The part is considered completely disassembled when accomplished in accordance with the disassembly instructions in the engine manufacturer's ESM; and

(ii) The part has accumulated more than 100 cycles in service since the last piece-part opportunity inspection, provided that the part was not damaged or related to the cause for its removal from the engine."

(b) Except as provided in paragraph (c) of this AD, and notwithstanding contrary provisions in § 43.16 of the Federal Aviation Regulations (14 CFR 43.16), these mandatory inspections shall be performed only in accordance with the Time Limits section in the manufacturer's ESM.

(c) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Engine Certification Office. Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector (PMI), who may add comments and then send it to the Manager, Engine Certification Office.

**Note 2:** Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the Engine Certification Office.

(d) Special flight permits may be issued in accordance with §§ 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be accomplished.

(e) FAA-certificated air carriers that have an approved continuous airworthiness maintenance program in accordance with the record keeping requirement of § 121.369(c) of the Federal Aviation Regulations [14 CFR 121.369(c)] of this chapter must maintain records of the mandatory inspections that result from revising the Time Limits section of the ESM and the air carrier's continuous airworthiness program. Alternately, certificated air carriers may establish an approved system of record retention that provides a method for preservation and retrieval of the maintenance records that include the inspections resulting from this AD, and include the policy and procedures for implementing this alternate method in the air carrier's maintenance manual required by § 121.369(c) of the Federal Aviation Regulations [14 CFR 121.369(c)]; however, the alternate system must be accepted by the appropriate PMI and require the maintenance records be maintained either indefinitely or until the work is repeated. Records of the piece-part inspections are not required under § 121.380(a)(2)(vi) of the Federal Aviation Regulations [14 CFR 121.380(a)(2)(vi)]. All other Operators must maintain the records of

mandatory inspections required by the applicable regulations governing their operations.

**Note 3:** The requirements of this AD have been met when the engine manual changes are made and air carriers have modified their continuous airworthiness maintenance plans to reflect the requirements in the engine manuals.

(f) This amendment becomes effective on May 13, 1999.

Issued in Burlington, Massachusetts, on April 2, 1999.

**Jay J. Pardee,**

*Manager, Engine and Propeller Directorate, Aircraft Certification Service.*

[FR Doc. 99-8858 Filed 4-12-99; 8:45 am]

BILLING CODE 4910-13-P

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

[Docket No. 99-SW-25-AD; Amendment 39-11127; AD 99-07-18]

RIN 2120-AA64

**Airworthiness Directives; Robinson Helicopter Company Model R44 Helicopters**

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Final rule; request for comments.

**SUMMARY:** This document publishes in the **Federal Register** an amendment adopting Airworthiness Directive (AD) 99-07-18 which was sent previously to all known U.S. owners and operators of Robinson Helicopter Company (RHC) Model R44 helicopters by individual letters. This AD requires, before further flight, inserting a Special Pilot Caution into the Normal Procedures section of the Rotorcraft Flight Manual (RFM). This amendment is prompted by several reports of sprag clutch assemblies with cracked or fractured sprag ends. The sprag clutch failures, determined to be due to a change in the manufacturing process, could result in loss of main rotor revolutions-per-minute (RPM) during autorotations. The intent of this AD is to alert pilots of the potential for the sprag clutch failing to overrun during autorotation, loss of main rotor

RPM, and subsequent loss of control of the helicopter.

**DATES:** Effective April 28, 1999, to all persons except those persons to whom it was made immediately effective by Priority Letter AD 99-07-18, issued on March 26, 1999, which contained the requirements of this amendment.

Comments for inclusion in the Rules Docket must be received on or before June 14, 1999.

**ADDRESSES:** Submit comments in triplicate to the Federal Aviation Administration (FAA), Office of the Regional Counsel, Southwest Region, Attention: Rules Docket No. 99-SW-25-AD, 2601 Meacham Blvd., Room 663, Fort Worth, Texas 76137.

**FOR FURTHER INFORMATION CONTACT:** Elizabeth Bumann, Aerospace Engineer, FAA, Los Angeles Aircraft Certification Office, Propulsion Branch, 3960 Paramount Blvd., Lakewood, California 90712, telephone (562) 627-5265, fax (562) 627-5210.

**SUPPLEMENTARY INFORMATION:** On March 26, 1999, the FAA issued Priority Letter AD 99-07-18, applicable to RHC Model R44 helicopters, which requires, before further flight, inserting a Special Pilot Caution into the Normal Procedures section of the RFM. That action was prompted by several reports of sprag clutch assemblies, including one from wreckage of an accident that occurred within the past year, with cracked or fractured sprag ends. The sprag clutch failures, determined to be due to a change in the manufacturing process, could result in loss of main rotor RPM during autorotations. The intent of that priority letter AD is to alert pilots of the potential for the sprag clutch failing to overrun during autorotation, loss of main rotor RPM, and subsequent loss of control of the helicopter.

The FAA has reviewed Robinson Helicopter Company R44 Service Bulletin SB-32, dated March 22, 1999, which describes procedures for checking whether sprag clutches with certain serial numbers are installed and replacing certain serial numbered sprag clutches, and inserting a Special Pilot Caution in the Normal Procedures section of the RFM.

Since the unsafe condition described is likely to exist or develop on other RHC Model R44 helicopters of the same

type design, the FAA issued Priority Letter AD 99-07-18 to alert pilots of the potential for the sprag clutch failing to overrun during autorotation due to the failure of the sprags within the sprag clutch assembly and loss of main rotor RPM. The AD requires, before further flight, inserting a Special Pilot Caution into the Normal Procedures section of the RFM which primarily addresses autorotation maneuvers and a before every flight sprag clutch (split tach needles) check for proper function of the sprag clutch. Inserting the Special Pilot Caution is an interim action. The FAA will issue an AD to supersede this AD and require replacing the clutch assembly when parts become available from the manufacturer. The short compliance time involved is required because the previously described critical unsafe condition can adversely affect the structural integrity of the helicopter. Therefore, inserting a Special Pilot Caution into the Normal Procedures section of the RFM is required before further flight, and this AD must be issued immediately.

Since it was found that immediate corrective action was required, notice and opportunity for prior public comment thereon were impracticable and contrary to the public interest, and good cause existed to make the AD effective immediately by individual letters issued on March 26, 1999, to all known U.S. owners and operators of RHC Model R44 helicopters. These conditions still exist, and the AD is hereby published in the **Federal Register** as an amendment to section 39.13 of the Federal Aviation Regulations (14 CFR 39.13) to make it effective to all persons.

The FAA estimates that 200 helicopters of U.S. registry will be affected by this AD, that it will take approximately 0.5 work hour per helicopter to insert the caution into the RFM, and that the average labor rate is \$60 per work hour. Based on these figures, the total cost impact of the AD on U.S. operators is estimated to be \$6,000.

#### Comments Invited

Although this action is in the form of a final rule that involves requirements affecting flight safety and, thus, was not preceded by notice and an opportunity for public comment, comments are invited on this rule. Interested persons are invited to comment on this rule by submitting such written data, views, or arguments as they may desire.

Communications should identify the Rules Docket number and be submitted in triplicate to the address specified under the caption **ADDRESSES**. All communications received on or before the closing date for comments will be considered, and this rule may be amended in light of the comments received. Factual information that supports the commenter's ideas and suggestions is extremely helpful in evaluating the effectiveness of the AD action and determining whether additional rulemaking action would be needed.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify the rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report that summarizes each FAA-public contact concerned with the substance of this AD will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this rule must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket No. 99-SW-25-AD." The postcard will be date stamped and returned to the commenter.

The regulations adopted herein will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

The FAA has determined that this regulation is an emergency regulation that must be issued immediately to correct an unsafe condition in aircraft, and that it is not a "significant regulatory action" under Executive Order 12866. It has been determined further that this action involves an emergency regulation under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). If it is determined that this emergency regulation otherwise would be significant under DOT Regulatory Policies and Procedures, a final regulatory evaluation will be prepared and placed in the Rules Docket. A copy

of it, if filed, may be obtained from the Rules Docket at the location provided under the caption **ADDRESSES**.

#### List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

#### Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

#### PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

**Authority:** 49 U.S.C. 106(g), 40113, 44701.

#### § 39.13 [Amended]

2. Section 39.13 is amended by adding a new airworthiness directive to read as follows:

#### AD 99-07-18 Robinson Helicopter

**Company:** Amendment 39-11127.

Docket No. 99-SW-25-AD.

**Applicability:** Model R44 helicopters, serial numbers (S/N) 0001 through 0541, 0543, 0556, and 0565, with sprag clutch, part number (P/N) C188-3, S/N's 0003 through 0452, installed, certificated in any category.

**Note 1:** This AD applies to each helicopter identified in the preceding applicability provision, regardless of whether it has been otherwise modified, altered, or repaired in the area subject to the requirements of this AD. For helicopters that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (b) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

**Compliance:** Required before further flight, unless accomplished previously.

To alert pilots of the potential for the sprag clutch failing to overrun during autorotation due to failure of the sprags within the sprag clutch assembly, and loss of main rotor revolutions-per-minute, accomplish the following:

(a) Insert either the Special Pilot Caution, revised March 22, 1999, which is contained in Robinson Helicopter Company R44 Service Bulletin SB-32, dated March 22, 1999, or the following Special Pilot Caution paragraphs, into the Normal Procedures section of the Rotorcraft Flight Manual, between pages P.4-8 and P.4-9:

## SPECIAL PILOT CAUTION

Some sprags in overrunning clutches have been found cracked in service. A broken sprag could conceivably prevent the clutch from overrunning when entering autorotation. Until the clutch in this aircraft has been replaced, *do not* enter practice autorotations by rapidly closing or "chopping" the throttle. "Chopping" the throttle could result in a sudden loss of rotor RPM if the clutch failed to disengage.

Enter autorotation by first lowering collective and then rolling off just enough throttle to produce a small visible split between the rotor and engine tachometer needles. If the clutch fails to disengage, immediately complete a power recovery. Perform hovering autos only after checking the function of the overrunning sprag clutch prior to lift-off, then smoothly rolling off the throttle from a low hover with the skids no more than two feet above the ground.

Be sure to perform the sprag clutch check (split tach needles) before every flight, not just the first flight of the day.

(b) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Los Angeles Aircraft Certification Office, FAA. Operators shall submit their requests through a FAA Principal Maintenance Inspector, who may concur or comment and then send it to the Manager, Los Angeles Aircraft Certification Office.

**Note 2:** Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Los Angeles Aircraft Certification Office.

(c) Special flight permits may be issued in accordance with §§ 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the helicopter to a location where the requirements of this AD can be accomplished.

(d) This amendment becomes effective on April 28, 1999 to all persons except those persons to whom it was made immediately effective by Priority Letter AD 99-07-18, issued March 26, 1999, which contained the requirements of this amendment.

Issued in Fort Worth, Texas, on April 5, 1999.

**Eric Bries,**

*Acting Manager, Rotorcraft Directorate,  
Aircraft Certification Service.*

[FR Doc. 99-9132 Filed 4-12-99; 8:45 am]

BILLING CODE 4910-13-P

## DEPARTMENT OF TRANSPORTATION

## Federal Aviation Administration

## 14 CFR Part 39

[Docket No. 99-SW-24-AD; Amendment 39-11126; AD 99-07-17]

RIN 2120-AA64

**Airworthiness Directives; Robinson Helicopter Company Model R22 Helicopters**

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Final rule; request for comments.

**SUMMARY:** This document publishes in the **Federal Register** an amendment adopting Airworthiness Directive (AD) 99-07-17 which was sent previously to all known U.S. owners and operators of

Robinson Helicopter Company (RHC) Model R22 helicopters by individual letters. This AD requires, before further flight, inserting a Special Pilot Caution into the Normal Procedures section of the Rotorcraft Flight Manual (RFM). This amendment is prompted by several reports of sprag clutch assemblies with cracked or fractured sprag ends. The sprag clutch failures, determined to be due to a change in the manufacturing process, could result in loss of main rotor revolutions-per-minute (RPM) during autorotations. The intent of this AD is to alert pilots of the potential for the sprag clutch failing to overrun during autorotation, loss of main rotor RPM, and subsequent loss of control of the helicopter.

**DATES:** Effective April 28, 1999, to all persons except those persons to whom it was made immediately effective by Priority Letter AD 99-07-17, issued on March 26, 1999, which contained the requirements of this amendment.

Comments for inclusion in the Rules Docket must be received on or before June 14, 1999.

**ADDRESSES:** Submit comments in triplicate to the Federal Aviation Administration (FAA), Office of the Regional Counsel, Southwest Region, Attention: Rules Docket No. 99-SW-24-AD, 2601 Meacham Blvd., Room 663, Fort Worth, Texas 76137.

**FOR FURTHER INFORMATION CONTACT:** Elizabeth Bumann, Aerospace Engineer, FAA, Los Angeles Aircraft Certification Office, Propulsion Branch, 3960 Paramount Blvd., Lakewood, California 90712, telephone (562) 627-5265, fax (562) 627-5210.

**SUPPLEMENTARY INFORMATION:** On March 26, 1999, the FAA issued Priority Letter AD 99-07-17, applicable to RHC Model R22 helicopters, which requires, before further flight, inserting a Special Pilot Caution into the Normal Procedures section of the RFM. That action was prompted by several reports of sprag clutch assemblies, including one from wreckage of an accident that occurred within the past year, with cracked or fractured sprag ends. The sprag clutch failures, determined to be due to a change in the manufacturing process,

could result in loss of main rotor RPM during autorotations. The intent of that priority letter AD is to alert pilots of the potential for the sprag clutch failing to overrun during autorotation, loss of main rotor RPM, and subsequent loss of control of the helicopter.

The FAA has reviewed Robinson Helicopter Company R22 Service Bulletin SB-85, dated March 22, 1999, which describes procedures for checking whether sprag clutches with certain serial numbers are installed and replacing certain serial numbered sprag clutches, and inserting a Special Pilot Caution in the Normal Procedures section of the RFM.

Since the unsafe condition described is likely to exist or develop on other RHC Model R22 helicopters of the same type design, the FAA issued Priority Letter AD 99-07-17 to alert pilots of the potential for the sprag clutch failing to overrun during autorotation due to the failure of the sprags within the sprag clutch assembly, and loss of main rotor RPM. The AD requires, before further flight, inserting a Special Pilot Caution into the Normal Procedures section of the RFM which primarily addresses autorotation maneuvers and a before every flight sprag clutch (split tach needles) check for proper function of the sprag clutch. Inserting the Special Pilot caution is an interim action. The FAA will issue an AD to supersede this AD and require replacing the clutch assembly when parts become available from the manufacturer. The short compliance time involved is required because the previously described critical unsafe condition can adversely affect the structural integrity of the helicopter. Therefore, inserting a Special Pilot Caution into the Normal Procedures section of the RFM is required before further flight, and this AD must be issued immediately.

Since it was found that immediate corrective action was required, notice and opportunity for prior public comment thereon were impracticable and contrary to the public interest, and good cause existed to make the AD effective immediately by individual letters issued on March 26, 1999, to all

known U.S. owners and operators of RHC Model R22 helicopters. These conditions still exist, and the AD is hereby published in the **Federal Register** as an amendment to section 39.13 of the Federal Aviation Regulations (14 CFR 39.13) to make it effective to all persons.

The FAA estimates that 880 helicopters of U.S. registry will be affected by this AD, that it will take approximately 0.5 work hour per helicopter to insert the caution into the RFM, and that the average labor rate is \$60 per work hour. Based on these figures, the total cost impact of the AD on U.S. operators is estimated to be \$26,400.

#### Comments Invited

Although this action is in the form of a final rule that involves requirements affecting flight safety and, thus, was not preceded by notice and an opportunity for public comment, comments are invited on this rule. Interested persons are invited to comment on this rule by submitting such written data, views, or arguments as they may desire. Communications should identify the Rules Docket number and be submitted in triplicate to the address specified under the caption **ADDRESSES**. All communications received on or before the closing date for comments will be considered, and this rule may be amended in light of the comments received. Factual information that supports the commenter's ideas and suggestions is extremely helpful in evaluating the effectiveness of the AD action and determining whether additional rulemaking action would be needed.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify the rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report that

summarizes each FAA-public contact concerned with the substance of this AD will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this rule must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket No. 99-SW-24-AD." The postcard will be date stamped and returned to the commenter.

The regulations adopted herein will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

The FAA has determined that this regulation is an emergency regulation that must be issued immediately to correct an unsafe condition in aircraft, and that it is not a "significant regulatory action" under Executive Order 12866. It has been determined further that this action involves an emergency regulation under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). If it is determined that this emergency regulation otherwise would be significant under DOT Regulatory Policies and Procedures, a final regulatory evaluation will be prepared and placed in the Rules Docket. A copy of it, if filed, may be obtained from the Rules Docket at the location provided under the caption **ADDRESSES**.

#### List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

#### Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the

Federal Aviation Regulations (14 CFR part 39) as follows:

#### PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

**Authority:** 49 U.S.C. 106(g), 40113, 44701.

#### § 39.13 [Amended]

2. Section 39.13 is amended by adding a new airworthiness directive to read as follows:

#### AD 99-07-17 Robinson Helicopter

**Company:** Amendment 39-11126.  
Docket No. 99-SW-24-AD.

**Applicability:** Model R22 helicopters, serial numbers (S/N) 0002 through 2862, with sprag clutch, part number (P/N) A188-2, S/N's 3708 through 3757, 3808 through 3893, and 3908 through 4207, installed, certificated in any category.

**Note 1:** This AD applies to each helicopter identified in the preceding applicability provision, regardless of whether it has been otherwise modified, altered, or repaired in the area subject to the requirements of this AD. For helicopters that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (b) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

**Compliance:** Required before further flight, unless accomplished previously.

To alert pilots of the potential for the sprag clutch failing to overrun during autorotation due to failure of the sprags within the sprag clutch assembly, and loss of main rotor revolutions-per-minute, accomplish the following:

(a) Insert either the Special Pilot Caution, revised March 22, 1999, which is contained in Robinson Helicopter Company R22 Service Bulletin SB-85, dated March 22, 1999, or the following Special Pilot Caution paragraphs, into the Normal Procedures section of the Rotorcraft Flight Manual, between pages P.4-8 and P.4-9:

#### SPECIAL PILOT CAUTION

Some sprags in overrunning clutches have been found cracked in service. A broken sprag could conceivably prevent the clutch from overrunning when entering autorotation. Until the clutch in this aircraft has been replaced, *do not* enter practice autorotations by rapidly closing or "chopping" the throttle. "Chopping" the throttle could result in a sudden loss of rotor RPM if the clutch failed to disengage.

Enter autorotation by first lowering collective and then rolling off just enough throttle to produce a small visible split between the rotor and engine tachometer needles. If the clutch fails to disengage, immediately complete a power recovery. Perform hovering autos only after checking the function of the overrunning sprag clutch prior to lift-off, then smoothly rolling off the throttle from a low hover with the skids no more than two feet above the ground.

Be sure to perform the sprag clutch check (split tach needles) before every flight, not just the first flight of the day.

(b) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Los Angeles Aircraft Certification Office, FAA. Operators shall submit their requests through an FAA Principal Maintenance Inspector, who may concur or comment and then send it to the Manager, Los Angeles Aircraft Certification Office.

**Note 2:** Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Los Angeles Aircraft Certification Office.

(c) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the helicopter to a location where the requirements of this AD can be accomplished.

(d) This amendment becomes effective on April 28, 1999 to all persons except those persons to whom it was made immediately effective by Priority Letter AD 99-07-17, issued March 26, 1999, which contained the requirements of this amendment.

Issued in Fort Worth, Texas, on April 5, 1999.

**Eric Bries,**

*Acting Manager, Rotorcraft Directorate,  
Aircraft Certification Service.*

[FR Doc. 99-9131 Filed 4-12-99; 8:45 am]

BILLING CODE 4910-13-U

## DEPARTMENT OF COMMERCE

### Bureau of Export Administration

15 CFR Parts 738, 740, 742, 748, 762,  
and 774

[Docket No. 981222316-8316-01]

RIN 0694-AB68

### Exports of Firearms

**AGENCY:** Bureau of Export  
Administration, Commerce.

**ACTION:** Interim rule with request for  
comments.

**SUMMARY:** On April 18, 1998, President Clinton announced at the Santiago Summit in Chile that the United States would promulgate regulations based on the Organization of American States (OAS) Model Regulations for the Control of the International Movement of Firearms, their Parts and Components and Ammunition (referred to as the "OAS Model Regulations"). The Bureau of Export Administration (BXA) is revising the Export Administration Regulations (EAR) to implement export control measures agreed to by members of the OAS and set forth in the OAS Model Regulations. The OAS Model Regulations were developed to assist OAS member countries in implementing

the Inter-American Convention Against the Illicit Manufacturing of and Trafficking in Firearms, Ammunition, Explosives, and Other Related Materials (Firearms Convention). OAS member countries agreed to impose an import and export license requirement to effectively combat the illicit manufacturing of and trafficking in firearms, ammunition, explosives, and other related materials. Though the Firearms Convention has yet to enter into force, most OAS member countries, including the United States, are taking actions in advance of the Convention's entry into force based on the OAS agreed Model Regulations to control the flow of firearms items because of their links to such activities as drug trafficking, terrorism, transnational organized crime, and mercenary and other criminal activities.

**DATES:** *Effective Date:* This rule is effective April 13, 1999.

*Grace Period:* A 90-day grace period will apply to the requirement to obtain the Firearms Import Certificate or equivalent official document. During the grace period, applications will be accepted whether or not supported by the Firearms Import Certificate.

**COMMENTS:** Comments on this rule must be received on or before May 28, 1999.

**ADDRESSES:** Written comments on this rule should be sent to Patricia Muldonian, Regulatory Policy Division, Bureau of Export Administration, Department of Commerce, P.O. Box 273, Washington, DC 20044.

**FOR FURTHER INFORMATION CONTACT:** Joan Roberts, Director, Foreign Policy Division, Bureau of Export Administration, Telephone: (202) 482-0171.

### SUPPLEMENTARY INFORMATION:

#### Background

On November 14, 1997, twenty-nine members of the Organization of American States (OAS), including the United States, signed the Inter-American Convention Against the Illicit Manufacturing of and Trafficking in Firearms, Ammunition, Explosives, and Other Related Materials (Firearms Convention). Subsequently, the Bahamas and Trinidad and Tobago signed the Treaty bringing the number of signatories to thirty-one. The Firearms Convention requires all OAS Member States to establish a program to issue authorizations for the import and export of firearms. The Firearms Convention will enter into force after the deposit of instruments of ratification by two Signatory States. To date, only one Convention Signatory, Belize, has ratified the Treaty.

The Firearms Convention constitutes the first multilateral treaty of its kind in the world, and it is expected to enhance multilateral cooperation among the governments of the Americas in the battle against the illicit manufacturing of and trafficking in firearms, ammunition, explosives, and other related materials. The problem of illicit transnational trade in firearms is of particular concern to the governments of North and South America due to the violence it breeds and the links it often has with organized criminal activity, such as drug trafficking and terrorism.

The OAS member countries include: Antigua and Barbuda, Argentina, the Bahamas, Barbados, Belize, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, the United States, Uruguay, and Venezuela.

OAS members also approved, in November 1997, the Model Regulations for the Control of the International Movement of Firearms, Their Parts and Components and Ammunition (OAS Model Regulations) to promote harmonized procedures for import and export controls over the legal international movement of firearms. The OAS Model Regulations do not address explosives and related materials.

On April 18, 1998, at the Santiago Summit held in Chile, President Clinton announced that the United States would issue regulations based on the OAS Model Regulations and that the Firearms Convention would be sent to the Senate for its advice and consent for ratification. President Clinton stated that these measures will further multilateral cooperation to prevent and combat illicit transnational traffic in firearms and ammunition, while establishing and strengthening systems to enhance the tracing of firearms used in criminal activities.

The OAS Model Regulations affect most firearms items on the Commerce Control List (CCL) classified under the following Export Control Classification Numbers (ECCNs): (1) 0A984, Shotguns with a barrel length 18 inches or over and related parts, and buckshot shotgun shells; (2) 0A986, Shotgun shells, and related parts; and (3) 0A987, Optical sighting devices. Following the President's directive, BXA is imposing a new license requirement for exports to Canada of all items controlled by ECCN 0A984, 0A986, or 0A987. A license is already required for crime control

reasons albeit subject to different licensing policies for the export of most firearms items to other OAS member countries.

The OAS Model Regulations also set forth requirements for the government of OAS importing countries to issue an Import Certificate to the importer of firearms, which is to include the total quantity of firearms and a detailed description of the item(s). Accordingly, BXA is imposing a new Import Certificate requirement for export of items classified as ECCNs 0A984, 0A986, or 0A987 to all OAS member countries, including Canada. The Import Certificate or an equivalent official document must be sent by the importer to the exporter as support documentation for a license application. The exporter must obtain the Import Certificate or equivalent official document prior to applying for a license. While the exporter may submit the application on receipt of a facsimile copy of the Import Certificate or equivalent official document, he must have the original in his possession before export. The exporter must retain the Import Certificate or equivalent official document in his files and produce it if requested to do so by BXA, in accordance with the recordkeeping requirements of the EAR.

In addition, for clarity and consistency, this rule transfers optical sighting devices from ECCN 0A985 to a newly created ECCN 0A987.

Although the Export Administration Act (EAA) expired on August 20, 1994, the President invoked the International Emergency Economic Powers Act and continued in effect the Export Administration Regulations and, to the extent permitted by law, the provisions of the EAA in Executive Order 12924 of August 19, 1994, as extended by the President's notices of August 15, 1995 (60 FR 42767), August 14, 1996 (61 FR 42527), August 13, 1997 (62 FR 43629) and August 13, 1998 (63 FR 44121).

Under a policy of conforming actions under the Executive Order to those under the EAA, insofar as appropriate, the Department of Commerce notified the Congress of this imposition of foreign policy controls on December 28, 1998.

#### Rulemaking Requirements

1. This interim rule has been determined to be significant for purposes of E.O. 12866.

2. Notwithstanding any other provision of law, no person is required to, nor shall any person be subject to a penalty for failure to comply with a collection of information, subject to the Paperwork Reduction Act (PRA), unless

that collection of information displays a currently valid OMB Control Number. This rule also contains a new collection-of-information requirement subject to the PRA that has received emergency approval under OMB control number 0694-0114. The new information requirement and estimated public burden hours include: import certificates and associated activities (5 minutes to one hour each) and licenses to Canada (42.5 minutes each). This rule also involves a collection of information approved by the Office of Management and Budget under control number 0694-0088, "Multi-Purpose Application," which carries a burden hour estimate of 42.5 minutes per submission. These estimates include the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collections of information. Comments are invited on: (a) whether the collection of information is necessary for the proper performance of the functions of the agency, including whether the information shall have practical utility; (b) the accuracy of the agency's estimate of the burden of the proposed collection of information; (c) ways to enhance the quality, utility, and clarity of the information to be collected; and (d) ways to minimize the burden of the collection of information on respondents, including through the use of automated collection techniques or other forms of information technology. Comments regarding these burden estimates or any other aspect of the collection of information, including suggestions for reducing the burdens, should be forwarded to Patricia Muldonian, Regulatory Policy Division, Office of Exporter Services, Bureau of Export Administration, Department of Commerce, P.O. Box 273, Washington, DC 20044, and David Rostker, Office of Management and Budget, OMB/OIRA, 725 17th Street, NW., NEOB Rm. 10202, Washington, DC 20503.

3. This rule does not contain policies with Federalism implications sufficient to warrant preparation of a Federalism assessment under Executive Order 12612.

4. The provisions of the Administrative Procedure Act (5 U.S.C. 553) requiring notice of proposed rulemaking, the opportunity for public participation, and a delay in effective date, are inapplicable because this regulation involves a military and foreign affairs function of the United States (Sec. 5 U.S.C. 553(a)(1)). Further, no other law requires that a notice of proposed rulemaking and an opportunity for public comment be given for this interim rule. Because a

notice of proposed rulemaking and an opportunity for public comment are not required to be given for this rule under 5 U.S.C. 553 or by any other law, the analytical requirements of the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*) are not applicable.

However, because of the importance of the issues raised by these regulations, this rule is being issued in interim form and BXA will consider comments in the development of the final regulations.

Accordingly, the Department encourages interested persons who wish to comment to do it at the earliest possible time to permit the fullest consideration of their views.

The period for submission of comments will close May 28, 1999. The Department will consider all comments received before the close of the comment period in developing final regulations. Comments received after the end of the comment period will be considered if possible, but their consideration cannot be assured. The Department will not accept public comments accompanied by a request that a part or all of the material be treated confidentially because of its business proprietary nature or for any other reason. The Department will return such comments and materials to the persons submitting the comments and will not consider them in the development of final regulations. All public comments on these regulations will be a matter of public record and will be available for public inspection and copying. In the interest of accuracy and completeness, the Department requires comments in written form.

Oral comments must be followed by written memoranda, which will also be a matter of public record and will be available for public review and copying.

The public record concerning these regulations will be maintained in the Bureau of Export Administration Freedom of Information Records Inspection Facility, Room 6881, Department of Commerce, 14th Street and Pennsylvania Avenue, N.W., Washington, D.C. 20230. Records in this facility, including written public comments and memoranda summarizing the substance of oral communications, may be inspected and copied in accordance with regulations published in part 4 of Title 15 of the Code of Federal Regulations. Information about the inspection and copying of records at the facility may be obtained from Henry Gaston, Bureau of Export Administration Freedom of Information Officer, at the above address or by calling (202) 482-5653.

**List of Subjects**

**15 CFR Parts 738, 742 and 774**

Exports, Foreign Trade.

**15 CFR Parts 740 and 748**

Administrative practice and procedure, Exports, Foreign Trade, Reporting and recordkeeping requirements.

**15 CFR Part 762**

Administrative practice and procedures, Business and industry, Confidential business information, Exports, Foreign Trade, Reporting and recordkeeping requirements.

Accordingly, parts 738, 740, 742, 748, 762, and 774 of the Export Administration Regulations (15 CFR parts 730-799) are amended to read as follows:

1. The authority citation for parts 738 and 774 is revised to read as follows:

**Authority:** 50 U.S.C. app. 2401 *et seq.*, 1701 *et seq.*, app. 5; 10 U.S.C. 7420, 7430(e); 18 U.S.C. 2510 *et seq.*; 22 U.S.C. 287c, 3201 *et seq.*, 6004; Sec. 201, Pub. L. 104-58, 109 Stat. 557 (30 U.S.C. 185(s), 185(u)); 42 U.S.C. 2139a, 6212; 43 U.S.C. 1354; 46 U.S.C. app. 466c; E.O. 12924, 3 CFR, 1994 Comp., p. 917; E.O. 13026, 3 CFR, 1996 Comp., p. 228; and Notice of August 13, 1998 (63 FR 44121, August 17, 1998).

2. The authority citation for parts 740, 748, and 762 is revised to read as follows:

**Authority:** 50 U.S.C. app. 2401 *et seq.*, 1701 *et seq.*; E.O. 12924, 3 CFR, 1994 Comp., p. 917; E.O. 13026, 3 CFR, 1996 Comp., p. 228 (1997); Notice of August 13, 1998 (63 FR 44121, August 17, 1998); and Pub. L. 105-85, 111 Stat. 1629.

3. The authority citation for part 742 is revised to read as follows:

**Authority:** 50 U.S.C. app. 2401 *et seq.*, 1701 *et seq.*; 18 U.S.C. 2510 *et seq.*; 22 U.S.C. 3201 *et seq.*; 42 U.S.C. 2139a; E.O. 12058, 3

CFR, 1978 Comp., p. 179; E.O. 12851, 3 CFR 1993 Comp., p. 608; E.O. 12924, 3 CFR, 1994 Comp., p. 917; E.O. 12938, 3 CFR, 1994 Comp., p. 950; E.O. 13026, 3 CFR, 1996 Comp., p. 228 (1997); Notice of August 13, 1998 (63 FR 44121, August 17, 1998); and Pub. L. 105-85, 111 Stat. 1629.

**PART 738—[AMENDED]**

**§ 738.2 [Amended]**

4. Section 738.2 is amended by adding "FC Firearms Convention" in alphabetical order to the list of Reasons for Control in paragraph (d)(2)(i)(A).

5. Supplement No. 1 to part 738, the Commerce Country Chart, is amended by adding "FC Column 1". For the convenience of the reader, the chart is revised to read as follows:

**Supplement No. 1 to Part 738—[Amended]**

**SUPPLEMENT NO. 1 TO PART 738—COMMERCE COUNTRY CHART**

[Reason for control]

| Countries                | Chemical and biological weapons |      |      | Nuclear non-proliferation |      | National security |      | Missile tech | Regional stability |      | Fire-arms convention | Crime control |      |      | Anti-terrorism |      |
|--------------------------|---------------------------------|------|------|---------------------------|------|-------------------|------|--------------|--------------------|------|----------------------|---------------|------|------|----------------|------|
|                          | CB 1                            | CB 2 | CB 3 | NP 1                      | NP 2 | NS 1              | NS 2 | MT 1         | RS 1               | RS 2 |                      | FC 1          | CC 1 | CC 2 | CC 3           | AT 1 |
|                          |                                 |      |      |                           |      |                   |      |              |                    |      |                      |               |      |      |                |      |
| Afghanistan              | X                               | X    | X    | X                         |      | X                 | X    | X            | X                  | X    |                      | X             |      | X    |                |      |
| Albania                  | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                      | X             | X    |      |                |      |
| Algeria                  | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                      | X             |      | X    |                |      |
| Andorra                  | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                      | X             |      | X    |                |      |
| Angola <sup>1</sup>      | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                      | X             |      | X    |                |      |
| Antigua and Barbuda      | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    | X                    | X             |      | X    |                |      |
| Argentina                | X                               |      |      | X                         |      | X                 | X    | X            | X                  | X    | X                    | X             |      | X    |                |      |
| Armenia                  | X                               | X    | X    | X                         |      | X                 | X    | X            | X                  | X    |                      | X             | X    |      |                |      |
| Australia                | X                               |      |      | X                         |      | X                 |      | X            | X                  | X    |                      | X             |      | X    |                |      |
| Austria                  | X                               |      |      | X                         |      | X                 |      | X            | X                  | X    |                      | X             |      | X    |                |      |
| Azerbaijan               | X                               | X    | X    | X                         |      | X                 | X    | X            | X                  | X    |                      | X             | X    |      |                |      |
| Bahamas, The             | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    | X                    | X             |      | X    |                |      |
| Bahrain                  | X                               | X    | X    | X                         |      | X                 | X    | X            | X                  | X    |                      | X             |      | X    |                |      |
| Bangladesh               | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                      | X             |      | X    |                |      |
| Barbados                 | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    | X                    | X             |      | X    |                |      |
| Belarus                  | X                               | X    | X    | X                         |      | X                 | X    | X            | X                  | X    |                      | X             | X    |      |                |      |
| Belgium                  | X                               |      |      | X                         |      | X                 |      | X            | X                  | X    |                      | X             |      | X    |                |      |
| Belize                   | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    | X                    | X             |      | X    |                |      |
| Benin                    | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                      | X             |      | X    |                |      |
| Bhutan                   | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                      | X             |      | X    |                |      |
| Bolivia                  | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    | X                    | X             |      | X    |                |      |
| Bosnia and Herzegovina   | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                      | X             |      | X    |                |      |
| Botswana                 | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                      | X             |      | X    |                |      |
| Brazil                   | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    | X                    | X             |      | X    |                |      |
| Brunei                   | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                      | X             |      | X    |                |      |
| Bulgaria                 | X                               | X    | X    | X                         |      | X                 | X    | X            | X                  | X    |                      | X             | X    |      |                |      |
| Burkina Faso             | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                      | X             | X    |      |                |      |
| Burma                    | X                               | X    | X    | X                         |      | X                 | X    | X            | X                  | X    |                      | X             |      | X    |                |      |
| Burundi                  | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                      | X             |      | X    |                |      |
| Cambodia                 | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                      | X             | X    |      |                |      |
| Cameroon                 | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                      | X             |      | X    |                |      |
| Canada                   |                                 |      |      |                           |      |                   |      |              |                    |      | X                    |               |      |      |                |      |
| Cape Verde               | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                      | X             |      | X    |                |      |
| Central African Republic | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                      | X             |      | X    |                |      |
| Chad                     | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                      | X             |      | X    |                |      |
| Chile                    | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    | X                    | X             |      | X    |                |      |
| China                    | X                               | X    | X    | X                         |      | X                 | X    | X            | X                  | X    |                      | X             |      | X    |                |      |
| Colombia                 | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    | X                    | X             |      | X    |                |      |
| Comoros                  | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                      | X             |      | X    |                |      |
| Congo                    | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                      | X             |      | X    |                |      |
| Costa Rica               | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    | X                    | X             |      | X    |                |      |
| Cote d'Ivoire            | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                      | X             |      | X    |                |      |
| Croatia                  | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                      | X             |      | X    |                |      |
| Cuba                     |                                 |      |      |                           |      |                   |      |              |                    |      |                      |               |      |      |                |      |
| Cyprus                   | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                      | X             |      | X    |                |      |
| Czech Republic           | X                               |      |      | X                         |      | X                 | X    | X            | X                  | X    |                      | X             |      | X    |                |      |

See part 746 of the EAR to determine whether a license is required in order to export or reexport to this destination.

SUPPLEMENT NO. 1 TO PART 738—COMMERCE COUNTRY CHART—Continued

[Reason for control]

| Countries          | Chemical and biological weapons |      |      | Nuclear non-proliferation |      | National security |                | Missile tech | Regional stability |      | Fire-arms convention<br>FC 1 | Crime control |      |      | Anti-terrorism |      |
|--------------------|---------------------------------|------|------|---------------------------|------|-------------------|----------------|--------------|--------------------|------|------------------------------|---------------|------|------|----------------|------|
|                    | CB 1                            | CB 2 | CB 3 | NP 1                      | NP 2 | NS 1              | NS 2           | MT 1         | RS 1               | RS 2 |                              | CC 1          | CC 2 | CC 3 | AT 1           | AT 2 |
|                    |                                 |      |      |                           |      |                   |                |              |                    |      |                              |               |      |      |                |      |
| Denmark            | X                               |      |      |                           |      | X                 |                | X            | X                  |      |                              |               |      |      |                |      |
| Djibouti           | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    |                              | X             |      | X    |                |      |
| Dominica           | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    | X                            | X             |      | X    |                |      |
| Dominican Republic | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    | X                            | X             |      | X    |                |      |
| Ecuador            | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    | X                            | X             |      | X    |                |      |
| Egypt              | X                               | X    | X    | X                         |      | X                 | X              | X            | X                  | X    |                              | X             |      | X    |                |      |
| El Salvador        | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    | X                            | X             |      | X    |                |      |
| Equatorial Guinea  | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    |                              | X             |      | X    |                |      |
| Eritrea            | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    |                              | X             |      | X    |                |      |
| Estonia            | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    |                              | X             | X    |      |                |      |
| Ethiopia           | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    |                              | X             |      | X    |                |      |
| Fiji               | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    |                              | X             | X    |      |                |      |
| Finland            | X                               |      |      |                           |      | X                 |                | X            | X                  | X    |                              | X             |      | X    |                |      |
| France             | X                               |      |      |                           |      | X                 |                | X            | X                  |      |                              |               |      |      |                |      |
| Gabon              | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    |                              | X             |      | X    |                |      |
| Gambia, The        | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    |                              | X             |      | X    |                |      |
| Georgia            | X                               | X    | X    | X                         |      | X                 | X              | X            | X                  | X    |                              | X             | X    |      |                |      |
| Germany            | X                               |      |      |                           |      | X                 |                | X            | X                  |      |                              |               |      |      |                |      |
| Ghana              | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    |                              | X             |      | X    |                |      |
| Greece             | X                               |      |      |                           |      | X                 |                | X            | X                  |      |                              |               |      |      |                |      |
| Grenada            | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    | X                            | X             |      | X    |                |      |
| Guatemala          | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    | X                            | X             |      | X    |                |      |
| Guinea             | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    |                              | X             |      | X    |                |      |
| Guinea-Bissau      | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    |                              | X             |      | X    |                |      |
| Guyana             | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    | X                            | X             |      | X    |                |      |
| Haiti              | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    | X                            | X             |      | X    |                |      |
| Honduras           | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    | X                            | X             |      | X    |                |      |
| Hong Kong          | X                               | X    |      | X                         |      | X                 | X <sup>2</sup> | X            | X                  | X    |                              | X             |      | X    |                |      |
| Hungary            | X                               |      |      |                           |      | X                 | X              | X            | X                  | X    |                              | X             |      | X    |                |      |
| Iceland            | X                               |      |      | X                         |      | X                 | X              | X            | X                  |      |                              |               |      |      |                |      |
| India              | X                               | X    | X    | X                         | X    | X                 | X              | X            | X                  | X    |                              | X             |      | X    |                |      |
| Indonesia          | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    |                              | X             |      | X    |                |      |
| Iran               |                                 |      |      |                           |      |                   |                |              |                    |      |                              |               |      |      |                |      |
| Iraq <sup>1</sup>  |                                 |      |      |                           |      |                   |                |              |                    |      |                              |               |      |      |                |      |
| Ireland            | X                               |      |      |                           |      | X                 |                | X            | X                  | X    |                              | X             |      | X    |                |      |
| Israel             | X                               | X    | X    | X                         | X    | X                 | X              | X            | X                  | X    |                              | X             |      | X    |                |      |
| Italy              | X                               |      |      |                           |      | X                 |                | X            | X                  |      |                              |               |      |      |                |      |
| Jamaica            | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    | X                            | X             |      | X    |                |      |
| Japan              | X                               |      |      |                           |      | X                 |                | X            | X                  |      |                              |               |      |      |                |      |
| Jordan             | X                               | X    | X    | X                         |      | X                 | X              | X            | X                  | X    |                              | X             |      | X    |                |      |
| Kazakhstan         | X                               | X    | X    | X                         |      | X                 | X              | X            | X                  | X    |                              | X             | X    |      |                |      |
| Kenya              | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    |                              | X             |      | X    |                |      |
| Kiribati           | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    |                              | X             |      | X    |                |      |
| Korea, North       |                                 |      |      |                           |      |                   |                |              |                    |      |                              |               |      |      |                |      |
| Korea, South       | X                               |      |      |                           |      | X                 | X <sup>2</sup> | X            | X                  | X    |                              | X             |      | X    |                |      |
| Kuwait             | X                               | X    | X    | X                         |      | X                 | X              | X            | X                  | X    |                              | X             |      | X    |                |      |
| Kyrgyzstan         | X                               | X    | X    | X                         |      | X                 | X              | X            | X                  | X    |                              | X             | X    |      |                |      |
| Laos               | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    |                              | X             |      | X    |                |      |
| Latvia             | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    |                              | X             | X    |      |                |      |
| Lebanon            | X                               | X    | X    | X                         |      | X                 | X              | X            | X                  | X    |                              | X             |      | X    |                |      |
| Lesotho            | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    |                              | X             |      | X    |                |      |
| Liberia            | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    |                              | X             |      | X    |                |      |
| Libya              |                                 |      |      |                           |      |                   |                |              |                    |      |                              |               |      |      |                |      |
| Liechtenstein      | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    |                              | X             |      | X    |                |      |
| Lithuania          | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    |                              | X             | X    |      |                |      |
| Luxembourg         | X                               |      |      |                           |      | X                 |                | X            | X                  |      |                              |               |      |      |                |      |
| FYROM (Macedonia)  | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    |                              | X             |      | X    |                |      |
| Madagascar         | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    |                              | X             |      | X    |                |      |
| Malawi             | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    |                              | X             |      | X    |                |      |
| Malaysia           | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    |                              | X             |      | X    |                |      |
| Maldives           | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    |                              | X             |      | X    |                |      |
| Mali               | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    |                              | X             |      | X    |                |      |
| Malta              | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    |                              | X             |      | X    |                |      |
| Marshall Islands   | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    |                              | X             |      | X    |                |      |
| Mauritania         | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    |                              | X             |      | X    |                |      |
| Mauritius          | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    |                              | X             |      | X    |                |      |
| Mexico             | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    | X                            | X             |      | X    |                |      |
| Micronesia         | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    |                              | X             |      | X    |                |      |
| Moldova            | X                               | X    | X    | X                         |      | X                 | X              | X            | X                  | X    |                              | X             | X    |      |                |      |
| Monaco             | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    |                              | X             |      | X    |                |      |
| Mongolia           | X                               | X    | X    | X                         |      | X                 | X              | X            | X                  | X    |                              | X             | X    |      |                |      |
| Morocco            | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    |                              | X             |      | X    |                |      |
| Mozambique         | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    |                              | X             |      | X    |                |      |
| Namibia            | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    |                              | X             |      | X    |                |      |
| Nauru              | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    |                              | X             |      | X    |                |      |
| Nepal              | X                               | X    |      | X                         |      | X                 | X              | X            | X                  | X    |                              | X             |      | X    |                |      |

See part 746 of the EAR to determine whether a license is required in order to export or reexport to this destination.

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SUPPLEMENT NO. 1 TO PART 738—COMMERCE COUNTRY CHART—Continued

[Reason for control]

| Countries                  | Chemical and biological weapons |      |      | Nuclear non-proliferation |      | National security |      | Missile tech | Regional stability |      | Fire-arms convention<br>FC 1 | Crime control |      |      | Anti-terrorism |      |
|----------------------------|---------------------------------|------|------|---------------------------|------|-------------------|------|--------------|--------------------|------|------------------------------|---------------|------|------|----------------|------|
|                            | CB 1                            | CB 2 | CB 3 | NP 1                      | NP 2 | NS 1              | NS 2 | MT 1         | RS 1               | RS 2 |                              | CC 1          | CC 2 | CC 3 | AT 1           | AT 2 |
|                            |                                 |      |      |                           |      |                   |      |              |                    |      |                              |               |      |      |                |      |
| Netherlands                | X                               |      |      |                           |      | X                 |      | X            | X                  |      |                              |               |      |      |                |      |
| New Zealand                | X                               |      |      |                           |      | X                 |      | X            | X                  |      |                              |               |      |      |                |      |
| Nicaragua                  | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    | X                            |               |      |      |                |      |
| Niger                      | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    | X                            |               |      |      |                |      |
| Nigeria                    | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    | X                            |               |      |      |                |      |
| Norway                     | X                               |      |      |                           |      | X                 |      | X            | X                  |      |                              |               |      |      |                |      |
| Oman                       | X                               | X    | X    | X                         |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Pakistan                   | X                               | X    | X    | X                         | X    | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Palau                      | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Panama                     | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    | X                            |               |      |      |                |      |
| Papua New Guinea           | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    | X                            |               |      |      |                |      |
| Paraguay                   | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    | X                            |               |      |      |                |      |
| Peru                       | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    | X                            |               |      |      |                |      |
| Philippines                | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    | X                            |               |      |      |                |      |
| Poland                     | X                               |      |      |                           |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Portugal                   | X                               |      |      |                           |      | X                 |      | X            | X                  |      |                              |               |      |      |                |      |
| Qatar                      | X                               | X    | X    | X                         |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Romania                    | X                               |      |      |                           |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Russia                     | X                               | X    | X    |                           |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Rwanda <sup>1</sup>        | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| St. Kitts and Nevis        | X                               | X    | X    | X                         |      | X                 | X    | X            | X                  | X    | X                            |               |      |      |                |      |
| St. Lucia                  | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    | X                            |               |      |      |                |      |
| St. Vincent and Grenadines | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    | X                            |               |      |      |                |      |
| San Marino                 | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Sao Tome and Principe      | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Saudi Arabia               | X                               | X    | X    | X                         |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Senegal                    | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Serbia and Montenegro      | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Seycheles                  | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Sierra Leone               | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Singapore                  | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Slovakia                   | X                               |      |      |                           |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Slovenia                   | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Solomon Islands            | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Somalia                    | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| South Africa               | X                               | X    |      |                           |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Spain                      | X                               |      |      |                           |      | X                 |      | X            | X                  |      |                              |               |      |      |                |      |
| Sri Lanka                  | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Sudan                      | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Suriname                   | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    | X                            |               |      |      |                |      |
| Swaziland                  | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Sweden                     | X                               |      |      |                           |      | X                 |      | X            | X                  | X    |                              |               |      |      |                |      |
| Switzerland                | X                               |      |      |                           |      | X                 |      | X            | X                  | X    |                              |               |      |      |                |      |
| Syria                      | X                               | X    | X    | X                         |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Taiwan                     | X                               | X    | X    | X                         |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Tajikistan                 | X                               | X    | X    |                           |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Tanzania                   | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Thailand                   | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Togo                       | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Tonga                      | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Trinidad and Tobago        | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    | X                            |               |      |      |                |      |
| Tunisia                    | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Turkey                     | X                               | X    |      | X                         |      | X                 |      | X            | X                  | X    |                              |               |      |      |                |      |
| Turkmenistan               | X                               | X    | X    | X                         |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Tuvalu                     | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Uganda                     | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Ukraine                    | X                               | X    | X    |                           |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| United Arab Emirates       | X                               | X    | X    | X                         |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| United Kingdom             | X                               |      |      |                           |      | X                 |      | X            | X                  |      |                              |               |      |      |                |      |
| Uruguay                    | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    | X                            |               |      |      |                |      |
| Uzbekistan                 | X                               | X    | X    | X                         |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Vanuatu                    | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Vatican City               | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Venezuela                  | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    | X                            |               |      |      |                |      |
| Vietnam                    | X                               | X    | X    | X                         |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Western Sahara             | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Western Samoa              | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Yemen                      | X                               | X    | X    | X                         |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Zaire                      | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Zambia                     | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |
| Zimbabwe                   | X                               | X    |      | X                         |      | X                 | X    | X            | X                  | X    |                              |               |      |      |                |      |

<sup>1</sup> This country is subject to United Nations Sanctions. See part 746 of the EAR for additional OFAC licensing requirements that may apply to your proposed transaction.

<sup>2</sup> A license is required only for computers controlled by 4A001, 4A002, & 4A003 if the CTP is greater than 10,000 Mtops. A license is NOT required for any other items subject to NS Column 2.

**PART 740—[AMENDED]**

6. Section 740.14 is amended by adding a sentence to the end of paragraph (e)(1)(iii) to read as follows:

**§ 740.14 Baggage (BAG).**

\* \* \* \* \*

(e) \* \* \*

(1) \* \* \*

(iii) \* \* \* Note that since certain countries may require an Import Certificate or a U.S. export license before allowing the import of a shotgun, you should determine the import requirements of your country of destination in advance.

\* \* \* \* \*

**PART 742—[AMENDED]**

7. Part 742 is amended by adding a new § 742.17 to read as follows:

**§ 742.17 Exports of firearms to OAS member countries.**

(a) *License requirements.* BXA maintains a licensing system for the export of shotguns and related items to all OAS member countries. This action is based on the Organization of American States (OAS) Model Regulations for the Control of the International Movement of Firearms, their Parts and Components and Munitions (OAS Model Regulations) which were developed to assist OAS member countries to implement the Inter-American Convention Against the Illicit Manufacturing of and Trafficking in Firearms, Ammunition, Explosives, and Other Related Materials (Firearms Convention).<sup>1</sup> Items subject to these controls are identified by "FC Column 1" in the "License Requirements" section of their Export Control Classification Number (ECCN) on the Commerce Control List (CCL). If "FC Column 1" of the Commerce Country Chart (Supplement No. 1 to part 738 of the EAR) is indicated for a particular country, a license is required for export to that destination. Licenses will generally be issued on an Import Certificate or equivalent official document, satisfactory to BXA, issued by the government of the importing country is also required for the export of such items to OAS member countries.

(b) *Licensing policy.* Applications supported by an Import Certificate or equivalent official document issued by the government of the importing country for such items will generally be approved, except there is a policy of denial for applications to export items linked to such activities as drug

trafficking, terrorism, and transnational organized crime.

(c) *Contract sanctity.* Contract sanctity provisions are not available for license applications under this § 742.17.

(d) *OAS Model Regulations.* The OAS Model Regulations on which regulations are based are designed by OAS member countries to combat illicit manufacturing of and trafficking in firearms, ammunition, explosives, and other related materials in North and South America because of their links to such activities as drug trafficking, terrorism, and transnational organized crime.

(e) *OAS member countries to which firearms controls under this section apply.* The OAS member countries include: Antigua and Barbuda, Argentina, the Bahamas, Barbados, Belize, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, St. Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, the United States, Uruguay, and Venezuela.

(f) *Items/Commodities.* Items requiring a license under this section are ECCNs 0A984 (shotguns with a barrel length 18 inches or over and related parts, and buckshot shotgun shells), 0A986 (shotgun shells, and related parts) and 0A987 (optical sighting devices). (See Supplement No. 1 to Part 774 of the EAR.)

(g) *Validity period for licenses.* Although licenses generally will be valid for a period of two years, your ability to ship items that require an Import Certificate or equivalent official document under this section may be affected by the validity of the Import Certificate or equivalent official document (see § 748.14(f) of the EAR).

**PART 748—[AMENDED]**

8. Section 748.9 is amended by revising the introductory text of paragraph (a) to read as follows:

**§ 748.9 Support documents for license applications.**

(a) *Exemptions.* If you plan to submit a license application involving one of the following situations and your item is not a firearms item destined for an OAS member country, no support documentation is required. Simply submit the license application. If your item is a firearms item (Reason for Control identified as "FC" on the Commerce Control List, Supplement No. 1 to part 774 of the EAR) destined for

an OAS member country, proceed to § 748.14 of this part.

\* \* \* \* \*

9. Part 748 is amended by adding a new Section 748.14 to read as follows:

**§ 748.14 Import Certificate for firearms destined for Organization of American States member countries.**

(a) *Scope.* Consistent with the OAS Model Regulations, BXA requires from all OAS member countries an Import Certificate issued by the government of the importing country for items classified as ECCNs 0A984, 0A986, or 0A987. For those OAS member countries that have not yet established or implemented an Import Certificate procedure, BXA will accept an equivalent official document (e.g., import license or letter of authorization) issued by the government of the importing country as supporting documentation for the export of firearms. This section describes the requirements for Import Certificates or official equivalents in support of license applications submitted to BXA for firearms items that are identified by "FC Column 1" in the "License Requirements" section of the Commerce Control List.

(b) *Import Certificate Procedure.* An Import Certificate or equivalent official document must be obtained from the government of the importing OAS member country for firearms items classified as ECCNs 0A984, 0A986, or 0A987. Except as provided by § 748.9(a) of the EAR, the applicant must obtain and retain on file either the original or certified copy of the Import Certificate, or an original or certified copy of equivalent official document issued by the government of the importing country in support of any license application for export of firearms items classified as 0A984, 0A986, or 0A987. All the recordkeeping provisions of § 762.2 of the EAR apply to this requirement. The applicant must clearly note the number and date of the Import Certificate or equivalent official document on all export license applications (BXA Form 748P, Multipurpose Application Form, Block 13) supported by that Certificate or equivalent official document. The applicant must also indicate in Block 7 of the application that the Certificate or equivalent official document has been received and will be retained on file. However, the applicant may submit an application before obtaining the original or certified copy of the Import Certificate, or the official original or certified copy of the equivalent document, provided that:

<sup>1</sup> Status of Convention as of April 13, 1999 had not entered into force.

(1) The applicant has received a facsimile of the Import Certificate or equivalent official document at the time the license application is filed; and

(2) The applicant states on the application that a facsimile of the Import Certificate or equivalent official document has been received and that no shipment will be made against the license prior to obtaining the original or certified copy of the Import Certificate or the original or certified copy of the equivalent official document issued by the importing country and retaining it on file. Generally, BXA will not consider any license application for the export of firearms items if the application is not supported by an Import Certificate or its official equivalent. If the government of the importing country will not issue an Import Certificate or its official equivalent, the applicant must supply the information described in paragraphs (g)(2)(i) and (g)(2)(vi) through (viii) of this section on company letterhead.

(c) *Countries to which firearms controls apply.* The firearms controls apply to all OAS member countries: Antigua and Barbuda, Argentina, the Bahamas, Barbados, Belize, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, St. Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, the United States, Uruguay, and Venezuela.

(d) *Items/Commodities.* An Import Certificate or equivalent official document is required for items controlled under Export Control Classification Numbers (ECCNs) 0A984, 0A986, or 0A987.

(e) *Use of the Import Certificate.* An Import Certificate or equivalent official document can only be used to support one BXA Form-748P, Multipurpose Application. The BXA Form-748P, Multipurpose Application, must include the same items as those listed on the Import Certificate or the equivalent official document.

(f) *Validity period.* Import Certificates or equivalent official documents issued by an OAS member country will be valid for a period of one year or less. Although licenses generally are valid for two years, your ability to ship may be affected by the validity of the Import Certificate or equivalent official document.

(g) *How to obtain an Import Certificate for firearms items destined to OAS member countries.* (1) Applicants must request that the importer (e.g.,

ultimate consignee or purchaser) obtain the Import Certificate or an equivalent official document from the government of the importing country, and that it be issued covering the quantities and types of items that the applicant intends to export. Upon receipt of the Import Certificate or its official equivalent, the importer must provide the original or a certified copy of the Import Certificate or the original or a certified copy of the equivalent official document to the applicant. The applicant shall obtain the required documents prior to submitting a license application, except as provided in paragraphs (b)(1) and (b)(2) of this section.

(2) The Import Certificate or its official equivalent must contain the following information:

(i) Applicant's name and address. The applicant may be either the exporter, supplier, or order party.

(ii) Import Certificate Identifier/Number.

(iii) Name of the country issuing the certificate or unique country code.

(iv) Date the Import Certificate was issued, in international date format (e.g., 24/12/98 (24 December 1998), or 3/1/99 (3 January 1999)).

(v) Name of the agency issuing the certificate, address, telephone and facsimile numbers, signing officer name, and signature.

(vi) Name of the importer, address, telephone and facsimile numbers, country of residence, representative's name if commercial or government body, citizenship, and signature.

(vii) Name of the end-user(s), if known and different from the importer, address, telephone and facsimile numbers, country of residence, representative's name if commercial (authorized distributor or reseller) or government body, citizenship, and signature. Note that BXA does not require the identification of each end-user when the firearms items will be resold by a distributor or reseller if unknown at the time of export.

(viii) Description of the items approved for import including a technical description and total quantity of firearms, parts and components, ammunition and parts.

**Note to paragraph (g)(2)(viii):** You must furnish the consignee with a detailed technical description of each item to be given to the government for its use in issuing the Import Certificate. For example, for shotguns, provide the type, barrel length, overall length, number of shots, the manufacturer's name, the country of manufacture, and the serial number for each shotgun. For ammunition, provide the caliber, velocity and force, type of bullet, manufacturer's name and country of manufacture.

(ix) Expiration date of the Import Certificate in international date format (e.g., 24/12/98) or the date the items must be imported, whichever is earlier.

(x) Name of the country of export (i.e., United States).

(xi) *Additional information.* Certain countries may require the tariff classification number, by class, under the Brussels Convention (Harmonized Tariff Code) or the specific technical description of an item. For example, shotguns may need to be described in barrel length, overall length, number of shots, manufacturer's name and country of manufacture. The technical description is not the Export Control Classification Number (ECCN).

(h) *Where to obtain Import Certificates.* See Supplement No. 6 to this part for a list of the OAS member countries' authorities administering the Import Certificate System.

(i) *Alterations.* After an Import Certificate or official equivalent document is used to support the issuance of a license, no corrections, additions, or alterations may be made on the Certificate by any person. If you desire to explain any information contained on the Import Certificate or official equivalent document, you may attach a signed statement to the Import Certificate or official equivalent.

(j) *Request for return of Import Certificates.* A U.S. exporter may be requested by a foreign importer to return an unused Import Certificate. Refer to § 748.9(j) of this part for procedures and recordkeeping requirements for returning an Import Certificate retained by the applicant.

10. Part 748 is amended by adding a new Supplement No. 6 to read as follows:

**Supplement No. 6. To part 748—  
Authorities Issuing Import Certificates  
Under the Firearms Convention**

[Reserved]

[Status of Convention as of April 13, 1999 had not entered into force.]

**PART 762—[AMENDED]**

11. Section 762.2 is amended by revising paragraph (b)(36) and adding (b)(37) and paragraph (b)(38) to read as follows:

**§ 762.2 Records to be retained.**

\* \* \* \* \*

(b) \* \* \*

(36) § 766.10, Subpoenas;

(37) § 743.1, Wassenaar reports; and

(38) § 748.14, Exports of firearms.

**PART 774—[AMENDED]**

12. In Supplement No. 1 to part 774 (the Commerce Control List), Category

0—Nuclear Materials, Facilities, and Equipment [and Miscellaneous Items], the following Export Control Classification Numbers (ECCNs) are amended:

a. By revising the License Requirements section for ECCNs 0A984 and 0A986;

b. By revising the entry heading for ECCN 0A985; and

c. By adding a new ECCN 0A987, to read as follows:

**0A984 Shotguns, barrel length 18 inches (45.72 cm) inches or over; buckshot shotgun shells; except equipment used exclusively to treat or tranquilize animals, and except arms designed solely for signal, flare, or saluting use; and parts, n.e.s.**

**License Requirements**

Reason for Control: CC, FC, UN

| Control(s)  | Country Chart  |
|---|--|
| FC applies to entire entry .....  | FC Column 1  |
| CC applies to shotguns with a barrel length over 18 in. (45.72 cm) but less than 24 in. (60.96 cm) or buckshot shotgun shells controlled by this entry, regardless of end-user. | CC Column 1  |
| CC applies to shotguns with a barrel length greater than or equal to 24 in. (60.96 cm), regardless of end-user.   | CC Column 2  |
| CC applies to shotguns with a barrel length greater than or equal to 24 in. (60.96 cm) if for sale or resale to police or law enforcement.                                      | CC Column 3  |
| UN applies to entire entry .....  | Rwanda; Federal Republic of Yugoslavia (Serbia and Montenegro) |

\* \* \* \* \*

**0A985 Discharge type arms (for example, stun guns, shock batons, electric cattle prods, immobilization guns and projectiles, etc.) except equipment used exclusively to treat or tranquilize animals, and except arms designed solely for signal, flare, or saluting use; and parts, n.e.s.**

\* \* \* \* \*

**0A986 Shotgun shells, except buckshot shotgun shells, and parts.**

**License Requirements**

Reason for Control: FC, UN

| Control(s)                       | Country Chart |
|----------------------------------|---------------|
| FC applies to entire entry ..... | FC Column 1   |

| Control(s)                       | Country Chart  |
|----------------------------------|--|
| UN applies to entire entry ..... | Rwanda; Federal Republic of Yugoslavia (Serbia and Montenegro) |

\* \* \* \* \*

**0A987 Optical sighting devices for firearms (including shotguns controlled by 0A984); and parts, n.e.s.**

**License Requirements**

Reason for Control: FC, CC, UN

| Control(s)  | Country Chart  |
|---|--|
| FC applies to optical sights for firearms, including shotguns described in ECCN 0A984, and related parts. | FC Column 1  |
| CC applies to entire entry .....  | CC Column 1  |
| UN applies to entire entry .....  | Rwanda; Federal Republic of Yugoslavia (Serbia and Montenegro) |

\* \* \* \* \*

Dated: April 6, 1999.

**R. Roger Majak,**

*Assistant Secretary for Export Administration.*

[FR Doc. 99-9160 Filed 4-12-99; 8:45 am]

**BILLING CODE 3510-33-P**

**UNITED STATES INFORMATION AGENCY**

**22 CFR Part 514**

**Exchange Visitor Program**

**ACTION:** Final rule.

**SUMMARY:** To enhance the programmatic utility of the Short-Term Scholar category of exchange participation, the Agency is amending existing regulations to permit short-term scholar participants to lecture and consult at institutions not listed on their Form IAP-66.

**EFFECTIVE DATE:** This rule is effective April 13, 1999.

**FOR FURTHER INFORMATION CONTACT:** Sally J. Lawrence, Chief, Program Designation Branch, United States Information Agency, 301 4th Street, S.W., Washington, D.C. 20547; Telephone, (202) 401-9823.

**SUPPLEMENTARY INFORMATION:** The Short-Term Scholar category allows foreign

scholars to enter the United States for a period of up to six months to lecture, observe, consult, and participate in seminars, workshops, conferences, study tours, professional meetings, and other similar educational and professional activities. This category of exchange participation facilitates international collaboration between foreign scholars and their American colleagues and promotes professional relationships and institutional linkages.

Designated sponsors that utilize this category of exchange participation have suggested to the Agency that the overall effectiveness and utility of these exchanges would be enhanced if the participants were able to accept invitations to lecture and consult at institutions not listed on the participant's Form IAP-66. The Agency has reviewed this suggestion and agrees that the ability to accept such invitations, if they can be fulfilled without delaying or extending the duration of the participant's program, is a desirable program enhancement. Accordingly, the Agency is amending 22 CFR 514.21(f) to permit the program sponsor's responsible officer to authorize the participant's acceptance of such invitations.

In accordance with 5 U.S.C. 605(b), the Agency certifies that this rule does not have a significant adverse economic impact on a substantial number of small entities. This rule is not considered to be a major rule within the meaning of Section 1(b) of E.O. 12291, nor does it have federal implications warranting the preparation of a Federalism Assessment in accordance with E.O. 12612.

**List of Subjects in 22 CFR Part 514**

Cultural exchange programs.

Dated: April 7, 1999.

**Les Jin,**

*General Counsel.*

Accordingly, 22 CFR part 514 is amended as follows:

**PART 514—EXCHANGE VISITOR PROGRAM**

1. The authority citation for part 514 continues to read as follows:

**Authority:** 8. U.S.C. 1101(a)(15)(j), 1182, 1258; 22 U.S.C. 1431-1442, 2451-2460; Reorganization Plan No. 2 of 1977, 42 FR 62461, 3 CFR, 1977 Comp. p. 200; E.O. 12048, 43 FR 13361, 3 CFR, 1978 Comp. p. 168; USIA Delegation Order No. 85-5 (50 FR 27393).

2. Section 514.21 paragraph (f) is revised to read as follows:

**§ 514.21 Short-term scholars.**

\* \* \* \* \*

(f) *Location of exchange.* The short-term scholar shall participate in the Exchange Visitor Program at the conferences, workshops, seminars, or other events or activities stated on his or her Form IAP-66. A participant may also lecture or consult at institutions not listed on the Form IAP-66 if his or her Responsible Officer issues a written authorization of such activity. Such written authorization must be attached to the participant's Form IAP-66.

\* \* \* \* \*

[FR Doc. 99-9164 Filed 4-12-99; 8:45 am]

BILLING CODE 8230-01-M

## UNITED STATES INFORMATION AGENCY

### 22 CFR Part 514

#### Exchange Visitor Program

**AGENCY:** United States Information Agency.

**ACTION:** Interim final rule.

**SUMMARY:** The Agency is adopting specific regulations governing participation in summer work travel programs conducted by Agency-designated sponsors pursuant to Public Law 105-277. These regulations are adopted to assist designated Summer Work Travel sponsors with their administration of program placements for the upcoming summer program season.

**EFFECTIVE DATE:** These regulations are effective April 13, 1999.

**FOR FURTHER INFORMATION CONTACT:** Stanley S. Colvin, Assistant General Counsel, United States Information Agency, 301 4th Street, SW., Washington, DC 20547, Telephone, (202) 619-4979.

**SUPPLEMENTARY INFORMATION:** Since publication of the General Accounting Office report entitled "Inappropriate Uses of the Exchange Visitor Visa" in 1990, the status of Summer Work Travel programs administered by the Agency has been under a cloud of uncertainty. This uncertainty was due to the GAO report suggestion that the Agency was without adequate statutory authority to administer and oversee Summer Work Travel program activities. In light of this GAO determination, the Agency has pursued several approaches to bring the Summer Work Travel programs under the umbrella of authority to conduct international exchange activities provided by the Fulbright-Hayes Act. Sponsors of these programs have also sought to resolve the question of Agency authority. After years of uncertainty, the Congress, in passage of Public Law 105-

277, vested the Director of USIA with clear statutory authority to administer and oversee Summer Work Travel programs. This legislation also granted discretionary authority to the director to conduct these programs without regard to a requirement that participants have an offer of employment in place prior to their departure from their home country.

Accordingly, the Agency is adopting the following regulations on an interim final basis in order to assist designated Summer Work Travel sponsors with their administration of program placements for the upcoming summer program season. These regulations supersede program guidelines promulgated by the Agency and published at 61 FR 13760 (March 28, 1996) and existing regulations set forth at Subpart G of 22 CFR part 514. These regulations permit program sponsors to facilitate the entry into the United States of program participants for whom prior employment positions have not been arranged. However, a limitation on the number of participants that may enter the United States without a prearranged employment position is imposed. Sponsors must arrange prior employment positions for at least fifty percent of their program participants.

#### Public Comment

The Agency invites comments regarding this interim final rule notwithstanding the fact that it is under no legal requirement to do so. The oversight and administration of the Exchange Visitor Program are deemed to be foreign affairs functions of the United States Government. The Administrative Procedures Act, 5 U.S.C. 553 (a)(1), (1989), specifically exempts foreign affairs functions from the rulemaking requirements of the Act.

In accordance with 5 U.S.C. 605(b), the Agency certifies that this rule does not have a significant adverse economic impact on a substantial number of small entities. This rule is not considered to be a major rule within the meaning of section 1(b) of E.O. 12291, nor does it have federal implications warranting the preparation of a Federalism Assessment in accordance with E.O. 12612.

#### List of Subjects in 22 CFR Part 514

Cultural exchange programs.

Dated March 24, 1999.

**Les Jin,**  
General Counsel.

Accordingly, 22 CFR part 514 is amended as follows:

## PART 514—EXCHANGE VISITOR PROGRAM

1. The authority citation for part 514 continues to read as follows:

**Authority:** 8 U.S.C. 1101(a)(15)(I), 1182, 1258; 22 U.S.C. 1431-1442, 2451-2460; Reorganization Plan No. 2 of 1997, 42 FR 62461, 3 CFR, 1977 Comp. p. 200; E.O. 12048 43 FR 13361, 3 CFR, 1978 Comp. p. 168; USIA Delegation Order No. 85-5 (50 FR 27393).

### Subpart G—[Removed]

2. Subpart G is removed and reserved, and subpart B is amended by adding a new § 514.32 to read as follows:

#### § 514.32 Summer work travel.

(a) *Introduction.* These regulations govern program participation in summer work travel programs conducted by Agency-designated sponsors pursuant to the authority granted the Agency by Public Law 105-277. These programs provide foreign post-secondary students the opportunity to work and travel in the United States for a four month period during their summer vacations. Extensions of program participation are not permitted.

(b) *Participant selection and screening.* In addition to satisfying the requirements set forth at § 514.10(a), sponsors shall adequately screen all program participants and at a minimum shall:

- (1) Conduct an in-person interview;
- (2) Ensure that the participant is a bona fide post-secondary school student in his or her home country; and
- (3) Ensure that not more than ten percent of selected program participants have previously participated in a summer work travel program.

(c) *Participant orientation.* Sponsors shall provide program participants, prior to their departure from the home country, information regarding:

- (1) The name and location of their employer, if prior employment has been arranged; and
- (2) Any contractual obligations related to their acceptance of paid employment in the United States, if prior employment has been arranged.

(d) *Participant placement.* Sponsors shall ensure that not less than 50 percent of their program participants have pre-arranged employment with a U.S. employer. For all program participants for whom pre-arranged employment has not been secured sponsors shall:

- (1) Ensure that the participant has sufficient financial resources to support him or herself during his or her search for employment;
- (2) Provide the participant with pre-departure information that explains how

to seek employment and how to secure lodging in the United States;

(3) Prepare and provide to program participants a roster of bona fide job listings equal to or greater than the number of participants for whom pre-arranged employment has not been secured; and,

(4) Undertake reasonable efforts to secure suitable employment for any participant who has not found suitable employment within one week of commencing his or her job search.

(e) *Participant compensation.* Sponsors shall advise program participants regarding Federal Minimum Wage requirements and shall ensure that participants receive pay and benefits commensurate with those offered to their American counterparts.

(f) *Monitoring.* Sponsors shall provide:

(1) All participants with a telephone number which allows 24-hour immediate contact with the sponsor; and

(2) Appropriate assistance to program participants on an as-needed emergency basis.

(g) *Use of third parties.* Program sponsors are responsible for full compliance with all Exchange Visitor Program regulations. If a program sponsor elects to utilize a third-party to provide U.S. hosting, orientation, placement, or other support services to participants for whom they have facilitated entry into the United States, such sponsor shall closely oversee the provision of these services by the third-party and ensure that the provision of these services satisfies all regulatory obligations.

(h) *Placement report.* In lieu of listing the name and address of the participant's pre-arranged employer on the form IAP-66, sponsors shall submit to the Agency a report of all participant placements. Sponsors shall report the name, place of employment, and the number of times each participant has participated in a summer work travel program. In addition, for participants for whom employment was not pre-arranged, the sponsor shall also list the length of time it took for such participant to find employment. Such report shall be submitted semi-annually on January 30th and July 31st of each year and shall reflect placements made in the preceding six month period.

(i) *Unauthorized activities.* Program participants may not be employed as domestic employees in United States households or in positions that require the participant to invest his or her own monies to provide themselves with

inventory for the purpose of door-to-door sales.

[FR Doc. 99-9163 Filed 4-12-99; 8:45 am]

BILLING CODE 8230-01-M

## DEPARTMENT OF JUSTICE

### 28 CFR Part 16

[AAG/A Order No. 159-99]

#### Exemption of Records System Under the Privacy Act

AGENCY: Department of Justice.

ACTION: Final rule.

**SUMMARY:** The Department of Justice is exempting a Privacy Act system of records from subsection (d) of the Privacy Act, 5 U.S.C. 552a. This system of records is the "Freedom of Information/Privacy Acts (FOI/PA) Records, (JUSTICE/OPR-002)." Records in this system may contain information which relates to official Federal investigations and matters of law enforcement of the Office of Professional Responsibility (OPR). Accordingly, where applicable, the exemptions are necessary to avoid interference with the law enforcement functions of OPR. Specifically, the exemptions are necessary to prevent subjects of investigations from frustrating the investigatory process; preclude the disclosure of investigative techniques; protect the identities and physical safety of confidential sources and of law enforcement personnel; ensure OPR's ability to obtain information from information sources; protect the privacy of third parties; and safeguard classified information as required by Executive Order 12958.

**DATES:** This rule will be effective April 13, 1999.

**FOR FURTHER INFORMATION CONTACT:** Mary Cahill, (202) 307-1823.

**SUPPLEMENTARY INFORMATION:** A proposed rule with invitation to comment was published in the **Federal Register** on December 10, 1998. No comments were received.

This Order relates to individuals rather than small business entities. Nevertheless, pursuant to the requirements of the Regulatory Flexibility Act, 5 U.S.C. 601-612, it is hereby stated that the order will not have "a significant economic impact on a substantial number of small entities."

#### List of Subjects in Part 16

Administrative Practice and Procedures, Courts, Freedom of Information Act, Privacy Act, and Government in Sunshine Act.

Pursuant to the authority vested in the Attorney General by 5 U.S.C. 552a and delegated to me by Attorney General Order No. 793-78, it is proposed to amend 28 CFR 16.80 by adding paragraphs (c) and (d) as set forth below.

Dated: March 26, 1999.

**Stephen R. Colgate,**  
Assistant Attorney General for  
Administration.

#### PART 16—[AMENDED]

1. The authority for Part 16 continues to read as follows:

**Authority:** 5 U.S.C. 301, 552, 552a, 552b(g), 553, 18 U.S.C. 4203(a)(1); 28 U.S.C. 509, 510, 534; 31 U.S.C. 3717, 9701.

2. 28 CFR 16.80 is amended by adding paragraphs (c) and (d) to read as follows:

#### § 16.80 Exemption of Office of Professional Responsibility (OPR) System—limited access.

\* \* \* \* \*

(c) The following system of records is exempted from 5 U.S.C. 552a(d).

(1) Freedom of Information/Privacy Act (FOI/PA) Records (JUSTICE/OPR-002).

This exemption applies only to the extent that information in this system is subject to exemption pursuant to 5 U.S.C. 552a(j)(2), (k)(1), and (k)(2). To the extent that information in a record pertaining to an individual does not relate to national defense or foreign policy, official Federal investigations and/or law enforcement matters, the exemption does not apply. In addition, where compliance would not appear to interfere with or adversely affect the overall law enforcement process, the applicable exemption may be waived by OPR.

(d) Exemption from subsection (d) is justified for the following reasons:

(1) From the access and amendment provisions of subsection (d) because access to the records contained in this system of records could inform the subject of an investigation of an actual or potential criminal, civil, or regulatory violation of the existence of that investigation; of the nature and scope of the information and evidence obtained as to his activities; of the identity of confidential sources, witnesses, and law enforcement personnel; and of information that may enable the subject to avoid detection or apprehension. These factors would present a serious impediment to effective law enforcement where they prevent the successful completion of the investigation, endanger the physical safety of confidential sources, witnesses, and law enforcement personnel, and/or lead to the improper influencing of

witnesses, the destruction of evidence, or the fabrication of testimony. In addition, granting access to such information could disclose security-sensitive or confidential business information or information that would constitute an unwarranted invasion of the personal privacy of third parties. Finally, access to the records could result in the release of properly classified information which would compromise the national defense or disrupt foreign policy. Amendment of the records would interfere with ongoing investigations and law enforcement activities and impose an enormous administrative burden by requiring investigations to be continuously reinvestigated.

[FR Doc. 99-9139 Filed 4-12-99; 8:45 am]

BILLING CODE 4410-CH-M

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## DEPARTMENT OF THE INTERIOR

### Office of Surface Mining Reclamation and Enforcement

#### 30 CFR Part 920

[MD-045-FOR]

#### Maryland Regulatory Program

**AGENCY:** Office of Surface Mining Reclamation and Enforcement (OSM), Interior.

**ACTION:** Final rule; approval of amendment.

**SUMMARY:** OSM is approving a proposed amendment to the Maryland regulatory program (hereinafter referred to as the "Maryland program") under the Surface Mining Control and Reclamation Act of 1977 (SMCRA). Maryland proposed revisions to its regulations regarding the right to administrative review of final decisions and award of costs decisions. The amendment is intended to revise the Maryland program to be consistent with the corresponding Federal regulations and SMCRA.

**EFFECTIVE DATE:** April 13, 1999.

**FOR FURTHER INFORMATION CONTACT:** George Rieger, Program Manager, OSM, Appalachian Regional Coordinating Center, 3 Parkway Center, Pittsburgh, PA 15220. Telephone: (412) 937-2153.

#### SUPPLEMENTARY INFORMATION:

- I. Background on the Maryland Program.
- II. Submission of the Proposed Amendment.
- III. Director's Findings.
- IV. Summary and Disposition of Comments.
- V. Director's Decision.
- VI. Procedural Determinations.

#### I. Background on the Maryland Program

On December 1, 1980, the Secretary of the Interior conditionally approved the Maryland program. Background information on the Maryland program, including the Secretary's findings, the disposition of comments, and the conditions of approval can be found in the December 1, 1980, **Federal Register** (45 FR 79449). Subsequent actions concerning conditions of approval and program amendments can be found at 30 CFR 920.12, 920.15, and 920.16.

#### II. Submission of the Proposed Amendment

By letter dated August 25, 1998, (Administrative Record No. MD-580-00), Maryland submitted a proposed amendment to its program pursuant to SMCRA in response to required amendments at 30 CFR 920.16(a). Maryland is revising the Code of Maryland Regulations (COMAR) at section COMAR 26.20.34.06G (titled Procedure after Testimony is Concluded), COMAR 26.20.34.09G (titled Award of Costs). Additionally Maryland is proposing to delete COMAR 26.20.06.02 (titled Administrative Appeal). Specifically, the proposed changes delete the right to appeal to the Board of Review a final decision of the Water Management Director or an award of costs decision. Now, these decisions are subject to judicial review in accordance with the State Government Article, § 10-222 of the Annotated Code of Maryland. In Maryland's initial request for this program amendment, the State Government Article was incorrectly cited as § 10-215 of the Annotated Code of Maryland. The proposed rule also cited this section. On February 5, 1999, Maryland submitted revised copies of the proposed amendment that contain the correct citation to § 10-222, Annotated Code of Maryland (Administrative Record No. MD-580-03). Maryland is also deleting COMAR 26.20.06.02, which allowed an appeal to the Board of Review for permit decisions.

OSM announced receipt of the proposed amendment in the September 21, 1998, **Federal Register** (63 FR 50176), and in the same document opened the public comment period and provided an opportunity for a public hearing on the adequacy of the proposed amendment. The public comment period closed on October 21, 1998.

Maryland originally proposed these changes and deletions in 1990. OSM approved these changes and deletions on April 28, 1991 (56 FR 19280, 19282).

However, Maryland had incorrect citations to the Annotated Code of Maryland. OSM required Maryland to amend its regulations to correct the citation. This requirement was codified at 30 CFR 920.16(a). Maryland submitted another amendment on May 7, 1991, to satisfy the requirements of 30 CFR 920.16(a). The 1991 proposed amendment resulted in a final rule published in the **Federal Register** on January 10, 1992, (57 FR 1104) approving the revisions. The final rule indicated that 30 CFR 920.16(a) was removed and reserved because the Director found that the proposed amendment was not inconsistent with the Federal hearing and appeals regulations at 43 CFR part 4. However, Maryland did not promulgate the revisions nor the deletion which were previously approved by OSM and 30 CFR 920.16(a) was not removed. Since January 10, 1992, the Bureau of Mines has been transferred from the Department of Natural Resources to the Department of the Environment and COMAR has been recodified, resulting in different numbering from those in the 1990 amendment. These events required the submission of the current amendment to satisfy the requirements of 30 CFR 920.16(a).

Since the Board of Review was abolished in 1990, appeals of final decisions of the Director of Water Management and the award of costs decisions are now subject to judicial review instead of administrative review by the Board of Review. Judicial review is authorized by § 10-222 of the State Government Article. As a result, Maryland proposed, in the letter of August 25, 1998, to amend COMAR 26.20.34.06G, titled Procedure after Testimony is Concluded and COMAR 26.20.34.09G, titled Award of Costs to reflect the change. The letter also proposed to delete COMAR 26.20.06.02, titled Administrative Appeal to reflect the abolishment of the Board of Review.

#### III. Director's Findings

Set forth below, pursuant to SMCRA and the Federal regulations at 30 CFR 732.15 and 732.17, are the Director's findings concerning the proposed amendment.

1. *COMAR 26.20.34.06 Procedure after Testimony is Concluded.* In Section G. Maryland proposed to delete the phrase, "may appeal the decision to the Board of Review pursuant to COMAR 08.16.01," and replace it with the phrase, "is entitled to judicial review in accordance with State Government Article, § 10-222, Annotated Code of Maryland."

The Director finds the abolition of the Board of Review makes this change necessary. As stated in the April 26, 1991 findings (56 FR 19281), which are incorporated and adopted herein by reference, the Director finds the change in accordance with 525 of SMCRA and that the change satisfies the requirement of 30 CFR 920.16(a).

2. *COMAR 26.20.34.09 Award of Costs.* In Section G. Maryland proposed to delete the phrase, "may appeal to the Board of Review pursuant to COMAR 08.16.01," and replace it with the phrase, "is entitled to judicial review in accordance with State Government Article, § 10-222, Annotated Code of Maryland." As with item 1. above, the Director finds the abolition of the Board of Review makes this change necessary. As stated above, the Director adopts and incorporates by reference the April 26, 1991 findings (56 FR 19281). Accordingly, the Director finds the change in accordance with 525 of SMCRA and that the change satisfies the requirement of 30 CFR 920.16(a).

3. *COMAR 26.20.06.02 Administrative Appeal.* This section was proposed to be deleted. The Director finds the above changes to COMAR 26.20.34.06, Procedure after Testimony is Concluded and COMAR 26.20.34.09, Award of Costs render this section unnecessary. The Director adopts and incorporates by reference the April 26, 1991 findings (56 FR 19281) and finds that the deletion of the section will not render the Maryland program less stringent than section 525 of SMCRA or less effective than the federal regulations.

#### IV. Summary and Disposition of Comments

##### Public Comments

The Director solicited public comments and provided an opportunity for a public hearing on the proposed amendment. No comments were received and because no one requested an opportunity to speak at a public hearing, no hearing was held.

##### Federal Agency Comments

Pursuant to 30 CFR 732.17(h)(11)(i), the Director solicited comments on the proposed amendment from various Federal agencies with an actual or potential interest in the Maryland program. The U.S. Department of the Army, Army Corps of Engineers, concurred without comment.

##### Environmental Protection Agency (EPA)

Pursuant to 30 CFR 732.17(h)(11)(ii), OSM is required to obtain the written concurrence of the EPA with respect to those provisions of the proposed

program amendment that relate to air or water quality standards promulgated under the authority of the Clean Water Act (33 U.S.C. 1251 *et seq.*) or the Clean Air Act (42 U.S.C. 7401 *et seq.*). None of the revisions that Maryland proposed to make in this amendment pertains to air or water quality standards. Therefore, OSM did not request EPA's concurrence.

#### V. Director's Decision

Based on the above findings, the Director approves Maryland's proposed amendment as submitted on August 25, 1998, and revised on February 5, 1999. As discussed in the Director's Findings 1 and 2, the Director is removing the required amendment at 30 CFR 920.16(a).

The Federal regulations at 30 CFR Part 920, codifying decisions concerning the Maryland program, are being amended to implement this decision. This final rule is being made effective immediately to expedite the State program amendment process and to encourage States to bring their programs into conformity with the Federal standards without undue delay. Consistency of State and Federal standards is required by SMCRA.

#### VI. Procedural Determinations

##### Executive Order 12866

This rule is exempted from review by the Office of Management and Budget (OMB) under Executive Order 12866 (Regulatory Planning and Review).

##### Executive Order 12988

The Department of the Interior has conducted the reviews required by section 3 of Executive Order 12988 (Civil Justice Reform) and has determined that, to the extent allowed by law, this rule meets the applicable standards of subsections (a) and (b) of that section. However, these standards are not applicable to the actual language of State regulatory programs and program amendments since each such program is drafted and promulgated by a specific State, not by OSM.

Under sections 503 and 505 of SMCRA (30 U.S.C. 1253 and 1255) and 30 CFR 730.11, 732.15, and 732.17(h)(10), decisions on proposed State regulatory programs and program amendments submitted by the States must be based solely on a determination of whether the submittal is consistent with SMCRA and its implementing Federal regulations and whether the other requirements of 30 CFR Parts 730, 731, and 732 have been met.

#### National Environmental Policy Act

No environmental impact statement is required for this rule since section 702(d) of SMCRA (30 U.S.C. 1292(d)) provides that agency decisions on proposed State regulatory program provisions do not constitute major Federal actions within the meaning of section 102(2)(C) of the National Environmental Policy Act (42 U.S.C. 4332(2)(C)).

#### Paperwork Reduction Act

This rule does not contain information collection requirements that require approval by OMB under the Paperwork Reduction Act (44 U.S.C. 3507 *et seq.*)

#### Regulatory Flexibility Act

The Department of the Interior has determined that this rule will have a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*). The State submittal which is the subject of this rule is based upon corresponding Federal regulations for which an economic analysis was prepared and certification made that such regulations would not have a significant economic effect upon a submittal number of small entities. Accordingly, this rule will ensure that existing requirements previously promulgated by OSM will be implemented by the State. In making the determination as to whether this rule would have a significant economic impact, the Department relied upon the data and assumptions for the corresponding Federal regulations.

#### Unfunded Mandates

This rule will not impose a cost of \$ 100 million of more in any given year on any governmental entity or the private sector.

#### List of Subjects in 30 CFR Part 920

Intergovernmental relations, Surface mining, Underground mining.

Dated: March 31, 1999.

**Allen D. Klein,**

*Regional Director, Appalachian Regional Coordinating Center.*

For the reasons set out in the preamble, Title 30, Chapter VII, Subchapter T of the Code of Federal Regulations is amended as set forth below:

#### PART 920—MARYLAND

1. The authority citation for Part 920 continues to read as follows:

**Authority:** 30 U.S.C. 1201 *et seq.*



2. Section 920.15 is amended in the table by adding a new entry in

chronological order by "Date of Final Publication" to read as follows:

**§ 920.15 Approval of Maryland regulatory program amendments.**  
\* \* \* \* \*

| Original amendment submission date | Date of final publication | Citation/description                                       |
|------------------------------------|---------------------------|--|
| August 25, 1998                    | April 13, 1999            | COMAR 26.20.34.06G, 26.20.34.09G, deletion of 26.20.06.02. |

**§ 920.16 [Amended]**

3. Section 920.16 is amended by removing and reserving paragraph (a).  
[FR Doc. 99-9197 Filed 4-12-99; 8:45 am]  
BILLING CODE 4310-05-P

**DEPARTMENT OF THE INTERIOR**

**Office of Surface Mining Reclamation and Enforcement**

**30 CFR Part 935**

[OH-244-FOR]

**Ohio Regulatory Program**

**AGENCY:** Office of Surface Mining Reclamation and Enforcement (OSM), Interior.

**ACTION:** Final rule; approval of amendment.

**SUMMARY:** OSM is approving a proposed amendment to the Ohio regulatory program (Ohio program) under the Surface Mining Control and Reclamation Act of 1977 (SMCRA). Ohio is proposing revisions to section 1513-3-21 of the Ohio Administrative Code (OAC) as it relates to awards of costs and expenses, including attorney's fees, arising in connection with appeals heard by the Reclamation Commission. The amendment is intended to revise the Ohio program to be consistent with its statute at Ohio Revised Code (ORC) Section 1513.13(E) as well as the corresponding Federal regulations.

**EFFECTIVE DATE:** April 13, 1999.

**FOR FURTHER INFORMATION CONTACT:** George Rieger, Field Branch Chief, Appalachian Regional Coordinating Center, Office of Surface Mining Reclamation and Enforcement, 3 Parkway Center, Pittsburgh PA 15220. Telephone: (412) 937-2153. Internet: grieger@osmre.gov.

**SUPPLEMENTARY INFORMATION:**

- I. Background on the Ohio Program
- II. Submission of the Proposed Amendment
- III. Director's Findings
- IV. Summary and Disposition of Comments
- V. Director's Decision

VI. Procedural Determinations

**I. Background on the Ohio Program**

On August 16, 1982, the Secretary of the Interior conditionally approved the Ohio program. You can find background information on the Ohio program, including the Secretary's findings, the disposition of comments, and the conditions of approval in the August 10, 1982, **Federal Register** (47 FR 34688). You can find later actions on conditions of approval and program amendments at 30 CFR 935.11, 935.15, and 935.16.

**II. Submission of the Proposed Amendment**

By letter dated January 21, 1999 (Administrative Record No. OH-2177-00) Ohio submitted proposed amendments to its program concerning award of costs and fees in connection with appeals heard by the Reclamation Commission. We announced receipt of the proposed amendment in the February 8, 1999, **Federal Register** (64 FR 6005), invited public comment, and provided an opportunity for a public hearing on the adequacy of the proposed amendment. The public comment period closed on March 10, 1999.

**III. Director's Findings**

Following, according to SMCRA and the Federal regulations at 30 CFR 732.15 and 732.17, are our findings concerning the proposed amendment.

Any revisions that we do not specifically discuss below concern nonsubstantive wording changes or revised cross-references and paragraph notations to reflect organizational changes that result from this amendment.

*OAC 1513-3-21 Award of Costs and Expenses*

(a) Paragraphs (A) and (B) are amended by changing the reference from the "board of review" to the "Reclamation Commission", by changing the scope of the paragraph from proceedings "under Chapter 1513 of the Revised Code" to "proceedings before the Reclamation Commission," and specifically requiring that a petition

for costs and expenses including attorney's fees be submitted in accordance with Section 1513.13(E) and (E)(1)(c) of the ORC.

(b) New paragraph (C) is added to specify that a decision by the Chief of the Division of Mines and Reclamation granting or denying in whole or in part a request for an award of costs and expenses including attorney's fees made under Section 1513.13(E)(1)(a) or 1513.13(E)(1)(b) of the ORC shall be appealable to the commission under Section 1513.13(A) of the ORC.

(c) Existing Paragraph (C) pertaining to the contents of a petition is re-numbered as (D) and further amended by including the specific references to the ORC included in (a) and (b) above.

(d) Existing Paragraphs (D), (E) and (F) are re-numbered as (E), (F), and (G). New paragraphs (F) and (G) are further amended by changing the scope of the paragraphs from proceedings "under Chapter 1513 of the Revised Code" to proceedings "before the Reclamation Commission."

The changes described above revise the OAC to correspond with provisions previously approved in the ORC at Section 1513.13 entitled, Appeal of Violation, Order or Decision to Reclamation Commission. The Director finds that the proposed revisions to the OAC included in this amendment render these provisions consistent with ORC Section 1513.13(E) pertaining to costs and expenses, including attorneys fees, arising from proceedings before the Chief of the Ohio Division of Mines and Reclamation and before the Reclamation Commission. In addition, the revisions do not render OAC Section 1513-3-21 inconsistent with section 525(e) of SMCRA or with the Federal regulations at 43 CFR 4.1294.

**IV. Summary and Disposition of Comments**

*Public Comments*

The Director solicited public comments and provided an opportunity

for a public hearing on the proposed amendment. Because no one requested an opportunity to speak at a public hearing, no hearing was held. No comments were received.

*Federal Agency Comments*

Pursuant to 30 CFR 732.17(h)(11)(i), the Director solicited comments on the proposed amendment from various Federal agencies with an actual or potential interest in the Ohio program. The Department of the Army, Army Corps of Engineers, concurred without comment (Administrative Record No. OH-2177-02). No other comments were received.

*Environmental Protection Agency (EPA)*

Pursuant to 30 CFR 732.17(h)(11)(ii), OSM is required to obtain the written concurrence of the EPA with respect to those provisions of the proposed program amendment that relate to air or water quality standards promulgated under the authority of the Clean Water Act (33 U.S.C. 1251 *et seq.*) or the Clean Air Act (42 U.S.C. 7401 *et seq.*).

None of the revisions Ohio proposed to make in its amendment pertains to air or water quality standards. Nevertheless, OSM requested EPA's comments on the proposed amendment. EPA did not respond to OSM's request.

**V. Director's Decision**

Based on the above findings, the Director approves the proposed amendment as submitted by Ohio on January 21, 1999.

**VI. Procedural Determinations**

*Executive Order 12866*

This rule is exempted from review by the Office of Management and Budget (OMB) under Executive Order 12866 (Regulatory Planning and Review).

*Executive Order 12988*

The Department of the Interior has conducted the reviews required by

section 3 of Executive Order 12988 (Civil Justice Reform) and has determined that, to the extent allowed by law, this rule meets the applicable standards of subsections (a) and (b) of that section. However, these standards are not applicable to the actual language of State regulatory programs and program amendments since each such program is drafted and promulgated by a specific State, not by OSM. Under sections 503 and 505 of SMCRA (30 U.S.C. 1253 and 1255) and 30 CFR 730.11, 732.15, and 732.17(h)(10), decisions on proposed State regulatory programs and program amendments submitted by the States must be based solely on a determination of whether the submittal is consistent with SMCRA and its implementing Federal regulations and whether the other requirements of 30 CFR Parts 730, 731, and 732 have been met.

*National Environmental Policy Act*

No environmental impact statement is required for this rule since section 702(d) of SMCRA (30 U.S.C. 1292(d)) provides that agency decisions on proposed State regulatory program provisions do not constitute major Federal actions within the meaning of section 102(2)(C) of the National Environmental Policy Act (42 U.S.C. 4332(2)(C)).

*Paperwork Reduction Act*

This rule does not contain information collection requirements that require approval by OMB under the Paperwork Reduction Act (44 U.S.C. 3507 *et seq.*).

*Regulatory Flexibility Act*

The Department of the Interior has determined that this rule will not have a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*). The State submittal which is the subject of this rule is based upon counterpart Federal regulations for

which an economic analysis was prepared and certification made that such regulations would not have a significant economic effect upon a substantial number of small entities. Accordingly, this rule will ensure that existing requirements previously promulgated by OSM will be implemented by the State. In making the determination as to whether this rule would have a significant economic impact, the Department relied upon the data and assumptions for the counterpart Federal regulations.

*Unfunded Mandates*

In accordance with the Unfunded Mandates Reform Act (2 U.S.C. 1501 *et seq.*), this rule will not produce a Federal mandate of \$100 million or greater in any year, i.e., it is not a "significant regulatory action" under the Unfunded Mandates Reform Act.

**List of Subjects in 30 CFR 935**

Intergovernmental relations, Surface mining, Underground mining.

Dated: March 31, 1999.

**Allen D. Klein,**

*Regional Director, Appalachian Regional Coordinating Center.*

For the reasons set out in the preamble, Title 30, Chapter VII, Subchapter T of the Code of Federal Regulations is amended as set forth below:

**PART 935—OHIO**

1. The authority citation for Part 935 continues to read as follows:

**Authority:** 30 U.S.C. 1201 *et seq.*

2. Section 935.15 is amended in the table by adding a new entry in chronological order by "Date of Final Publication" to read as follows:

**§ 935.15 Approval of Ohio regulatory program amendments.**

\* \* \* \* \*

| Original amendment submission date | Date of final publication | Citation/description |
|------------------------------------|---------------------------|----------------------|
| *                                  | *                         | *                    |
| January 21, 1999 .....             | April 13, 1999 .....      | OAC 1513-3-21.       |

[FR Doc. 99-9198 Filed 4-12-99; 8:45 am]  
BILLING CODE 4310-05-P

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**ENVIRONMENTAL PROTECTION  
AGENCY**

**40 CFR Part 52**

[DC017-2013a; FRL-6323-5]

**Approval and Promulgation of Air  
Quality Implementation Plans; District  
of Columbia; Withdrawal of Final Rule**

**AGENCY:** Environmental Protection  
Agency (EPA).

**ACTION:** Withdrawal of notice of final  
rulemaking.

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**SUMMARY:** Because EPA received  
adverse comments, EPA is withdrawing

the direct final rule for the conditional approval of revisions to the District of Columbia state implementation plan (SIP). EPA published the direct final rule on February 25, 1999 (64 FR 9272), conditionally approving the District of Columbia's requirements for reasonably available control technology (RACT) on major sources of nitrogen oxides. EPA stated in the direct final rule that if EPA received adverse comments by March 29, 1999, EPA would publish a timely notice of withdrawal in the **Federal Register**. EPA subsequently received adverse comments on that direct final rule. EPA will address the comments received in a subsequent final action and issue a final rule based on the parallel proposal also published on February 25, 1999 (64 FR 9289). As stated in the parallel proposal, EPA will

not institute a second comment period on this action.

**DATES:** This withdrawal is made on April 13, 1999.

**FOR FURTHER INFORMATION CONTACT:**  
Kristeen Gaffney (215) 814-2092, or by  
e-mail at  
gaffney.kristeen@epamail.epa.gov.

**List of Subjects in 40 CFR Part 52**

Environmental protection, Air  
pollution control, Nitrogen oxides,  
Ozone, Reporting and recordkeeping  
requirements.

Dated: April 5, 1999.

**Thomas C. Voltaggio,**

*Acting Regional Administrator, Region III.*  
[FR Doc. 99-9203 Filed 4-12-99; 8:45 am]

BILLING CODE 6560-50-P

# Proposed Rules

Federal Register

Vol. 64, No. 70

Tuesday, April 13, 1999

This section of the FEDERAL REGISTER contains notices to the public of the proposed issuance of rules and regulations. The purpose of these notices is to give interested persons an opportunity to participate in the rule making prior to the adoption of the final rules.

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 71

[Airspace Docket No. 98-AWP-33]

#### Proposed Establishment of Class E Airspace; Imperial County, CA

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking.

**SUMMARY:** This notice proposes to establish Class E airspace at Imperial County Airport, CA. Additional controlled airspace is required for departure procedures at Imperial County Airport. A review of airspace classification and air traffic procedures has made this action necessary.

**DATES:** Comments must be received on or before May 28, 1999.

**ADDRESSES:** Send comments on the proposal in triplicate to: Federal Aviation Administration, Attn: Manager, Airspace Branch, AWP-520, Docket No. 98-AWP-33, Air Traffic Division, P.O. Box 92007, Worldway Postal Center, Los Angeles, California 90009.

The official docket may be examined in the Office of the Assistant Chief Counsel, Western Pacific Region, Federal Aviation Administration, Room 6007, 15000 Aviation Boulevard, Lawndale, California 90261.

An informal docket may also be examined during normal business hours at the Office of the Manager, Airspace Branch, Air Traffic Division at the above address.

**FOR FURTHER INFORMATION CONTACT:** Debra Trindle, Airspace Specialist, Airspace Branch, AWP-520.10, Air Traffic Division, Western-Pacific Region, Federal Aviation Administration, 15000 Aviation Boulevard, Lawndale, California 90261, telephone (310) 725-6613.

**SUPPLEMENTARY INFORMATION:**

#### Comments Invited

Interested parties are invited to participate in this proposed rulemaking by submitting such written data, views, or arguments, as they may desire. Comments that provide the factual basis supporting the views and suggestions presented are particularly helpful in developing reasoned regulatory decisions on the proposal. Comments are specifically invited on the overall regulatory, aeronautical, economic, environmental, and energy-related aspects of the proposal. Communications should identify the airspace docket number and be submitted in triplicate to the address listed above. Commenters wishing the FAA to acknowledge receipt of their comments on this notice must submit with the comments a self-addressed, stamped postcard on which the following statement is made: "Comments to Airspace Docket No. 98-AWP-33." The postcard will be date/time stamped and returned to the commenter. All communications received on or before the specified closing date for comments will be considered before taking action on the proposed rule. The proposal contained in this notice may be changed in light of comments received. All comments submitted will be available for examination in the Airspace Branch, Air Traffic Division, at 15000 Aviation Boulevard, Lawndale, California 90261, both before and after the closing date for comments. A report summarizing each substantive public contact with FAA personnel concerned with this rulemaking will be filed in the docket.

#### Availability of NPRM

Any person may obtain a copy of this Notice of Proposed Rulemaking (NPRM) by submitting a request to the Federal Aviation Administration, Airspace Branch, 15000 Aviation Boulevard, Lawndale, California 90261. Communications must identify the notice number of this NPRM. Persons interested in being placed on a mailing list for future NPRM's should also request a copy of Advisory Circular No. 11-2A, which describes the application procedures.

#### The Proposal

The FAA is considering an amendment to part 71 of the Federal Aviation Regulations (14 CFR part 71) to

establish Class E airspace at Imperial County Airport, CA. This action establishes additional controlled airspace required for departure procedures at Imperial County Airport. A review of airspace classification and air traffic procedures has made this action necessary. Class E airspace is published in Paragraph 6005 FAA Order 7400.9F, Airspace Designations and Reporting Points, dated September 10, 1998, and effective September 16, 1998, through September 15, 1999, which is incorporated by reference in 14 CFR 71.1. The Class E airspace designation listed in this document would be published subsequently in this Order.

The FAA has determined that this proposed regulation only involves an established body of technical regulations for which frequent and routine amendments are necessary to keep them operationally current. Therefore, this proposed regulation—(1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979); and (3) does not warrant preparation of a Regulatory Evaluation as the anticipated impact is so minimal. Since this is a routine matter that will only affect air traffic procedures and air navigation, it is certified that this proposed rule would not have a significant economic impact on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

#### List of Subjects in 14 CFR Part 71

Airspace, Incorporation by reference, Navigation (air).

#### The Proposed Amendment

In consideration of the foregoing, the Federal Aviation Administration proposes to amend 14 CFR part 71 as follows:

#### PART 71—DESIGNATION OF CLASS A, CLASS B, CLASS C, CLASS D AND CLASS E AIRSPACE AREAS; AIRWAYS; ROUTES; AND REPORTING POINTS

1. The authority citation for 14 CFR part 71 continues to read as follows:

**Authority:** 49 U.S.C. 106(g), 40103, 40113, 40120; E.O. 10854, 24 FR 9565, 3 CFR, 1959-1963 Comp., p. 389.

**§ 71.1 [Amended]**

2. The incorporation by reference in 14 CFR 71.1 of the Federal Aviation Administration Order 7400.9F, Airspace Designations and Reporting Points, dated September 10, 1998, and effective September 16, 1998, is amended as follows:

*Paragraph 6005 Class E airspace areas extending upward from 700 feet or more above the surface of the earth.*

\* \* \* \* \*

**AWP CA E5 Imperial County Airport, CA [NEW]**

Imperial County, CA  
(Lat. 32°50'03"N, long. 115°34'43"W)  
El Centro NAF, CA  
(Lat. 32°49'45"N long. 115°40'18"W)  
Brawley Municipal Airport, CA  
(Lat. 32°59'35"W long. 115°31'01"W)

That airspace extending upward from 700 feet above the surface within a 6-mile radius of Imperial County Airport; excluding that portion within the El Centro NAF, CA, Class D airspace area and excluding that airspace within the Brawley Municipal Airport, CA Class E airspace area.

\* \* \* \* \*

Issued in Los Angeles, California, on March 31, 1999.

**Dawna J. Vicars,**

*Assistant Manager, Air Traffic Division,  
Western-Pacific Region.*

[FR Doc. 99-9135 Filed 4-12-99; 8:45 am]

BILLING CODE 4910-13-M

**DEPARTMENT OF TRANSPORTATION****Federal Aviation Administration****14 CFR Part 71**

[Airspace Docket No. 97-AWP-2]

**Proposed Establishment of Class E Airspace; Taylor, AZ**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking.

**SUMMARY:** This notice proposes to establish a Class E airspace area at Taylor, AZ. The establishment of a Global Positioning System (GPS) Standard Instrument Approach Procedure (SIAP) to Runway (RWY) 21 at Taylor Municipal Airport has made this proposal necessary. Additional controlled airspace extending upward from 700 feet or more above the surface of the earth is needed to contain aircraft executing the GPS RWY 21 SIAP to Taylor Municipal Airport. The intended effect of this proposal is to provide adequate controlled airspace for Instrument Flight Rules (IFR) operations at Taylor Municipal Airport, Taylor, AZ.

**DATES:** Comments must be received on or before May 31, 1999.

**ADDRESSES:** Send comments on the proposal in triplicate to: Federal Aviation Administration, Attn: Manager, Airspace Branch, AWP-520, Docket No. 97-AWP-2, Air Traffic Division, 15000 Aviation Boulevard, Lawndale, California, 90261.

The official docket may be examined in the Office of the Regional Counsel, Western Pacific Region, Federal Aviation Administration, Room 6007, 15000 Aviation Boulevard, Lawndale, California, 90261.

An informal docket may also be examined during normal business hours at the Office of the Manager, Airspace Branch, Air Traffic Division at the above address.

**FOR FURTHER INFORMATION CONTACT:**

Larry Tonish, Air Traffic Airspace Specialist, Airspace Branch, AWP-520, Air Traffic Division, Western-Pacific Region, Federal Aviation Administration, 15000 Aviation Boulevard, Lawndale, California, 90261, telephone (310) 725-6539.

**SUPPLEMENTARY INFORMATION:****Comments Invited**

Interested parties are invited to participate in this proposed rulemaking by submitting such written data, views, or arguments as they may desire. Comments that provide the factual basis supporting the views and suggestions presented are particularly helpful in developing reasoned regulatory decisions on the proposal. Comments are specifically invited on the overall regulatory, aeronautical, economic, environmental, and energy-related aspects of the proposal.

Communications should identify the airspace docket number and be submitted in triplicate to the address listed above. Commenters wishing the FAA to acknowledge receipt of their comments on this notice must submit with the comments a self-addressed, stamped postcard on which the following statement is made: "Comments to Airspace Docket No. 97-AWP-2." The postcard will be date/time stamped and returned to the commenter. All communications received on or before the specified closing date for comments will be considered before taking action on the proposed rule. The proposal contained in this notice may be changed in light of comments received. All comments submitted will be available for examination in the Airspace Branch, Air Traffic Division, 15000 Aviation Boulevard, Lawndale, California 90261, both before and after the closing date for

comments. A report summarizing each substantive public contact with FAA personnel concerned with this rulemaking will be filed in the docket.

**Availability of NPRM**

Any person may obtain a copy of this Notice of Proposed Rulemaking (NPRM) by submitting a request to the Federal Aviation Administration, Airspace Branch, 15000 Aviation Boulevard, Lawndale, California 90261. Communications must identify the notice number of this NPRM. Persons interested in being placed on a mailing list for future NPRM's should also request a copy of Advisory Circular No. 11-2A, which describes the application procedures.

**The Proposal**

The FAA is considering an amendment to 14 CFR part 71 by establishing a Class E airspace area at Taylor, AZ. The establishment of a GPS RWY 21 SIAP at Taylor Municipal Airport has made this proposal necessary. Additional controlled airspace extending upward from 700 feet above the surface is needed to contain aircraft executing the new approach procedure at Taylor Municipal Airport. The intended effect of this proposal is to provide adequate controlled airspace for aircraft executing the GPS RWY 21 SIAP at Taylor Municipal Airport, Taylor, AZ. Class E airspace designations are published in paragraph 6005 of FAA Order 7400.9F dated September 10, 1998, and effective September 16, 1998, which is incorporated by reference in 14 CFR 71.1. The Class E airspace designation listed in this document would be published subsequently in this Order.

The FAA has determined that this proposed regulation only involves an established body of technical regulations for which frequent and routine amendments are necessary to keep them operationally current. Therefore, this proposed regulation—(1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979); and (3) does not warrant preparation of a Regulatory Evaluation as the anticipated impact is so minimal. Since this is a routine matter that will only affect air traffic procedures and air navigation, it is certified that this proposed rule would not have a significant economic impact on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

**List of Subjects in 14 CFR Part 71**

Airspace, Incorporation by reference, Navigation (air).

**The Proposed Amendment**

In consideration of the foregoing, the Federal Aviation Administration proposes to amend 14 CFR part 71 as follows:

**PART 71—DESIGNATION OF CLASS A, CLASS B, CLASS C, CLASS D, AND CLASS E AIRSPACE AREAS; ROUTES; AND REPORTING POINTS**

1. The authority citation for 14 CFR part 71 continues to read as follows:

**Authority:** 49 U.S.C. 106(g), 40103, 40113, 40120; E.O. 10854, 24 FR 9565, 3 CFR, 1959–1963 Comp., p. 389

**§ 71.1 [Amended]**

2. The incorporation by reference in 14 CFR 71.1 of the Federal Aviation Administration Order 7400.9F, Airspace Designations and Reporting Points, dated September 10, 1998, and effective September 16, 1998, is amended as follows:

*Paragraph 6005 Class E airspace areas extending upward from 700 feet or more above the surface of the earth.*

\* \* \* \* \*

**AWP AZ E5 Taylor, AZ [NEW]**

Taylor Municipal Airport, AZ  
(Lat. 34°27'17"N, long. 110°06'89"W)  
Show Low Municipal Airport, AZ  
(Lat. 34°15'56"N, long. 110°00'17"W)

That airspace extending upward from 700 feet above the surface within a 6.5-mile radius of the Taylor Municipal Airport, excluding the portion within the Show Low, AZ, Class E airspace area. That airspace extending upward from 1,200 feet above the surface within 5 miles southeast and 8 miles northwest of the 041° bearing from the Taylor Municipal Airport, extending from the Taylor Municipal Airport to the southern boundary of V-264.

\* \* \* \* \*

Issued in Los Angeles, California, on March 31, 1999.

**Leonard A. Mobley,**

*Acting Manager, Air Traffic Division,  
Western-Pacific Region.*

[FR Doc. 99-9134 Filed 4-12-99; 8:45 am]

BILLING CODE 4910-13-M

**DEPARTMENT OF HEALTH AND HUMAN SERVICES****Food and Drug Administration****21 CFR Part 310**

[Docket No. 99N-0188]

**Progestational Drug Products for Human Use; Requirements for Labeling Directed to the Patient**

**AGENCY:** Food and Drug Administration, HHS.

**ACTION:** Proposed rule.

**SUMMARY:** The Food and Drug Administration (FDA) is proposing to revoke its regulation requiring patient labeling for progestational drug products. This patient labeling is required to inform patients of an increased risk of birth defects reported to be associated with the use of these drugs during the first 4 months of pregnancy. FDA has concluded that, based on a review of the scientific data, such labeling for all progestogens is not warranted. In addition, the diversity of drugs that can be described as progestational, and the diversity of conditions these drugs may be used to treat, make it inappropriate to consider these drugs a single class for labeling purposes. This action is intended to provide consumers with more appropriate labeling for certain drug products.

**DATES:** Written comments by July 12, 1999. See section VI of this document for the proposed effective date of a final rule based on this document.

**ADDRESSES:** Submit written comments to the Dockets Management Branch (HFA-305), Food and Drug Administration, 5630 Fishers Lane, rm. 1061, Rockville, MD 20852.

**FOR FURTHER INFORMATION CONTACT:** Diane V. Moore, Center for Drug Evaluation and Research (HFD-580), Food and Drug Administration, 5600 Fishers Lane, Rockville, MD 20857, 301-827-4260.

**SUPPLEMENTARY INFORMATION:****I. Background**

In the **Federal Register** of July 22, 1977 (42 FR 37646), FDA published a notice setting forth professional labeling for progestational drug products, other than progestogen-containing products for contraception, and included a box warning recommending against use during the first 4 months of pregnancy. The category "progestational drug products" includes natural progesterone and all synthetic progestins. The basis for the warning, as stated in the notice, was:

Reports during the past several years have indicated that the use of sex hormones during early pregnancy may seriously damage the offspring. Several reports suggest an association between intrauterine exposure to sex hormone treatment and congenital anomalies, including congenital heart defects and limb reduction defects.

Based on these reports, FDA also published in the **Federal Register** of July 22, 1977 (42 FR 37643), a proposed rule to require patient labeling for progestational drug products. The final regulation was published in the **Federal Register** of October 13, 1978 (43 FR 47178), and it is codified at § 310.516 (21 CFR 310.516). It requires that progestational drug products be dispensed with a patient package insert containing a "brief discussion of the nature of the risks of birth defects resulting from the use of these drugs during the first 4 months of pregnancy" (§ 310.516(b)(4)). The regulation applies to any drug product that contains a progestogen, with the exceptions of contraceptives and oral dosage forms labeled solely for the treatment of advanced cancer<sup>1</sup> (§ 310.516(e)(4)). Texts for patient and professional labeling were published at the same time and contained essentially the same warning concerning heart and limb defects (see 42 FR 37646 at 37647 and 37648, July 22, 1977).

In the late 1980's, FDA evaluated the scientific literature concerning the possible teratogenicity of progestational drugs and concluded that the labeling for progestational drug products should be revised. Available evidence indicated the warning about congenital heart defects and limb reduction defects should be deleted. At that time, several reports suggested an association between exposure to progestational drugs during pregnancy and an increased risk of hypospadias in male fetuses and mild virilization of the external genitalia in female fetuses.

Because FDA continued to believe that there was some risk of birth defects associated with progestogens, the patient labeling and box warning statements were revised. In the **Federal Register** of January 12, 1989 (54 FR 1243), FDA published revised guideline texts for patient and professional labeling for progestational drug products that deleted the warning about possible congenital heart defects and limb reduction defects and added a warning about an increased risk of certain genital abnormalities. The

<sup>1</sup> The original regulation exempted contraceptives, which were required to comply with the labeling requirements of 21 CFR 310.501. In 1981 the regulation was amended to exempt advanced cancer drugs (46 FR 53656, October 30, 1981).

revised patient labeling, which is still in use, is as follows:

Progesterone or progesterone-like drugs have been used to prevent miscarriage in the first few months of pregnancy. No adequate evidence is available to show that they are effective for this purpose. Furthermore, most cases of early miscarriage are due to causes which could not be helped by these drugs.

There is an increased risk of minor birth defects in children whose mothers take this drug during the first 4 months of pregnancy. Several reports suggest an association between mothers who take these drugs in the first trimester of pregnancy and genital abnormalities in male and female babies. The risk to the male baby is the possibility of being born with a condition in which the opening of the penis is on the underside rather than the tip of the penis (hypospadias). Hypospadias occurs in about 5 to 8 per 1,000 male births and is about doubled with exposure to these drugs. There is not enough information to quantify the risk to exposed female fetuses, but enlargement of the clitoris and fusion of the labia may occur, although rarely.

Therefore, since drugs of this type may induce mild masculinization of the external genitalia of the female fetus, as well as hypospadias in the male fetus, it is wise to avoid using the drug during the first trimester of pregnancy.

These drugs have been used as a test for pregnancy but such use is no longer considered safe because of possible damage to a developing baby. Also, more rapid methods for testing for pregnancy are now available.

If you take (name of drug) and later find you were pregnant when you took it, be sure to discuss this with your doctor as soon as possible.

At the time patient labeling was first required for progestational drugs, there was concern that all sex hormones might be teratogenic. This concern was based on a diverse collection of literature reports, including reports on androgens, estrogens, and progestogens, often in combination. It was frequently unclear what drug or combination of drugs the women had taken. In 1976, FDA published the text of patient labeling for estrogens that included a warning about congenital heart defects and limb reduction defects (see 41 FR 43117, September 29, 1976). In the **Federal Register** notice of July 22, 1977 (42 FR 37646 at 37647), setting forth professional labeling for progestational drug products, FDA described the category of "progestational drug products" and noted the need for appropriate warnings for these drugs in the belief that all sex hormones, including all progestogens, had teratogenic potential. The notice listed the following drugs, and their salts and esters, as examples of progestational drugs: Dimethisterone, dydrogesterone, ethinylestrenol, ethynodiol, hydroxyprogesterone,

medroxyprogesterone, megestrol, norethindrone, norethynodrel, norgestrel, and progesterone. The notice made clear that this list was nonexhaustive and that the warning would apply to all progestational agents, including drugs later approved. In 1989, when the guideline texts for patient and professional labeling were revised to warn about hypospadias and virilization of the female genitalia, the warning continued to apply to progestogens as a class.

FDA has recently reviewed the evidence suggesting that progestogen use during pregnancy is associated with an increased risk of genital abnormalities. The notion that progestogens are associated with an increased risk of hypospadias comes from compiling cases from heterogeneous sources, largely case reports. Hypospadias has been reported to be associated with seven progestational agents, although for several of these progestogens, only one case has been reported. The data include cases where women were exposed to other hormones or drugs in addition to progestogens. The reasons for progestogen exposure varied, including: Hormonal pregnancy tests, treatment of threatened or habitual abortion, luteal phase deficiency, and contraception; yet studies often failed to control for the condition being treated. One study included infants who were genetically predisposed to hypospadias (Refs. 1 through 3).

As discussed previously, the warning concerning an association between progestogens and hypospadias was based on heterogeneous sources. Since the early reports suggesting teratogenicity, several progestational agents have been thoroughly investigated. The reliable evidence, particularly from controlled studies, shows no increase in congenital anomalies, including genital abnormalities in male or female infants, from exposure during pregnancy to progesterone (Refs. 4 through 7) or hydroxyprogesterone (Refs. 4 through 7, 9 and 10).

Analysis of the literature associating progestogen use during pregnancy with virilization of the genitalia in female infants indicates that most cases involved high doses of androgen-derived progestins, particularly ethisterone and norethindrone (Refs. 2, 11, and 12). Norethindrone in doses ranging from 10 to 40 milligrams per day (mg/d), and sometimes as much as 120 mg/d, was used in the 1950's and 1960's as a treatment for threatened abortion (Ref. 13). The other drugs that account for most of the recorded cases

of female masculinization are methyltestosterone, methandriol, and danazol (Ref. 2).

Thus, there are significant differences among progestational drugs. Accordingly, FDA concludes that, based on a review of the scientific data, a warning of an increased risk of birth defects on all progestogen labeling is not warranted. Class labeling for progestogens is also inappropriate because it applies without regard to the indication for which the drug is prescribed.

At the time patient labeling was first required for progestational drugs, progestogens had been commonly used as hormonal pregnancy tests, as a treatment for habitual or threatened abortion, and for the treatment of secondary amenorrhea and abnormal uterine bleeding. Since that time, some of these uses have been abandoned and new uses have emerged. Hormonal pregnancy tests are no longer available in the United States. Progestational drugs have been labeled as ineffective for the prevention of spontaneous abortion for 20 years.

Medroxyprogesterone in combination with estrogen is now widely prescribed to postmenopausal women for hormone replacement therapy. By definition, postmenopausal women cannot become pregnant, yet the current regulation requires that they receive a warning about use in pregnancy.

The use of progesterone for luteal phase support with in vitro fertilization has become routine. FDA recently approved a progesterone gel for progesterone supplementation or replacement as part of an Assisted Reproductive Technology program for infertile women. The American College of Obstetricians and Gynecologists has objected to the progestational patient labeling requirement as applied to progesterone because "there are no data to indicate that the use of progesterone causes any teratologic effects, and the FDA warning is disturbing to infertility patients taking progesterone."<sup>2</sup>

Because of the diversity of the drugs that can be described as progestational, the lack of reliable scientific evidence linking most of these drugs to an increased risk of birth defects, and the diversity of the conditions these drugs may be used to treat, FDA believes it is inappropriate to require that progestational drug products be dispensed with patient labeling that warns of an increased risk of birth defects. Therefore, FDA is proposing to remove this requirement.

<sup>2</sup> Letter from Stanley Zinberg, dated December 31, 1996.

For the reasons discussed previously, FDA believes that it is no longer appropriate for professional labeling to contain a box warning recommending against the use of progestational drug products during the first 4 months of pregnancy. There is also no need to contraindicate progestogens as a diagnostic test for pregnancy because hormonal pregnancy tests are no longer available in the United States. In a notice published elsewhere in this issue of the **Federal Register**, FDA is announcing its intent to revoke its previously issued guidance texts for physician and patient labeling for progestational drug products. When this proposed rule concerning patient labeling becomes final, holders of approved applications for progestational drug products will be required to revise the labeling of such products by removing the text for patient labeling. In addition, at that time, holders of approved applications should revise the professional labeling to remove the box warning and the contraindication as a diagnostic test for pregnancy. These labeling revisions will not require a supplemental application, but may be reported in the next annual report, as provided for in 21 CFR 314.70(a) and (d).

## II. References

The following references have been placed on display in the Dockets Management Branch (address above) and may be seen by interested persons between 9 a.m. and 4 p.m., Monday through Friday.

1. Raman-Wilms, L. et al., "Fetal Genital Effects of First-Trimester Sex Hormone Exposure: A Meta-Analysis," *Obstetrics and Gynecology*, 85:141-149, 1995.
2. Schardein, J. L., "Chemically Induced Birth Defects," Marcel Dekker, Inc., New York, 1993.
3. Scialli, A. R., The REPROTOX System, Reproductive Toxicology Center, Washington, DC.
4. Check, J. H. et al., "The Risk of Fetal Anomalies as a Result of Progesterone Therapy During Pregnancy," *Fertility and Sterility*, 45:575-577, 1986.
5. Heinonen, O. P., D. Slone, and S. Shapiro, "Birth Defects and Drugs in Pregnancy," Publishing Sciences Group, Littleton, MA, 1977.
6. Michaelis, J. et al., "Prospective Study of Suspected Associations Between Certain Drugs Administered During Early Pregnancy and Congenital Malformations," *Teratology*, 27:57-64, 1983.
7. Resseguie, L. J. et al., "Congenital Malformations Among Offspring Exposed In Utero to Progestins, Olmsted County, MN," *Fertility and Sterility*, 43:514-519 1985.
8. Rock, J. A. et al., "Fetal Malformations Following Progesterone Therapy During Pregnancy: A Preliminary Report," *Fertility and Sterility*, 44:17-19, 1985.

9. Katz, Z. et al., "Teratogenicity of Progestogens Given During the First Trimester of Pregnancy," *Obstetrics and Gynecology*, 65:775-780, 1985.

10. Varma, T. R., and J. Morsman, "Evaluation of the Use of Proluton-Depot (Hydroxyprogesterone Hexanoate) in Early Pregnancy," *International Journal of Gynaecology and Obstetrics*, 20:13-17, 1982.

11. Wilkins, L., "Masculinization of Female Fetus Due to Use of Orally Given Progestins," *Journal of the American Medical Association*, 172:1028-1032, 1960.

12. Wilson, J. G., and R. L. Brent, "Are Female Sex Hormones Teratogenic?" *American Journal of Obstetrics and Gynecology*, 141:567-580, 1981.

13. Jacobson, B. D., "Hazards of Norethindrone Therapy During Pregnancy," *American Journal of Obstetrics and Gynecology*, 84:962-968, 1962.

## III. Environmental Impact

The agency has determined under 21 CFR 25.30(h) that this action is of a type that does not individually or cumulatively have a significant effect on the human environment. Therefore, neither an environmental assessment nor an environmental impact statement is required.

## IV. Analysis of Impacts

FDA has examined the impacts of the proposed rule under Executive Order 12866, the Regulatory Flexibility Act (5 U.S.C. 601-612) and the Unfunded Mandates Reform Act of 1995 (Pub. L. 104-4). Executive Order 12866 directs agencies to assess all costs and benefits of available regulatory alternatives and, when regulation is necessary, to select regulatory approaches that maximize net benefits (including potential economic, environmental, public health and safety, and other advantages; distributive impacts; and equity). Under the Regulatory Flexibility Act, unless an agency certifies that a rule will not have a significant impact on small entities, the agency must analyze regulatory options that would minimize the impact of the rule on small entities.

The Unfunded Mandates Reform Act of 1995 (in section 202) requires that agencies prepare an assessment of anticipated costs and benefits before proposing any rule that may result in an expenditure in any 1 year by State, local, and tribal governments, in the aggregate, or by the private sector, of \$100 million or more (adjusted annually for inflation).

The agency has reviewed this proposed rule and has determined that it is consistent with the regulatory philosophy and principles identified in Executive Order 12866, and these two statutes. With respect to the Regulatory Flexibility Act, the agency certifies that the rule will not have a significant effect

on a substantial number of small entities. Because the proposed rule does not impose any mandates on State, local, or tribal governments, or the private sector that will result in a 1-year expenditure of \$100 million or more, FDA is not required to perform a cost-benefit analysis under the Unfunded Mandates Reform Act of 1995.

The proposed rule would remove certain information from the professional labeling of affected drug products. The revised labeling may be filed in the next annual report. The agency has identified 13 sponsors and 16 distinct professional labeling inserts that would need to be changed to comply with this rule. Using a pharmaceutical labeling cost model developed for the agency, the average cost for this labeling change is \$1,317 per insert, assuming a compliance period of 1 year. Applying this cost to the 16 professional labeling inserts results in a one-time cost of compliance of \$21,000. There will also be an additional minor cost of lost inventory. Of the 13 sponsors affected, fewer than 5 would meet the Small Business Administration definition of small. No additional burdens are imposed upon manufacturers.

## V. Paperwork Reduction Act of 1995

FDA tentatively concludes that this proposed rule contains no collections of information. The proposal would remove certain information from the labeling of affected drug products. The revised labeling may be filed in the next annual report, which is already required under FDA's regulations and is already approved by the Office of Management and Budget (OMB) as a collection of information, OMB control no. 0910-0001. Therefore, clearance by OMB under the Paperwork Reduction Act of 1995 is not required.

## VI. Proposed Effective Date

FDA proposes that any final rule based on this proposal be effective 1 year after its date of publication in the **Federal Register**.

## VII. Request for Comments

Interested persons may, on or before July 12, 1999, submit to the Dockets Management Branch (address above) written comments on this proposal. Two copies of any comments are to be submitted, except that individuals may submit one copy. Comments are to be identified with the docket number found in brackets in the heading of this document. Received comments may be seen in the Dockets Management Branch between 9 a.m. and 4 p.m., Monday through Friday.



**List of Subjects in 21 CFR Part 310**

Administrative practice and procedure, Drugs, Labeling, Medical devices, Reporting and recordkeeping requirements.

Therefore, under the Federal Food, Drug, and Cosmetic Act and under authority delegated to the Commissioner of Food and Drugs, it is proposed that 21 CFR part 310 be amended as follows:

**PART 310—NEW DRUGS**

1. The authority citation for 21 CFR part 310 is revised to read as follows:

**Authority:** 21 U.S.C. 321, 331, 351, 352, 353, 355, 360b–360f, 360j, 360hh–360ss, 361(a), 371, 374, 375, 379e; 42 U.S.C. 216, 241, 242(a), 262, 263b–263n.

**§ 310.516 [Removed]**

2. Section 310.516 *Progestational drug products; labeling directed to the patient* is removed.

Dated: March 25, 1999.

**William K. Hubbard,**

*Acting Deputy Commissioner for Policy.*

[FR Doc. 99–9146 Filed 4–12–99; 8:45 am]

BILLING CODE 4160–01–F

**UNITED STATES INFORMATION AGENCY****22 CFR Part 514****Exchange Visitor Program**

**AGENCY:** United States Information Agency.

**ACTION:** Proposed rule.

**SUMMARY:** The regulations govern Agency-designated au pair programs under which foreign nationals are afforded the opportunity to live with an American host family and participate directly in the home life of the host family while providing child care services and attending a U.S. post-secondary educational institution. The Agency's goal in proposing amendment of these existing regulations is to strengthen the oversight and general accountability of the au pair program and to identify and reduce potential risk of injury to program participants. These amendments will provide greater specificity regarding the selection and orientation of both host family and au pair participants thereby enhancing the prospect for more informed participation by both parties. Further proposed program enhancements would require disclosure of prior experience for au pair participants providing child care for special needs children. An amendment to provide for uniform program audits is also proposed.

**DATES:** Written comments regarding this proposed rule will be accepted until May 13, 1999.

**ADDRESSES:** Comments regarding this proposed rule must be presented in duplicate and addressed as follows: United States Information Agency, Office of General Counsel, Rulemaking Clerk, 301 4th Street, S.W., Washington, D.C. 20547.

**FOR FURTHER INFORMATION CONTACT:** Sally Lawrence, Exchange Visitor Program Services, Program Designation Branch, United States Information Agency, 301 4th Street, S.W., Washington, D.C. 20547; Telephone (202) 401–9810.

**SUPPLEMENTARY INFORMATION:** The Agency has conducted a review of the consumer aspects of the au pair program and determines that certain regulatory amendments to existing regulations should improve the quality of the program, enhance child safety, promote transparency, and generally further the public understanding of this program. Specifically, the Agency has identified a systemic program arising from the advertising and promotion of the program. Often, this advertising promotes au pair participation as an opportunity to travel and experience life in the United States without a full explanation of the significant child care requirements that underlie the program. Conversely, the advertising directed towards American host families often promotes only the child care aspects of the program and fails to stress the educational and cultural benefits that the program should provide to the au pair participant.

Accordingly, to promote a better understanding of the program the Agency is proposing to amend the existing regulations set forth at §§ 514.31(f)(2) and 514.31(i) to require that all designated au pair program sponsors provide host families and potential au pairs with a brochure written by the Agency. This brochure explains fully the program obligations for both the au pair and host family participants and will enhance the overall integrity of the au pair program by providing written notice of these obligations.

The question of how best to provide for the inclusion of American families with self-identified special needs children has been raised. Au pairs are not personal attendants or nurses and will not have specialized training in nursing. Accordingly, au pairs will not provide child care services relating to the care and protection of infants or children which are performed by trained personnel such as registered,

vocational, or practical nurses. Mindful that the au pair program should be available to families with special needs children, the Agency is of the opinion that host family participation may be limited by the number of available au pair participants willing to accept such family placements. Further, it appears that au pair participants placed with families having special needs children should be better prepared for the demands that may arise from such placements. With these considerations in mind, the Agency proposes amendment of § 514.31(e) to ensure that both the au pair participant and host family are fully apprised of the unique responsibilities that may arise from this type of placement. To this end, the au pair will self-identify, and the sponsor will take reasonable steps to verify, his or her prior experience, skills, and training regarding the care of special needs children and the host family will be required to review and specifically acknowledge their acceptance of such experience, skills, and training. The Agency proposes this requirement to ensure that an au pair participant placed with a special needs child has accurately described any prior experience and that the au pair and host family are thus fully informed regarding duties and experience.

As a related au pair placement matter, the Agency also proposes amendment of § 514.31(e) to require that sponsors not place an au pair with a host family until the host family has interviewed the au pair by telephone. The Agency is of the opinion that most host families do in fact interview the potential au pair by telephone. To provide additional assurances to the host family regarding the au pair's English speaking ability, the Agency believes that this general practice of conducting a telephone interview should be made mandatory.

The Agency is also proposing an amendment to § 514.31 (m) to require that designated sponsors utilize a standard management audit format supplied by the Agency. This management auditing requirement was first adopted in 1995 and is designed to ensure that designated sponsors are in full compliance with Agency regulations. The Agency has now reviewed three years of management audits submitted in response to this regulation. The audits vary substantially in quality and content. Because this management audit is crucial to the Agency's oversight of the au pair program the public has a vested interest in ensuring that the quality, content, and integrity of the audit process is uniform and useful as a management oversight tool. Accordingly, the Agency

is of the opinion that it should have a standard audit format prepared and distributed to each au pair organization who will in turn have a certified public accountant of its choice conduct the audit in conformance with the standard audit format. The filing date for submission of this annual audit would be advanced from the current filing date of March 30th to June 30th. This change will benefit both sponsors and auditors by delaying the filing requirement until after the tax season.

#### Public Comment

The Agency invites comments regarding this proposed rule notwithstanding the fact that it is under no legal obligation to do so. The oversight and administration of the Exchange Visitor Program are deemed to be foreign affairs functions of the United States Government. The Administrative Procedures Act, 5 U.S.C. 553(a)(1) (1989), specifically exempts foreign affairs functions from the rulemaking requirements of the Act.

The Agency will accept comments for 30 days following publication of this proposed rule. A final rule will be adopted following Agency consideration of all comments received.

In accordance with 5 U.S.C. 605(b), the Agency certifies this rule does not have a significant adverse economic impact on a substantial number of small entities. This rule is not considered to be a major rule within the meaning of Section 1(b) of E.O. 12291, nor does it have federal implications warranting the preparation of a Federalism Assessment in accordance with E.O. 12612.

#### List of Subjects in 22 CFR Part 514

Cultural exchange programs.

Dated: April 7, 1999.

Les Jin,

General Counsel.

Accordingly, 22 CFR part 514 is proposed to be amended as follows:

#### PART 514—EXCHANGE VISITOR PROGRAM

1. The authority citation for part 514 continues to read as follows:

**Authority:** 8 U.S.C. 1101(a)(15)(j), 1182, 1258; 22 U.S.C. 1431-1442, 2451-2460; Reorganization Plan No. 2 of 1977, 42 FR 62461, 3 CFR, 1977 Comp. p. 200; E.O. 12048, 43 FR 13361, 3 CFR, 1978 Comp. p. 168; USIA Delegation Order No. 85-5 (50 FR 27393).

2. Section 514.31 paragraph (e), (f), (h), (i), and (m) are revised to read as follows:

#### § 514.31 Au pairs.

\* \* \* \* \*

(e) *Au pair placement.* Sponsors shall secure, prior to the au pair's departure from the home country, a host family placement for each participant.

Sponsors shall not:

(1) Place an au pair with a family unless the family has specifically agreed that a parent or other responsible adult will remain in the home for the first three days following the au pair's arrival;

(2) Place an au pair with a family having a child aged less than three months unless a parent or other responsible adult is present in the home;

(3) Place an au pair with a host family having children under the age of two, unless the au pair has at least 200 hours of documented infant child care experience;

(4) Place an au pair with a host family having a special needs child, as so identified by the host family, unless the au pair has specifically identified, and the sponsor has taken reasonable steps to verify, his or her prior experience, skills, or training in the care of special needs children and the host family has reviewed and acknowledged in writing the au pair's prior experience, skills, or training so identified and so verified;

(5) Place an au pair with a family unless a written agreement between the au pair and host family outlining the au pair's obligation to provide not more than 45 hours of child care services per week has been signed by both;

(6) Place the au pair with a family who cannot provide the au pair with a suitable private bedroom; and

(7) Place an au pair with a host family unless the host family has interviewed the au pair by telephone prior to the au pair's departure from his or her home country.

(f) *Au pair orientation.* In addition to the orientation requirements set forth herein at § 514.10, all sponsors shall provide au pairs, prior to their departure from the home country, with the following information:

(1) A copy of all operating procedures, rules, and regulations, including a grievance process, which govern the au pair's participation in the exchange program;

(2) A detailed profile of the family and community in which the au pair will be placed;

(3) A detailed profile of the educational institutions in the community where the au pair will be placed, including the financial cost of attendance at these institutions;

(4) A detailed summary of travel arrangements; and

(5) A copy of the Agency's written statement and brochure regarding the au pair program.

\* \* \* \* \*

(h) *Host family selection.* Sponsors shall adequately screen all potential host families and at a minimum shall:

(1) Require that the host parents are U.S. citizens or legal permanent residents;

(2) Require that host parents are fluent in spoken English;

(3) Require that all adult family members resident in the home have been personally interviewed by an organizational representative;

(4) Require that host parents and other adults living full-time in the household have successfully passed a background investigation including employment and personal character references;

(5) Require that the host family have adequate financial resources to undertake all hosting obligations;

(6) Provide a written detailed summary of the exchange program and the parameters of their and the au pair's duties, participation, and obligations; and

(7) Provide the host family with the prospective au pair participant's complete application, including all references.

(i) *Host family orientation.* In addition to the requirements set forth at § 514.10 sponsors shall:

(1) Inform all host families of the philosophy, rules, and regulations governing the sponsor's exchange program and provide all families with a copy of the Agency's written statement and brochure regarding the au pair program;

(2) Provide all selected host families with a complete copy of Agency-promulgated Exchange Visitor Program regulations, including the supplemental information thereto;

(3) Advise all selected host families of their obligation to attend at least one family day conference to be sponsored by the au pair organization during the course of the placement year. Host family attendance at such a gathering is a condition of program participation and failure to attend will be grounds for possible termination of their continued or future program participation; and

(4) Require that the organization's local counselor responsible for the au pair placement contacts the host family and au pair within forty eight hours of the au pair's arrival and meets, in person, with the host family and au pair within two weeks of the au pair's arrival at the host family home.

\* \* \* \* \*

(m) *Reporting requirements.* Along with the annual report required by

regulations set forth at § 514.17, sponsors shall file with the Agency the following information:

(1) A summation of the results of an annual survey of all host family and au pair participants regarding satisfaction with the program, its strengths and weaknesses;

(2) A summation of all complaints regarding host family or au pair participation in the program, specifying the nature of the complaint, its resolution, and whether any unresolved complaints are outstanding.

(3) A summation of all situations which resulted in the placement of an au pair participant with more than one host family;

(4) A management audit report by a certified public accountant, conducted pursuant to a format designated by the Agency, attesting to the sponsor's compliance with the procedures and reporting requirements set forth in this subpart;

(5) A report detailing the name of the au pair, his or her host family placement, location, and the names of the local and regional organizational representatives; and

(6) A complete set of all promotional materials, brochures, or pamphlet distributed to either host family or au pair participants.

\* \* \* \* \*

[FR Doc. 99-9165 Filed 4-12-99; 8:45 am]

BILLING CODE 8230-01-M

## DEPARTMENT OF THE INTERIOR

### Minerals Management Service

#### 30 CFR Part 206

RIN 1010-AC09

#### Establishing Oil Value for Royalty Due on Federal Leases

**AGENCY:** Minerals Management Service, Interior.

**ACTION:** Supplementary Proposed rule; notice of extension of public comment period.

**SUMMARY:** The Minerals Management Service hereby gives notice that it is extending the public comment period on a supplementary proposed rule, which was published in the **Federal Register** on July 16, 1998, (63 FR 38355). The proposed rule amends the royalty valuation regulations for crude oil produced from Federal leases. In response to requests for additional time and to provide commenters adequate time to submit comments after the completion of the public workshops on

April 7, 1999, MMS will extend the comment period 15 days.

**DATES:** Comments must be submitted on or before April 27, 1999.

**ADDRESSES:** Mail comments, suggestions, or objections about this supplementary proposed rule to: Minerals Management Service, Royalty Management Program, Rules and Publications Staff, P.O. Box 25165, MS 3021, Denver, Colorado 80225-0165. Courier address is Building 85, Denver Federal Center, Denver, Colorado 80225. E-mail address is RMP.comments@mms.gov.

**FOR FURTHER INFORMATION CONTACT:** David S. Guzy, Chief, Rules and Publications Staff, telephone number (303) 231-3432, fax number (303) 231-3385, e-mail RMP.comments@mms.gov.

**SUPPLEMENTARY INFORMATION:** MMS received requests from industry representatives to extend the comment period of this supplementary proposed rule. This time extension is in response to those requests in order to provide commenters with adequate time to provide detailed comments that MMS can use to proceed in the rulemaking.

Dated: April 8, 1999.

**Lucy Querques Denett,**  
Associate Director for Royalty Management.  
[FR Doc. 99-9174 Filed 4-12-99; 8:45 am]

BILLING CODE 4310-MR-P

## ENVIRONMENTAL PROTECTION AGENCY

### 40 CFR Part 52

[Docket 24-7004; FRL-6323-9]

#### Federal Rulemaking for the FMC Facility in the Fort Hall PM-10 Nonattainment Area; Notice of Correction of Proposed Rules

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Proposed rule; correction.

**SUMMARY:** On February 12, 1999, EPA published a proposed Federal Implementation Plan to control particulate matter air pollution emitted from an elemental phosphorous facility owned and operated by FMC Corporation (FMC). The facility is located within the exterior boundaries of the Fort Hall Indian Reservation in southeastern Idaho (FMC facility). The purpose of this document is to correct inadvertent minor typographical errors in the proposed rule language that could cause unnecessary confusion.

**DATES:** Written comments, identified by the docket control number ID 24-7004,

must be received by EPA on or before May 13, 1999.

**ADDRESSES:** Comments should be submitted (in duplicate if possible) to: Montel Livingston, SIP Manager, Environmental Protection Agency, Office of Air Quality (OAQ-107), 1200 Sixth Avenue, Seattle Washington 98101.

**FOR FURTHER INFORMATION CONTACT:** Steven K. Body, Office of Air Quality (OAQ-107), Environmental Protection Agency, 1200 Sixth Avenue, Seattle, Washington 98101, (206) 553-0782.

#### SUPPLEMENTARY INFORMATION:

##### I. General Information

##### A. How Can I Get Additional Information or Copies of Support Documents?

1. Electronically. You may obtain electronic copies of this document and the February 12, 1999, proposed rule from the internet at the following address: <http://www.epa.gov/r10earth/> Once there, click on "Events." You can also go directly to the "**Federal Register**" listings at <http://www.epa.gov/fedrgstr/>.

2. In person or by phone. If you have any questions or need additional information about this action, please contact the person identified in the **FOR FURTHER INFORMATION CONTACT** section. In addition, the official record for this document, which is called the "docket," has been established under docket control number ID 24-7004. The docket is available for public inspection and copying from 8:00 a.m. to 5:30 p.m. Eastern Standard Time, Monday through Friday, at EPA's Central Docket Section, Office of Air and Radiation, Room 1500 (M-6102), 401 M Street, SW., Washington, D.C. 20460, and between 8:30 a.m. and 3:30 p.m. Pacific Standard Time, at EPA Region 10, Office of Air Quality, 10th Floor, 1200 Sixth Avenue, Seattle, Washington 98101. A copy of the docket is also available for review at the Shoshone-Bannock Tribes, Office of Air Quality Program, Land Use Commission, Fort Hall Government Center, Agency and Bannock Roads, Fort Hall, Idaho 83203; the Shoshone-Bannock Library, Pima and Bannock, Fort Hall, Idaho, 83203; and the Idaho State University Library, Government Documents Dept., 850 South 9th Avenue, Pocatello, Idaho. A reasonable fee may be charged for copies.

##### B. How and to Whom do I Submit Comments?

You may submit comments through the mail or in person. Be sure to identify the appropriate docket control number

(i.e., "ID-24-7004") in your correspondence.

1. By mail. Submit written comments to: Montel Livingston, SIP Manager, Environmental Protection Agency, Office of Air quality (OAQ-107), 1200 Sixth Avenue, Seattle, Washington 98101.

2. In person or by courier. Deliver written comments to: Montel Livingston, SIP Manager, Environmental Protection Agency, Office of Air quality (OAQ-107), 1200 Sixth Avenue, Seattle, Washington 98101.

## II. What Are the Corrections?

On February 12, 1999, EPA published a proposed *Federal Rulemaking for the FMC Facility in the Fort Hall PM-10 Nonattainment Area*. See 64 FR 7308 (February 12, 1999). This proposed rulemaking is known as a Federal Implementation Plan or "FIP." In summary, the FIP proposes air pollution control requirements for particulate matter emitted from FMC that would require FMC to install and operate reasonably available control technology in their production of phosphorus. In addition, the FIP proposes comprehensive requirements for compliance monitoring, recordkeeping, and reporting.

In the preamble to the proposal, EPA asked for comment on two alternatives for dealing with exceedences of emission limits due to scheduled events, such as startup, shutdown, or scheduled maintenance, as well as unscheduled events, such as equipment failure, power loss, furnace upsets, or accidents (known as upset, breakdown, or emergency conditions). 64 FR 7328. These alternatives are briefly summarized as follows:

*Alternative One:* Exceedences of emission limits caused by scheduled events or upset/breakdown conditions would not be excused under any circumstance. However, EPA could exercise its discretion in deciding whether to penalize FMC for violations caused by scheduled events or upset/breakdown/emergency.

*Alternative Two:* Exceedences of emission limits would be excused from penalty under two circumstances:

(A) Excess emissions caused by pre-scheduled startup, shutdown, or scheduled maintenance would be excused, provided FMC gives EPA prior notice, takes measures to reduce excess emissions, and meets other stringent requirements; and

(B) Excess emissions caused by unforeseen "emergency" upset/breakdown situations would be excused, provided FMC gives EPA prompt notice, takes measures to reduce

excess emissions, and meets other stringent requirements.

A heading in the proposed rule language contains an error which may cause unnecessary confusion. At 64 FR 7346, proposed § 52.676(c)(8) is labeled "Alternative One" and proposed § 52.676(c)(9) is labeled "Alternative Two." Although the language in the proposed rule is itself correct, the labels are in error.

As shown above and as discussed in more detail in the preamble to the proposal, Alternative One is providing no excuse from penalty for startup, shutdown, scheduled maintenance, upset, breakdown, or emergency. See 64 FR 7328 (column one). Thus, neither proposed paragraph 52.676(c)(8) nor paragraph 52.676(c)(9) would be included in the final rule if EPA adopts Alternative One. Alternative Two provides an excuse from penalty under two different circumstances. See 64 FR 7328 (bottom of column one and column two). The first circumstance (scheduled events) is contained in proposed paragraph 52.676(c)(8). The second circumstance (upset/breakdown/emergency) is contained in proposed paragraph 52.676(c)(9). Therefore, if EPA adopts Alternative Two, both paragraphs 52.676(c)(8) and 52.676(c)(9) would be included in the final rule.

Language regarding excess emissions in another section of the proposed rule also contains a minor typographical error. At 64 FR 7352, proposed paragraph 52.676(g)(5) currently contains three subparts. Proposed paragraph 52.676(g)(5)(ii) states "If alternative one or two for paragraph (c)(8) is adopted". That language should read "If paragraphs 52.676(c)(8) and (c)(9) are adopted as part of the final rule," and that language is not intended to be part of the rule. Rather, it is explanatory. Proposed paragraph 52.676(g)(5)(iii), if included in the final rule, would be renumbered to 52.676(g)(5)(ii).

The proposed rule also contains two other minor typographical errors in cross-referencing other portions of the proposed rule. The cross reference at 64 FR 7346 in proposed paragraph 52.676(c)(5)(ii)(B)(2) to "paragraph (c)(4)(ii)(B)" should be to "paragraph (c)(5)(ii)(B)(1)." The cross reference at 64 FR 7348 in proposed paragraph 52.676(e)(2) to "Column II of Table A" should be to "Column II of Table 1."

## III. Do Any of the Regulatory Assessment Requirements Apply to this Action?

No. This action merely provides minor typographical corrections to the proposed rule. This action does not

impose any new requirements. As such, this action does not require review by the Office of Management and Budget (OMB) under Executive Order 12866, entitled Regulatory Planning and Review (58 FR 51735, October 4, 1993), the Paperwork Reduction Act (PRA), 44 U.S.C. 3501 *et seq.*, or Executive Order 13045, entitled Protection of Children from Environmental Health Risks and Safety Risks (62 FR 19885, April 23, 1997). This action does not impose any enforceable duty, contain any unfunded mandate, or impose any significant or unique impact on small governments as described in the Unfunded Mandates Reform Act of 1995 (Pub. L. 104-4). Nor does it require prior consultation with State, local, and tribal government officials as specified by Executive Order 12875, entitled Enhancing Intergovernmental Partnerships (58 FR 58093, October 28, 1993) and Executive Order 13084, entitled Consultation and Coordination with Indian Tribal Governments (63 FR 27655, May 19, 1998). This action does not involve any technical standards that would require Agency consideration of voluntary consensus standards pursuant to section 12(d) of the National Technology Transfer and Advancement Act of 1995 (NTTAA), Public Law 104-113, section 12(d) (15 U.S.C. 272 note). In addition, since this action is not subject to notice-and-comment requirements under the Administrative Procedure Act or any other statute, it is not subject to the regulatory flexibility provisions of the Regulatory Flexibility Act (RFA) (5 U.S.C. 601 *et seq.*). EPA's compliance with these statutes and Executive Orders for the underlying proposed rule, is discussed in the preamble to the proposed rule (see 64 FR 7308, February 12, 1999).

## List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Intergovernmental relations, Particulate matter, Reporting and recordkeeping requirements.

Dated: April 1, 1999.

**Chuck Clarke,**

*Regional Administrator, Region 10.*

[FR Doc. 99-9205 Filed 4-12-99; 8:45 am]

BILLING CODE 6560-50-P

## DEPARTMENT OF THE INTERIOR

## Fish and Wildlife Service

## 50 CFR Part 32

**Establishing "Lead Free Fishing Areas" and the Prohibition of the Use of Certain Fishing Sinkers and Jigs Made With Lead on Specific Units of the National Wildlife Refuge System**

**AGENCY:** Fish and Wildlife Service, Interior.

**ACTION:** Notice of intent to file a proposed change in specific refuge regulations.

**SUMMARY:** We intend to promulgate regulations that would prohibit the use of fishing sinkers and jigs that are made of lead or lead alloys on units of the National Wildlife Refuge System where mortality of common loons from lead sinker ingestion has occurred or where concerns exist because habitat use by loons and significant fishing activities overlap. When refuges meet this criteria, we intend to establish "Lead Free Fishing Areas" and promulgate regulations on the use of lead sinkers and jigs. Each refuge we select will have specific regulations promulgated which will phase in over a two-year period, prohibit the use of lead sinkers and jigs, and establish a "Lead Free Fishing Area" in all refuge waters. This action will not close any refuge unit to sport fishing, but only prohibit the use of lead fishing sinkers and jigs.

**DATES:** Please provide your comments by May 13, 1999.

**ADDRESSES:** U.S. Fish and Wildlife Service, Division of Refuges, 1849 C Street, NW, MS-70 ARLSQ, Washington, DC 20240, Attention: Jon

D. Kauffeld, e-mail  
Jon\_Kauffeld@fws.gov.

**FOR FURTHER INFORMATION CONTACT:** Jon D. Kauffeld, 703-358-2383, FAX: 703-358-1826.

**SUPPLEMENTARY INFORMATION:** The mission of the National Wildlife Refuge System (System) is to administer a national network of lands and waters for the conservation, management and, where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans. We encourage recreational fishing that is compatible with this mission and with the purposes for which each individual refuge is established. Currently 307 of the 516 National Wildlife Refuges are open to fishing.

It is well documented that lead is toxic to both humans and wildlife. In areas where recreational angling and loon populations co-occur, lead poisoning from swallowing lead sinkers and jigs accounts for 10-50% of recorded loon mortality. In the New England states, the mortality from ingesting lead sinkers and jigs is the most significant, single factor for mortality in over 50% of adult breeding loons. Michigan's Rose Lake Wildlife Research Center collected similar evidence where 40% of loon carcasses examined had died from lead poisoning. The Minnesota Pollution Control Agency documented 17% of adult loons died from lead poisoning. A review of 15 years of bird data in Ontario has shown that 27% of the adult loons had fishing tackle in their gizzards and high lead levels in their blood.

The National Wildlife Refuge System Administration Act, which was recently

amended by the National Wildlife Refuge System Improvement Act of 1997, provides us with broad authority to offer and regulate recreational opportunities throughout the System, including the authority to regulate the use of lead fishing tackle. We intend to phase-in "Lead-Free Fishing Areas" on refuges where common loons are at risk of lead poisoning from swallowing lost or discarded fishing sinkers and jigs. During the first year of the phase-in, we will educate anglers about the benefits of non-toxic tackle for wildlife. During the first and second year of the phase-in, anglers will be able to trade-in their lead sinkers and jigs for non-toxic substitutes. After the two year phase-in, we will require anglers to fish with lead-free sinkers and jigs in all refuges designated "Lead Free Fishing Areas."

We will identify the affected refuges as part of our annual, June 1999, proposed rule which outlines refuge-specific public use regulations. The final rule, to be published in 50 CFR part 32, will be effective in the fall of 1999. This action will not close any refuge unit to sport fishing, but only prohibit the use of certain fishing sinkers and jig heads. In those areas where we do not have jurisdiction over navigable waters that flow through or border our lands, we will seek the cooperation of the affected State to reduce the risk of lead poisoning to common loons.

Dated: March 18, 1999.

**Jamie Rappaport Clark,**  
*Director.*

[FR Doc. 99-8982 Filed 4-12-99; 8:45 am]

BILLING CODE 4310-55-P

# Notices

Federal Register

Vol. 64, No. 70

Tuesday, April 13, 1999

This section of the FEDERAL REGISTER contains documents other than rules or proposed rules that are applicable to the public. Notices of hearings and investigations, committee meetings, agency decisions and rulings, delegations of authority, filing of petitions and applications and agency statements of organization and functions are examples of documents appearing in this section.

## DEPARTMENT OF AGRICULTURE

### Office of the Secretary

#### Research, Education, and Economics; Notice of Strategic Planning Task Force Meeting

**AGENCY:** Research, Education, and Economics, USDA.

**ACTION:** Notice of meeting.

**SUMMARY:** The United States Department of Agriculture announces a meeting of the Strategic Planning Task Force on Research Facilities.

**SUPPLEMENTARY INFORMATION:** The Strategic Planning Task Force on Research Facilities, currently consisting of 14 members, is scheduled to meet for the eighth of eight planned meetings. The meeting is scheduled to be held at the Hilton Washington Dulles Airport beginning at 1:00 p.m. on May 10, 1999, and concluding May 11, 1999. The meeting will be a review of the data collected by the Task Force and will continue discussion of the draft report.

*Times and Dates:* May 10, 1999, beginning at 1:00 p.m., and May 11, 1999, beginning at 8:00 a.m.

*Place:* Hilton Washington Dulles Airport, 13869 Park Center Road, Herndon, Virginia 20171.

*Type of Meeting:* Open to the public.

*Comments:* The public may file written comments before or after the meeting with the contact person listed below.

**FOR FURTHER INFORMATION CONTACT:** Mitch Geasler, Project Director, Strategic Planning Task Force on Research Facilities, Room 344-A Jamie L. Whitten Building, USDA, 1400 Independence Avenue, SW., Washington, DC 20250-0113. Telephone 202-720-3803.

Done at Washington, DC, this 7th day of April, 1999.

**Eileen Kennedy,**

*Deputy Under Secretary, Research, Education, and Economics.*

[FR Doc. 99-9127 Filed 4-12-99; 8:45 am]

**BILLING CODE 3410-22-P**

## DEPARTMENT OF AGRICULTURE

### Foreign Agricultural Service

#### Agricultural Advisory Committees for Trade

**AGENCY:** Foreign Agricultural Service, USDA.

**ACTION:** Rechartering of the Agricultural Advisory Committees for Trade.

**SUMMARY:** Notice is hereby given that the Secretary of Agriculture, after consultation with the United States Trade Representative, has rechartered the following advisory committees:

- Agricultural Policy Advisory Committee for Trade
- Agricultural Technical Advisory Committee for Trade in Animals and Animal Products
- Agricultural Technical Advisory Committee for Trade in Fruits and Vegetables
- Agricultural Technical Advisory Committee for Trade in Grains, Feed, and Oilseeds
- Agricultural Technical Advisory Committee for Trade in Sweeteners and Sweetener Products
- Agricultural Technical Advisory Committee for Trade in Tobacco, Cotton, and Peanuts

The purpose of these committees is to provide advice to the Secretary of Agriculture and the U.S. Trade Representative with respect to the trade policy of the United States pursuant to Section 135(c) of the Trade Act of 1974 (Pub. L. 93-618) as amended. Meetings of these committees will be open to the public, unless the U.S. Trade Representative determines that the committees will be discussing issues the disclosure of which justify closing such meetings or portions thereof in accordance with Section 552(c) of Title 5 of the United States Code. The renewal of such committees is in the public interest in connection with the duties of the U.S. Department of Agriculture (USDA) imposed by the Trade Act of 1974, as amended.

#### FOR FURTHER INFORMATION CONTACT:

Comments regarding the reestablishment of these committees should be addressed to Paula Scott or Denise Bell, Foreign Agricultural Service (FAS), USDA, Room 5065-S, Washington, DC 20250-1000.

**SUPPLEMENTARY INFORMATION:** Pursuant to the Federal Advisory Committee Act (FACA) (5 U.S.C. Appendix), notice is hereby given that the Secretary of Agriculture and the U.S. Trade Representative are reestablishing the Agricultural Policy Advisory Committee for Trade (APAC) and the Agricultural Technical Advisory Committees for Trade (ATACs). In 1974, Congress established a private sector advisory committee system to ensure that U.S. trade policy and trade negotiation objectives adequately reflect U.S. commercial and economic interests. Congress expanded and enhanced the role of this system in three subsequent trade acts. The private sector advisory system now consists of almost 40 committees, arranged in three tiers; The President's Advisory Committee on Trade and Policy Negotiations (ACTPN); seven policy advisory committees, including the APAC; and more than 30 technical advisory committees including the ATACs. The duties of the APAC are to provide the Secretary of Agriculture and the U.S. Trade Representative with advice concerning negotiating objectives and bargaining positions before entering into a trade agreement, the operation of an agreement once entered into, and other matters arising in connection with the administration of the trade policy of the United States. The duties of the ATACs are to provide advice and information regarding trade issues which affect both domestic and foreign production and trade concerning the respective agricultural commodities, drawing upon the technical competence and experience of its members. Each committee is required to meet at the conclusion of negotiations for each trade agreement entered into under the Act to provide a report on such agreement to the President, to Congress, and to the U.S. Trade Representative. The APAC is comprised of approximately 50 members. The members elect a chairperson from the membership of the committee. The Assistant to the Administrator, FAS, and the Assistant U.S. Trade Representative,

Intergovernmental Affairs and Public Liaison, Office of the U.S. Trade Representative, are the Committee's Joint Executive Secretaries. Each of the ATACs is comprised of approximately 25 members. The members of each committee elect a chairperson from the membership of the committee. A full-time federal officer or employee of FAS shall serve as the Executive Secretary of each Technical Advisory Committee. Each committee is chartered for a period of 2 years, at which time all appointments expire. Reappointments are made at the discretion of the Secretary of Agriculture and the U.S. Trade Representative.

Issued at Washington, DC, this 31st day of March, 1999.

Dated: March 31, 1999.

**Sally Thompson,**

*Acting Assistant Secretary for Administration.*

[FR Doc. 99-9183 Filed 4-12-99; 8:45 am]

BILLING CODE 3410-10-M

**DEPARTMENT OF AGRICULTURE**

**Forest Service**

**Oregon Coast Provincial Advisory Committee Meeting**

**AGENCY:** Forest Service, USDA.

**ACTION:** Notice of meeting.

**SUMMARY:** The Oregon Coast Provincial Advisory Committee (PAC) will meet on April 29, 1999, at the Hatfield Marine Science Center (Meeting Room 9/ Fireside Room), 2030 S. Marine Science Drive, Newport, OR. The meeting will begin at 9:00 a.m. and continue until 3:30 p.m. Agenda items to be covered include: (1) Introduction activity for old and new PAC members; (2) Northwest Forest Plan original goals and changes, Committee of Scientists Report; (3) PAC accomplishment report; (4) PAC subcommittees (summary/formation/organization). Committee meetings are open to the public. One 30-minute open public forum is scheduled for 12:30 p.m. Interested citizens are encouraged to attend. The committee welcomes the public's written comments on committee business at any time.

**FOR FURTHER INFORMATION CONTACT:** Direct questions regarding this meeting to Jose Linares, Strategic Planning Staff Officer, Siuslaw National Forest (541-750-7018), or write to the Forest Supervisor, Siuslaw National Forest, P.O. Box 1148, Corvallis, Oregon 97339.

Dated: April 6, 1999.

**James R. Furnish,**

*Forest Supervisor.*

[FR Doc. 99-9092 Filed 4-12-99; 8:45 am]

BILLING CODE 3410-11-M

**DEPARTMENT OF AGRICULTURE**

**Grain Inspection, Packers and Stockyards Administration**

**Advisory Committee Meeting**

Pursuant to the provisions of section 10(a)(2) of the Federal Advisory Committee Act (Pub. L. 92-463), notice is hereby given of the following committee meeting:

*Name:* Grain Inspection Advisory Committee.

*Date:* May 11-12, 1999.

*Place:* Hilton Kansas City Airport, 8801 NW 112th Street, Kansas City, Missouri.

*Time:* 8:00 am-5:00 pm on May 11; and 8:00 am-11:30 am on May 12, 1999.

*Purpose:* To provide advice to the Administrator of the Grain Inspection, Packers and Stockyards Administration (GIPSA) with respect to the implementation of the U.S. Grain Standards Act (7 U.S.C. 71 et seq.).

The agenda includes a tour of the Agency's Technical Center and a review and discussion of GIPSA's financial status, moisture meter implementation plan, grain elevator safety, future inspection service needs, wheat cleanliness, and other related issues concerning the delivery of grain inspection and weighing services to American agriculture.

Public participation will be limited to written statements, unless permission is received from the Committee Chairman to orally address the Committee. Persons, other than members, who wish to address the Committee or submit written statements before or after the meeting, should contact the Administrator, GIPSA, U.S. Department of Agriculture, 1400 Independence Avenue, SW, STOP 3601, Washington, D.C. 20250-3601, telephone (202) 720-0219 or FAX (202) 205-9237.

The meeting will be open to the public. Persons with disabilities who require alternative means of communication of program information or related accommodation should contact GIPSA. Information contact is Marianne Plaus, telephone (202) 690-3460 or FAX (202) 205-9237.

Dated: April 7, 1999.

**James R. Baker,**

*Administrator.*

[FR Doc. 99-9184 Filed 4-12-99; 8:45 am]

BILLING CODE 3410-EN-P

**DEPARTMENT OF AGRICULTURE**

**Natural Resources Conservation Service**

**Notice of Proposed Changes to Section IV of the Field Office Technical Guide (FOTG) of the Natural Resources Conservation Service in Indiana**

**AGENCY:** Natural Resources Conservation Service (NRCS).

**ACTION:** Notice of availability of proposed changes in Section IV of the FOTG of the NRCS in Indiana for review and comment.

**SUMMARY:** It is the intention of NRCS in Indiana to issue new and revised conservation practice standards Section IV of the FOTG. The revised standards are Firebreak (Code 394) and Tree/Shrub Establishment (Code 612). These practices may be used in conservation systems that treat highly erodible land.

**DATES:** Comments will be received for a 30-day period commencing with this date of publication.

**ADDRESSES:** Address all requests and comments to Robert L. Eddleman, State Conservationist, Natural Resources Conservation Service (NRCS), 6013 Lakeside Blvd., Indianapolis, Indiana 46278. Copies of these standards will be made available upon written request. You may submit electronic requests and comments to joe.gasper@in.usda.gov

**FOR FURTHER INFORMATION CONTACT:** Robert L. Eddleman, 317-290-3200.

**SUPPLEMENTARY INFORMATION:** Section 343 of the Federal Agriculture Improvement and Reform Act of 1996 states that revisions made after enactment of the law, to NRCS state technical guides used to carry out highly erodible land and wetland provisions of the law, shall be made available for public review and comment. For the next 30 days, the NRCS in Indiana will receive comments relative to the proposed changes. Following that period, a determination will be made by the NRCS in Indiana regarding disposition of those comments and a final determination of changes will be made.

Dated: March 24, 1999.

**Robert L. Eddleman,**

*State Conservationist, Indianapolis, Indiana.*

[FR Doc. 99-9128 Filed 4-12-99; 8:45 am]

BILLING CODE 3410-16-P

**DEPARTMENT OF AGRICULTURE****Natural Resources Conservation Service****Notice of Proposed Change to Section IV of the Field Office Technical Guide (FOTG) of the Natural Resources Conservation Service in Louisiana**

**AGENCY:** Natural Resources Conservation Service (NRCS), U.S. Department of Agriculture.

**ACTION:** Notice of availability of proposed changes in Section IV of the FOTG of the NRCS in Louisiana for review and comment.

**SUMMARY:** It is the intention of the NRCS in Louisiana to issue new and revised conservation practice standards in Section IV of the FOTG for the following practices: Upland Wildlife Habitat Management (code 645), Wildlife Watering Facility (code 648), Pasture and Hay Planting (code 512), and Range Planting (code 550) are revised practice standards and Shallow Water Management for Wildlife (code 646) is a new practice standard.

**DATES:** Comments will be received for a 30-day period commencing with this date of publication.

**FOR FURTHER INFORMATION CONTACT:** Inquire in writing to Donald W. Gohmert, State Conservationist, Natural Resources Conservation Service (NRCS), 3737 Government Street, Alexandria, Louisiana 71302. Copies of the practice standards will be made available upon written request.

**SUPPLEMENTARY INFORMATION:** Section 343 of the Federal Agriculture Improvement and Reform Act of 1996 states that revisions made after enactment of the law to NRCS State Technical Guides used to carry out highly erodible land wetland provisions of the law shall be made available for public review and comment. For the next 30 days the NRCS in Louisiana will receive comments relative to the proposed changes. Following that period a determination will be made by the NRCS in Louisiana regarding disposition of those comments and a final determination of change will be made.

Dated: March 29, 1999

**Billy R. Moore,**

*Acting State Conservationist, Alexandria, Louisiana 71302.*

[FR Doc. 99-9137 Filed 4-12-99; 8:45 am]

BILLING CODE 3410-16-P

**DEPARTMENT OF COMMERCE****International Trade Administration**

[A-580-811]

**Steel Wire Rope From the Republic of Korea; Final Results of Antidumping Duty Administrative Review and Partial Rescission of Antidumping Duty Administrative Review**

**AGENCY:** Import Administration, International Trade Administration, Department of Commerce.

**ACTION:** Final Results of Antidumping Duty Administrative Review and Partial Rescission of Antidumping Duty Administrative Review.

**SUMMARY:** On December 8, 1998, the Department of Commerce published the preliminary results and partial rescission of its 1997-98 administrative review of the antidumping duty order on steel wire rope from the Republic of Korea (63 FR 67662). The review covers 16 manufacturers/exporters for the period March 1, 1997, through February 28, 1998. Based on our analysis of the comments received, no changes in the calculated margin for Kumho Wire Rope Mfg. Co., Ltd. are required. We have, however, changed the adverse facts available margin.

**EFFECTIVE DATE:** April 13, 1999.

**FOR FURTHER INFORMATION CONTACT:** John Brinkmann at (202) 482-5288 or Dennis McClure at (202) 482-3530, Import Administration, International Trade Administration, U.S. Department of Commerce, 14th Street and Constitution Avenue, Washington, DC 20230.

**SUPPLEMENTARY INFORMATION:****The Applicable Statute and Regulations**

Unless otherwise indicated, all citations to the Tariff Act of 1930, as amended (the Act), are references to the provisions effective January 1, 1995, the effective date of the amendments made to the Act by the Uruguay Round Agreements Act (URAA). In addition, unless otherwise indicated, all citations to the Department of Commerce's (the Department's) regulations are to the regulations codified at 19 CFR Part 351 (1998).

**Background**

On December 8, 1997, the Department published in the **Federal Register** the preliminary results and partial rescission of its 1997-98 administrative review of the antidumping duty order on steel wire rope from the Republic of Korea. We gave interested parties an opportunity to comment on our preliminary results. The petitioner, the

Committee of Domestic Steel Wire Rope and Specialty Cable Manufacturers, filed a case brief. There was no request for a hearing. We have conducted this administrative review in accordance with section 751 of the Act.

**Scope of Review**

The product covered by this review is steel wire rope. Steel wire rope encompasses ropes, cables, and cordage of iron or carbon steel, other than stranded wire, not fitted with fittings or made up into articles, and not made up of brass-plated wire. Imports of these products are currently classifiable under the following Harmonized Tariff Schedule of the United States (HTSUS) subheadings: 7312.10.9030, 7312.10.9060, and 7312.10.9090. Excluded from this order is stainless steel wire rope, *i.e.*, ropes, cables and cordage other than stranded wire, of stainless steel, not fitted with fittings or made up into articles, which is classifiable under HTSUS subheading 7312.10.6000. Although HTSUS subheadings are provided for convenience and customs purposes, the written description of the scope of this order is dispositive.

**Partial Rescission**

As noted in the *Preliminary Results*, between April and August 1998, Dae Heung Industrial (Dae Heung), Dae Kyung Metal (Dae Kyung), Korea Sangsa, Myung Jin, and TSK Korea informed the Department that they had no shipments of the subject merchandise to the United States during the period of review (POR), *i.e.*, March 1, 1997, through February 28, 1998. In addition, information on the record shows that Boo Kook, Hanboo Wire Rope (Hanboo), Seo Hae Industrial (Seo Hae), and Seo Jin were no longer in operation and that, with the exception of Seo Hae, they did not receive our questionnaire. Using information from the Customs Service, we have confirmed that none of these companies had shipments of subject merchandise to the United States during the POR. Therefore, in accordance with section 351.213(d)(3) of the Department's regulations and consistent with Departmental practice, we are rescinding our review of Boo Kook, Dae Heung, Dae Kyung, Hanboo, Korea Sangsa, Myung Jin, Seo Hae, Seo Jin and TSK Korea for this POR. *See, e.g., Certain Welded Carbon Steel Pipe and Tube from Turkey: Final Results and Partial Rescission of Antidumping Administrative Review*, 63 FR 35191 (June 29, 1998) and *Certain Fresh Cut Flowers From Colombia: Final Results and Partial Rescission of Antidumping*



*Duty Administrative Review*, 62 FR 53287, 53288 (October 14, 1997).

### Use of Facts Available

In the preliminary results of this review, we determined, in accordance with section 776(a) of the Act, that the use of facts available is appropriate for Dong-Il Steel (Dong Il), Dong Young, Jinyang Wire Rope (Jinyang), Kwangshin Rope, Yeonsin Metal (Yeonsin), and Sungsan Special Steel Processing (Sungsan), since they did not respond to our antidumping questionnaire. None of these parties commented on the preliminary results, nor have any arguments been presented which would cause us to reconsider the appropriateness of assigning margins based on facts available in the final results.

Over the course of this proceeding, the Department has faced a pattern of continuous non-compliance on the part of a number of uncooperative respondents<sup>1</sup> that received facts available. In this review, we continue to face a pattern of non-compliance by a number of non-responding companies. Therefore, we have concluded that the magnitude of the rate in place for the three prior reviews, as well as the rate applied for the preliminary results in this review, does not offer the adequate incentive to induce the respondents to cooperate in the proceeding. Moreover, if and when an interested party requests a review of Korean steel wire rope companies not previously reviewed, the Department needs to have in place a potential facts available rate that is sufficiently adverse to induce the cooperation of these companies.

The *Statement of Administrative Action (SAA)* recognizes the importance of facts available as an investigative tool in antidumping duty proceedings. The Department's potential use of facts available provides the only incentive to foreign exporters and producers to respond to the Department's questionnaires. See SAA at 868. Section 776(b) of the Act states that the Department may draw an adverse inference where the party has not acted to the best of its ability to comply with the requests for necessary information. The Department applies adverse inferences to ensure that the party does not obtain a more favorable result by failing to cooperate than if it had cooperated fully. One factor the Department considers in applying facts

available is the extent to which a party may benefit from its own lack of participation. See SAA at 870.

In the 1996/1997 review, we invited interested parties to supply specific data that the Department could consider in the event that we chose to establish a facts available rate that would be more appropriate to that segment of the proceeding. In response to this request for information, the petitioner, in its case brief, requested that we use the simple average of the dumping margins from the petition as adverse facts available (yielding a margin of 136.72 percent). The respondents did not comment on this issue.

As we did in the 1996/1997 administrative review, in order to fully consider this issue, we placed a copy of the original petition and the amendment to the petition from the investigation on the record of this administrative review (1997/1998 administrative review). After further analysis of the petition, and in light of the non-compliance by five companies, we again re-examined the bases for the initial dumping allegation. Based on this re-examination, we continue to find that the price-to-price sales used in the petition calculation are appropriate for use as adverse facts available in this review and have increased the adverse facts available rate from 13.79 percent to 136.72 percent as described in *Comment 1*.

Section 776(c) of the Act provides that the Department shall in using facts available, to the extent practicable, corroborate secondary information from independent sources reasonably at its disposal. The SAA provides that "corroborate" means that the Department will satisfy itself that the secondary information to be used has probative value. See H.R. Doc. 316, Vol. 1, 103d Cong., 2d sess. 870 (1994). To corroborate secondary information, the Department will, to the extent practicable, examine the reliability and relevance of the information to be used. However, where corroboration is not practicable, the Department may use uncorroborated information. See *Notice of Final Results and Partial Rescission of Antidumping Duty Administrative Review: Certain Pasta from Turkey*, 63 FR 68429 (December 11, 1998).

To corroborate the export prices in the petition, we looked at the Customs Service import statistics from 1991 for the HTSUS subheadings 7312.10.9030, 7312.10.9060, and 7312.10.9090. However, we concluded that the Customs Service data was not comparable to the prices in the petition, because the Customs Service data encompasses a wide range of steel wire

rope products, while the sales in the petition consist of a small number of specific product types. With regard to the normal values used in the petition's margin calculation, we were provided with no useful information by interested parties, and are aware of no other independent sources of information which would assist us in this aspect of the corroboration process.

Notwithstanding the difficulties encountered in our attempts to corroborate the information from the petition, the Department has no evidence that suggests that the margins in the petition do not have probative value. Accordingly, we determine that the information from the petition is still the most appropriate basis for facts available. We note that the SAA specifically states that "the fact that corroboration may not be practicable in a given circumstance will not prevent the agencies from applying an adverse inference under subsection (b)." See SAA at 870. Moreover, the SAA emphasizes that the Department need not prove that the facts available are the best alternative information. See SAA at 869.

In this instance, as discussed below in *Comment 1*, we have no reason to believe that the application of the average petition margin for Korean steel wire rope as the adverse facts available rate is inappropriate. Therefore, for the final results, we are assigning Dong-Il, Dong Young, Jinyang, Sungsan, and Yeonsin the rate of 136.72 percent as adverse facts available. In addition, as discussed in *Comment 2*, we are continuing to assign Kwangshin Rope a rate of 1.51 percent based on the all others rate as a non-adverse facts available rate. See also the Department's April 7, 1999, Memorandum from John Brinkmann to Richard W. Moreland regarding application of facts available.

### Comparisons

To determine whether sales of steel wire rope to the United States were made at less than normal value for Kumho, we compared the export price to the normal value. We made no changes in the margin calculation from the preliminary results of this review.

### Analysis of Comments Received

#### *Comment 1: Application of Adverse Facts Available to Non-responding Companies*

The petitioner argues that the adverse facts available rate of 13.79 percent established in the final results of the 1996/1997 review (see *Steel Wire Rope from the Republic of Korea; Final Results of Antidumping Duty*

<sup>1</sup> We have applied facts available to seven companies in the 1992/1994 review, five companies in the 1994/1995 review, three companies in the 1995/1996 review, four companies in the 1996/1997 review, and six companies in this review (1997/1998).

*Administrative Review and Revocation in Part of Antidumping Duty Order*, 63 FR 17986, 17987 (April 13, 1998)) and applied to uncooperative respondents in the preliminary results of this review should be adjusted to fully reflect the dumping margins calculated in the antidumping petition (see *Preliminary Results*). The petitioner explains that when the Department calculated the current adverse facts available rate for the final results of the 1996/1997 review, the Department used an average of the rates in the petition, after excluding certain rates that pertained to wire rope manufactured to Military Specification (Mil Spec.). The petitioner argues that a respondent "should not find itself in a better position as a result of its noncompliance than it would have had it provided the Department with complete, accurate and timely information," citing *Silicon Metal From Argentina: Final Results of Antidumping Duty Administrative Review*, 58 FR 65336, 65338 (December 14, 1993) and *Olympic Adhesives, Inc. v. United States*, 899 F.2d 1565, 1571-72 (Fed. Cir. 1990), (explaining that parties should not be allowed to control the magnitude of the dumping margin by selectively providing the Department with information).

The petitioner asserts that the Department should include all the rates in the petition for the adverse facts available calculation for the current review. According to the petitioner, some of the sales excluded by the Department were not labeled as wire rope manufactured to Mil Spec. Additionally, the petitioner argues that the Department should include the sales labeled as Mil Spec., because these sales were not necessarily "certified" as Mil Spec. The petitioner asserts that, regardless of whether the manufacturers were certified to sell Mil Spec. wire rope in the United States, Kumho in this review, and two other companies in prior reviews, sold products manufactured to Mil Spec.

#### *DOC Position*

We agree with the petitioner that we should base the calculation of the adverse facts available margin on the average of all rates provided in the petition. The highest rate ever calculated for this case was 1.51 percent. Thus during the investigation and until the 1996/1997 review, the adverse facts available margin was 1.51 percent. Based upon a history of non-compliance by respondents in prior reviews, we determined in the 1996/1997 review that the rate was not sufficiently adverse to encourage compliance. See *Steel Wire Rope from*

*the Republic of Korea; Final Results of Antidumping Duty Administrative Review and Revocation in Part of Antidumping Duty Order*, 63 FR 17986 (April 13, 1998), *Hot-Rolled Flat-Rolled Carbon Quality Steel Products from Japan*, 64 FR 8291 (February 19, 1999) and *Hot-Rolled Flat-Rolled Carbon Quality Steel Products from Brazil*, 64 FR 8299 (February 19, 1999). Therefore, we looked to the petition for information to support an adverse facts available rate that would encourage respondents to participate in future reviews.

When reviewing the petition prices and the evidence in the record for the 1996/97 review, we determined that Korean producers manufacture steel wire rope which differs significantly from steel wire rope built to the more demanding Mil Spec. Since information in the petition indicated that some of the price-to-price comparisons involved Mil Spec. sales, we excluded those sales from our calculation. This determination was consistent with Department's practice of excluding from the calculation of the adverse facts available rate a rate which is unrepresentative of the industry sales (see *Fresh Cut Flowers from Mexico; Final Results of Antidumping Duty Administrative Review*, 61 FR 40604, 40606 (August 5, 1996)).

As explained in the *Use of Facts Available* section above, application of adverse facts available in this administrative review is appropriate for Dong-Il, Dong Young, Jinyang, Yeonsin, and Sungsan, since they received and did not respond to our antidumping questionnaire. Furthermore, the record indicates that these companies are still operating. Therefore, based upon the information currently in the record and the continued non-compliance of respondents in this proceeding, it appears that the rate applied in the 1996/1997 review is no longer the appropriate rate for the facts available margin. First, evidence in the current review indicates that, regardless of whether Korean steel wire rope manufacturers were certified to sell Mil Spec. steel wire rope in the United States, at least one company did in fact export to the United States merchandise produced to Mil Spec. in significant quantities during the POR. Thus, there is no indication that Mil Spec. products are unrepresentative of industry sales from Korea. Second, based upon the continued non-compliance of respondents in this proceeding, we find that the margin of 13.79 percent is not sufficiently adverse to encourage compliance.

As we have determined that the petition provides an appropriate basis for adverse facts available data, and that we have no further indication that any of the price-to-price comparisons in the petition are unrepresentative, we find that it is proper to rely on all 52 transactions set forth in the petition as the basis for adverse facts available. We have determined, based upon the evidence on the record of this current review, that a simple average of all 52 rates in the petition would be sufficiently adverse to encourage compliance by exporters, and not unrepresentative of industry sales. The revised rate used as adverse facts available for the final results is 136.72 percent.

#### *Comment 2: Application of Facts Available to a Closed Company*

The petitioner argues that Kwangshin Rope failed to cooperate and should be subject to an adverse facts available rate to the same extent as the other uncooperative respondents (see *Comment 1*). Even though Kwangshin Rope was closed, the petitioner asserts that some or all of the required information for a response to the Department's questionnaire is still in possession of a successor, receiver or holding company. Thus, the petitioner states that Kwangshin Rope did not act to the best of its ability to comply with the Department's request for information (citing *Antidumping Duties; Countervailing Duties, Final Rule*, 62 FR 27296, 27340 (May 19, 1997)).

The petitioner further asserts that it is not clear whether there was an absence of bad faith on the part of Kwangshin Rope and that the Department has clear authority to make an adverse inference. The petitioner argues that there is clear and compelling logic in support of an adverse inferences since the deposit and payment of antidumping duties are the responsibility of the U.S. importer. In addition, the petitioner states that Kwangshin Rope was an uncooperative respondent in the 1992/1994 and 1994/1995 administrative reviews.

#### *DOC Position*

We disagree that Kwangshin Rope failed to cooperate and should be given an adverse facts available rate. Section 776(b) of the Act states that an adverse inference is applied only when "an interested party has failed to cooperate by not acting to the best of its ability." Thus, we do not generally apply adverse facts available where the record indicates that the respondent did not receive our questionnaire. See, e.g., *Notice of Preliminary Determination of Sales at Less Than Fair Value: Static*

*Random Access Memory Semiconductors from Taiwan (SRAMS from Taiwan)* 62 FR 51442, (Oct. 1, 1997), decision confirmed in *Final Determination of SRAMS from Taiwan, and Queen's Flowers de Columbia v. United States*, Slip Op. 97-120 (CIT Aug. 25, 1997) (the use of adverse "best information available" was unwarranted where the respondent did not receive a questionnaire the Department sent to an incorrect address). In this review, Kwangshin Rope's questionnaire was returned because the company was closed. Therefore, in accordance with our practice, it would be inappropriate to assign an adverse facts available rate to a company which is not capable of rebutting an inference of adverse facts available. For the final results, we have continued to apply the all others rate as facts available for Kwangshin Rope.

**Final Results of Review**

We determine the following margins exist for the period March 1, 1997, through February 28, 1998:

| Manufacturer/exporter                      | Margin (percent) |
|--|------------------|
| Dong-II Steel Manufacturing Co., Ltd. .... | *136.72          |
| Dong Young .....                           | *136.72          |
| Jinyang Wire Rope, Inc. ....               | *136.72          |
| Kumho Wire Rope Mfg. Co., Ltd. ....        | 0.25             |
| Kwangshin Rope .....                       | **1.51           |
| Sungsan Special Steel Processing .....     | *136.72          |
| Yeonsin Metal .....                        | *136.72          |

\* Adverse facts available rate based on information provided in petition  
 \*\* Non-adverse facts available rate based on the all others rate.

The Department shall determine, and the Customs Service shall assess, antidumping duties on all appropriate entries. In accordance with 19 CFR 351.212 (b)(1), we have calculated importer-specific assessment rates by dividing the dumping margin found on the subject merchandise examined by the entered value of such merchandise. We will direct the Customs Service to assess antidumping duties by applying the assessment rate to the entered value of the merchandise entered during the POR, except where the assessment rate is *de minimis* (see 19 CFR 351.106(c)(2)). The Department will issue appraisement instructions on each exporter directly to the Customs Service.

Furthermore, the following deposit requirements will be effective for all shipments of the subject merchandise entered, or withdrawn from warehouse, for consumption on or after the publication date of the final results of

this administrative review, as provided by section 751(a)(1) of the Act: (1) The cash deposit rates for the other reviewed companies will be those rates established above (except that, if the rate for a firm is *de minimis*, i.e., less than 0.5 percent, a cash deposit of zero will be required for that firm); (2) for previously reviewed or investigated companies not listed above, the cash deposit rate will continue to be the company-specific rate published for the most recent period; (3) if the exporter is not a firm covered in this review, a prior review, or the original less-than-fair-value (LTFV) investigation, but the manufacturer is, the cash deposit rate will be the rate established for the most recent period for the manufacturer of the merchandise; and (4) if neither the exporter nor the manufacturer is a firm covered in this or any previous review or the LTFV investigation, the cash deposit rate will be 1.51 percent, the "all others" rate established in the LTFV investigation (58 FR 11029).

These deposit requirements shall remain in effect until publication of the final results of the next administrative review.

This notice serves as a final reminder to importers of their responsibility to file a certificate regarding the reimbursement of antidumping duties prior to liquidation of the relevant entries during this review period. Failure to comply with this requirement could result in the Secretary's presumption that reimbursement of antidumping duties occurred and the subsequent assessment of double antidumping duties.

This notice also serves as a reminder to parties subject to administrative protective orders (APOs) of their responsibility concerning the disposition of proprietary information disclosed under APO in accordance with 19 CFR 353.34(d)(1). Timely written notification of the return/destruction of APO materials or conversion to judicial protective order is hereby requested. Failure to comply with the regulations and the terms of an APO is a sanctionable violation. This determination is issued and published in accordance with sections 751(a)(1) and 777(i)(1) of the Act.

Dated: April 7, 1999.  
**Richard W. Moreland,**  
*Acting Assistant Secretary for Import Administration.*  
 [FR Doc. 99-9195 Filed 4-12-99; 8:45 am]  
**BILLING CODE 3510-DS-P**

**DEPARTMENT OF COMMERCE**

**International Trade Administration**  
**[A-549-502]**

**Certain Welded Carbon Steel Pipes and Tubes From Thailand: Preliminary Results of Antidumping Duty Administrative Review**

**AGENCY:** Import Administration, International Trade Administration, Department of Commerce.  
**ACTION:** Notice of Preliminary Results of Antidumping Duty Administrative Review: Certain Welded Carbon Steel Pipes and Tubes From Thailand.

**SUMMARY:** In response to requests by two importers, Ferro Union Inc. ("Ferro Union"), and ASOMA Corp. ("ASOMA"), and four domestic producers, Allied Tube and Conduit Corporation, Sawhill Tubular Division—Armco, Inc., Wheatland Tube Company, and Laclede Steel Company (collectively, the "domestic producers" or "petitioners"), the Department of Commerce ("the Department") is conducting an administrative review of the antidumping duty order on certain welded carbon steel pipes and tubes from Thailand. This review covers Saha Thai Steel Pipe Co., Ltd. ("Saha Thai"), a Thai manufacturer and its affiliated exporter of the subject merchandise to the United States. The period of review (POR) is March 1, 1997 through February 28, 1998.

We have preliminarily determined that the respondent sold subject merchandise at less than normal value ("NV") during the POR. If these preliminary results are adopted in our final results, we will instruct U.S. Customs to assess antidumping duties based on the differences between the export price and NV.

Interested parties are invited to comment on these preliminary results. Parties who submit argument in this proceeding should also submit with the argument (1) a statement of the issue, and (2) a brief summary of the argument.

**EFFECTIVE DATE:** April 13, 1999.  
**FOR FURTHER INFORMATION CONTACT:** John Totaro, AD/CVD Enforcement Group III, Office VII, Room 7866, Import Administration, International Trade Administration, U.S. Department of Commerce, 14th Street and Constitution Avenue, NW, Washington, DC 20230; telephone: (202) 482-1374.

*Applicable Statute*

Unless otherwise indicated, all citations to the statute are references to the provisions effective January 1, 1995,

the effective date of the amendments made to the Tariff Act of 1930 ("the Act") by the Uruguay Round Agreements Act ("URAA"). In addition, unless otherwise indicated, all citations to the Department's regulations are to those codified at 19 CFR Part 351 (1998).

#### SUPPLEMENTARY INFORMATION:

##### Background

On March 11, 1986, the Department published in the **Federal Register** an antidumping duty order on welded carbon steel pipes and tubes from Thailand (51 FR 8341). On March 11, 1998, the Department published a notice of opportunity to request an administrative review of this order covering the period March 1, 1997 through February 28, 1998 (63 FR 11868).

Timely requests for an administrative review of the antidumping order with respect to sales by Saha Thai during the POR were filed by Ferro Union and ASOMA, and by domestic producers. The Department published a notice of initiation of this antidumping duty administrative review on April 24, 1998 (63 FR 20378).

Because the Department determined that it was not practicable to complete this review within statutory time limits, on November 27, 1998, we published in the **Federal Register** our notice of extension of time limits for this review (63 FR 65573). As a result, we extended the deadline for these preliminary results. The deadline for the final results will continue to be 120 days after publication of these preliminary results.

##### Scope of the Review

The products covered by this administrative review are certain welded carbon steel pipes and tubes from Thailand. The subject merchandise has an outside diameter of 0.375 inches or more, but not exceeding 16 inches. These products, which are commonly referred to in the industry as "standard pipe" or "structural tubing," are hereinafter designated as "pipe and tube." The merchandise is classifiable under the Harmonized Tariff Schedule (HTS) item numbers 7306.30.1000, 7306.30.5025, 7306.30.5032, 7306.30.5040, 7306.30.5055, 7306.30.5085 and 7306.30.5090. Although the HTS subheadings are provided for convenience and Customs purposes, our written description of the scope of the order is dispositive. This review covers sales by Saha Thai during the period March 1, 1997 through February 28, 1998.

##### Verification

As provided in section 782(i) of the Act, we verified sales information provided by the respondent Saha Thai from January 25 through January 29, 1999, using standard verification procedures, including examination of relevant financial records and analysis of original documentation used by Saha Thai to prepare responses to requests for information from the Department. Our verification results are outlined in the public version of the verification report (Memorandum to the File from Steve Bezirgianian and Marlene Hewitt, February 24, 1999) ("Saha Thai Verification Report").

##### Tolling Operations

Saha Thai claimed that, during the POR, it converted coil into pipe pursuant to a tolling arrangement with a home market trading company. However, sales of the alleged tolled merchandise are not subject to this review because entries did not occur during the POR. See Memorandum to the File from John Totaro, March 31, 1999.

##### Date of Sale

As in previous segments of this proceeding, Saha Thai reported invoice date as the date of sale. We examined whether invoice date was the appropriate date of sale, i.e., whether the material terms of sale were established on an earlier date. During verification, Saha Thai officials reported that in fact price and quantity were established at the date of the purchase order. We examined the record evidence and found that Saha Thai's statement at verification is not entirely supported by the record. Given the inconclusive record evidence and the potential problems associated with changing date of sale at this juncture in the proceeding, we find that invoice date is the appropriate date of sale. See Preamble to the Final Regulations, 62 FR 27296, 27348-50 (May 19, 1997).

##### Affiliation and Collapsing Determinations

In the 1996-1997 administrative review, we found Saha Thai affiliated under section 771(33)(F) of the Act with Thai Tube Co., Ltd. ("Thai Tube"), Thai Hong Steel Pipe Import Export Co., Ltd. ("Thai Hong") and the Siam Steel Group, a member of which, Siam Matsushita Steel Co., Ltd., is a producer of PVC lined and coated steel pipes. We examined whether it was appropriate to collapse each of these affiliated producers with Saha Thai for margin calculation purposes, in accordance with 19 CFR 351.401(f). We found

insufficient evidence to collapse Saha Thai with any of these affiliated producers. No new factual information has been presented to warrant changing these previous findings for the instant review. Saha Thai did present certain new factual information regarding Thai Tube and Thai Hong, but it had no impact on our findings. See Memorandum to the File from John Totaro, (March 31, 1999) ("Thai Tube/Thai Hong Memorandum").

Also in the previous administrative review, the Department found that Saha Thai was affiliated under section 771(33)(F) of the Act with three resellers of the foreign like product. The facts on the record in the instant review relating to this affiliation determination are unchanged from those on the record of the previous review, and support our finding of affiliation under section 771(33)(F) of the Act between Saha Thai and these three resellers. However, because Saha Thai's sales to these resellers accounted for less than five percent of Saha Thai's total home market sales, the Department did not require Saha Thai to report the downstream sales by these resellers. See Memorandum to the File, March 31, 1999 ("Downstream Sales Memorandum").

##### Fair Value Comparisons

To determine whether sales of steel pipes and tubes from Thailand to the United States were made at less than normal value (NV), we compared the export price (EP) to the NV for Saha Thai as specified in the "Export Price" and "Normal Value" sections of this notice. In accordance with section 777A(d)(2), we calculated monthly weighted-average prices for NV and compared these to individual U.S. transactions.

##### Export Price

We classified all Saha Thai sales to United States customers as EP sales because Saha Thai is not affiliated with its U.S. distributors, which are the first purchasers in the United States. *Certain Welded Carbon Steel Pipes and Tubes From Thailand: Final Results of Antidumping Duty Administrative Review*, 61 FR 56515, 56517 (November 1, 1996). In this review, the record evidence presents no factual circumstances warranting a change from this prior analysis. Accordingly, we calculated the EP based on the price from Saha Thai to the first unaffiliated purchaser in the United States in accordance with section 772(a) of the Act. Where appropriate, in accordance with section 772(c)(2) of the Act, we made deductions from the starting price

for ocean freight to the U.S. port, foreign inland freight, foreign brokerage and handling, foreign inland insurance, and bill of lading charge. We denied Saha Thai's request for a duty drawback adjustment because we were unable to verify that the claimed adjustment accurately reflects the actual amount of duty drawback received.

#### Normal Value

In order to determine whether there is a sufficient volume of sales in the home market to serve as a viable basis for calculating NV, we compared the volume of Saha Thai's home market sales of the foreign like product to the volume of U.S. sales of subject merchandise, in accordance with section 773(a)(1) of the Act. Based on this comparison, we determined that the aggregate volume of Saha Thai's home market sales of the foreign like product is greater than five percent of the aggregate volume of Saha Thai's U.S. sales. Thus, we determined that Saha Thai had a viable home market during the POR. Consequently, we based NV on home market sales.

As discussed above, we found Saha Thai and its three home market resellers affiliated under section 771(33)(F) of the Act. Based on this finding, we applied the standard arm's length test to Saha Thai's sales to these affiliated resellers. However, as stated above, we did not require Saha Thai to report the resellers' downstream sales. Therefore, where Saha Thai's sales to these resellers were not made at arm's length prices, we excluded these sales from our home market normal value calculation. See Memorandum to File from Marlene Hewitt, March 31, 1999 ("Downstream Sales Memorandum").

Pursuant to section 773(b)(2)(A)(ii) of the Act, there were reasonable grounds to believe or suspect that Saha Thai had made home market sales at prices below its cost of production ("COP") in this review because the Department had disregarded sales below the COP in the 1996-1997 administrative review (i.e., the most recently completed review at the time we issued our antidumping questionnaire). As a result, the Department initiated an investigation to determine whether Saha Thai made home market sales during the POR at prices below its COP. We calculated the COP based on the sum of respondent's cost of materials and fabrication for the foreign like product, plus amounts for SG&A and packing costs, in accordance with section 773(b)(3) of the Act.

We used respondent's reported COP amounts with certain adjustments to compute weighted-average COPs during the POR. Specifically, we did not allow

Saha Thai's request to amortize certain portions of its POR exchange rate losses over five years because these losses were incurred on short-term foreign currency debt for terms shorter than five years and Saha Thai booked the entire amount of these losses on its financial statements. To incorporate this change we recalculated Saha Thai's net interest expense rate, general and administrative expenses rate, and materials cost calculation. In addition, we recalculated Saha Thai's hot-rolled coil cost calculation to correct an error identified at verification.

We compared the COP figures to home market sales of the foreign like product as required under section 773(b) of the Act, in order to determine whether these sales had been made at prices below the COP. On a product-specific basis, we compared the COP to home market prices, less any applicable movement charges, discounts and credit notes.

In determining whether to disregard home market sales made at prices below the COP, we examined (1) whether, within an extended period of time, such sales were made in substantial quantities, and (2) whether such sales were made at prices which permitted the recovery of all costs within a reasonable period of time in the normal course of trade.

Pursuant to section 773(b)(2)(C) of the Act, where less than 20 percent of the respondent's sales of a given product were at prices less than the COP, we did not disregard any below-cost sales of that product because we determined that the below-cost sales were not made in "substantial quantities." Where 20 percent or more of the respondent's sales of a given product during the POR were at prices less than the COP, we determined such sales to have been made in substantial quantities within an extended period of time in accordance with section 773(b)(1)(A) of the Act. In such cases, we also determined that such sales were not made at prices which would permit recovery of all costs within a reasonable period of time, in accordance with section 773(b)(1)(B) of the Act. Therefore, we disregarded the below-cost sales.

Where appropriate, we adjusted Saha Thai's home market sales for discounts, credit expenses, inland freight, inland insurance, and warehousing. We also adjusted the home market sales made by reseller Company B for credit notes. In addition, in accordance with section 773(a)(6), we deducted home market packing costs and added U.S. packing costs.

In accordance with section 773(e) of the Act, we calculated CV based on the

sum of Saha Thai's cost of materials, fabrication, SG&A, profit, and U.S. packing costs. We made certain adjustments to CV which are detailed in the COP section, above. In accordance with section 773(e)(2)(A) of the Act, we based SG&A expenses and profit on the amounts incurred and realized by Saha Thai in connection with the production and sale of the foreign like product in the ordinary course of trade, for consumption in the foreign country. For selling expenses, we used the average of the selling expenses reported for home market sales that passed the cost test, weighted by the total quantity of those sales. For actual profit, we first calculated the difference between the home market sales value and home market COP, and divided the difference by the home market COP. We then multiplied this percentage by the COP for each U.S. model to derive an actual profit.

#### Level of Trade

As set forth in section 773(a)(1)(B)(i) of the Act and in the SAA, to the extent practicable, we determine NV based on sales in the comparison market at the same level of trade as the EP or the CEP. The NV level of trade is that of the starting-price sales in the comparison market or, when NV is based on CV, that of the sales from which we derive selling, general and administrative expenses and profit. For EP, the U.S. level of trade is the level of the starting-price sale, which is usually from exporter to importer.

To determine whether NV sales are at a different level of trade than EP or CEP, we examine stages in the marketing process and selling functions along the chain of distribution between the producer and the unaffiliated customer. If the comparison-market sales are at a different level of trade, and the difference affects price comparability, as manifested in a pattern of consistent price differences between the sales on which NV is based and comparison-market sales at the level of trade of the export transaction, we make a level of trade adjustment under section 773(a)(7)(A) of the Act. See *Notice of Final Determination of Sales at Less Than Fair Value: Certain Cut-to-Length Carbon Steel Plate from South Africa*, 62 FR 61731 (November 19, 1997).

For the U.S. market, Saha Thai reported only one level of trade for its EP sales. This single level of trade represents large volume sales to unaffiliated trading companies/distributors in the U.S. In the home market as well, Saha Thai claimed that it made sales at one level of trade. These sales were made to unaffiliated trading

companies and distributors (made at the same level of trade as U.S. sales). There are no differences in the selling functions Saha Thai performs for these customers in the home market or in the U.S. Therefore, we conclude that EP and NV sales are made at the same LOT and no adjustment is warranted.

### Currency Conversion

We made currency conversions into U.S. dollars in accordance with section 773A of the Act, based on exchange rates in effect on the dates of the U.S. sales as certified by the Federal Reserve Bank. Section 773A(a) of the Act directs the Department to use a daily exchange rate in order to convert foreign currencies into U.S. dollars unless the daily rate involves a fluctuation. It is the Department's practice to find that a fluctuation exists when the daily exchange rate differs from the benchmark rate by 2.25 percent. The benchmark is defined as the moving average of rates for the past 40 business days. When we determine a fluctuation to have existed, we substitute the benchmark rate for the daily rate, in accordance with established practice. See Change in Policy Regarding Currency Conversions, 61 FR 9434 (March 8, 1996).

Our preliminary analysis of Federal Reserve dollar-baht exchange rate data shows that the value of the Thai baht in relation to the U.S. dollar fell on July 2, 1997 by more than 18 percent from the previous day and did not rebound significantly in a short time. This decline was many times more severe than any single-day decline during several years prior to that date. Had the baht rebounded quickly enough to recover all or almost all of the loss, the Department might have been inclined to view this decline as nothing more than a momentary drop, despite the magnitude of that drop. However, there was no significant rebound. Therefore, we have preliminarily determined that the decline in the baht from July 1, 1997 to July 2, 1997 was of such a magnitude that the dollar-baht exchange rate cannot reasonably be viewed as having simply fluctuated at this time, i.e., as having experienced only a momentary drop in value, relative to the normal benchmark. Therefore, for exchange rates between July 2 and August 27, 1997, the Department relied on the standard exchange rate model, but used as the benchmark rate a (stationary) average of the daily rates over this period. In this manner we used a post-precipitous drop benchmark, but at the same time avoided undue daily fluctuations in exchange rates. For the period after August 27, 1997, we used

the standard (rolling 40-day average) benchmark.

### Preliminary Results of the Review

We preliminarily determine that the following weighted-average dumping margins exist:

| Manufacturer/exporter | Period         | Margin (percent) |
|-----------------------|----------------|------------------|
| Saha Thai             | 3/1/97-2/28/98 | 12.83            |

Parties to the proceeding may request disclosure within five days of the date of publication of this notice. Any interested party may request a hearing within 30 days of publication. Any hearing, if requested, will be held 37 days after the date of publication or the first business day thereafter. Case briefs and/or other written comments from interested parties may be submitted not later than 30 days after the date of publication. Rebuttal briefs and rebuttals to written comments, limited to issues raised in those comments, may be filed not later than 35 days after the date of publication of this notice. The Department will publish the final results of this administrative review, which will include the results of its analysis of issues raised in any such comments, within 120 days from the date of publication of these preliminary results.

The Department shall determine, and the U.S. Customs Service shall assess, antidumping duties on all appropriate entries. In accordance with 19 CFR 351.212(b), we calculated importer-specific ad valorem duty assessment rates for the class or kind of merchandise based on the ratio of the total amount of antidumping duties calculated for the examined sales made during the POR to the total customs value of the sales used to calculate those duties. This rate will be assessed uniformly on all entries that particular importer made during the POR. Upon completion of this review, the Department will issue appraisal instructions directly to the Customs Service.

Furthermore, the following deposit rates will be effective upon the publication of the final results of these administrative reviews for all shipments of circular welded carbon steel pipes and tubes from Thailand entered, or withdrawn from warehouse, for consumption on or after the publication date, as provided for by Section 751(a)(2)(c) of the Act: (1) the cash deposit rate for the reviewed company will be that established in the final results of this review; (2) for previously reviewed or investigated companies not

listed above, the cash deposit rate will continue to be the company-specific rate published for the most recent period; (3) if the exporter is not a firm covered in this review, or the original LTFV investigation, but the manufacturer is, the cash deposit rate will be the rate established for the most recent period for the manufacturer of the merchandise; (4) the cash deposit rate for all other manufacturers or exporters will continue to be 15.67 percent, the "All Others" rate made effective by the LTFV investigation. These requirements, when imposed, shall remain in effect until publication of the final results of the next administrative review.

This notice serves as a preliminary reminder to importers of their responsibility under 19 CFR 351.402(f) to file a certificate regarding the reimbursement of antidumping duties prior to liquidation of the relevant entries during this review period. Failure to comply with this requirement could result in the Secretary's presumption that reimbursement of antidumping duties occurred and the subsequent assessment of double antidumping duties.

These preliminary results of review are issued and published in accordance with sections 751(a)(1) and 777(i)(1) of the Act.

Dated: March 31, 1999.

**Robert S. LaRussa,**

*Assistant Secretary for Import Administration.*

[FR Doc. 99-9193 Filed 4-12-99; 8:45 am]

BILLING CODE 3510-DS-P

## DEPARTMENT OF COMMERCE

### International Trade Administration

[C-423-806]

### Cut-to-Length Carbon Steel Plate From Belgium; Amended Final Results of Countervailing Duty Administrative Review

**AGENCY:** Import Administration, International Trade Administration, Department of Commerce.

**ACTION:** Notice of Amended Final Results of Countervailing Duty Administrative Review.

**FOR FURTHER INFORMATION CONTACT:** Gayle Longest or Eva Temkin, Group II, Office of CVD/AD Enforcement VI, Import Administration, International Trade Administration, U.S. Department of Commerce, 14th Street and Constitution Avenue, NW., Washington, DC 20230; telephone: (202) 482-2786.

**SUMMARY:** On March 16, 1999, the Department of Commerce (the Department) published in the **Federal Register** its final results of administrative review of the countervailing duty order on cut-to-length carbon steel plate from Belgium for the period January 1, 1996 through December 31, 1996 (64 FR 12982) (*Final Results*). Subsequent to the publication of the *Final Results*, we received comments from the petitioners alleging various ministerial errors. After analyzing the comments submitted, we are amending our final results to correct certain ministerial errors. Based on the correction of these ministerial errors, we have changed the net subsidy for Fabrique de Fer de Charleroi, S.A. (Fafer). We will instruct the U.S. Customs Service to assess countervailing duties as detailed in the *Final Results of Review* section of this notice.

**EFFECTIVE DATE:** April 13, 1999.

**SUPPLEMENTARY INFORMATION:**

#### Applicable Statute

Unless otherwise indicated, all citations to the statute are references to the provisions of the Tariff Act of 1930, as amended by the Uruguay Round Agreements Act (URAA) effective January 1, 1995 (the Act). In addition, all citations to the Department's regulations reference 19 CFR Part 351 (1998).

#### Background

On March 16, 1999, the Department published the final results of its administrative review of the countervailing duty order on cut-to-length carbon steel plate from Belgium for the period January 1, 1996 through December 31, 1996 (64 FR 12982). After publication of our *Final Results*, we received timely allegations from petitioners that we had made ministerial errors in calculating the final results. We also received timely rebuttal comments from the respondent.

A summary of the allegation and rebuttal comments along with the Department's response is included below. We corrected our calculations, where we agree that we made ministerial errors, in accordance with section 751(h) of the Act.

#### Clerical Error Allegation

**Allegation:** Petitioners allege that we inadvertently allocated the two grants received by Fafer's affiliate, Parachevement et Finitions de Metaux (PFM), over the average useful life (AUL) of Fafer's assets rather than properly expensing them in the year of receipt. Petitioners cite the *General*

*Issues Appendix* appended to *Final Affirmative Countervailing Duty Determination: Certain Steel Products From Austria (GIA)*, 58 FR 37217, 37226 (July 9, 1993) (proposed 19 C.F.R. section 355.49(a)(3)(i)(A)) and state that under the Department's standard grant methodology, the sum of grants provided under a particular domestic subsidy program in a given year are expensed in the year in which the grant was provided when this sum is less than 0.50 percent of the firm's total sales. Petitioners further cite the Department's comments on the *Notice of Proposed Rulemaking and Request for Public Comments (1989 Proposed Regulations)*, 54 FR 37217, which state that the "purpose of this rule is to avoid any anomalies caused by the interaction of the Department's allocation formula and the *de minimis* rule" \* \* \* See 54 FR 23376 (May 31, 1989).

Petitioners assert that PFM received two grants under the 1970 Law in 1996 and that these benefits are 0.425 percent of Fafer's domestic sales in 1996. Therefore, petitioners contend that these grants should be expensed in the year of receipt.

In rebuttal, the respondent, Fabrique de Fer de Charleroi (Fafer), argues that the issues raised by petitioners in its allegation are not a ministerial matter, but rather a methodological approach to calculations by the Department. The respondent cites the Department's regulations at 19 C.F.R. 351.224, which define a ministerial error as, "an error in addition, subtraction, or other arithmetic function, clerical error resulting from inaccurate copying, duplication, or the like, and any other similar type of unintentional error which the Secretary considers ministerial." The respondent asserts that the Department used its discretion in the final results and correctly calculated the benefit by expensing a portion of the benefits in this case rather than expensing the entire benefit during the period of review. Fafer contends that the Department chose this calculation methodology to avoid significant substantive anomalies that would result from expensing the entire benefit during the 1996 review period, a distortively high countervailing duty rate.

The respondent cites *Final Rule: Countervailing Duties*, 63 FR 65358 (November 25, 1998) (*Final Rule*) which states that the Department will normally expense grant amounts for a program in the year that they were given, if those amounts are less than 0.5 percent of the total value of sales for that year. The respondent maintains that the 0.5 test is an exception to the general rule of allocating non-recurring grants which is

applied to reduce the administrative burden in cases where the impact is minuscule. The respondent asserts that the Department has the discretion to apply the 0.5 test on a case by case basis and in this case has chosen to use its general practice of allocating non-recurring grants over the AUL instead. The respondent argues that there is no administrative burden in this case because the calculations have been completed. Moreover, to change the allocation methodology would have a significant impact on Fafer's countervailing duty rate which would no longer be *de minimis* and would result in a duty being assessed for the POR.

In response to petitioners' assertion that the purpose of using the 0.5 percent test is to avoid anomalies between the allocation formula and the *de minimis* rule, the respondent argues that the only anomaly created would be from expensing these grants in a given year which would result in an affirmative countervailing duty rate rather than a *de minimis* one. The respondent argues that this is not the correct application of the 0.5 percent test exception for the allocation of grants. The respondent contends that the Department chose the calculation methodology which had no distortive effects.

Furthermore, the respondent argues that PFM's benefits should not be expensed in total during the review period, because, notwithstanding petitioners' claim that PFM's grants benefitted the subject merchandise, PFM did not in any way affect merchandise attributed to Fafer that was imported into the United States. Therefore, if PFM's benefits are attributed to Fafer, respondent argues that they should be calculated on the same basis as the calculations applied to Fafer.

**Department's Position:** We agree with petitioners that the Department made a ministerial error and should have expensed PFM's grants in the 1996 review period. We have changed the net subsidy rate accordingly. In the *Final Results*, the Department stated that it "employed the standard grant allocation methodology" as explained in the *GIA*, with respect to the grants received by S.A. Charleroi Deroulage (CD) and PFM. See 64 FR at 12984, citing *GIA*. However, inconsistent with the *GIA* and our application of the standard grant methodology throughout this proceeding, we inadvertently failed to apply the 0.50 percent test to the CD and PFM grants, and, consequently, allocated these grants over Fafer's AUL. Therefore, to correct this ministerial error, we applied this test and found

that the 1993 and 1996 grants were less than 0.50 percent of total domestic sales in the year that they were given. As a result, we have expensed the sum of PFM's grants provided in 1996 and included the total benefit of 0.42 percent *ad valorem* in the net subsidy rate for the 1996 review period. Moreover, we have determined that the grant provided in 1993 to Fafer's other affiliate, CD, would have been expensed in the 1993 review period and have not included CD's 1993 benefit in the net subsidy rate for the 1996 POR.

#### Amended Final Results of Review

As a result of the amended net subsidy calculations, we determine the net subsidy for Fafer to be 0.69 percent *ad valorem* for the period January 1, 1996 through December 31, 1996.

We will instruct the U.S. Customs Service (Customs) to assess countervailing duties of 0.69 percent *ad valorem* on shipments of the subject merchandise from Fafer exported on or after January 1, 1996, and on or before December 31, 1996. The Department will also instruct Customs to collect cash deposits of estimated countervailing duties of 0.69 percent of the f.o.b. invoice price on all shipments of the subject merchandise from Fafer as amended by this determination. The amended deposit requirements are effective for all shipments of the subject merchandise entered, or withdrawn from warehouse, for consumption on or after the date of publication of this notice and shall remain in effect until publication of the final results of the next administrative review.

Because the URAA replaced the general rule in favor of a country-wide rate with a general rule in favor of individual rates for investigated and reviewed companies, the procedures for establishing countervailing duty rates, including those for non-reviewed companies, are now essentially the same as those in antidumping cases, except as provided for in section 777A(e)(2)(B) of the Act. The requested review will normally cover only those companies specifically named. See 19 CFR 351.213(b). Pursuant to 19 CFR section 351.212(c), for all companies for which a review was not requested, duties must be assessed at the cash deposit rate, and cash deposits must continue to be collected at the rate previously ordered. As such, the countervailing duty cash deposit rate applicable to a company can no longer change, except pursuant to a request for a review of that company. See *Federal-Mogul Corporation and The Torrington*

*Company v. United States*, 822 F.Supp. 782 (CIT 1993) and *Floral Trade Council v. United States*, 822 F.Supp. 766 (CIT 1993). Therefore, the cash deposit rates for all companies except those covered by this review will be unchanged by the results of this amended final results of administrative review.

We will instruct Customs to continue to collect cash deposits for non-reviewed companies at the most recent company-specific or country-wide rate applicable to the company. Accordingly, the cash deposit rates that will be applied to non-reviewed companies covered by this order will be the rate for that company established in the most recently completed administrative proceeding conducted under the URAA. If such a review has not been conducted, the rate established in the most recently completed administrative proceeding pursuant to the statutory provisions that were in effect prior to the URAA amendments is applicable. See *Final Affirmative Countervailing Duty Determination: Certain Steel Products From Belgium* 58 FR 37273. These rates shall apply to all non-reviewed companies until a review of a company assigned these rates is requested. In addition, for the period January 1, 1996 through December 31, 1996, the assessment rates applicable to all non-reviewed companies covered by this order are the cash deposit rates in effect at the time of entry.

This notice serves as a reminder to parties subject to administrative protective order (APO) of their responsibility concerning the disposition of proprietary information disclosed under APO in accordance with 19 CFR section 355.34(d). Timely written notification of return/destruction of APO materials or conversion to judicial protective order is hereby requested. Failure to comply with the regulations and the terms of an APO is a sanctionable violation.

We are issuing and publishing this determination in accordance with sections 751(a)(1) and 777(i)(1) of the Act (19 U.S.C. 1675(a)(1) and 19 U.S.C. 1677f(i)(7)).

Dated: April 6, 1999.

**Robert S. LaRussa,**

*Assistant Secretary for Import Administration.*

[FR Doc. 99-9194 Filed 4-12-99; 8:45 am]

BILLING CODE 3510-DS-P

## DEPARTMENT OF COMMERCE

### National Oceanic and Atmospheric Administration

[I.D. 040699B]

#### Western Pacific Fishery Management Council; Public Meeting

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

**ACTION:** Notice of public meeting.

**SUMMARY:** The Western Pacific Fishery Management Council (Council) will hold a meeting of its Precious Corals Plan Team and Advisory Panel.

**DATES:** The meeting will be held on May 3, 1999, from 2:00 p.m. to 4:30 p.m.

**ADDRESSES:** The meeting will be held at NMFS Honolulu Laboratory, 2570 Dole St., Rm. 112, Honolulu, HI 96822-2396, telephone: 808-983-5300.

*Council address:* Western Pacific Fishery Management Council, 1164 Bishop St., Suite 1400, Honolulu, HI 96813.

**FOR FURTHER INFORMATION CONTACT:** Kitty M. Simonds, Executive Director; telephone: 808-522-8220.

**SUPPLEMENTARY INFORMATION:** Members of the Precious Corals Plan Team and Advisory Panel will discuss possible adjustments to established management measures in the Council's precious corals fishery management plan. These adjustments include suspending the harvest quota for live gold coral at the Makapu'u Bed; redefining the term "live coral"; prohibiting the harvest of black coral unless it has attained a minimum height of 48 inches or a stem diameter of 1 inch; applying size limits to harvested live coral only; prohibiting the use of non-selective gear; prohibiting the harvest of pink coral from any established or conditional bed unless it has attained a minimum height of 10 inches; revising the boundaries of Brooks Bank; increasing the annual harvest quota for live pink coral at Brooks Bank; suspending the harvest quota for live gold coral at Brooks Bank; classifying the FFS-Gold Pinnacles Bed as a conditional bed; setting the annual harvest quota for all types of live precious coral at the FFS-Gold Pinnacles at zero; and revising reporting and record keeping requirements.



Although other issues not contained in this agenda may come before these groups for discussion, in accordance with the Magnuson-Stevens Fishery Conservation and Management Act, those issues may not be the subject of formal action during this meeting. Action will be restricted to those issues specifically listed in this notice.

### Special Accommodations

This meeting is physically accessible to people with disabilities. Requests for sign language interpretation or other auxiliary aids should be directed to Kitty M. Simonds, 808-522-8220 (voice) or 808-522-8226 (fax), at least 5 days prior to meeting date.

Dated: April 7, 1999.

#### Bruce C. Morehead,

*Acting Director, Office of Sustainable Fisheries, National Marine Fisheries Service.*

[FR Doc. 99-9196 Filed 4-12-99; 8:45 am]

BILLING CODE 3510-22-F

## DEPARTMENT OF COMMERCE

### National Telecommunications and Information Administration

[Docket Number: 990302059-9089-02]

RIN: 0660-ZA07

### Public Telecommunications Facilities Program—Closing Date; Revision

**AGENCY:** National Telecommunications and Information Administration, Commerce.

**ACTION:** Notice of Availability of Funds; Revision.

**SUMMARY:** The National Telecommunications and Information Administration (NTIA) published a notice in the **Federal Register** March 16, 1999 announcing the Availability of Funds and a Closing Date for receipt of applications for applications for the Pan-Pacific Education and Communications Experiments by Satellite (PEACESAT) Program. This notice contains revised language.

**FOR FURTHER INFORMATION CONTACT:** William Cooperman, Acting Director, Public Telecommunications Facilities Program, telephone: (202) 482-5802; fax: (202) 482-2156.

### Revision

1. In the **Federal Register** of March 16, 1999, in FR Doc. 99-6390, on page 13060, first column, under the Date paragraph, revise the first sentence to read:

Date: Applications for the PEACESAT Program grant must be received on or before 5 p.m. on April 22, 1999.

2. In the **Federal Register** of March 16, 1999, in FR Doc. 99-6390 on page 13060, second column, under Supplementary Information, second paragraph, revise the last sentence to read:

NTIA anticipates making a single grant of not more than \$600,000 for the PEACESAT Program in FY 1999.

#### Bernadette McGuire-Rivera,

*Associate Administrator, Office of Telecommunications and Information Applications.*

[FR Doc. 99-9178 Filed 4-12-99; 8:45 am]

BILLING CODE 3510-60-P

## CORPORATION FOR NATIONAL AND COMMUNITY SERVICE

### Waiver of Match Requirements and an Increase in Allowable Cost Per Full-Time Equivalent (FTE) for the Virgin Islands, Guam, American Samoa, and the Northern Mariana Islands

**AGENCY:** Corporation for National and Community Service.

**ACTION:** Notice.

**SUMMARY:** The Corporation for National and Community Service (Corporation) announces a waiver of the Corporation's match requirements for the Virgin Islands, Guam, American Samoa, and the Northern Mariana Islands applying for FY 1999 AmeriCorps funds. In addition, the Corporation announces an increase in the allowable cost per FTE for organizations in the Virgin Islands, Guam, American Samoa, and the Northern Mariana Islands applying for FY 1999 AmeriCorps funds; the Corporation will consider applications with a cost per FTE of up to \$14,500, provided that the necessity for the increase is clearly documented in the proposal. Applications for FY 1999 AmeriCorps funds are due April 30, 1999.

**FOR FURTHER INFORMATION CONTACT:** Gayle Hilleke, (202) 606-5000, ext. 431. TDD (202) 565-2799. For individuals with disabilities, information will be made available in alternative formats upon request.

**SUPPLEMENTARY INFORMATION:** The National and Community Service Act of 1990, as amended (NCSA) (42 U.S.C. 12501 *et seq.*), authorizes the Corporation for National and Community Service (Corporation) to make grants to support national service programs including AmeriCorps.

### 1. Waiver of Match Requirements

The NCSA and the Corporation's grant provisions require applicants for AmeriCorps funds to provide match for

funds they receive from the Corporation. However, in light of 48 U.S.C. 1469a, which requires that departments and agencies waive "any requirement for local matching funds under \$200,000 (including in-kind contributions) required by law" for American Samoa, Guam, the Virgin Islands, and the Northern Mariana Islands, the Corporation waives the AmeriCorps matching requirements for those territories.

For example, if a state commission or alternative administrative entity from one of the territories listed above applies for administrative funds under 42 U.S.C. 12576, that state commission or alternative administrative entity will not have to contribute the initial 15% and eventual 50% match.

Please note that this waiver is available only to state commissions or alternative administrative entities of the Territories listed above—programs or organizations in the Territories applying directly to the Corporation for funds will still be required to meet the match requirements in the NCSA and their grant provisions.

### 2. Increase in Allowable Cost Per FTE

Additionally, the Corporation has sent out application packets announcing the availability of 1999 formula funds for Territories. According to the application instructions, no grant may exceed the total number of FTE AmeriCorps members multiplied by \$11,250. This notice is to inform applicants from American Samoa, Guam, the Virgin Islands, and the Northern Mariana Islands, that the Corporation will consider applications with a cost per FTE of up to \$14,500, provided that the necessity for the increase is clearly documented in the proposal.

For example, if you wish to apply for a program supporting 20 full-time AmeriCorps members, the maximum grant award you may receive is 20×\$14,500, or \$290,000. If you apply for 15 full-time members and 10 part-time members, the maximum grant award would also be 20×\$14,500, or \$290,000.

Applicants should keep in mind that proposals requesting a lower cost per member might be deemed more competitive, as this is a factor in our evaluation criteria. Further, whether the Corporation may approve a budget of \$14,500 per member will depend upon whether the average cost per FTE requested for all program applicants, including those submitted pursuant to this notice, meets the \$11,250 cost per FTE target.

Dated: April 7, 1999.

**Thomas L. Bryant,**

*Acting General Counsel.*

[FR Doc. 99-9154 Filed 4-12-99; 8:45 am]

BILLING CODE 6050-28-U

## DEPARTMENT OF EDUCATION

[CFDA NO.: 84.195B]

### Bilingual Education: Training for all Teachers

**AGENCY:** Office of Bilingual Education and Minority Languages Affairs, Department of Education.

**ACTION:** Correction of Notice Inviting Applications for New Awards for Fiscal Year (FY) 1999.

**SUMMARY:** On March 29, 1999, the Department of Education published in the **Federal Register** (64 FR 15094) a notice inviting applications for new awards for fiscal year (FY) 1999 under the Bilingual Education: Training for All Teachers program. The purpose of this notice is to correct the deadline dates for transmittal of applications and intergovernmental review.

**FOR FURTHER INFORMATION CONTACT:** Cynthia Ryan (202) 205-8842 or Petra Johnson (202) 205-8766 at U.S. Department of Education, 400 Maryland Avenue, S.W., Room 5090, Switzer Building, Washington, D.C. 20202-6510. Individuals who use a telecommunications device for the deaf (TDD) may call the Federal Information Relay Service (FIRS) at 1-800-877-8339 between 8 a.m. and 8 p.m., Eastern time, Monday through Friday.

Individuals with disabilities may obtain this document in an alternate format (e.g., Braille, large print, audiotape, or computer diskette) on request to the contact person listed in the preceding paragraph.

### Correction

In the **Federal Register** of March 29, 1999, in FR Doc. 99-7577, on page 150494, first column, correct the "Deadline for Transmittal of Applications" to read "April 29, 1999" and correct the "Deadline for Intergovernmental Review" to read "June 28, 1999."

### Electronic Access to This Document

Anyone may view this document, as well as all other Department of Education documents published in the **Federal Register**, in text or portable document format (pdf) on the World Wide Web at either of the following sites:

<http://ocfo.ed.gov/fedreg.htm>

<http://www.ed.gov/news.html>

To use the pdf you must have the Adobe Acrobat Reader Program with Search, which is available free at either of the previous sites. If you have questions about using the pdf, call the U.S. Government Printing Office toll free at 1-888-293-6498.

**Note:** The official version of a document is the document published in the **Federal Register**.

**Program Authority:** 20 U.S.C. 7472.

Dated: April 7, 1999.

**Delia Pompa,**

*Director, Office of Bilingual Education and Minority Languages Affairs.*

[FR Doc. 99-9199 Filed 4-12-99; 8:45 am]

BILLING CODE 4000-01-M

## DEPARTMENT OF ENERGY

[Docket No. EA-204]

### Application to Export Electric Energy; Sumas Energy 2, Inc.

**AGENCY:** Office of Fossil Energy, DOE.

**ACTION:** Notice of Application.

**SUMMARY:** Sumas Energy 2, Inc. (SE2) has applied for authority to transmit electric energy from the United States to Canada pursuant to section 202(e) of the Federal Power Act.

**DATES:** Comments, protests or requests to intervene must be submitted on or before May 13, 1999.

**ADDRESSES:** Comments, protests or requests to intervene should be addressed as follows: Office of Coal & Power Im/Ex (FE-27), Office of Fossil Energy, U.S. Department of Energy, 1000 Independence Avenue, SW, Washington, DC 20585-0350 (FAX 202-287-5736).

**FOR FURTHER INFORMATION CONTACT:** Ellen Russell (Program Office) 202-586-9624 or Michael Skinker (Program Attorney) 202-586-6667.

**SUPPLEMENTARY INFORMATION:** Exports of electricity from the United States to a foreign country are regulated and require authorization under section 202(e) of the Federal Power Act (FPA) (16 U.S.C. 824a(e)).

On April 1, 1999, the Office of Fossil Energy (FE) of the Department of Energy (DOE) received an application from SE2, an independent power producer in the State of Washington, to transmit electric energy from the United States to Canada. In related FE Docket PP-204 (64 FR 9324, February 25, 1999), SE2 filed an application with FE for a Presidential permit to construct a double-circuit 230,000-volt transmission line across the U.S. border with Canada.

The proposed transmission facilities would extend approximately one half mile from a 710-megawatt (MW) gas-fired, electric powerplant SE2 proposes to construct in Sumas, Washington. In this instant application, SE2 requests authority to export the entire electrical output of the proposed powerplant to Canada using the transmission facilities proposed in the PP-204 Docket.

### Procedural Matters

Any person desiring to become a party to this proceeding or to be heard by filing comments or protests to this application should file a petition to intervene, comment or protest at the address provided above in accordance with §§ 385.211 or 385.214 of the FERC's Rules of Practice and Procedures (18 CFR 385.211, 385.214). Fifteen copies of each petition and protest should be filed with the DOE on or before the date listed above.

Additional copies of such petitions to intervene or protests also should be filed directly with: Matthew M. Schreck, Corbett & Schreck, P.C., 820 Gessner, Suite 1390, Houston, TX 77024.

A final decision will be made on this application after the environmental impacts have been evaluated pursuant to the National Environmental Policy Act of 1969 (NEPA), and a determination is made by the DOE that the proposed action will not adversely impact on the reliability of the U.S. electric power supply system.

Copies of this application will be made available, upon request, for public inspection and copying at the address provided above or by accessing the Fossil Energy Home Page at <http://www.fe.doe.gov>. Upon reaching the Fossil Energy Home page, select "Regulatory Programs," then "Electricity Regulation," and then "Pending Proceedings" from the options menus.

Issued in Washington, DC, on April 7, 1999.

**Anthony J. Como,**

*Manager, Electric Power Regulation, Office of Coal & Power Im/Ex, Office of Coal & Power Systems, Office of Fossil Energy.*

[FR Doc. 99-9180 Filed 4-12-99; 8:45 am]

BILLING CODE 6450-01-P

## DEPARTMENT OF ENERGY

### Notice Inviting Financial Assistance Applications

**AGENCY:** U.S. Department of Energy (DOE), Federal Energy Technology Center (FETC).

**ACTION:** Notice Inviting Financial Assistance Applications.

**SUMMARY:** The Department of Energy announces that it intends to conduct a competitive Program Solicitation and award financial assistance (cooperative agreements) for the program entitled "A Development of On-Line Temperature Measurement Instrumentation for Gasification Process Control". Through this solicitation, FETC seeks to support applications addressing the development and testing of temperature measurement instrumentation capable of functioning in a sustained and reliable manner in the high temperature section of slagging gasification systems operating at elevated pressures. Applications will be subjected to a review by a DOE technical panel, and awards will be made to a limited number of applicants based on a scientific and engineering evaluation of the responses received to determine the relative merit of the approach taken in response to this offering by the DOE, and funding availability.

**FOR FURTHER SOLICITATION INFORMATION**

**CONTACT:** Martin Byrnes, U.S. Department of Energy, Federal Energy Technology Center, Acquisition and Assistance Division, P.O. Box 10940, MS 921-143, Pittsburgh, PA 15236-0940, Telephone: (412) 892-4486, FAX: (412) 892-6216, E-mail: byrnes@fetc.doe.gov. The solicitation (available in both WordPerfect 6.1 and Portable Document Format (PDF)) will be released on DOE's FETC World Wide Web Server Internet System (<http://www.fetc.doe.gov/business/solicit>) on or about April 16, 1999.

**SUPPLEMENTARY INFORMATION:**

*Title of Solicitation*

A Development of On-Line Temperature Measurement Instrumentation for Gasification Process Control.

*Objectives*

Through Program Solicitation No. DE-PS26-99FT40565, the Department of Energy seeks applications for innovative technical approaches to develop an accurate, reliable, robust and cost-effective real-time temperature monitoring system capable of measuring temperatures in the high temperature (typ. ranging from 2000-2600F) section of pressurized, coal-fired slagging gasifiers.

*Eligibility*

Eligibility for participation in this Program Solicitation is considered to be full and open. All interested parties may apply. The solicitation will contain a complete description of the technical evaluation factors and relative importance of each factor. While

national laboratories may not participate as a prime they may participate as a sub-contractor.

*Areas of Interest*

The Department of Energy is interested in obtaining applications offering thirty month projects for the bench-scale development of real-time temperature measurement instrumentation for high temperature, high pressure coal-fired slagging gasification systems. A variety of approaches, including the use of thermocouple- or optically-based techniques, are acceptable as long as they offer the clear potential to meet the aforementioned objectives. Furthermore, all proposed temperature measurement instrumentation must be suitable for use on large-scale slagging gasification systems and applications must address issues such as laboratory scale-up, potential placement and method of mounting on actual operating systems.

*Awards*

DOE anticipates issuing financial assistance (cooperative agreements) for each project selected. DOE reserves the right to support or not support, with or without discussions, any or all applications received in whole or in part, and to determine how many awards may be made through the solicitation subject to funds available. Approximately \$1 million of DOE funding is planned for this solicitation. The estimated funding by the DOE is planned to be approximately \$0.33 million per award. Cost sharing by the applicant is required, and details of the cost sharing requirement are contained in the solicitation.

*Solicitation Release Date*

The Program Solicitation is expected to be ready for release on or about April 16, 1999. Applications must be prepared and submitted in accordance with the instructions and forms contained in the Program Solicitation

**Dale A. Siciliano,**

*Contracting Officer, Acquisition and Assistance Division.*

[FR Doc. 99-8999 Filed 4-12-99; 8:45 am]

BILLING CODE 6450-01-P

Board (64 FR 14714). In that notice, the meeting was scheduled for April 22-23, 1999. Today's notice is announcing that the meeting will only take place on April 22, 1999, at 8:30am to 3:00pm.

Issued in Washington, D.C. on April 8, 1999.

**Rachel M. Samuel,**

*Deputy Advisory Committee Management Officer.*

[FR Doc. 99-9182 Filed 4-12-99; 8:45 am]

BILLING CODE 6450-01-P

**DEPARTMENT OF ENERGY**

**Office of Environmental Management**

**Foreign Research Reactor Spent Nuclear Fuel Fee Policy**

**AGENCY:** Department of Energy (DOE).

**ACTION:** Clarification of the Fee Policy for Acceptance of Foreign Research Reactor Spent Nuclear Fuel.

**SUMMARY:** On May 13, 1996, DOE, in consultation with the Department of State, issued a Record of Decision (ROD) on a Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel (61 FR 25092), which established the foreign research reactor spent nuclear fuel acceptance program. Under this program, DOE will accept until 2009 foreign research reactor spent nuclear fuel and target material containing uranium enriched in the United States. The ROD stated that DOE would announce the fee policy that would apply to the spent fuel acceptance program in a separate **Federal Register** notice, so that the fee policy could be changed as necessary to reflect changes in cost or new information relevant to the policy.

The ROD acknowledged that, if the United States were to charge all foreign research reactors a full-cost recovery fee for the acceptance of eligible spent fuel, some reactor operators would not have the financial resources to participate in the program. This, in turn, could reduce the amount of spent fuel brought to the United States for management, thereby increasing the risk of diversion of highly enriched uranium (HEU) into a foreign nuclear weapons program. Accordingly, DOE and the Department of State decided that the fee charged for participation in the acceptance program should be based in part on whether the country from which the spent fuel is transported to the United States is categorized as one having a "high-income economy" or one having an "other-than-high-income economy." For countries with other-than-high-income

**DEPARTMENT OF ENERGY**

**Environmental Management Advisory Board; Notice of Open Meeting Correction**

On March 26, 1999, the Department of Energy published a notice of open meeting announcing a meeting of the Environmental Management Advisory

economies, the United States will subsidize receipt of the spent fuel to maximize participation in the acceptance program.

The fee policy announced in 1996 (61 FR 26507) did not address explicitly how, during the course of the acceptance program, a change in the economic status of the country from which spent fuel is shipped would affect the fee charged for participation in the program. DOE will initially determine whether a foreign research reactor operator is located in a country with a "high-income economy" or "other-than-high-income economy" based on the most current edition of The World Bank Development Report (The Report) at the time the contract between the foreign research reactor operator and DOE is signed. This notice clarifies that, during the term of the contract, if the most current edition of The Report, which is published annually in October, reflects a change in the status of the economy of the country from which the spent fuel is to be shipped from other-than-high-income to high-income, a fee will be charged to the reactor operator for any shipment arriving in the United States in the next fiscal year (starting October 1) following the fiscal year in which such change is published. The fee charged for any shipment arriving in the United States in the same fiscal year in which such change in economic status is published in The Report will be based on the country's status prior to such publication. In the event that the most current edition of The Report reflects a change in the status of the economy of the country from which the spent fuel is to be shipped from high-income to other-than-high-income, DOE's subsidy of shipments would apply to any shipments initiated after publication in The Report of such a change.

**FOR FURTHER INFORMATION CONTACT:** Kenneth Chacey, Director, Office of Spent Fuel Management (EM-67), U.S. Department of Energy, 1000 Independence Ave., S.W. Washington, D.C. 20585, telephone (202) 586-0671.

**SUPPLEMENTARY INFORMATION:** On May 13, 1996, DOE issued a ROD on a Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel (61 FR 25092). The ROD announced that over a 13-year period (1996-2009) the United States will accept for management approximately 19.2 metric tonnes of heavy metal (MTHM) foreign research reactor spent fuel and approximately 0.6 MTHM of target material containing uranium enriched in the United States. Because HEU can be used directly in the

production of nuclear weapons, the goal of the acceptance program is to reduce the availability of HEU in civil commerce worldwide.

The ROD specifies that, to encourage foreign research reactor operators in countries with other-than-high-income-economies to participate in the acceptance program, the United States will subsidize receipt of their spent fuel. DOE and the Department of State jointly determined in the ROD that many, if not all, countries with other-than-high-income-economies would not have the financial resources to participate in the acceptance program if the United States were to charge a fee for the acceptance of spent fuel from such countries. Limited participation by such countries would reduce the amount of spent fuel accepted in the United States, thereby increasing the risk of diversion of HEU into a foreign nuclear weapons program.

Whether a country has a high-income economy or other-than-high-income economy is initially determined when a contract between a foreign research reactor operator and DOE is signed. The determination is based on the most current edition of The Report, which is published annually during October. If, during the term of the contract, The Report reflects a change in the status of the economy of the country which the spent fuel is to be shipped from other-than-high-income to high-income, a fee will be charged to the reactor operator for any shipment arriving in the United States in the next fiscal year (starting October 1) following the fiscal year in which such change is published. This period of approximately one year has been established to allow time for reactor operators in countries with changed economic status to renegotiate their contracts with DOE and, as applicable, identify funding to transport the spent fuel to the United States and to pay the associated fee.

Although this fee policy clarification is designed to ensure that reactor operators who are able to bear costs do so, DOE recognizes that fiscal arrangements to support shipments must be made in advance. Countries with newly changed economic status from other-than-high-income economy to high-income economy will not necessarily be in a position to bear these costs in the year of their changed status. Thus, no fee will be charged for any shipment arriving in the United States in the same fiscal year in which the change in economic status from other-than-high-income to high-income is published. DOE will not subsidize any shipment arriving in the United States in the next fiscal year following the fiscal year in which the changed status

is published in The Report. Further, DOE would not subsidize shipments in subsequent years unless the economy of the country in question were again reclassified as having an other-than-high-income economy by a new edition of The Report.

For those countries whose economic status changes from high-income economy to other-than-high-income economy, as published in The Report, DOE's subsidy of shipments would apply to any shipment initiated after publication in The Report of such a change.

This clarification will be effective on October 1, 1999. This notice is being published well in advance of the effective date to provide ample time for potentially affected foreign research reactor operators to plan for any financial arrangements that may become necessary. For those reactor operators planning with DOE for a shipment scheduled to arrive in the United States prior to October 1, 1999, any applicable fee will be based upon the respective country's economic status as reported in the ROD that was issued in May 1996.

Issued in Washington, DC, on April 6, 1999.

**David G. Huizenga,**

*Acting Deputy Assistant Secretary for Nuclear Material and Facility Stabilization, Office of Environmental Management.*

[FR Doc. 99-9181 Filed 4-12-99; 8:45 am]

BILLING CODE 6450-01-P

## DEPARTMENT OF ENERGY

### Federal Energy Regulatory Commission

[Docket No. RP99-273-000]

#### ANR Pipeline Company; Notice of Proposed Changes in FERC Gas Tariff

April 7, 1999.

Take notice that on March 31, 1999, ANR Pipeline Company (ANR) tendered for filing as part of its FERC Gas Tariff, the following tariff sheet to become effective May 1, 1999:

Twenty-Fifth Revised Sheet No. 17

ANR states that the above-referenced tariff sheets are being filed to eliminate the Upstream Pipeline Surcharge filed in Docket No. RP98-177-000 due to the expiration of the amortization period for the recovery amount.

Any person desiring to be heard or to protest said filing should file a motion to intervene or a protest with the Federal Energy Regulatory Commission, 888 First Street, N.E., Washington, D.C. 20426, in accordance with Sections

385.214 or 385.211 of the Commission's Rules and Regulations. All such motions or protests must be filed in accordance with Section 154.210 of the Commission's Regulations. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceedings. Any person wishing to become a party must file a motion to intervene. Copies of this filing are on file with the Commission and are available for public inspection in the Public Reference Room. This filing may be viewed on the web at <http://www.ferc.fed.us/online/rims.htm> (call 202-208-2222 for assistance).

**Linwood A. Watson, Jr.,**  
*Acting Secretary.*

[FR Doc. 99-9117 Filed 4-12-99; 8:45 am]  
BILLING CODE 6717-01-M

## DEPARTMENT OF ENERGY

### Federal Energy Regulatory Commission

[Docket No. RP99-277-000]

#### CNG Transmission Corporation; Notice of Proposed Changes in FERC Gas Tariff

April 7, 1999.

Take notice that on April 1, 1999, CNG Transmission Corporation (CNG), tendered for filing as part of its FERC Gas Tariff, Second Revised Volume No. 1, the following tariff sheet, with an effective date of May 1, 1999:

Forty-Seventh Revised Sheet No. 32

CNG states that the purpose of this filing is to submit CNG's quarterly revision of the Section 18.2.B Surcharge, effective for the three-month period commencing May 1, 1999. The charge for the quarter ending April 30, 1999 has been \$0.0211 per Dt, as authorized by Commission order dated January 26, 1999 in Docket No. RP99-198-000. CNG's proposed Section 18.2.B surcharge for the next quarterly period is \$0.0194 per Dt. The revised surcharge is designed to recover \$124,591 in Stranded Account No. 858 Costs, which CNG incurred for the period of December, 1998 through February, 1999.

CNG states that copies of this letter of transmittal and enclosures are being mailed to CNG's customers and interested state commissions.

Any person desiring to be heard or to protest said filing should file a motion to intervene or a protest with the Federal Energy Regulatory Commission, 888 First Street, N.E., Washington, D.C. 20426, in accordance with Sections 385.214 or 385.211 of the Commission's Rules and Regulations. All such motions or protests must be filed in accordance

with Section 154.210 of the Commission's Regulations. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceedings. Any person wishing to become a party must file a motion to intervene. Copies of this filing are on file with the Commission and are available for public inspection in the Public Reference Room. This filing may be viewed on the web at <http://www.ferc.fed.us/online/rims.htm> (call 202-208-2222 for assistance).

**Linwood A. Watson, Jr.,**  
*Acting Secretary.*

[FR Doc. 99-9119 Filed 4-12-99; 8:45 am]  
BILLING CODE 6717-01-M

## DEPARTMENT OF ENERGY

### Federal Energy Regulatory Commission

[Docket No. CP99-269-000]

#### Columbia Gas Transmission Corporation; Notice of Request Under Blanket Authorization

April 7, 1999.

Take notice that on March 22, 1999, as supplemented April 6, 1999, Columbia Gas Transmission Corporation (Columbia), 12801 Fair Lakes Parkway, Fairfax, Virginia 22030-0146, filed a prior notice request with the Commission in Docket No. CP99-269-000 pursuant to Sections 157.205, 157.208(a), 157.212(a), and 157.216 of the Commission's Regulations under the Natural Gas Act (NGA) for authorization to modify an existing delivery point in Scioto County, Ohio, under Columbia's blanket certificate issued in Docket No. CP83-76-000 pursuant to Section 7 of the NGA, all as more fully set forth in the request which is open to the public for inspection. The application may be viewed on the web at [www.ferc.fed.us](http://www.ferc.fed.us). Call (202) 208-2222 for assistance.

Columbia proposes to modify an existing delivery point used to serve Columbia Gas of Ohio's (COH) customer, Aristech Chemical Corporation (Aristech) in Scioto County. Columbia proposes to modify the existing metering station by installing and owning electronic measuring equipment, and replacing approximately 1.7 miles of 6-inch diameter pipe with 1.7 miles of 10-inch diameter pipe. Columbia states that it would increase deliveries at the Aristech delivery point from 15,000 dekatherms equivalent of natural gas per day at the modified delivery point. Columbia, however, further states that COH has not requested an increase in its firm entitlements. COH states that it

would cover the increased deliveries at the Aristech delivery point by shifting volumes at other delivery points. Thus, the proposed increased in delivery volumes at the Aristech delivery point would have no impact on Columbia's design day or annual obligations to its other customers. Columbia states that COH would reimburse Columbia approximately \$952,600 for the modification cost of the Aristech delivery point.

Any person or the Commission's staff may, within 45 days after the Commission has issued this notice, file pursuant to Rule 214 of the Commission's Procedural Rules (18 CFR 385.214) a motion to intervene or notice of intervention and pursuant to Section 157.205 of the Regulations under the NGA (18 CFR 157.205) a protest to the request. If no protest is filed within the allowed time, the proposed activity shall be deemed to be authorized effective the day after the time allowed for filing a protest. If a protest is filed and not withdrawn within 30 days after the time allowed for filing a protest, the instant request shall be treated as an application for authorization pursuant to Section 7 of the NGA.

**Linwood A. Watson, Jr.,**  
*Acting Secretary.*

[FR Doc. 99-9110 Filed 4-12-99; 8:45 am]  
BILLING CODE 6717-01-M

## DEPARTMENT OF ENERGY

### Federal Energy Regulatory Commission

[Docket No. RP97-287-031]

#### El Paso Natural Gas Company; Notice of Proposed Changes in FERC Gas Tariff

April 7, 1999.

Take notice that on April 1, 1999, El Paso Natural Gas Company (El Paso) tendered for filing to become part of its FERC Gas Tariff, Second Revised Volume No. 1-A, the following tariff sheets to become effective April 1, 1999: Twenty-Third Revised Sheet No. 30 Fourteenth Revised Sheet No. 31

El Paso states that the above tariff sheets are being filed to implement three negotiated rate contracts pursuant to the Commission's Statement of Policy on Alternatives to Traditional Cost-of-Service Ratemaking for Natural Gas Pipelines and Regulation of Negotiated Transportation Services of Natural Gas Pipelines issued January 31, 1996 at Docket Nos. RM95-6-000 and RM96-7-000.

Any person desiring to protest this filing should file a protest with the Federal Energy Regulatory Commission,

888 First Street, N.E., Washington, D.C. 20426, in accordance with Section 385.211 of the Commission's Rules and Regulations. All such protests must be filed as provided in Section 154.210 of the Commission's Regulations. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceedings. Copies of this filing are on file with the Commission and are available for public inspection in the Public Reference Room. This filing may be viewed on the web at <http://www.ferc.fed.us/online/rims.htm> (call 202-208-2222 for assistance).

**Linwood A. Watson, Jr.,**

*Acting Secretary.*

[FR Doc. 99-9116 Filed 4-12-99; 8:45 am]

BILLING CODE 6717-01-M

## DEPARTMENT OF ENERGY

### Federal Energy Regulatory Commission

[Docket No. RP97-126-012]

#### Iroquois Gas Transmission Systems, L.P.; Notice of Proposed Changes in FERC Gas Tariff

April 7, 1999.

Take notice that on March 31, 1999, Iroquois Gas Transmission System, L.P. (Iroquois) tendered for filing to become part of its FERC Gas Tariff, First Revised Volume No. 1, the following revised tariff sheets. The proposed effective dates of these revised tariff sheets are as noted.

##### Effective November 1, 1998

Second Substitute Twenty-first Revised Sheets No. 4.

Second Substitute Twenty-second Revised Sheets No. 4.

##### Effective January 1, 1999

Second Substitute Twenty-third Revised Sheets No. 4.

Iroquois states that these sheets were submitted in compliance with the Commission's order on rehearing issued March 11, 1999 and replaces three of the tariff sheets that were submitted on March 26, 1999 in Docket No. RP97-126-008. The tariff sheets included herewith reflect previously approved language which was inadvertently omitted from Iroquois March 26th filing. Iroquois states that copies of its filing were served on all jurisdictional customers and interested state commissions.

Any person desiring to protest this filing should file a protest with the Federal Energy Regulatory Commission, 888 First Street, NE., Washington, DC 20426, in accordance with section

385.211 of the Commission's Rules and Regulations. All such protests must be filed as provided in section 154.210 of the Commission's Regulations. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceedings. Copies of this filing are on file with the Commission and are available for public inspection in the Public Reference Room. This filing may be viewed on the web at <http://www.ferc.fed.us/online/rims.htm> (call 202-208-2222 for assistance).

**Linwood A. Watson, Jr.,**

*Acting Secretary.*

[FR Doc. 99-9115 Filed 4-12-99; 8:45 am]

BILLING CODE 6717-01-M

## DEPARTMENT OF ENERGY

### Federal Energy Regulatory Commission

[Docket No. RP99-274-000]

#### Kern River Gas Transmission Company; Notice of Proposed Changes in FERC Gas Tariff

April 7, 1999.

Take notice that on March 31, 1999, Kern River Gas Transmission Company (Kern River) tendered for filing as part of its FERC Gas Tariff, First Revised Volume No. 1, the following tariff sheets, to be effective May 1, 1999.

Fourteenth Revised Sheet No. 5

Twelfth Revised Sheet No. 6

Second Revised Sheet No. 16

Original Sheet No. 16-A

Sixth Revised Sheet No. 70

Second Revised Sheet No. 117

Original Sheet No. 117-A

Second Revised Sheet No. 125

Original Sheet No. 125-A

Second Revised Sheet No. 126

Seventh Revised Sheet No. 500-A

First Revised Sheet No. 507

Seventh Revised Sheet No. 600-A

First Revised Sheet No. 610

Seventh Revised Sheet No. 700-A

Third Revised Sheet No. 712

Third Revised Sheet No. 802

Second Revised Sheet No. 831

Original Sheet No. 831-A

First Revised Sheet No. 889

First Revised Sheet No. 890

Fifth Revised Sheet No. 891

Kern River states that the purpose of this filing is to implement the terms of a Stipulation and Agreement of Settlement dated March 31, 1999 (Settlement). Key features of the Settlement, which resulted from extensive negotiations and a collaborative effort between Kern River and its customers, include: (1) an overall reduction in Kern River's base tariff rate; (2) a modification to Kern

River's SFV rate design methodology; (3) a rate increase moratorium and a rate case filing requirement; (4) a requirement to reduce rates in the event of a rolled-in rate system expansion; and (5) an opportunity for Kern River's customers to share in potential savings resulting from the refinancing of debt and to share in revenues above a pre-determined annual threshold level. Kern River states that it is submitting with this tariff filing an Offer of Settlement, an Explanatory Statement, and the Stipulation and Agreement of Settlement referenced above.

Kern River also is including a Motion for Shortened Comment Period with respect to the Settlement, seeking Initial Comments on the Settlement by April 12, 1999 and Reply Comments by April 19, 1999.

Kern River states that a copy of this filing has been served upon Kern River's customers and interested state regulatory commissions.

Any person desiring to be heard or to protest said filing should file a motion to intervene or a protest with the Federal Energy Regulatory Commission, 888 First Street, N.E., Washington, D.C. 20426, in accordance with Sections 385.214 or 385.211 of the Commission's Rules and Regulations. All such motions or protests must be filed in accordance with Section 154.210 of the Commission's Regulations. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceedings. Any person wishing to become a party must file a motion to intervene. Copies of this filing are on file with the Commission and are available for public inspection in the Public Reference Room. This filing may be viewed on the web at <http://www.ferc.fed.us/online/rims.htm> (call 202-208-2222 for assistance).

**Linwood A. Watson, Jr.,**

*Acting Secretary.*

[FR Doc. 99-9118 Filed 4-12-99; 8:45 am]

BILLING CODE 6717-01-M

## DEPARTMENT OF ENERGY

### Federal Energy Regulatory Commission

[Docket No. RP99-133-002]

#### Mississippi River Transmission Corporation; Notice of Filing

April 7, 1999.

Take notice that on April 1, 1999, Mississippi River Transmission

Corporation (MRT) tendered for filing a supplement to its January 16, 1999 Refund and Repayment Plan, which provided for refunds of MRT's overrecovery of Gas Supply Realignment Costs (GSRC).

MRT states that the supplemental filing is necessary to remove a contract from its refund calculation that should have been excluded from its refund report in its January 16th filing.

MRT states that a copy of this filing is being mailed to each of MRT's customers, parties to this proceeding and to the state commissions of Arkansas, Illinois and Missouri.

Any person desiring to protest said filing should file a protest with the Federal Energy Regulatory Commission, 888 First Street, NE, Washington, DC 20426, in accordance with Section 385.211 of the Commission's rules and Regulations. All such protests must be filed on or before April 14, 1999. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceedings. Copies of this filing are on file with the Commission and are available for public inspection in the Public Reference Room. This filing may be viewed on the web at <http://www.ferc.fed.us/online/rims.htm> (call 202-208-2222 for assistance).

**Linwood A. Watson, Jr.**

*Acting Secretary.*

[FR Doc. 99-9113 Filed 4-12-99; 8:45 am]

BILLING CODE 6717-01-M

## DEPARTMENT OF ENERGY

### Federal Energy Regulatory Commission

[Docket No. RP99-276-000]

#### Reliant Energy Gas Transmission Company; Notice of Filing

April 7, 1999.

Take notice that on April 1, 1999, Reliant Energy Gas Transmission Company (REGT) submitted its annual revenue crediting filing pursuant to its FERC Gas Tariff, Fourth Revised Volume No. 1, Section 5.7(c)(ii)(2)B (Imbalance Cash Out), Section 23.2(b)(iv) (IT and SBC Revenue Crediting) and Section 23.7 (IT Revenue Credit).

REGT states that its filing addresses the period from February 1, 1998 through January 31, 1999. The IT and FT Cash Balancing Revenue Credits and the IT Revenue Credit for the period reflected in this filing are zero. Since REGT's current tariff sheets already reflect zero Cash Balancing and IT

Revenue Credits, no tariff revisions are necessary.

Any person desiring to be heard or to protest said filing should file a motion to intervene or a protest with the Federal Energy Regulatory Commission, 888 First Street, NE, Washington, DC 20426, in accordance with Sections 385.214 or 385.211 of the Commission's Rules and Regulations. All such motions or protests must be filed on or before April 14, 1999. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceedings. Any person wishing to become a party must file a motion to intervene. Copies of this filing are on file with the Commission and are available for public inspection in the Public Reference Room. This filing may be viewed on the web at <http://www.ferc.fed.us/online/rims.htm> (call 202-208-2222 for assistance).

**Linwood A. Watson, Jr.,**

*Acting Secretary.*

[FR Doc. 99-9114 Filed 4-12-99; 8:45 am]

BILLING CODE 6717-01-M

## DEPARTMENT OF ENERGY

### Federal Energy Regulatory Commission

[Docket No. TM99-3-31-000]

#### Reliant Energy Gas Transmission Company; Notice of Proposed Changes in FERC Gas Tariff

April 7, 1999.

Take notice that on April 1, 1999, Reliant Energy Gas Transmission Company (REGT) tendered for filing to become part of its FERC Gas Tariff, Fourth Revised Volume No. 1, to be effective May 1, 1999:

Seventeenth Revised Sheet No. 5

Sixteenth Revised Sheet No. 6

REGT states that the revised tariff sheets are being filed in accordance with the methodologies set forth in Sections 27 and 28 of REGT's General Terms and Conditions, which require REGT to adjust its fuel percentages and Electric Power Costs (REPCT) Tracker each October 1 and April 1 based on actual data for the twelve month period ending June 30 and December 31 respectively. This filing constitutes REGT's fuel percentages and EPC Tracker adjustments which will be effective May 1, 1999. The worksheets attached hereto as Appendix B provide supporting calculations used in deriving the proposed fuel percentages. The worksheets attached hereto as Appendix

C provide supporting calculations used in deriving the EPC Tracker. Due to the lack of a full year of electric compressor utilization, estimated EPC Tracker costs are still utilized in the calculations, but have been adjusted to reflect actual data for the period that the electric compressor was in operating during the twelve months ended December 31, 1998.

REGT respectfully requests that the Commission grant REGT any waivers to the Commission's regulations which may be necessary to make this filing effective as of May 1, 1999, and to the extent necessary, moves pursuant to 18 CFR 154.7(a)(9) for the referenced tariff sheets to go into effect on said date.

REGT states that this filing has been mailed to each of REGT's customers and interested state commissions.

Any person desiring to be heard or to protest said filing should file a motion to intervene or a protest with the Federal Energy Regulatory Commission, 888 First Street, NE, Washington, DC 20426, in accordance with Sections 385.214 or 385.211 of the Commission's Rules and Regulations. All such motions or protests must be filed in accordance with Section 154.210 of the Commission's Regulations. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceedings. Any person wishing to become a party must file a motion to intervene. Copies of this filing are on file with the Commission and are available for public inspection in the Public Reference Room. This filing may be viewed on the web at <http://www.ferc.fed.us/online/rims.htm> (call 202-208-2222 for assistance).

**David P. Boergers,**

*Secretary.*

[FR Doc. 99-9121 Filed 4-12-99; 8:45 am]

BILLING CODE 6717-01-M

## DEPARTMENT OF ENERGY

### Federal Energy Regulatory Commission

[Docket No. RP95-197-036]

#### Transcontinental Gas Pipe Line Corporation; Notice of Refund Report

April 7, 1999.

Take notice that on March 31, 1999, Transcontinental Gas Pipe Line Corporation (Transco) tendered for filing a refund report showing that on March 1, 1999, Transco submitted refunds/surcharges, including interest, amounting to \$93,704,019.69 to all

affected shippers in Docket No. RP95-197-000, et al.

Transco states that on December 1, 1998, the Commission issued its Opinion and Order on Rehearing (Opinion No. 414-B) (Order) where the Commission determined the return to be used in developing rates for the Docket No. RP95-197 rate period of September 1, 1995 through April 30, 1997. The date for refunds under Opinion 414-B and Article IV of the June 19, 1996 Stipulation and Agreement in Docket Nos. RP95-197, et al. (the Agreement) was established as January 30, 1999. On January 28, 1999, however, the Commission granted Transco's motion for an extension of time within which to refile its recalculated rates and to make refunds until March 31, 1999.

On February 25, 1999, Transco filed the recalculated rates in compliance with Ordering Paragraph (B) of Opinion 414-B (February 25 Filing).

Based on the February 25 Filing, storage and transportation refunds have been calculated for the period September 1, 1995 (the beginning of the Docket No. 95-197 rate period) through July 31, 1996 based on the difference between the amounts refunded on May 30, 1997 pursuant to Article IV of the Agreement and amounts calculated utilizing Transco's allowed rate of return as set forth in the February 25 Filing. For the period August 1, 1996 through April 30, 1997 (the end of the Docket No. 95-197 rate period), storage and transportation refunds have been calculated based on the difference between the billed rates pursuant to the Agreement and the amounts calculated utilizing the rates set forth in the February 25 Filing.

Any person desiring to protest said filing should file a protest with the Federal Energy Regulatory Commission, 888 First Street, N.E., Washington, D.C. 20426, in accordance with Section 385.211 of the Commission's Rules and Regulations. All such protests must be filed on or before April 14, 1999. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceedings. Copies of this filing are on file with the Commission and are available for public inspection in the Public Reference Room. This filing may be viewed on the web at <http://www.ferc.fed.us/online/rims.htm> (call 202-208-2222 for assistance).

**Linwood A. Watson, Jr.,**  
*Acting Secretary.*

[FR Doc. 99-9111 Filed 4-12-99; 8:45 am]

BILLING CODE 6717-01-M

## DEPARTMENT OF ENERGY

### Federal Energy Regulatory Commission

[Docket No. RP99-272-000]

#### Transcontinental Gas Pipe Line Corporation; Notice of Tariff Filing

April 7, 1999

Take notice that on March 31, 1999, Transcontinental Gas Pipe Line Corporation tendered for filing as part of its FERC Gas Tariff, Third Revised Volume No. 1, Second Revised Sheet No. 374F.01, to become effective May 1, 1999.

Transco states that the purpose of the filing is to revise Section 42.10(a) of the General Terms and Conditions of Transco's tariff to permit a Replacement Shipper that desires to re-release capacity to specify Recall Rights for that re-released capacity even though Recall Rights were specified by a prior Releasing Shipper. Section 42.10(a) currently provides, in part, that "[r]ecall conditions cannot be expanded or in any way modified by subsequent Releasing Shippers." Although that prohibition on subsequent Recall Rights was approved by the Commission as part of Transco's Order No. 636 compliance filing, Transco proposes to delete that prohibition so as to provide a Replacement Shipper with increased flexibility in structuring a re-release of capacity, including specifying Recall Rights for that re-released capacity. Transco submits that granting shippers this additional flexibility in managing their capacity release transactions furthers the Commission's goal in Order No. 636 of fostering a robust secondary market in capacity.

Any person desiring to be heard or to protest said filing should file a motion to intervene or a protest with the Federal Energy Regulatory Commission, 888 First Street, N.E., Washington, D.C. 20426, in accordance with Sections 385.214 or 385.211 of the Commission's Rules and Regulations. All such motions or protests must be filed in accordance with Section 154.210 of the Commission's Regulations. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceedings. Any person wishing to become a party must file a motion to intervene. Copies of this filing are on file with the Commission and are available for public inspection in the Public Reference Room. This filing may be viewed on the web at <http://www.ferc.fed.us/online/>

rims.htm (call 202-208-2222 for assistance).

**Linwood A. Watson, Jr.,**

*Acting Secretary.*

[FR Doc. 99-9112 Filed 4-12-99; 8:45 am]

BILLING CODE 6717-01-M

## DEPARTMENT OF ENERGY

### Federal Energy Regulatory Commission

[Docket No. RP99-278-000]

#### Transcontinental Gas Pipe Line Corporation; Notice of Proposed Changes in FERC Gas Tariff

April 7, 1999

Take notice that on April 1, 1999, Transcontinental Gas Pipe Line Corporation (Transco) tendered for filing as part of its FERC Gas Tariff, Third Revised Volume No. 1, Fifth Revised Sheet No. 250A and Fourth Revised Sheet No. 374I. The proposed effective date of the attached tariff sheets is May 1, 1999.

Transco states that the purpose of the instant filing is to incorporate language into Section 44 of the General Terms and Conditions of Transco's tariff that clarifies Transco's and its customers right to extend Part 284 service agreements. The tariff provision specifies that the length of the contract term extensions will be mutually agreed to, on a case-by-case basis.

Transco states that it is serving copies of the instant filing to its affected customers and interested State Commissions.

Any person desiring to be heard or to protest said filing should file a motion to intervene or a protest with the Federal Energy Regulatory Commission, 888 First Street, N.E., Washington, D.C. 20426, in accordance with Sections 385.214 or 385.211 of the Commission's Rules and Regulations. All such motions or protests must be filed in accordance with Section 154.210 of the Commission's Regulations. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceedings. Any person wishing to become a party must file a motion to intervene. Copies of this filing are on file with the Commission and are available for public inspection in the Public Reference Room. This filing may be viewed on the web at <http://www.ferc.fed.us/online/>



rims.htm (call 202-208-2222 for assistance).

**Linwood A. Watson, Jr.,**

*Acting Secretary.*

[FR Doc. 99-9120 Filed 4-12-99; 8:45 am]

BILLING CODE 6717-01-M

## DEPARTMENT OF ENERGY

### Federal Energy Regulatory Commission

[Docket Nos. RP99-271-000 and RP89-183-092]

#### Williams Gas Pipelines Central, Inc.; Notice of Proposed Changes in FERC Gas Tariff

April 7, 1999.

Take notice that on March 31, 1999, Williams Gas Pipelines Central, Inc. (Williams), tendered for filing to become part of its FERC Gas Tariff, Original Volume No. 1, the following tariff sheets, with the proposed effective date of May 1, 1999:

Seventh Revised Sheet No 6

Tenth Revised Sheet No 6A

Williams states that this filing is being made pursuant to Article 14 of the General Terms and Conditions of its FERC Gas Tariff, Original Volume No. 1. Williams hereby submits its second quarter, 1999, report of GSR costs.

Williams states that a copy of its filing was served on all participants listed on the service lists maintained by the Commission in the dockets referenced above and on all of Williams' jurisdictional customers and interested state commissions.

Any person desiring to be heard or to protest said filing should file a motion to intervene or a protest with the Federal Energy Regulatory Commission, 888 First Street, N.E., Washington, D.C. 20426, in accordance with Sections 385.214 or 385.211 of the Commission's Rules and Regulations. All such motions or protests must be filed in accordance with Section 154.210 of the Commission's Regulations. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceedings. Any person wishing to become a party must file a motion to intervene. Copies of this filing are on file with the Commission and are available for public inspection in the Public Reference Room. This filing may be viewed on the web at <http://www.ferc.fed.us/online/>

rims.htm (call (202-208-2222 for assistance).

**Linwood A. Watson, Jr.,**

*Acting Secretary.*

[FR Doc. 99-9123 Filed 4-12-99; 8:45 am]

BILLING CODE 6717-01-M

## DEPARTMENT OF ENERGY

### Federal Energy Regulatory Commission

[Docket No. ER94-1478-015, et al.]

#### Electrade Corporation, et al.; Electric Rate and Corporate Regulation Filings

April 6, 1999.

Take notice that the following filings have been made with the Commission:

##### 1. Electrade Corporation

[Docket No. ER94-1478-015]

Take notice that on April 1, 1999, the above-mentioned power marketer filed a quarterly report with the Commission in the above-mentioned proceeding for information only. This filing is available for public inspection and copying in the Public Reference Room or on the internet at [www.ferc.fed.us/online/rims.htm](http://www.ferc.fed.us/online/rims.htm) for viewing and downloading (call 202-208-2222 for assistance).

##### 2. Duke Energy Corporation

[Docket No. ER97-2398-004]

Take notice that on April 1, 1999, Duke Energy Corporation tendered for filing its compliance filing in the above-reference docket.

*Comment date:* April 21, 1999, in accordance with Standard Paragraph E at the end of this notice.

##### 3. Entergy Services, Inc.

[Docket No. ER99-871-000]

Take notice that on March 12, 1999, Entergy Services, Inc. (Entergy Services), on behalf of Entergy Arkansas, Inc., Entergy Gulf States, Inc., Entergy Louisiana, Inc., Entergy Mississippi, Inc., and Entergy New Orleans, Inc. (collectively, the Entergy Operating Companies), tendered for filing an amendment to its filing of five Interchange Agreements. The Interchange Agreements are between Entergy Services, Inc., the Entergy Operating Companies and the following entities: Jacksonville Electric Authority, Commonwealth Edison Company, Wisconsin Electric Power Company, Virginia Electric and Power Company and Paragould City Light & Water.

*Comment date:* April 21, 1999, in accordance with Standard Paragraph E at the end of this notice.

#### 4. Lakewood Cogeneration Limited Partnership

[Docket No. ER99-1213-001]

Take notice that on March 29, 1999, Lakewood Cogeneration Limited Partnership (Lakewood) submitted for filing a second amended Code of Conduct Regarding the Relationship between Lakewood Cogeneration Limited Partnership and Consumers Energy Company (Code of Conduct) in compliance with Ordering Paragraph A of the Commission's February 26, 1999 Order Conditionally Accepted for Filing Proposed Market-Based Rates.

*Comment date:* April 19, 1999, in accordance with Standard Paragraph E at the end of this notice.

#### 5. Monmouth Energy, Inc.

[Docket No. ER99-1293-001]

Take notice that on April 1, 1999, Monmouth Energy, Inc., tendered for filing its refund report in accordance with the Commission's Order of March 12, 1999 in Docket No. ER99-1293-000.

*Comment date:* April 21, 1999, in accordance with Standard Paragraph E at the end of this notice.

#### 6. Cinergy Services, Inc.

[Docket No. ER99-1662-000]

Take notice that on April 1, 1999, Cinergy Services, Inc., acting as agent for and on behalf of The Cincinnati Gas & Electric Company and PSI Energy, Inc., tendered for filing an amended Service Agreement for firm point-to-point transmission service entered into between Cinergy and itself under Cinergy's Open Access Transmission Tariff.

Pursuant to the Commission's letter order dated March 2, 1999 in this proceeding, Cinergy's filing was amended to include specific points of receipt and specify capacity reservations for each receipt/delivery point combination.

Cinergy states that it has served copies of its filing upon all parties of record in this proceeding.

*Comment date:* April 21, 1999, in accordance with Standard Paragraph E at the end of this notice.

#### 7. Ohio Edison Company, Pennsylvania Power Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company

[Docket No. ER99-1700-000]

Take notice that on April 1, 1999, Ohio Edison Company, Pennsylvania Power Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company (collectively the FirstEnergy Operating Companies) tendered for filing an amendment to its

Service Agreement filed February 3, 1999, under which FirstEnergy Operating Companies will take Network Integration Transmission Service under their Open Access Transmission Tariff (Tariff), in compliance with a March 8, 1999, letter from the Director of the Commission's Division of Rate Applications in Docket No. ER99-1700-000.

The FirstEnergy Operating Companies request that these agreements, as amended by the April 1, 1999 filing, be made effective as of the date the Commission issues an order approving the FirstEnergy Operating Companies' September 25, 1998 Offer of Settlement in Docket Nos. ER97-412-000, ER97-413-000 and ER98-1932-000, which has been certified to the Commission by the presiding administrative law judge in those proceedings and awaits Commission approval. The FirstEnergy Operating Companies also filed a revised Index of Customers to be incorporated into the Tariff.

The FirstEnergy Operating Companies state that a copy of their filing has been served on the Public Utilities Commission of Ohio and the Pennsylvania Public Utility Commission.

*Comment date:* April 21, 1999, in accordance with Standard Paragraph E at the end of this notice.

#### 8. Consumers Energy Company

[Docket No. ER99-2107-000]

Take notice that on March 30, 1999, Consumers Energy Company (Consumers) tendered for filing a request for an April 12, 1999 effective date for two Facilities Agreements Between Consumers Energy Company and CMS Generation Michigan Power, L.L.C. which were filed earlier in this docket.

Copies of the filing were served upon CMS Generation Michigan Power, L.L.C., those on the official service list in this docket and upon the Michigan Public Service Commission.

*Comment date:* April 19, 1999, in accordance with Standard Paragraph E at the end of this notice.

#### 9. ECONergy PA, Inc.

[Docket No. ER99-2183-001]

Take notice that on March 29, 1999, ECONergy PA, Inc. filed a withdrawal of its Petition for Acceptance of Initial Rate Schedule, Waivers and Blanket Authority.

*Comment date:* April 19, 1999, in accordance with Standard Paragraph E at the end of this notice.

#### 10. Hardee Power Partners Limited

[Docket No. ER99-2341-000]

Take notice that on March 31, 1999, Hardee Power Partners Limited (HPP) tendered for filing a Sales Tariff under which HPP would be authorized to sell electric capacity and/or energy at market-based rates.

HPP proposes that the Sales Tariff be made effective on April 1, 1999, and therefore requests waiver of the Commission's notice requirement.

HPP states that a copy of the filing has been served on the Florida Public Service Commission.

*Comment date:* April 20, 1999, in accordance with Standard Paragraph E at the end of this notice.

#### 11. Tampa Electric Company

[Docket No. ER99-2342-000]

Take notice that on March 31, 1999, Tampa Electric Company (Tampa Electric) tendered for filing a Sales Tariff under which Tampa Electric would be authorized to sell electric capacity and/or energy at market-based rates. Tampa Electric also tendered for filing a Reassignment Tariff under which Tampa Electric would be authorized to reassign transmission capacity reserved or acquired for its own use.

Tampa Electric proposes that the Sales Tariff and Reassignment Tariff be made effective on April 1, 1999, and therefore requests waiver of the Commission's notice requirement.

Tampa Electric states that a copy of the filing has been served on the Florida Public Service Commission.

*Comment date:* April 20, 1999, in accordance with Standard Paragraph E at the end of this notice.

#### 12. Avista Corporation

[Docket No. ER99-2349-000]

Take notice that on April 1, 1999, Avista Corporation (Avista) petitioned the Commission for acceptance of a new code of conduct as a supplement to its market-based rate schedule, FERC Electric Tariff, Original Volume No. 9. Avista asserts that the proposed code of conduct complies with all of the Commission's current requirements for codes of conduct of franchised public utilities that have affiliates with market-based rates.

*Comment date:* April 21, 1999, in accordance with Standard Paragraph E at the end of this notice.

#### 13. PacifiCorp

[Docket No. ER99-2352-000]

Take notice that on March 31, 1999, PacifiCorp tendered for filing in accordance with 18 CFR Part 35 of the

Commission's Rules and Regulations, the Letter Agreement with Western Power Administration under PacifiCorp's Rate Schedule FERC No. 328.

Copies of this filing were supplied to the Washington Utilities and Transportation Commission and the Public Utility Commission of Oregon.

*Comment date:* April 20, 1999, in accordance with Standard Paragraph E at the end of this notice.

#### 14. Southwest Power Pool

[Docket No. ER99-2353-000]

Take notice that on March 31, 1999, Southwest Power Pool (SPP) tendered for filing seven executed service agreements and three unexecuted service agreements for loss compensation service under the SPP Tariff.

SPP requests an effective date of March 1, 1999 for each of these agreements.

Copies of this filing were served upon all parties to the service agreements.

*Comment date:* April 20, 1999, in accordance with Standard Paragraph E at the end of this notice.

#### 15. The Dayton Power and Light Company

[Docket No. ER99-2354-000]

Take notice that on March 31, 1999 The Dayton Power and Light Company (Dayton) submitted service agreements establishing DukeSolutions, Inc. and PP&L EnergyPlus as a customer under the terms of Dayton's Market-Based Sales Tariff.

Dayton requests an effective date of one day subsequent to this filing for the service agreements. Accordingly, Dayton requests waiver of the Commission's notice requirements.

Copies of this filing were served upon DukeSolutions, Inc. and PP&L EnergyPlus, and the Public Utilities Commission of Ohio.

*Comment date:* April 20, 1999, in accordance with Standard Paragraph E at the end of this notice.

#### 16. Northeast Utilities Service Company

[Docket No. ER99-2355-000]

Take notice that on March 31, 1999, Northeast Utilities Service Company (NUSCO), on behalf of The Connecticut Light and Power Company, Western Massachusetts Electric Company, Holyoke Water Power Company (including Holyoke Power and Electric Company) and Public Service Company of New Hampshire, tendered for filing pursuant to Section 205 of the Federal Power Act and Section 35.13 of the Commission's Regulations, a rate

schedule change for sales of electric energy to Sterling Municipal Light Department.

NUSCO requests that the rate schedule change become effective on April 1, 1999.

NUSCO states that a copy of this filing has been mailed to Sterling Municipal Light Department and the Massachusetts Department of Telecommunications and Energy.

*Comment date:* April 20, 1999, in accordance with Standard Paragraph E at the end of this notice.

#### 17. Public Service Company of Colorado

[Docket No. ER99-2356-000]

Take notice that on March 31, 1999, Public Service Company of Colorado submitted for filing a power purchase agreement with Yampa Valley Electric Association, Inc.

*Comment date:* April 20, 1999, in accordance with Standard Paragraph E at the end of this notice.

#### 18. Carolina Power & Light Company

[Docket No. ER99-2357-000]

Take notice that on March 31, 1999, Carolina Power & Light Company (CP&L) tendered for filing an executed Service Agreement with Minnesota Power, Inc. under the provisions of CP&L's Market-Based Rates Tariff, FERC Electric Tariff No. 4. This Service Agreement supersedes the un-executed Agreement originally filed in Docket No. ER98-3385-000 and approved effective May 18, 1998.

Copies of the filing were served upon the North Carolina Utilities Commission and the South Carolina Public Service Commission.

*Comment date:* April 20, 1999, in accordance with Standard Paragraph E at the end of this notice.

#### 19. Soyland Power Cooperative, Inc.

[Docket No. ER99-2358-000]

Take notice that on April 1, 1999, Soyland Power Cooperative, Inc. (Soyland), tendered for filing with the Federal Energy Regulatory Commission (the Commission) a notice of cancellation of its all-requirements service contract with Corn Belt Electric Cooperative, Inc., (Corn Belt). Soyland states that Corn Belt has mutually agreed to cancel the agreement and Soyland will no longer provide all-requirements electric service to Corn Belt.

Soyland requests an effective date of April 1, 1999, for the notice of cancellation. Accordingly, Soyland request waiver of the Commission's Regulations.

Soyland states that a copy of the filing has been served on Corn Belt.

*Comment date:* April 21, 1999, in accordance with Standard Paragraph E at the end of this notice.

#### 20. PP&L, Inc.

[Docket No. ER99-2359-000]

Take notice that on April 1, 1999, PP&L, Inc. (PP&L), tendered for filing a Service Agreement dated February 4, 1999 with FPL Energy Power Marketing, Inc. (FPL), under PP&L's Market-Based Rate and Resale of Transmission Rights Tariff, FERC Electric Tariff, Original Revised Volume No. 5. The Service Agreement adds FPL as an eligible customer under the Tariff.

PP&L requests an effective date of April 1, 1999, for the Service Agreement.

PP&L states that copies of this filing have been supplied to FPL and to the Pennsylvania Public Utility Commission.

*Comment date:* April 21, 1999, in accordance with Standard Paragraph E at the end of this notice.

#### 21. United States Department of Energy Bonneville Power Administration

[Docket Nos. NJ97-3-006 and EL99-49-000]

Take notice that on March 30, 1999, United States Department of Energy filed a request for withdrawal of Bonneville's petition for Expedited Declaratory Order Approving an Amendment to Bonneville's Open Access Transmission Tariff and for Exemption in Lieu of Filing Fee filed with the Commission on March 23, 1999.

*Comment date:* April 19, 1999, in accordance with Standard Paragraph E at the end of this notice.

#### Standard Paragraphs

E. Any person desiring to be heard or to protest such filing should file a motion to intervene or protest with the Federal Energy Regulatory Commission, 888 First Street, N.E., Washington, D.C. 20426, in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure (18 CFR 385.211 and 385.214). All such motions or protests should be filed on or before the comment date. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a motion to intervene. Copies of these filings are on file with the Commission and are available for public inspection. This filing may also be viewed on the Internet at <http://www.ferc.fed.us/online/rims.htm> (call 202-208-2222 for assistance).

[www.ferc.fed.us/online/rims.htm](http://www.ferc.fed.us/online/rims.htm) (call 202-208-2222 for assistance).

**Linwood A. Watson, Jr.,**

**Acting Secretary.**

[FR Doc. 99-9109 Filed 4-12-99; 8:45 am]

BILLING CODE 6717-01-P

## DEPARTMENT OF ENERGY

### Federal Energy Regulatory Commission

#### Notice of Amendment of License and Soliciting Comments, Motions To Intervene, and Protests

April 7, 1999.

Take notice that the following application has been filed with the Commission and is available for public inspection:

a. *Application Type:* Amendment to License.

b. *Project No:* 10805-022.

c. *Date Filed:* February 24, 1999.

d. *Applicant:* Midwest Hydraulic Company.

e. *Name of Project:* Hatfield Hydroelectric Project.

f. *Location:* The Hatfield Project is located on the Black River, in Hatfield Township, in Jackson and Clark Counties, Wisconsin. The project does not utilize federal or tribal lands.

g. *Filed Pursuant to:* Federal Power Act, 16 U.S.C. 791(a)-825(r).

h. *Applicant Contact:* Mr. Gregg Blanche, Midwest Hydraulic Company, 13561 West Bay Shore, Suite 3000, Traverse City, MI 49684, (616) 941-0718.

i. *FERC Contact:* Any questions on this notice should be addressed to Mrs. Doan Pham at (202) 219-2851, or E-mail address: [doan.pham@ferc.fed.us](mailto:doan.pham@ferc.fed.us).

j. *Deadline for filing comments and or motions:* May 17, 1999.

All documents (original and eight copies) should be filed with: David P. Boergers, Secretary, Federal Energy Regulatory Commission, Mail Code: DLC, HL-11.1, 888 First Street, N.E., Washington, DC 20426.

Please include the project number (10805-022) on any comments or motions filed.

k. *Description of Proposal:* The licensee is proposing to install two 400-kW turbine-generators to discharge minimum flows at the dam, rather than the one 430-kW minimum flow unit authorized in the project license. The proposed units could provide additional flows to the bypass reach beyond what is authorized. The filing also included updated exhibit drawings and comment letters from the Wisconsin DNR.

l. *Locations of the application:* A copy of the application is available for

inspection and reproduction at the Commission's Public Reference Room, located at 888 First Street, NE, Room 2A, Washington, D.C. 20426, or by calling (202) 208-1371. This filing may be viewed on the web at <http://www.ferc.fed.us/online/rims.htm> (call (202) 208-2222 for assistance). A copy is also available for inspection and reproduction at the address in item h above.

m. Individuals desiring to be included on the Commission's mailing list should so indicate by writing to the Secretary of the Commission.

Comments, Protests, or Motions to Intervene—Anyone may submit comments, a protest, or a motion to intervene in accordance with the requirements of Rules of Practice and Procedure, 18 CFR 385.210, .211, .214. In determining the appropriate action to take, the Commission will consider all protests or other comments filed, but only those who file a motion to intervene in accordance with the Commission's Rules may become a party to the proceeding. Any comments, protests, or motions to intervene must be received on or before the specified comment date for the particular application.

Filing and Service of Responsive Documents—Any filings must bear in all capital letters the title "COMMENTS", "RECOMMENDATIONS FOR TERMS AND CONDITIONS", "PROTEST", or "MOTION TO INTERVENE", as applicable, and the Project Number of the particular application to which the filing refers. Any of the above-named documents must be filed by providing the original and the number of copies provided by the Commission's regulations to: The Secretary, Federal Energy Regulatory Commission, 888 First Street, N.E., Washington, D.C. 20426. A copy of any motion to intervene must also be served upon each representative of the Applicant specified in the particular application.

Agency Comments—Federal, state, and local agencies are invited to file comments on the described application. A copy of the application may be obtained by agencies directly from the Applicant. If an agency does not file comments within the time specified for filing comments, it will be presumed to have no comments. One copy of an agency's comments must also be sent to the Applicant's representatives.

**Linwood A. Watson, Jr.,**

*Acting Secretary.*

[FR Doc. 99-9122 Filed 4-12-99; 8:45 am]

BILLING CODE 6717-01-M

## ENVIRONMENTAL PROTECTION AGENCY

[FRL-6323-3]

### Agency Information Collection Activities: Submission for OMB Review; Comment Request; Acid Rain Program

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Notice.

**SUMMARY:** In compliance with the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*), this document announces that the following Information Collection Request (ICR) has been forwarded to the Office of Management and Budget (OMB) for review and approval: Acid Rain Program, OMB Control Number: 2060-0258, Expiration date: May 31, 1999. The ICR describes the nature of the information collection and its expected burden and cost; where appropriate, it includes the actual data collection instrument.

**DATES:** Comments must be submitted on or before May 13, 1999.

**FOR FURTHER INFORMATION CONTACT:** Contact Sandy Farmer at EPA by phone at (202) 260-2740, by email at [farmer.sandy@epamail.epa.gov](mailto:farmer.sandy@epamail.epa.gov), or download a copy of the ICR off the Internet at <http://www.epa.gov/icr> and refer to EPA ICR No. 1633.12.

#### SUPPLEMENTARY INFORMATION:

**Title:** Acid Rain Program (OMB Control No. 2060-0258; EPA ICR No. 1633.12) expiring 5/31/1999. This is a request for extension of a currently approved collection.

**Abstract:** The Acid Rain Program was established under Title IV of the 1990 Clean Air Act Amendments. The program calls for major reductions of the pollutants that cause acid rain while establishing a new approach to environmental management. This information collection is necessary to implement the Acid Rain Program. It includes burden hours associated with developing and modifying permits, transferring allowances, obtaining allowances from the conservation and renewable energy reserve and small diesel refinery program, monitoring emissions, participating in the annual auctions, completing annual compliance certifications, participating in the Opt-in program, and complying with NO<sub>x</sub> permitting requirements. Most of this information collection is mandatory under 40 CFR parts 72-78. Some parts of it are voluntary or to obtain a benefit, such as participation in the annual auctions under 40 CFR part 73, subpart E. An agency may not conduct or

sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations are listed in 40 CFR part 9 and 48 CFR Chapter 15. The **Federal Register** document required under 5 CFR 1320.8(d), soliciting comments on this collection of information was published on 5/5/1998 (FRL-6009-6); No comments were received.

**Burden Statement:** The annual public reporting and recordkeeping burden for this collection of information is estimated to average 132 hours per response. Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

**Respondents/Affected Entities:** 850.

**Estimated Number of Respondents:** 850.

**Frequency of Response:** Varies by task.

**Estimated Total Annual Hour Burden:** 1,330,327 hours.

**Estimated Total Annualized Cost Burden:** \$135,632,000.

Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the following addresses. Please refer to EPA ICR No 1633.12 and OMB Control No. 2060-0258 in any correspondence.

Ms. Sandy Farmer, U.S. Environmental Protection Agency, OPPE Regulatory Information Division (2137), 401 M Street, SW, Washington, DC 20460;  
and

Office of Information and Regulatory Affairs, Office of Management and Budget, Attention: Desk Officer for EPA, 725 17th Street, NW, Washington, DC 20503.

Dated: April 7, 1999.

**Joseph Retzer,**

*Director, Regulatory Information Division.*

[FR Doc. 99-9206 Filed 4-12-99; 8:45 am]

BILLING CODE 6560-50-U

## ENVIRONMENTAL PROTECTION AGENCY

[OPP-00596; FRL-6076-8]

### State FIFRA Issues Research and Evaluation Group (SFIREG) Pesticide Operations and Management Working Committee; Open Meeting

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Notice.

**SUMMARY:** The State FIFRA Issues Research and Evaluation Group (SFIREG) Pesticide Operations and Management Working Committee will hold a 2-day meeting, April 19 and 20, 1999. The meetings are open to the public.

**DATES:** The SFIREG Working Committee on Pesticide Operations and Management will meet on Monday, April 19, 1999, from 8:30 to 1:00 p.m. and Tuesday, April 20, 1999, from 8:30 to 4:00 p.m.

**ADDRESSES:** The meeting will be held at: The Hampton Inn, 226 Carondelet, New Orleans, LA, 70130.

**FOR FURTHER INFORMATION CONTACT:** By mail: Elaine Y. Lyon, Field and External Affairs Division, Office of Pesticide Programs (7506C), Environmental Protection Agency, 401 M St., SW., Washington, DC 20460. Office location and telephone number: 1921 Jefferson Davis Highway, Arlington, VA 22202, CM #2; (703) 305-5306; e-mail: lyon.elaine@epa.gov.

**SUPPLEMENTARY INFORMATION:** The tentative agenda of the Working Committee on Pesticide Operations and Management includes the following.

1. Status of Chlorine Gas Reregistration Eligibility Decision.
2. State participation in the Office of Pesticide Programs review processes.
3. Status of Pesticide Containers and Containment Standards.
4. Indoor use product issues.
5. Update of Rodenticide Stakeholders activities.
6. Update on Certification and Training Assessment Group (CTAG).
7. State Lead Agency's issues with EPA's policy on Conditional Product Registration.
8. Update on Consumer Labeling Initiative.
9. Advisory vs. Mandatory label language issues.

10. Update on modification of worker protection standard posting requirements.

11. Update on disclaimers and limitations of liability.

12. Internet distributions of EPA registered and non registered pesticides.

13. Use of Inspector Credentials.

14. Keep Out of Reach of Children (KOORC) issues.

15. Worker Protection Standard implementation and enforcement response.

16. Custom blend policy changes.

17. Status of Pesticide Inspector Residence Training (PIRT).

18. Distribution of EPA enforcement alerts to State Lead Agencies.

19. Outcome of the Pesticide Field Data Plan workshop.

20. Office of Pesticide Program Update.

21. Office of Enforcement and Compliance Assistance Update.

22. Other topics as appropriate.

### List of Subjects

Environmental protection.

Dated: April 7, 1999.

**Jay Ellenberger,**

*Director, Field and External Affairs Division, Office of Pesticide Programs.*

[FR Doc. 99-9179 Filed 4-8-99; 2:41 pm]

BILLING CODE 6560-50-F

## ENVIRONMENTAL PROTECTION AGENCY

[FRL-6323-4]

### Notice of Proposed CERCLA Administrative Cashout Settlement; Evergreen Manor Groundwater Contamination Site, Winnebago County, Illinois

**AGENCY:** Environmental Protection Agency.

**ACTION:** Notice; request for public comment.

**SUMMARY:** In accordance with section 122(I) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended ("CERCLA"), 42 U.S.C. 9622(I), the United States Environmental Protection Agency ("Agency") hereby gives notice that it proposes to issue an administrative order on consent (AOC) concerning the Evergreen Manor Groundwater Contamination Site ("the Site").

The United States Department of Justice approved this AOC on April 1, 1999, subject to review by the public pursuant to this Notice. The AOC

requires Ecolab Inc., Regal Beloit Corporation, Waste Management of Illinois, Inc., and Waste Management of Wisconsin, Inc. (collectively referred to as the "Settling Parties") to pay a total of \$2,100,850 to the Hazardous Substance Superfund to partially fund a removal action to be performed by the Agency. The removal action will consist of construction of a water main extension to bring potable water from the North Park Public Water District to individual residences which are threatened by contaminated water ("removal project").

The AOC also includes a covenant by the Agency not to sue the Settling Parties under sections 106 or 107 of CERCLA, 42 U.S.C. 9606 or 9607(a), for any of the following: (1) to require them to perform the removal project; (2) to recover the Agency's past costs related to this Site (which currently total approximately \$104,000); or (3) to recover costs to be incurred by the Agency in connection with implementation of the removal project. In the AOC, the Agency specifically reserves all other rights against Settling Parties, including the right to sue them for the Agency's future costs incurred in performance of a remedial investigation/feasibility study ("RI/FS") in connection with the Site, and the right to require the Settling Parties to either perform or pay for any future response actions at the Site, other than this removal project. The AOC also requires the Settling Parties to pay \$100,000 to the State of Illinois to partially reimburse the State for its past costs incurred in connection with this Site. Under the AOC the State covenants not to sue the Settling Parties for the balance of its past costs or for future oversight costs incurred in connection with this removal project.

The Agency will accept written comments relating to the settlement for thirty days after publication of this notice. The Agency will consider all comments received and may modify or withdraw its consent to the settlement if comments received disclose facts or considerations which indicate that the settlement is inappropriate, improper, or inadequate. The Agency's response to any comments received will be available for public inspection at the North Suburban District Public Library, 5562 Clayton Circle, Roscoe, Illinois and at the U.S. EPA Records Center, Superfund Division 7-J, Metcalfe Federal Building, 77 West Jackson Boulevard, Chicago, Illinois 60604.

**DATES:** Comments must be submitted on or before May 13, 1999.

**ADDRESSES:** The proposed AOC and the administrative record related to this Site

are available for public inspection at the North Suburban District Public Library, 5540 Elevator Road, Roscoe, Illinois and at the U.S. EPA Records Center, Superfund Division 7-J, Metcalfe Federal Building, 77 West Jackson Boulevard, Chicago, Illinois 60604. You should address your comments to Janice S. Loughlin, Associate Regional Counsel, U.S. Environmental Protection Agency, Region 5, Mail Code C-29A, 77 West Jackson Boulevard, Chicago, Illinois 60604-3590, and should refer to the Evergreen Manor Groundwater Contamination Site, Winnebago County, Illinois.

**FOR FURTHER INFORMATION CONTACT:** Mike Ribordy, Remedial Project Manager, Superfund Division, U.S. Environmental Protection Agency (Mail Code SR-6J), or Janice S. Loughlin, Associate Regional Counsel, U.S. Environmental Protection Agency (Mail Code C-14J), 77 W. Jackson Blvd., Chicago, Illinois 60604. Mr. Ribordy can be reached at (312) 886-4592 and Ms. Loughlin can be reached at (312) 886-7158.

**Authority:** The Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. 9601-9675.

**Wendy L. Carney,**

*Acting Director, Superfund Division.*

[FR Doc. 99-9202 Filed 4-12-99; 8:45 am]

BILLING CODE 6560-50-U

## ENVIRONMENTAL PROTECTION AGENCY

[FRL-6323-8]

### Proposed Administrative Settlement Under the Comprehensive Environmental Response, Compensation, and Liability Act

**AGENCY:** Environmental Protection Agency.

**ACTION:** Notice; request for public comment.

**SUMMARY:** The U.S. Environmental Protection Agency is proposing to enter into a *de minimis* settlement pursuant to section 122(g)(4) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (CERCLA), 42 U.S.C. 9622(g)(4). This proposed settlement is intended to resolve the liabilities under CERCLA of four *de minimis* parties for response costs incurred and to be incurred at the Metal Bank Superfund Site, Philadelphia, Pennsylvania.

**DATES:** Comments must be provided on or before May 13, 1999.

**ADDRESSES:** Comments should be addressed to the Docket Clerk, U.S.

Environmental Protection Agency, Region III, 1650 Arch Street, Philadelphia, PA 19103, and should refer to: *In Re: Metal Bank Superfund Site*, Philadelphia, Pennsylvania, U.S. EPA Docket No. III-98-086-DC.

**FOR FURTHER INFORMATION CONTACT:** Helen Keplinger (Mail Code-2272A) (202) 564-4221, U.S. Environmental Protection Agency, Office of Site Remediation Enforcement, 401 "M" Street, S.W., Washington, D.C. 20460.

**SUPPLEMENTARY INFORMATION:** Notice of *De Minimis* Settlement: In accordance with section 122(i)(1) of CERCLA, notice is hereby given of a proposed administrative settlement concerning the Metal Bank Superfund Site, in Philadelphia, Pa. The agreement was proposed by EPA Region III on April 3, 1996. Subject to review by the public pursuant to this Notice, the agreement is subject to the approval of the Attorney General or her designee, United States Department of Justice. Below are listed the parties who have executed binding certifications of their consent to participate in this settlement:

1. Cabot Corporation
2. Delmarva Power & Light Company
3. General Electric Company
4. Gould Electronics, Inc.

These four parties collectively have agreed to pay \$174,865.16 subject to the contingency that EPA may elect not to complete the settlement if comments received from the public during this comment period disclose facts or considerations which indicate the proposed settlement is inappropriate, improper, or inadequate. Money collected from *de minimis* parties will be used for past response costs incurred at or in connection with the Site, projected future response costs to be incurred at or in connection with the Site, and includes a premium to cover the risk that unknown conditions are discovered or information previously unknown to EPA is received.

EPA is entering into this agreement under the authority of sections 122(g) and 107 of CERCLA. Section 122(g) authorizes early settlements with *de minimis* parties to allow them to resolve their liabilities at Superfund Sites without incurring substantial transaction costs. Under this authority, EPA proposes to settle with a number of potentially responsible parties at the Metal Bank Superfund Site, each of whom is responsible for less than one percent of the volume of hazardous substance disposed of at the Site. EPA issued a draft settlement proposal on June 28, 1996, invited comments and challenges to the volumetric ranking. On August 5, 1998, EPA issued a final

settlement proposal embodied in the Administrative Order on Consent which included several modifications made in response to comments by *de minimis* parties in letters to EPA and during negotiations with the Agency. The proposed settlement reflects and was agreed upon based on conditions known to parties on August 28, 1998. *De minimis* settling parties will be required to pay their volumetric share of the Government's past response costs and the estimated future response costs at the Metal Bank Site excluding any federal claims for natural resource damages or any Commonwealth of Pennsylvania claims.

The Environmental Protection Agency will receive written comments relating to this Agreement for thirty (30) days from the date of publication of this document. A copy of the proposed Administrative Order on Consent may be obtained from Harry R. Steinmetz (3HS11) in EPA's Region III Office, 1650 Arch Street, Philadelphia, PA 19103, (telephone: 215/814-3161).

**Thomas Voltaggio,**

*Acting Regional Administrator, Region III.*

[FR Doc. 99-9204 Filed 4-12-99; 8:45 am]

BILLING CODE 6560-50-P

## ENVIRONMENTAL PROTECTION AGENCY

[PB-402404-CO; FRL-6060-6]

### Lead-Based Paint Activities in Target Housing and Child-Occupied Facilities; State of Colorado's Authorization Application

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Notice; request for comments and opportunity for public hearing.

**SUMMARY:** On December 21, 1998, the State of Colorado submitted an application for EPA approval to administer and enforce training and certification requirements, training program accreditation requirements, and work practice standards for lead-based paint activities in target housing and child-occupied facilities under section 402 of the Toxic Substances Control Act (TSCA). This notice announces EPA's receipt of Colorado's application, a 45-day public comment period, and an opportunity to request a public hearing on the application. Colorado has provided a certification stating that its program meets the requirements for approval of a State program under section 404 of TSCA. Therefore, pursuant to section 404 of

TSCA, the program is deemed authorized as of the date of submission. If EPA finds that the program does not meet the requirements for approval of a State program, EPA will disapprove the program, at which time a notice will be issued in the **Federal Register** and a Federal program will be established to cover Colorado.

**DATES:** Comments on the authorization application must be received on or before May 28, 1999.

**ADDRESSES:** Submit all written comments and/or requests for a public hearing identified by docket number PB-402404-CO (in duplicate) to: Bruce Cooper, Environmental Protection Agency, Region VIII, 8P-P3-T, 999 18th St., Suite 500, Denver, CO 80202-2466.

Comments, data, and requests for a public hearing may also be submitted electronically to: cooper.bruce@epa.gov. Follow the instructions under Unit V. of this document. No information claimed to be Confidential Business Information (CBI) should be submitted through e-mail.

**FOR FURTHER INFORMATION CONTACT:** Dave Combs, Regional Toxics Team Leader, Environmental Protection Agency, Region VIII, 8P-P3-T, 999 18th St., Suite 500, Denver, CO 80202-2466. Telephone: 303-312-6021; e-mail address: combs.dave@epa.gov.

**SUPPLEMENTARY INFORMATION:**

**I. Background**

On October 28, 1992, the Housing and Community Development Act of 1992, Pub. L. 102-550, became law. Title X of that statute was the Residential Lead-Based Paint Hazard Reduction Act of 1992. That Act amended TSCA, 15 U.S.C. 2601 *et seq.*, by adding Subchapter IV, 15 U.S.C. 2681-92, entitled Lead Exposure Reduction.

Section 402 of TSCA, authorizes and directs EPA to promulgate final regulations governing lead-based paint activities in target housing, public and commercial buildings, bridges and other structures. These regulations are to ensure that individuals engaged in such activities are properly trained (under accredited programs) and certified and that they follow documented work practice standards. Under section 404 of TSCA, a State may seek authorization from EPA to administer and enforce its own lead-based paint activities program.

On August 29, 1996, EPA promulgated final TSCA section 402/404 regulations governing lead-based paint activities in target housing and child-occupied facilities (a subset of public buildings) (61 FR 45777) (FRL-5389-9). Those regulations are codified at 40 CFR part 745 and allow both States

and Indian Tribes to apply for program authorization. Pursuant to section 404(h) of TSCA, EPA is to establish a Federal program in any State or Tribal Nation without its own authorized program in place by August 31, 1998.

Any State or Tribe choosing to apply for program authorization must submit a complete application to the appropriate Regional EPA Office for review. To receive EPA approval, a State or Tribe must demonstrate that its program is at least as protective of human health and the environment as the Federal program and that it provides for adequate enforcement (see section 404(b) of TSCA). EPA's regulations at 40 CFR part 745, subpart Q, provide the detailed requirements a State or Tribal program must meet in order to obtain EPA authorization.

A State may choose to certify that its lead-based paint activities program meets the requirements for EPA authorization by submitting a letter signed by the Governor or Attorney General and stating that the State's program meets the requirements of section 404(b) of TSCA. Upon submission of such certification letter, the program is deemed authorized until such time as EPA disapproves the program application or withdraws the program authorization. A program is not, however, deemed authorized to the extent that the State may assert jurisdiction over Indian Country, including non-member fee lands within an Indian reservation (see 40 CFR 745.324(d)(2)).

Colorado has provided a self-certification letter stating that its program meets the requirements for authorization of a State program under section 404 of TSCA and has requested interim approval of the compliance and enforcement program portion of the Colorado Lead Program. Therefore, pursuant to section 404, the program is deemed authorized as of the date of submission (i.e., December 21, 1998). If EPA finds that the program does not meet the requirements for authorization of a State program, EPA will disapprove the program application, issue a notice in the **Federal Register**, and establish a Federal program in Colorado.

Section 404(b) of TSCA provides that EPA may approve a program application only after providing notice and an opportunity for a public hearing on the application. Therefore, by this notice EPA is soliciting public comment on whether Colorado's application meets the requirements for EPA approval. This notice also provides an opportunity to request a public hearing on the application.

**II. State Program Description Summary**

The following is a summary of Colorado's Lead-Based Paint Abatement Regulation Number 19, based on statements in Colorado's December 21, 1998 application.

The State agency responsible for administering and enforcing the program is the Air Pollution Control Division (the "Division"), which is part of the Colorado Department of Public Health and Environment. The Division official designated as the point contact with EPA is Mr. Steven Fine, Supervisor of the CFC, Indoor Air, Asbestos, and Lead-Based Paint Abatement Unit, Air Pollution Control Division. Mr. Fine can be reached by telephone at (303) 692-3164 or by mail at APCD-SS-B1, 4300 Cherry Creek Drive South, Denver, CO 80246-1530.

The Division is the only Colorado State agency responsible for administering and enforcing the Lead-Based Paint Abatement program. However, pursuant to section 25-7-1104(1)(b)(2), C.R.S., the Division may delegate the "implementation or enforcement" of standards to local health or building departments, as appropriate, if requested by such a local department. Such standards regarding such delegations are part of Regulation No. 19, which is included in Colorado's application. If the Division approves such a delegation to a local health or building department, the Division shall remain the primary agency responsible for overseeing and coordinating administration and enforcement of the program and Mr. Steven D. Fine shall remain as the primary contact with EPA.

At this time, there is no delegation to a local health or building department; therefore, the Division has not developed a description of the functions to be performed by each agency. If the Division ever makes such a delegation, it will submit to EPA the required information as detailed in 40 CFR 745.324(b)(1)(iii).

**A. Program Elements**

Regulation Number 19 is intended to protect children from exposure to lead as a result of lead-based paint abatement in "target housing" and "child-occupied facilities" and to achieve uniformity in the regulation of lead abatement practices and in the qualifications for and certification of persons who perform such abatement.

Regulation Number 19 includes procedures for training and certifying persons and companies involved in lead-based paint inspection, risk assessment, planning, project design, supervision, or abatement. Regulation

Number 19 has a training and certification program that is nearly identical to EPA's program. Training is to be provided by private contractors. To facilitate the Division's course audit schedules, Regulation Number 19 includes an additional requirement that training course providers must receive the Division's approval or acknowledgment of each course prior to offering the course.

Regulation Number 19 includes work practice standards and practices for lead-based paint abatement. These standards include EPA's work practice standards and work practice measures that an abatement contractor must include in an occupant protection plan and comply with before, during, and after abatement. The program also includes a requirement, similar to HUD's requirement, that a contractor must sample the soil to ensure that the soil is not contaminated. The sampling would be required unless the contractor is removing or permanently covering the contaminated soil. Colorado's program requires a certified supervisor to be onsite during all work site preparation, abatement, and during post-abatement cleanup of the work areas.

Regulation Number 19 includes procedures for the approval of persons or companies who provide training or accreditation of workers, supervisors, inspectors, risk assessors, or project designers performing lead-based paint activities in "target housing" or "child-occupied facilities."

Also included in Regulation Number 19 are procedures for the Division notifying appropriate persons regarding lead-based paint projects in "target housing" or "child-occupied facilities." Colorado's program requires a contractor to notify the Division 10 working days prior to the commencement of lead-based paint abatement activities if the amount of lead-based paint, lead contaminated soil, or lead contaminated dust is greater than 2 square feet on interior surfaces or 10 square feet on exterior surfaces. This time period for a notification is necessary because of document review and inspection planning. The regulation includes *de minimis* levels that trigger the notification requirement based upon proposed EPA-identified triggers for risk assessment requirements and HUD's trigger levels for on-site preparation requirements.

Colorado's program includes requirements for fees for certification of persons conducting lead abatement services, for monitoring to ensure compliance with Regulation No. 19, and for approval of persons or companies

involved in the training or accreditation of workers.

Colorado has indicated that the Division has legal authority and ability to implement the standards and requirements of Regulation No. 19 immediately and that the Division has authority to commence an enforcement action immediately for any violation of lead-based paint activities and requirements, including accreditation requirements for training programs, certification requirements for individuals, standards for conducting lead-based paint abatement activities, and pre-renovation notification requirements.

Colorado has further stated that the Division has authority to enter premises or facilities where lead-based activities violations may occur for purposes of conducting inspections, through consent, warrant, or other authority. Colorado's application indicates that the Division has authority to enter premises or facilities where those engaged in training for lead-based paint activities conduct business, to enter a renovator's place of business for the purposes of enforcing a pre-renovation program, and to take samples and review records as part of the lead-based paint activities inspection process.

Finally, Colorado has stated that the Division has available to it a diverse and flexible array of enforcement remedies that apply to the State's lead-based paint abatement program, including requests for information, warning letters, and notices of violation; administrative and civil actions, including authority to suspend, revoke, or modify accreditation or certification; and criminal sanctions.

#### *B. Performance Elements*

Colorado has also indicated that its lead-based paint abatement program includes the necessary performance elements as required pursuant to 40 CFR 745.327(c). The Division will implement a process for training enforcement and inspection personnel to ensure that such personnel are well trained. The Division already has in place a training program to teach inspectors procedures for developing cases, properly maintaining case files, discovering violations, obtaining consent to inspections, and gathering and preserving evidence. The Division requires that its inspectors attend continuing education courses.

The Division has in place an enforcement tracking data base that allows inspectors to process and react to tips and complaints and track enforcement cases. The Division can target inspections to ensure compliance with Regulation No. 19 and can obtain

and use notifications of abatement activities.

The Division has more than 12 years of experience in implementing a compliance monitoring and enforcement program in asbestos. Elements of the asbestos program will allow for a smooth transition to lead-based paint abatement compliance monitoring and enforcement that will result in correction of violations found during either routine inspections or those conducted in response to tips, complaints and emergencies.

#### *C. Statement of Resources*

The Division currently employs five persons who have been involved, in varying degrees over the past few years, in developing the lead-based paint abatement program. The Division is hiring two FTEs to work full time in the lead-based paint abatement program. They will be involved in activities such as conducting lead-based paint abatement inspections, processing notifications, certifying individuals and firms, and conducting course audits.

While the Colorado Legislature did grant the Division authority to assess fees for certain aspects of the Lead Program, the level of abatement activity and numbers of individuals and firms seeking certification is unknown and may not generate sufficient revenues in the first 2 to 3 years of the program to fund the program fully. In consideration of this, the Division will be submitting a grant application request to EPA for supplemental funding until the program can operate solely on revenues collected.

#### *D. Summary on Progress and Performance*

The Division agrees to submit to EPA a Summary on Progress and Performance of lead-based paint abatement compliance and enforcement activities.

### **III. Issues Upon Which EPA Requests Public Comment**

EPA requests comment on whether Colorado's application meets all statutory and regulatory requirements for EPA approval. EPA especially solicits comments on whether and how Colorado's environmental audit privilege and penalty immunity statute, sometimes known as S.B. 94-139, affects Colorado's ability to meet the pertinent requirements. S.B. 94-139 has been codified at sections 13-25-126.5, 13-90-107(1)(j), and 25-1-114.5, C.R.S.

### **IV. Federal Overfiling**

TSCA section 404(b), makes it unlawful for any person to violate, or



fail or refuse to comply with, any requirement of an approved State or Tribal program. Therefore, EPA reserves the right to exercise its enforcement authority under TSCA against a violation of, or a failure or refusal to comply with, any requirement of an authorized State or Tribal program.

#### V. Public Record and Electronic Submissions

The official record for this action, as well as the public version, has been established under docket control number PB-402404-CO. Copies of this notice, the State of Colorado's authorization application, and all comments received on the application are available for inspection in the Region VIII office, from 8 a.m. to 4 p.m., Monday through Friday, excluding legal holidays. The docket is located at EPA, Region VIII, 8P-P3T, 999 18th St., Suite 500, Denver, CO.

Commenters are encouraged to structure their comments so as not to contain information for which CBI claims would be made. However, any information claimed as CBI must be marked "confidential," "CBI," or with some other appropriate designation, and a commenter submitting such information must also prepare a nonconfidential version (in duplicate) that can be placed in the public record. Any information so marked will be handled in accordance with the procedures contained in 40 CFR part 2. Comments and information not claimed as CBI at the time of submission will be placed in the public record.

Electronic comments can be sent directly to EPA at: [cooper.bruce@epa.gov](mailto:cooper.bruce@epa.gov). Electronic comments must be submitted as an ASCII file avoiding the use of special characters and any form of encryption. Comments and data will also be accepted on disks in WordPerfect 5.1/6.1 or ASCII file format. All comments and data in electronic form must be identified by the docket control number PB-402404-CO. Electronic comments on this document may be filed online at many Federal Depository Libraries. Information claimed as CBI should not be submitted electronically.

#### VI. Regulatory Assessment Requirements

##### A. Certain Acts and Executive Orders

EPA's actions on State or Tribal lead-based paint activities program applications are informal adjudications, not rules. Therefore, the requirements of the Regulatory Flexibility Act (RFA, 5 U.S.C. 601 *et seq.*), the Congressional Review Act (5 U.S.C. 801 *et seq.*),

Executive Order 12866 ("Regulatory Planning and Review," 58 FR 51735, October 4, 1993), and Executive Order 13045 ("Protection of Children from Environmental Health Risks and Safety Risks," 62 FR 1985, April 23, 1997), do not apply to this action. This action does not contain any Federal mandates, and therefore is not subject to the requirements of the Unfunded Mandates Reform Act (2 U.S.C. 1531-1538). In addition, this action does not contain any information collection requirements and therefore does not require review or approval by the Office of Management and Budget (OMB) under the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*).

##### B. Executive Order 12875

Under Executive Order 12875, entitled "Enhancing Intergovernmental Partnerships" (58 FR 58093, October 28, 1993), EPA may not issue a regulation that is not required by statute and that creates a mandate upon a State, local, or Tribal government, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by those governments. If the mandate is unfunded, EPA must provide to OMB a description of the extent of EPA's prior consultation with representatives of affected State, local, and Tribal governments, the nature of their concerns, copies of any written communications from the governments, and a statement supporting the need to issue the regulation. In addition, Executive Order 12875 requires EPA to develop an effective process permitting elected officials and other representatives of State, local, and Tribal governments "to provide meaningful and timely input in the development of regulatory proposals containing significant unfunded mandates." Today's action does not create an unfunded Federal mandate on State, local, or Tribal governments. This action does not impose any enforceable duties on these entities. Accordingly, the requirements of section 1(a) of Executive Order 12875 do not apply to this action.

##### C. Executive Order 13084

Under Executive Order 13084, entitled "Consultation and Coordination with Indian Tribal Governments" (63 FR 27655, May 19, 1998), EPA may not issue a regulation that is not required by statute, that significantly or uniquely affects the communities of Indian tribal governments, and that imposes substantial direct compliance costs on those communities, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by the Tribal

governments. If the mandate is unfunded, EPA must provide OMB, in a separately identified section of the preamble to the rule, a description of the extent of EPA's prior consultation with representatives of affected Tribal governments, a summary of the nature of their concerns, and a statement supporting the need to issue the regulation. In addition, Executive Order 13084 requires EPA to develop an effective process permitting elected and other representatives of Indian tribal governments "to provide meaningful and timely input in the development of regulatory policies on matters that significantly or uniquely affect their communities." Today's action does not significantly or uniquely affect the communities of Indian tribal governments. This action does not involve or impose any requirements that affect Indian Tribes. Accordingly, the requirements of section 3(b) of Executive Order 13084 do not apply to this action.

**Authority:** 15 U.S.C. 2682, 2684.

#### List of Subjects

Environmental protection, Hazardous substances, Lead, Reporting and recordkeeping requirements.

Dated: March 30, 1999.

#### William Yellowtail,

*Regional Administrator, Region VIII.*

[FR Doc. 99-9207 Filed 4-12-99; 8:45 am]

BILLING CODE 6560-50-F

#### FEDERAL COMMUNICATIONS COMMISSION

##### Notice of Public Information Collections being Reviewed by the Federal Communications Commission

April 6, 1999.

**SUMMARY:** The Federal Communications Commission, as part of its continuing effort to reduce paperwork burden invites the general public and other Federal agencies to take this opportunity to comment on the following information collection, as required by the Paperwork Reduction Act of 1995, Public Law 104-13. An agency may not conduct or sponsor a collection of information unless it displays a currently valid control number. No person shall be subject to any penalty for failing to comply with a collection of information subject to the Paperwork Reduction Act (PRA) that does not display a valid control number. Comments are requested concerning (a) whether the proposed collection of information is necessary for the proper

performance of the functions of the Commission, including whether the information shall have practical utility; (b) the accuracy of the Commission's burden estimate; (c) ways to enhance the quality, utility, and clarity of the information collected; and (d) ways to minimize the burden of the collection of information on the respondents, including the use of automated collection techniques or other forms of information technology.

**DATES:** Written comments should be submitted on or before June 14, 1999. If you anticipate that you will be submitting comments, but find it difficult to do so within the period of time allowed by this notice, you should advise the contact listed below as soon as possible.

**ADDRESSES:** Direct all comments to Les Smith, Federal Communications Commission, 445 12th Street, SW, Room 1-A804, Washington, DC 20554 or via the Internet to lesmith@fcc.gov.

**FOR FURTHER INFORMATION CONTACT:** For additional information or copies of the information collections contact Les Smith at (202) 418-0217 or via the Internet at lesmith@fcc.gov.

**SUPPLEMENTARY INFORMATION:**

*OMB Approval Number:* 3060-0079.

*Title:* Application for An Amateur Club, RACES, or Military Recreation Station License.

*Form Number:* FCC 610B.

*Type of Review:* Extension of a currently approved collection.

*Respondents:* Not-for-profit institutions.

*Number of Respondents:* 600.

*Estimated Time Per Response:* 5 minutes.

*Total Annual Burden:* 50 hours.

*Total Annual Cost:* None.

*Needs and Uses:* FCC Rules require applicants to file FCC Form 610B for new, modified, or renewed Amateur Club, Radio Amateur Civil Emergency Service (RACES), or Military Recreation Station Licenses. The data are used by Call Sign Administrators and Commission staff to determine if the applicant is eligible for Amateur Club, RACES, or Military Recreation Station License. The information is used in issuing authorizations of service and is vital to maintain an acceptable database.

Federal Communications Commission.

**Magalie Roman Salas,**  
*Secretary.*

[FR Doc. 99-9075 Filed 4-12-99; 8:45 am]

BILLING CODE 6712-01-P

**FEDERAL COMMUNICATIONS COMMISSION**

**Notice of Public Information Collections Being Reviewed by the Federal Communications Commission**

March 31, 1999.

**SUMMARY:** The Federal Communications Commission, as part of its continuing effort to reduce paperwork burden invites the general public and other Federal agencies to take this opportunity to comment on the following information collection, as required by the Paperwork Reduction Act of 1995, Public Law 104-13. An agency may not conduct or sponsor a collection of information unless it displays a currently valid control number. No person shall be subject to any penalty for failing to comply with a collection of information subject to the Paperwork Reduction Act (PRA) that does not display a valid control number. Comments are requested concerning (a) whether the proposed collection of information is necessary for the proper performance of the functions of the Commission, including whether the information shall have practical utility; (b) the accuracy of the Commission's burden estimate; (c) ways to enhance the quality, utility, and clarity of the information collected; and (d) ways to minimize the burden of the collection of information on the respondents, including the use of automated collection techniques or other forms of information technology.

**DATES:** Written comments should be submitted on or before June 14, 1999. If you anticipate that you will be submitting comments, but find it difficult to do so within the period of time allowed by this notice, you should advise the contact listed below as soon as possible.

**ADDRESSES:** Direct all comments to Les Smith, Federal Communications Commission, 445 12th Street, S.W., Room 1-A-804, Washington, DC 20554 or via the Internet to lesmith@fcc.gov.

**FOR FURTHER INFORMATION CONTACT:** For additional information or copies of the information collections contact Les Smith at (202) 418-0217 or via the Internet at lesmith@fcc.gov.

**SUPPLEMENTARY INFORMATION:**

*OMB Approval Number:* 3060-0096.

*Title:* Application for Ship Radio Station License.

*Form Numbers:* FCC 506/FCC 506A.

*Type of Review:* Revision of a currently approved collection.

*Respondents:* Individuals or households; Businesses or other for-profit entities; State, Local or Tribal Government; Non-profit institutions.

*Number of Respondents:* 8,200.  
*Estimated Time Per Response:* 22 minutes.

*Total Annual Burden:* 2,952 hours.  
*Total Annual Costs:* \$623,676 (filing fees).

*Needs and Uses:* FCC rules require that applicants file the FCC 506 to apply for a new or modified ship radio station license. The form can also be used to renew a ship radio station license when the applicant does not receive the renewal application FCC Form 405B automatically generated by the Commission. The FCC 506A is used by the applicant to self certify to a temporary operating authority while the ship application is being processed by the FCC. This form is being revised to delete the fee payment and Taxpayer Identification Number blocks. Any payment to the FCC requires an FCC Form 159 (Fee Remittance Advice), and this information is duplicated on that form. The instructions have been revised and renumbered to accommodate these changes.

Federal Communications Commission.

**Magalie Roman Salas,**  
*Secretary.*

[FR Doc. 99-9157 Filed 4-12-99; 8:45 am]

BILLING CODE 6712-01-P

**FEDERAL COMMUNICATIONS COMMISSION**

**Notice of Public Information Collections Submitted to OMB for Review and Approval**

March 26, 1999.

**SUMMARY:** The Federal Communications Commissions, as part of its continuing effort to reduce paperwork burden invites the general public and other Federal agencies to take this opportunity to comment on the following information collection, as required by the Paperwork Reduction Act of 1995, Public Law 104-13. An agency may not conduct or sponsor a collection of information unless it displays a currently valid control number. No person shall be subject to any penalty for failing to comply with a collection of information subject to the Paperwork Reduction Act (PRA) that does not display a valid control number. Comments are requested concerning (a) whether the proposed collection of information is necessary for the proper performance of the functions of the Commission, including whether the information shall have practical utility; (b) the accuracy of the Commission's burden estimate; (c) ways to enhance the quality, utility, and clarity of the information collected; and (d) ways to

minimize the burden of the collection of information on the respondents, including the use of automated collection techniques or other forms of information technology.

**DATES:** Written comments should be submitted on or before May 13, 1999. If you anticipate that you will be submitting comments, but find it difficult to do so within the period of time allowed by this notice, you should advise the contact listed below as soon as possible.

**ADDRESSES:** Direct all comments to Les Smith, Federal Communications Commissions, Room 1-A804, 445 Twelfth Street., S.W., Washington, DC 20554 or via the Internet to lesmith@fcc.gov.

**FOR FURTHER INFORMATION CONTACT:** For additional information or copies of the information collections contact Les Smith at 202-418-0217 or via the Internet at lesmith@fcc.gov.

**SUPPLEMENTARY INFORMATION:**

*OMB Control Number:* 3060-0687.

*Title:* Access to Telecommunications Equipment and Services by Persons with Disabilities, CC Docket No. 87-124.

*Form Number:* N/A.

*Type of Review:* Extension of a currently approved collection.

*Respondents:* Businesses or other for profit entities.

*Number of Respondents:* 806,100.

*Estimated Time Per Response:* 1.2 to 11.4 hours.

*Frequency of Response:* On occasion reporting requirements; Third party disclosure.

*Total Annual Burden:* 991,000 hours.

*Total Annual Costs:* \$638,500.

*Needs and Uses:* The Commission requires that telephones with electromagnetic coil hearing aid compatibility be stamped with the letters HAC. Section 68.112(b)(3)(E) requires that employees with fifteen or more employees provide emergency telephones for use by employees with hearing disabilities and that the employers "designate" such telephones for emergency use. Section 68.224(a) requires a notice to be contained on the surface of the packaging of a non-hearing aid compatible telephone that the telephone is not hearing aid compatible. The requirements were implemented to assist the Commission in carrying out its responsibilities.

Federal Communications Commission.

**Magalie Roman Salas,**  
Secretary.

[FR Doc. 99-9072 Filed 4-12-99; 8:45 am]

BILLING CODE 6712-01-P

**FEDERAL COMMUNICATIONS COMMISSION**

**Notice of Public Information Collection(s) Submitted to OMB for Review and Approval.**

April 5, 1999.

**SUMMARY:** The Federal Communications Commission, as part of its continuing effort to reduce paperwork burden invites the general public and other Federal agencies to take this opportunity to comment on the following information collection, as required by the Paperwork Reduction Act of 1995, Public Law 104-13. An agency may not conduct or sponsor a collection of information unless it displays a currently valid control number. No person shall be subject to any penalty for failing to comply with a collection of information subject to the Paperwork Reduction Act (PRA) that does not display a valid control number. Comments are requested concerning (a) whether the proposed collection of information is necessary for the proper performance of the functions of the Commission, including whether the information shall have practical utility; (b) the accuracy of the Commission's burden estimate; (c) ways to enhance the quality, utility, and clarity of the information collected; and (d) ways to minimize the burden of the collection of information on the respondents, including the use of automated collection techniques or other forms of information technology.

**DATES:** Written comments should be submitted on or before May 13, 1999. If you anticipate that you will be submitting comments, but find it difficult to do so within the period of time allowed by this notice, you should advise the contact listed below as soon as possible.

**ADDRESSES:** Direct all comments to Les Smith, Federal Communications Commissions, 445 12th Street, S.W., Room 1-A804, Washington, DC 20554 or via the Internet to lesmith@fcc.gov.

**FOR FURTHER INFORMATION CONTACT:** For additional information or copies of the information collections contact Les Smith at (202) 418-0217 or via the Internet at lesmith@fcc.gov.

**SUPPLEMENTARY INFORMATION:**

*OMB Control Number:* 3060-0674.

*Title:* Section 76.931, Notification of Basic Tier Availability, and Section 76.932, Notification of Proposed Rate Increase.

*Form Number:* N/A.

*Type of Review:* Extension of a currently approved collection.

*Respondents:* Businesses or other for-profit entities.

*Number of Respondents:* 11,365.  
*Estimated Time per Response:* 2.25 hours.

*Frequency of Response:* On occasion reporting requirements; Third party disclosure.

*Total Annual Burden:* 25,572 hours.

*Total Annual Costs:* None.

*Needs and Uses:* Section 76.931 states that a cable operator shall provide written notification to subscribers of the availability of basic tier service by November 20, 1993, or three billing cycles from September 1, 1993, and to new subscribers at the time of installation. This notification is to include the following information: (a) that basic tier service is available; (b) the cost per month for basic tier service; and (c) a list of all services included in the basic service tier. Section 76.932 states that a cable operator shall provide written notice to subscribers of any increase in the price to be charged for the basic service tier or associated equipment at least 30 days before any proposed increase is effective. These notice requirements ensure that subscribers are made aware of the price and availability of basic cable service and ensure that subscribers are given due notice of rate increases with basic cable service.

Federal Communications Commission.

**Magalie Roman Salas,**  
Secretary.

[FR Doc. 99-9073 Filed 4-12-99; 8:45 am]

BILLING CODE 6712-01-P

**FEDERAL COMMUNICATIONS COMMISSION**

**Notice of Public Information Collections Submitted to OMB for Review and Approval.**

April 5, 1999.

**SUMMARY:** The Federal Communications Commissions, as part of its continuing effort to reduce paperwork burden invites the general public and other Federal agencies to take this opportunity to comment on the following information collection, as required by the Paperwork Reduction Act of 1995, Public Law 104-13. An agency may not conduct or sponsor a collection of information unless it displays a currently valid control number. No person shall be subject to any penalty for failing to comply with a collection of information subject to the Paperwork Reduction Act (PRA) that does not display a valid control number. Comments are requested concerning (a) whether the proposed collection of information is necessary for the proper performance of the functions of the

Commission, including whether the information shall have practical utility; (b) the accuracy of the Commission's burden estimate; (c) ways to enhance the quality, utility, and clarity of the information collected; and (d) ways to minimize the burden of the collection of information on the respondents, including the use of automated collection techniques or other forms of information technology.

**DATES:** Written comments should be submitted on or before May 13, 1999. If you anticipate that you will be submitting comments, but find it difficult to do so within the period of time allowed by this notice, you should advise the contact listed below as soon as possible.

**ADDRESSES:** Direct all comments to Les Smith, Federal Communications Commission, Room 1-A804, 445 12th Street, S.W., Washington, DC 20554 or via the Internet to lesmith@fcc.gov.

**FOR FURTHER INFORMATION CONTACT:** For additional information or copies of the information collections contact Les Smith at (202) 418-0217 or via the Internet at lesmith@fcc.gov.

**SUPPLEMENTARY INFORMATION:**

*OMB Control Number:* 3060-0862.

*Title:* Handling Confidential Information, GC Docket No. 96-55.

*Form Number:* N/A.

*Type of Review:* Revision of a currently approved collection.

*Respondents:* Businesses or other for-profit entities; Not-for-profit institutions; Federal Government; and State, Local or Tribal Governments.

*Number of Respondents:* 600.

*Estimated Time Per Response:* 1 to 3 hours.

*Frequency of Response:*

Recordkeeping; On occasion reporting requirement.

*Total Annual Burden:* 800 hours.

*Total Annual Costs:* None.

*Needs and Uses:* The FCC seeks approval for (a) the requirement that parties entering into a protective order keep a log of those who have access to the confidential materials and make that log available to the submitter of the confidential materials, and (b) for the showing necessary to support a request for confidentiality.

Federal Communications Commission.

**Magalie Roman Salas,**

*Secretary.*

[FR Doc. 99-9074 Filed 4-12-99; 8:45 am]

BILLING CODE 6712-01-M

**FEDERAL COMMUNICATIONS COMMISSION**

**Notice of Public Information Collection Submitted to OMB for Review**

March 30, 1999.

**SUMMARY:** The Federal Communications Commission, as part of its continuing efforts to reduce paperwork burdens invites the general public and other Federal agencies to take this opportunity to comment on the following information collections, as required by the Paperwork Reduction Act of 1995, Pub. L. 104-13. An agency may not conduct or sponsor a collection of information unless it displays a currently valid control number. No person shall be subject to any penalty for failing to comply with a collection of information subject to the Paperwork Reduction Act (PRA) that does not display a valid control number.

Comments are requested concerning (a) whether the collection of information is necessary for the proper performance of the functions of the Commission, including whether the information shall have practical utility; (b) the accuracy of the Commission's burden estimates; (c) ways to enhance the quality, utility, and clarity of the information collected; and (d) ways to minimize the burden of the collection of information on the respondents, including the use of automated collection techniques or other forms of information technology.

**DATES:** Written comments should be submitted on or before May 13, 1999. If you anticipate that you will be submitting comments, but find it difficult to do so within the period of time allowed by this notice, you should advise the contact listed below as soon as possible.

**ADDRESSES:** Direct all comments to Les Smith, Federal Communications Commission, Room 1-A804, 445 12th Street, SW, Washington, DC 20554 or via the Internet to lesmith@fcc.gov.

**FOR FURTHER INFORMATION CONTACT:** For additional information or copies of the information collections contact Les Smith at 202-418-0217 or via the Internet at lesmith@fcc.gov.

**SUPPLEMENTARY INFORMATION:**

*OMB Control Number:* 3060-0475.

*Title:* Section 90-713, Entry Criteria.

*Form Number:* N/A.

*Type of Review:* Extension to a currently approved collection.

*Respondents:* Business or other for-profit entities.

*Number of Respondents:* 33.

*Estimated Time per Response:* 25.5 hours (avg.).

*Frequency of Response:* One-time reporting requirement.

*Total Annual Burden:* 842 hours.

*Total Annual Costs:* \$0.

*Needs and Uses:* Section 90.713 of the Commission's rules requires applicants for nationwide systems in the 220-222 MHz bands to certify that they have an actual presence necessitating internal communications capacity in the 70 or more markets identified in the application. The data will be used to determine the eligibility of the applicant to hold a radio station authorization. Commission licensing personnel will use the data for rulemaking proceedings and field engineers will use the data for enforcement purposes.

Federal Communications Commission.

**Magalie Roman Salas,**

*Secretary.*

[FR Doc. 99-9077 Filed 4-12-99; 8:45 am]

BILLING CODE 6712-01-P

**FEDERAL COMMUNICATIONS COMMISSION**

**Sunshine Act Meeting; Open Commission Meeting Thursday, April 15, 1999**

The Federal Communications Commission will hold an Open Meeting on the subjects listed below on Thursday, April 15, 1999, which is scheduled to commence at 9:30 a.m. in Room TW-C305, at 445 12th Street, S. W., Washington, D.C.

| Item No. | Bureau               | Subject   |
|----------|----------------------|---|
| 1 .....  | Common Carrier ..... | Title: Truth-in-Billing and Billing Format (CC Docket No. 98-170).<br>Summary: The Commission will consider a Report & Order and Further Notice of Proposed Rulemaking concerning truth-in-billing and billing format for telephone bills to ensure that consumers get clear and accurate information.      |
| 2 .....  | International .....  | Title: 1998 Biennial Regulatory Review Reform of the International Settlements Policy and Associated Filing Requirements (IB Docket No. 98-148); Regulation of International Accounting Rates (CC Docket No. 90-337); and Market Entry and Regulation of Foreign-Affiliated Entities (IB Docket No. 95-22). |

| Item No. | Bureau                                    | Subject  |
|----------|---|--|
| 3 .....  | Mass Media and Office of General Counsel. | <p>Summary: The Commission will consider a Report and Order and Order on Reconsideration reforming the international settlements policy and associated filing requirements in an effort to promote more competition in international long distance.</p> <p>Title: Implementation of Section 309(j) of the Communications Act—Competitive Bidding for Commercial Broadcast and Instructional Television Fixed Service Licenses (MM Docket No. 97–234); Reexamination of the Policy Statement on Comparative Broadcast Hearings (GC Docket No. 92–52); and Proposals to Reform the Commission's Comparative Hearing Process to Expedite the Resolution of Cases (GEN Docket No. 90–264).</p> <p>Summary: The Commission will consider a Memorandum Opinion &amp; Order that addresses petitions for reconsideration of the Report &amp; Order adopting rules for competitive bidding procedures to award commercial broadcast, secondary broadcast, and Instructional Television Fixed Service licenses.</p> |

Additional information concerning this meeting may be obtained from Maureen Peratino or David Fiske, Office of Public Affairs, telephone number (202) 418–0500; TTY (202) 418–2555.

Copies of materials adopted at this meeting can be purchased from the FCC's duplicating contractor, International Services, Inc. (ITS, Inc.) at (202) 857–3800; fax (202) 857–3805 and 857–3184; or TTY (202) 293–8810. These copies are available in paper format and alternative media, including large print/type; digital disk; and audio tape. ITS may be reached by e-mail: its-inc@ix.netcom.com. Their Internet address is [htt://www.itsi.com](http://www.itsi.com).

This meeting can be viewed over George Mason University's Capitol Connection. The Capitol Connection also will carry the meeting live via the Internet. For information on these services call (703) 993–3100. The audio portion of the meeting will be broadcast live on the Internet via the FCC's Internet audio broadcast page at <http://www.fec.gov/realaudio/>. The meeting can also be heard via telephone, for a fee, from National Narrowcast Network, telephone (202) 966–2211 or fax (202) 966–1770. Audio and video tapes of this meeting can be purchased from Infocus, 341 Victory Drive, Herndon, VA 20170, telephone (703) 834–0100; fax number (703) 834–0111.

Federal Communications Commission.

**William F. Caton,**

*Deputy Secretary.*

[FR Doc. 99–9287 Filed 4–9–99; 11:05 am]

BILLING CODE 6712–01–M

## FEDERAL DEPOSIT INSURANCE CORPORATION

### Notice of Agency Meeting

Pursuant to the provisions of the "Government in the Sunshine Act" (5 U.S.C. 552b), notice is hereby given that at 10:03 a.m. on Thursday, April 8, 1999, the Board of Directors of the

Federal Deposit Insurance Corporation met in closed session to consider (1) matters relating to the Corporation's supervisory activities, and (2) reports from the Office of Inspector General.

In calling the meeting, the Board determined, on motion of Director Ellen S. Seidman (Director, Office of Thrift Supervision), seconded by Vice Chairman Andrew C. Hove, Jr., concurred in by Julie L. Williams, acting in the place and stead of Director John D. Hawke, Jr. (Comptroller of the Currency), and Chairman Donna Tanoue, that Corporation business required its consideration of the matters on less than seven days' notice to the public; that no notice of the meeting earlier than April 7, 1999, was practicable; that the public interest did not require consideration of the matters in a meeting open to public observation; and that the matters could be considered in a closed meeting by authority of subsections (c)(2), (c)(4), (c)(6), (c)(8), and (c)(9)(A)(ii) of the "Government in the Sunshine Act" (5 U.S.C. 552b(c)(2), (c)(4), (c)(6), (c)(8), and (c)(9)(A)(ii)).

The meeting was held in the Board Room of the FDIC Building located at 550 17th Street, N.W., Washington, D.C.

Dated: April 8, 1999.

Federal Deposit Insurance Corporation.

**James D. LaPierre,**

*Deputy Executive Secretary.*

[FR Doc. 99–9270 Filed 4–8–99; 5:11 p.m.]

BILLING CODE 6714–01–M

## FEDERAL MARITIME COMMISSION

### Ocean Freight Forwarder License Revocations

The Federal Maritime Commission hereby gives notice that the following freight forwarder licenses have been revoked pursuant to section 19 of the Shipping Act of 1984 (46 U.S.C. app. 1718) and the regulations of the Commission pertaining to the licensing

of ocean freight forwarders, effective on the corresponding revocation dates shown below:

*License Number:* 1616

*Name:* Air-Mar Shipping, Inc.

*Address:* State Road #24, KM 1.6,

Buchanan, PR 00968

*Date Revoked:* March 10, 1999.

*Reason:* Failed to maintain a valid surety bond.

*License Number:* 4484

*Name:* All Destinations Shipping

Company

*Address:* 2624 N.W. 112th Ave., Miami,

FL 33172–1818

*Date Revoked:* March 12, 1999.

*Reason:* Failed to maintain a valid surety bond.

*License Number:* 3705

*Name:* Auto Driveway Co.

*Address:* 310 South Michigan Ave.,

Chicago, IL 60604

*Date Revoked:* March 22, 1999.

*Reason:* Surrendered license voluntarily.

*License Number:* 4400

*Name:* D & L International Freight

Forwarding Company

*Address:* 8244 Virgo Street, Jacksonville,

FL 32216

*Date Revoked:* March 14, 1999.

*Reason:* Failed to maintain a valid surety bond.

*License Number:* 3766

*Name:* Due International, Inc.

*Address:* 19300 S. Hamilton Ave., Suite

220, Gardena, CA 90248

*Date Revoked:* May 1, 1999.

*Reason:* Surrendered license voluntarily.

*License Number:* 1429

*Name:* G. F. International Inc.

*Address:* c/o Big Apple Customs

Brokers, Inc., 151–02 132nd Ave.,

Jamaica, NY 11434

*Date Revoked:* March 17, 1999.

*Reason:* Failed to maintain a valid surety bond.

*License Number:* 4450

*Name:* Non-Stop Cargo, Inc.

*Address:* 8232 N.W. 56th Street, Miami,

FL 33166

*Date Revoked:* March 10, 1999.  
*Reason:* Failed to maintain a valid surety bond.

**T. A. Zook,**

*Deputy Director, Bureau of Tariffs, Certification and Licensing.*

[FR Doc. 99-9155 Filed 4-12-99; 8:45 am]

BILLING CODE 6730-01-M

## FEDERAL MARITIME COMMISSION

### Ocean Freight Forwarder License; Reissuance of License

Notice is hereby given that the following ocean freight forwarder license has been reissued by the Federal Maritime Commission pursuant to section 19 of the Shipping Act of 1984 (46 U.S.C. app. 1718) and the regulations of the Commission pertaining to the licensing of ocean freight forwarders, 46 CFR part 510.

License No. 1197

Name/Address: The Irwin Brown  
Company 212 Chartres Street P.O. Box  
2426 New Orleans, La 70176-2426

Date Reissued: February 28, 1999

**T. A. Zook,**

*Deputy Director, Bureau of Tariffs, Certification and Licensing.*

[FR Doc. 99-9156 Filed 4-12-99; 8:45 am]

BILLING CODE 6730-01-M

## FEDERAL RESERVE SYSTEM

### Formations of, Acquisitions by, and Mergers of Bank Holding Companies

The companies listed in this notice have applied to the Board for approval, pursuant to the Bank Holding Company Act of 1956 (12 U.S.C. 1841 *et seq.*) (BHC Act), Regulation Y (12 CFR Part 225), and all other applicable statutes and regulations to become a bank holding company and/or to acquire the assets or the ownership of, control of, or the power to vote shares of a bank or bank holding company and all of the banks and nonbanking companies owned by the bank holding company, including the companies listed below.

The applications listed below, as well as other related filings required by the Board, are available for immediate inspection at the Federal Reserve Bank indicated. The application also will be available for inspection at the offices of the Board of Governors. Interested persons may express their views in writing on the standards enumerated in the BHC Act (12 U.S.C. 1842(c)). If the proposal also involves the acquisition of a nonbanking company, the review also includes whether the acquisition of the nonbanking company complies with the

standards in section 4 of the BHC Act. Unless otherwise noted, nonbanking activities will be conducted throughout the United States.

Unless otherwise noted, comments regarding each of these applications must be received at the Reserve Bank indicated or the offices of the Board of Governors not later than May 7, 1999.

**A. Federal Reserve Bank of Philadelphia** (Michael E. Collins, Senior Vice President) 100 North 6th Street, Philadelphia, Pennsylvania 19105-1521:

1. *BT Financial Corporation*, Johnstown, Pennsylvania; to acquire 100 percent of the voting shares of First Philson Financial Corporation, Berlin, Pennsylvania, and thereby indirectly acquire First Philson Bank, NA, Berlin, Pennsylvania.

**B. Federal Reserve Bank of Richmond** (A. Linwood Gill III, Assistant Vice President) 701 East Byrd Street, Richmond, Virginia 23261-4528:

1. *BB&T Corporation*, Winston-Salem, North Carolina; to merge with First Citizens Corporation, Newnan, Georgia, and thereby indirectly acquire First Citizens Bank of Georgia, Fayetteville, Georgia.

In connection with this application, Applicant also has applied to acquire First Citizens Bank, Newnan, Georgia, and thereby engage in operating and savings association, pursuant to § 225.28(b)(4)(ii) of Regulation Y, and Newnan Financial Services, Inc., Newnan, Georgia, and thereby engage in providing real estate appraisal services to both affiliates and third parties, pursuant to § 225.28(b)(2)(i) of Regulation Y.

In connection with this proposal, BB&T Corporation has requested permission to exercise an option that would enable BB&T Corporation to acquire up to 19.9 percent of the voting securities of First Citizens Corporation under certain circumstances.

Board of Governors of the Federal Reserve System, April 8, 1999.

**Robert deV. Frierson,**

*Associate Secretary of the Board.*

[FR Doc. 99-9186 Filed 4-12-99; 8:45 am]

BILLING CODE 6210-01-F

## FEDERAL RESERVE SYSTEM

### Sunshine Act Meeting

**AGENCY HOLDING THE MEETING:** Board of Governors of the Federal Reserve System.

**TIME AND DATE:** 11:00 a.m., Monday, April 19, 1999.

**PLACE:** Marriner S. Eccles Federal Reserve Board Building, 20th and C Streets, N.W., Washington, D.C. 20551.

**STATUS:** Closed.

### MATTERS TO BE CONSIDERED:

1. Proposed revisions to the Code of Conduct for the Federal Reserve Banks.  
2. Personnel actions (appointments, promotions, assignments, reassignments, and salary actions) involving individual Federal Reserve System employees.

3. Any items carried forward from a previously announced meeting.

**CONTACT PERSON FOR MORE INFORMATION:** Lynn S. Fox, Assistant to the Board; 202-452-3204.

**SUPPLEMENTARY INFORMATION:** You may call 202-452-3206 beginning at approximately 5 p.m. two business days before the meeting for a recorded announcement of bank and bank holding company applications scheduled for the meeting; or you may contact the Board's Web site at <http://www.federalreserve.gov> for an electronic announcement that not only lists applications, but also indicates procedural and other information about the meeting.

Dated: April 9, 1999.

**Robert deV. Frierson,**

*Associate Secretary of the Board.*

[FR Doc. 99-9340 Filed 4-9-99; 3:53 pm]

BILLING CODE 6210-01-P

## FEDERAL TRADE COMMISSION

### Granting of Request for Early Termination of the Waiting Period Under the Premerger Notification Rules

Section 7A of the Clayton Act, 15 U.S.C. 18a, as added by Title II of the Hart-Scott-Rodino Antitrust Improvements Act of 1976, requires persons contemplating certain mergers or acquisitions to give the Federal Trade Commission and the Assistant Attorney General Advance notice and to wait designated periods before consummation of such plans. Section 7A(b)(2) of the Act permits the agencies, in individual cases, to terminate this waiting period prior to its expiration and requires that notice of this action be published in the **Federal Register**.

The following transactions were granted early termination of the waiting period provided by law and the premerger notification rules. The grants were made by the Federal Trade Commission and the Assistant Attorney General for the Antitrust Division of the Department of Justice. Neither agency intends to take any action with respect to these proposed acquisitions during the applicable waiting period.

## TRANSACTION GRANTED EARLY TERMINATION

| ET date         | Trans No. | ET req status  | Party name                          |
|-----------------|-----------|--|-------------------------------------|
| 15-MAR-99 ..... | 19991617  | G  | American Home Products Corporation. |
|                 |           | G  | Aviron.                             |
|                 | 19991621  | G  | Aviron.                             |
|                 |           | G  | John J. Rigas.                      |
|                 | 19991637  | G  | John J. Rigas.                      |
|                 |           | G  | AVR of Tennessee, L.P.              |
|                 | 19991692  | G  | Coherent, Inc..                     |
|                 |           | G  | Palomar Medical Technologies, Inc.  |
|                 | 19991726  | G  | Star Medical Technologies, Inc.     |
|                 |           | G  | Pioneer International Ltd.          |
| 19991728        | G         | Morrison Knudsen Corporation.                            |                                     |
|                 | G         | Blue Diamond Materials, Inc.                             |                                     |
| 19991729        | G         | Microsemi Corporation.                                   |                                     |
|                 | G         | SymmetriCom, Inc.  |                                     |
| 19991746        | G         | Linfinity Microelectronics Inc.                          |                                     |
|                 | G         | AnswerThink Consulting Group, Inc.                       |                                     |
| 19991750        | G         | Parmjit Parmar.  |                                     |
|                 | G         | Pegasus Consulting Group, Inc.                           |                                     |
| 19991752        | G         | Parmjit Parmar.  |                                     |
|                 | G         | AnswerThink Consulting Group, Inc.                       |                                     |
| 19991761        | G         | AnswerThink Consulting Group, Inc.                       |                                     |
|                 | G         | Associates First Capital Corporation.                    |                                     |
| 19991763        | G         | Exxon Corporation.                                       |                                     |
|                 | G         | Exxon Travel Club, Inc.                                  |                                     |
| 19991764        | G         | Caterpillar Inc.   |                                     |
|                 | G         | Emerson Electric Co.                                     |                                     |
| 19991765        | G         | F.G. Wilson L.L.C. a Delaware Limited Liability Company. |                                     |
|                 | G         | Willis Stein & Partners II, L.P..                        |                                     |
| 19991766        | G         | Torstar Corporation.                                     |                                     |
|                 | G         | Troll Communications L.L.C.                              |                                     |
| 19991768        | G         | J.W. Childs Equity Partners II, L.P..                    |                                     |
|                 | G         | American Safety Razor Company.                           |                                     |
| 19991774        | G         | American Safety Razor Company.                           |                                     |
|                 | G         | University of Rochester.                                 |                                     |
| 19991777        | G         | Visiting Nurse Foundation, Inc.                          |                                     |
|                 | G         | Visiting Nurse Foundation, Inc.                          |                                     |
| 19991781        | G         | Brown-Forman Corporation.                                |                                     |
|                 | G         | Sonoma-Cutrer Vineyards, Inc.                            |                                     |
| 19991782        | G         | Sonoma-Cutrer Vineyards, Inc.                            |                                     |
|                 | G         | Ameritech Corporation.                                   |                                     |
| 19991783        | G         | Anixter International, Inc.                              |                                     |
|                 | G         | Anixter Inc.   |                                     |
| 19991787        | G         | American International Group, Inc.                       |                                     |
|                 | G         | Mr. Joseph DeLago.                                       |                                     |
| 19991788        | G         | The Peterson Group, Inc.                                 |                                     |
|                 | G         | PepsiCo, Inc.  |                                     |
| 19991789        | G         | Leader Beverage Corporation.                             |                                     |
|                 | G         | Leader Beverage Corporation.                             |                                     |
| 19991792        | G         | Amador S. Bustos.  |                                     |
|                 | G         | Ronald A. Unkefer.                                       |                                     |
| 19991793        | G         | First Broadcasting Company, L.P.                         |                                     |
|                 | G         | Mannesmann A.G.  |                                     |
| 19991794        | G         | Sumitomo Heavy Industries Inc.                           |                                     |
|                 | G         | Link-Belt Construction Equipment Company, Inc.           |                                     |
| 19991795        | G         | Guidant Mutual Insurance Company.                        |                                     |
|                 | G         | James E. Murphy.   |                                     |
| 19991796        | G         | United Premier Corporation.                              |                                     |
|                 | G         | J.E. Murphy Premium Finance Company.                     |                                     |
| 19991797        | G         | J.E. Murphy Company, Inc. of Arizona.                    |                                     |
|                 | G         | Kawasho Corporation.                                     |                                     |
| 19991798        | G         | Nozaki & Co., Ltd.                                       |                                     |
|                 | G         | Nozaki & Co., Ltd.                                       |                                     |
| 19991799        | G         | ConAgra, Inc.  |                                     |
|                 | G         | Kruse Investment Company, Inc.                           |                                     |
| 19991800        | G         | Capitol Milling Company, Inc.                            |                                     |
|                 | G         | Walt Disney Company (The).                               |                                     |
| 19991801        | G         | Autry Qualified Interest Trust.                          |                                     |
|                 | G         | Autry Qualified Interest Trust.                          |                                     |
| 19991802        | G         | TI Group plc.  |                                     |
|                 | G         | General Electric Company.                                |                                     |
| 19991803        | G         | Tri-Industries, Inc.                                     |                                     |
|                 | G         | Cooperatieve Centrale Raiffeisen Boerenleenbank B.       |                                     |

## TRANSACTION GRANTED EARLY TERMINATION—Continued

| ET date         | Trans No. | ET req status | Party name   |
|-----------------|-----------|---------------|--|
|                 |           | G             | The Tokai Bank, Limited.                                     |
|                 |           | G             | Tokai Financial Services, Inc.                               |
|                 | 19991792  | G             | Metamor Worldwide, Inc.                                      |
|                 |           | G             | SPR, Inc.  |
|                 |           | G             | SPR, Inc.  |
|                 | 19991795  | G             | Vickers plc.   |
|                 |           | G             | Ulstein Holding ASA.   |
|                 |           | G             | Ulstein Holding ASA.   |
|                 | 19991798  | G             | Eagle Pacific Industries, Inc.                               |
|                 |           | G             | The Lamson & Sessions Co.                                    |
|                 |           | G             | The Lamson & Sessions Co.                                    |
|                 | 19991801  | G             | Conrad Plimpton.   |
|                 |           | G             | Allied Signal, Inc.  |
|                 |           | G             | AlliedSignal Technologies, Inc.; AlliedSignal Deutschl.      |
|                 | 19991804  | G             | McCown De Leeuw & Co. IV, L.P.                               |
|                 |           | G             | The Loewen Group Inc.  |
|                 |           | G             | Monte Cristo, Inc.   |
|                 |           | G             | Camposanto PR, Inc.  |
|                 |           | G             | Jibe Services Corporation.                                   |
|                 |           | G             | Los Rosales Memorial Park, Inc.                              |
|                 |           | G             | Los Jardines Memorial Park, Inc.                             |
|                 |           | G             | Camposanto-Aguadilla, Inc.                                   |
|                 | 19991805  | G             | Stichting Administratiekantoor.                              |
|                 |           | G             | Mr. Arthur P. Poor, Jr.                                      |
|                 |           | G             | Sunburst Fruit Juices, Inc.                                  |
|                 |           | G             | Twin Mountain Real Estate Trust.                             |
|                 |           | G             | Twin Mountain Spring Water Company, Inc.                     |
|                 |           | G             | Sunburst Realty Trust.                                       |
|                 | 19991806  | G             | CML Holdings, LLC.   |
|                 |           | G             | HMH Broadcasting, Inc.                                       |
|                 |           | G             | HMH Broadcasting, Inc.                                       |
|                 | 19991811  | G             | MotivePower Industries, Inc.                                 |
|                 |           | G             | Gayle L. Ortyl.  |
|                 |           | G             | Metro East Industries, Inc.                                  |
|                 | 19991825  | G             | Fox Paine Capital Fund, L.P.                                 |
|                 |           | G             | United American Energy Corp.                                 |
|                 |           | G             | United American Energy Corp.                                 |
| 16-MAR-99 ..... | 19991565  | G             | Rockwell International Corporation.                          |
|                 |           | G             | K Systems, Inc.  |
|                 |           | G             | Kaiser Flight Dynamics, Inc.                                 |
|                 | 19991625  | G             | The SKM Equity Fund II, L.P.                                 |
|                 |           | G             | Nationwide Precision Products Corp.                          |
|                 |           | G             | Nationwide Precision Products Corp.                          |
|                 | 19991711  | G             | Republic Industries, Inc.                                    |
|                 |           | G             | J. Albert Burnett.   |
|                 |           | G             | Contemporary Cars, Inc.                                      |
|                 | 19991740  | G             | Akron General Health System.                                 |
|                 |           | G             | The Health Group.  |
|                 |           | G             | The Health Group.  |
|                 |           | G             | Massillon Community Hospital.                                |
|                 |           | G             | HomeTown HHP Services Corporation.                           |
|                 | 19991743  | G             | Bacou, S.A.  |
|                 |           | G             | Joseph P. Hoerner.   |
|                 |           | G             | Perfect Fit Glove Co., Inc.; SCHAS Circular Industries, Inc. |
|                 | 19991767  | G             | El Paso Energy Corporation.                                  |
|                 |           | G             | EnCap Investments L.C.                                       |
|                 |           | G             | EnCap Investments L.C.                                       |
|                 | 19991769  | G             | Robert Bosch Industrietreuhand KG.                           |
|                 |           | G             | ZEXEL Corporation.   |
|                 |           | G             | ZEXEL Corporation.   |
|                 | 19991813  | G             | Warburg, Pincus Ventures, L.P.                               |
|                 |           | G             | One-On-One Sports, Inc.                                      |
|                 |           | G             | One-On-One Sports of Illinois, L.L.C.                        |
|                 |           | G             | One-On-One Sports Radio of Illinois, L.L.C.                  |
|                 | 19991814  | G             | Deutsche Lufthansa AG.                                       |
|                 |           | G             | Hudson General Corporation.                                  |
|                 |           | G             | Hudson General Corporation.                                  |
|                 | 19991815  | G             | Swiftly Serve, LLC.  |
|                 |           | G             | Country Cupboard Food Stores, Inc.                           |
|                 |           | G             | Country Cupboard Food Stores, Inc.                           |
|                 | 19991816  | G             | Aurora Equity Partners II L.P.                               |
|                 |           | G             | AlliedSignal Inc.  |



## TRANSACTION GRANTED EARLY TERMINATION—Continued

| ET date | Trans No. | ET req status | Party name                                  |
|---------|-----------|---------------|---|
|         |           | G             | AlliedSignal Inc.                           |
|         | 19991818  | G             | Supreme International Corporation.          |
|         | 19991818  | G             | Salant Corporation.                         |
|         |           | G             | Frost Bros. Enterprise, Inc.                |
|         |           | G             | Maquiladora Sur, S.A. de C.V.               |
|         | 19991820  | G             | Nationwide Mutual Insurance Company.        |
|         |           | G             | Zenith National Insurance Corp.             |
|         |           | G             | CalFarm Insurance Company.                  |
|         | 19991822  | G             | Ranson W. Webster.                          |
|         |           | G             | Intuit Inc.                                 |
|         |           | G             | Intuit Inc.                                 |
|         | 19991823  | G             | Intuit Inc.                                 |
|         |           | G             | Ranson W. Webster.                          |
|         |           | G             | Computing Resources, Inc.                   |
|         | 19991571  | G             | Legato Systems, Inc.                        |
|         |           | G             | George Wilson.                              |
|         |           | G             | Intelliguard Software, Inc.                 |
|         |           | G             | ORP USA, Inc.                               |
|         | 19991578  | G             | TWFanck-two Co.                             |
|         |           | G             | LF Capital Partners, LLC.                   |
|         |           | G             | DF Cablevision Limited Partnership.         |
|         | 19991605  | G             | Bioglan Pharma plc.                         |
|         |           | G             | Medicis Pharmaceutical Corporation.         |
|         |           | G             | Medicis Pharmaceutical Corporation.         |
|         | 19991708  | G             | Lafarge S.A.                                |
|         |           | G             | Larry W. Corn.                              |
|         |           | G             | Corn Construction Company.                  |
|         | 19991716  | G             | Don E. Bond.                                |
|         |           | G             | Powertel, Inc.                              |
|         |           | G             | InterCel, Inc.                              |
|         |           | G             | InterCel Licenses, Inc.                     |
|         | 19991770  | G             | Liberty Mutual Insurance Company.           |
|         |           | G             | Guardian Royal Exchange plc.                |
|         |           | G             | Guardian Royal Exchange Holdings, Inc.      |
|         | 19991773  | G             | Providence Equity Partners III, LP.         |
|         |           | G             | AT&T Corp.                                  |
|         |           | G             | AT&T Corp.                                  |
|         | 19991791  | G             | Cobham plc.                                 |
|         |           | G             | North American Fund II, L.P.                |
|         |           | G             | ACR Electronics, Inc.                       |
|         | 19991831  | G             | Sterling Software, Inc.                     |
|         |           | G             | Nathan C. Thompson.                         |
|         |           | G             | Spectra Logic Corporation.                  |
|         | 19991832  | G             | Merrill Lynch & Co., Inc.                   |
|         |           | G             | David E. Shaw.                              |
|         |           | G             | D.E. Shaw Financial Technology, L.P.        |
|         | 19991834  | G             | Sidney B. DeBoer.                           |
|         |           | G             | W. Douglas Moreland.                        |
|         |           | G             | Cherry Creek Dodge, Inc., Colorado Springs. |
|         |           | G             | Jeep/Eagle, Inc.                            |
|         |           | G             | Foothills Automotive Plaza, Inc.            |
|         | 19991835  | G             | W. Douglas Moreland.                        |
|         | 19991835  | G             | Sidney B. DeBoer.                           |
|         |           | G             | Lithia Motors, Inc.                         |
|         | 19991836  | G             | ACE Limited.                                |
|         |           | G             | CIGNA Corporation.                          |
|         |           | G             | INA Corporation.                            |
|         | 19991839  | G             | Cooper Industries, Inc.                     |
|         |           | G             | Leon Cohen.                                 |
|         |           | G             | Neo-Ray Products Incorporated.              |
|         | 19991842  | G             | Wind Point Partners III, L.P.               |
|         |           | G             | Thomas A. McCaslin, IV.                     |
|         |           | G             | J. Fegely & Son Hardware, Co., Inc.         |
|         | 19991847  | G             | GTCR Fund VI, L.P.                          |
|         |           | G             | The Beacon Group III—Focus Value Fund, L.P. |
|         |           | G             | Hollywood Theater Holdings, Inc.            |
|         | 19991851  | G             | BankAmerica Corporation.                    |
|         |           | G             | The Boeing Company.                         |
|         |           | G             | MD Technical Services, L.L.C.               |
|         | 19991854  | G             | GTCR Fund, VI, LR.                          |
|         |           | G             | Scott C. Wallace.                           |
|         |           | G             | Wallace Theater Corporation II.             |

## TRANSACTION GRANTED EARLY TERMINATION—Continued

| ET date         | Trans No. | ET req status | Party name  |
|-----------------|-----------|---------------|---|
|                 | 19991855  | G             | ABRY Broadcast Partners II, L.P.                      |
|                 |           | G             | Hicks, Muse, Tate, Furst Equity Fund III, L.P.        |
|                 |           | G             | STC Broadcasting, Inc.                                |
|                 |           | G             | STC Lincense Company.                                 |
|                 | 19991868  | G             | Spartan Motors, Inc.                                  |
|                 |           | G             | Carpenter Industries, Inc.                            |
|                 |           | G             | Carpenter Industries, Inc.                            |
|                 | 19991895  | G             | Science Applications International Corporation.       |
|                 |           | G             | Oacis Healthcare Holdings Corp.                       |
|                 |           | G             | Oacis Healthcare Holdings Corp.                       |
| 18-MAR-99 ..... | 19990429  | G             | CMS Energy Corporation.                               |
|                 |           | G             | Duke Energy Corporation.                              |
|                 |           | G             | Panhandle Storage Company.                            |
|                 |           | G             | Trunkline LNG Company.                                |
|                 |           | G             | Panhandle Eastern Pipe Line Company.                  |
| 19-MAR-99 ..... | 19991871  | G             | Eclipsys Corporation.                                 |
|                 |           | G             | SunGuard Data System Inc.                             |
|                 |           | G             | Med Data Systems Inc.                                 |
|                 |           | G             | Intelus Corporation.                                  |
|                 | 19991888  | G             | Triumph Partners III, L.P.                            |
|                 |           | G             | Brian R. Marlowe.                                     |
|                 |           | G             | Remco Maintenance Corporation.                        |
| 22-MAR-99 ..... | 19991647  | G             | NIPSCO Industries, Inc.                               |
|                 |           | G             | PacificCorp.  |
|                 |           | G             | TPC Corporation.                                      |
|                 | 19991698  | G             | TriStar Aerospace Co.                                 |
|                 |           | G             | John W. Ratiff.                                       |
|                 |           | G             | Standard Parts and Equipment Corporation.             |
|                 | 19991734  | G             | Jeffrey H. Smulyan.                                   |
|                 |           | G             | Mark A. Nickel.                                       |
|                 |           | G             | Country Sampler, Inc.                                 |
|                 | 19991794  | G             | Morton Industrial Group, Inc.                         |
|                 |           | G             | Worthington Industries, Inc.                          |
|                 |           | G             | Worthington Industries, Inc.                          |
|                 | 19991802  | G             | William D. Morton.                                    |
|                 |           | G             | James M. Campbell.                                    |
|                 |           | G             | Midland Partners, Inc.                                |
|                 | 19991812  | G             | J.T. Walker Industries, Inc.                          |
|                 |           | G             | Caradon, plc.   |
|                 |           | G             | Caradon Doors and Windows, Inc.                       |
|                 | 19991837  | G             | Pentair, Inc.   |
|                 |           | G             | WEB Tool & Manufacturing, Inc.                        |
|                 |           | G             | WEB Tool & Manufacturing, Inc.                        |
|                 | 19991862  | G             | CareFirst, Inc.                                       |
|                 |           | G             | Blue Cross Blue Shield of Delaware, Inc.              |
|                 |           | G             | Blue Cross Blue Shield of Delaware, Inc.              |
|                 | 19991863  | G             | J.W. Childs Equity Partners, L.P.                     |
|                 |           | G             | Applebee's International, Inc.                        |
|                 |           | G             | Rio Bravo International, Inc.                         |
|                 |           | G             | Innovative Restaurant Concepts, Inc., IRC Kansas, I.  |
|                 | 19991878  | G             | Apollo Investment Fund III, L.P.                      |
|                 |           | G             | Eos Partners, L.P.                                    |
|                 |           | G             | Pacer International, Inc.                             |
|                 | 19991879  | G             | Vestar Capital Partners III, L.P.                     |
|                 |           | G             | St. John Knits International, Inc.                    |
|                 |           | G             | St. John Knits International, Inc.                    |
|                 | 19991882  | G             | Scott M. Spangler.                                    |
|                 |           | G             | ERLY Industries, Inc. (Debtor-In-Possession).         |
|                 |           | G             | Chemonics International, Inc.                         |
|                 | 19991884  | G             | Guest Supply, Inc.                                    |
|                 |           | G             | Madhukar & Nalna Kapadia.                             |
|                 |           | G             | Kapadia Enterprises, Inc. d/b/a Nasco Supply Company. |
|                 |           | G             | MacDonald Contract Sales, Inc.                        |
|                 | 19991887  | G             | Forest Lawn Memorial-Park Association.                |
|                 |           | G             | American Security & Fidelity Corporation.             |
|                 |           | G             | American Security & Fidelity Corporation.             |
|                 | 19991889  | G             | David Sherman, Jr.                                    |
|                 |           | G             | Diageo plc.   |
|                 |           | G             | Diageo, Inc.  |
|                 | 19991890  | G             | Shop at Home, Inc.                                    |
|                 |           | G             | Lowell W. Paxson.                                     |
|                 |           | G             | Paxson Communications Corporation.                    |

## TRANSACTION GRANTED EARLY TERMINATION—Continued

| ET date         | Trans No. | ET req status | Party name  |
|-----------------|-----------|---------------|---|
|                 | 19991891  | G             | Armor Holdings, Inc.                                      |
|                 |           | G             | Neale A. Perkins.   |
|                 |           | G             | Safari Land Ltd., Inc.                                    |
|                 | 19991893  | G             | Terry R. Taylor.  |
|                 |           | G             | Edward J. Morse.  |
|                 |           | G             | Morese Operations, Inc.                                   |
|                 | 19991897  | G             | Churchill ESOP Capital Partners, L.P.                     |
|                 |           | G             | Jones Stephens Corporation.                               |
|                 |           | G             | Jones Stephens Corporation.                               |
|                 | 19991899  | G             | William Goldring.   |
|                 |           | G             | Diageo plc.   |
|                 |           | G             | Diageo, Inc.  |
|                 | 19991900  | G             | Heaven Hill Distilleries, Inc.                            |
|                 |           | G             | Diageo plc.   |
|                 |           | G             | UDV North America, Inc.                                   |
|                 | 19991902  | G             | James E. Sowell.  |
|                 |           | G             | The Pet Life Foods, Inc. Employee Stock Ownership Plan.   |
|                 |           | G             | Pet Life Foods, Inc.                                      |
|                 | 19991903  | G             | Safeguard Scientifics, Inc.                               |
|                 |           | G             | TRW Inc.  |
|                 |           | G             | E-Certify Corporation.                                    |
|                 | 19991909  | G             | Paul M. Montrone.   |
|                 |           | G             | H. Thomas Beck.   |
|                 | 19991909  | G             | Noma Industries Limited.                                  |
|                 | 19991918  | G             | Chiquita Brands International, Inc.                       |
|                 |           | G             | Agripac, Inc. (debtor in possession).                     |
|                 |           | G             | Agripac, Inc. (debtor in possession).                     |
|                 | 19991924  | G             | Mason Wells Leveraged Buyout Fund I, Limited Partnership. |
|                 |           | G             | A Strum & Sons, Inc.                                      |
|                 |           | G             | A Strum & Sons, Inc.                                      |
|                 | 19991928  | G             | Spartan Stores, Inc.                                      |
|                 |           | G             | Glen A. Catt.   |
|                 |           | G             | Glen's Markets, Inc.                                      |
|                 |           | G             | Catt's Realty Co.   |
|                 |           | G             | Glen's Pharmacy, Inc.                                     |
|                 | 19991939  | G             | Racing Champions Corporation.                             |
|                 |           | G             | U.S. Industries, Inc.                                     |
|                 |           | G             | The Ertl Company, Inc.                                    |
|                 | 19991940  | G             | Michael Pieper.   |
|                 |           | G             | Edward J. Kassab Trust.                                   |
|                 |           | G             | Stainless, Incorporated.                                  |
|                 | 19991941  | G             | Stewart Enterprises, Inc.                                 |
|                 |           | G             | Frank Newcomer, III.                                      |
|                 |           | G             | D.W. Newcomer's Sons, Inc. and DWN Properties, I.         |
|                 | 19991947  | G             | Aurora Foods, Inc.  |
|                 |           | G             | Joseph A. Galando.  |
|                 |           | G             | Sea Coast Foods, Inc.                                     |
| 23-MAR-99 ..... | 19990608  | G             | FLIR Systems, Inc.  |
|                 |           | G             | Inframetrics, Inc.  |
|                 |           | G             | Inframetrics, Inc.  |
|                 | 19991666  | G             | EOTT Energy Partners, LP.                                 |
|                 |           | G             | Royal Dutch Petroleum Company.                            |
|                 |           | G             | Texas-New Mexico Pipe Line Company.                       |
|                 | 19991684  | G             | U.S. Industries, Inc.                                     |
|                 |           | G             | SPX Corporation.  |
|                 |           | G             | GS Building Systems Corporation.                          |
|                 |           | G             | Dual-Lite Manufacturing Inc.                              |
|                 | 19991762  | G             | V.F. Corporation.   |
|                 |           | G             | Horace Small Apparel PLC.                                 |
|                 |           | G             | Horace Small Holdings Corporation of Delaware, Inc.       |
|                 | 19991775  | G             | Cap Gemini, S.A.  |
|                 |           | G             | BDSI, Inc.  |
|                 |           | G             | BDSI, Inc.  |
|                 | 19991796  | G             | AUXILIUM Stiftung.  |
|                 |           | G             | The Dean Company.   |
|                 |           | G             | The Dean Company.   |
|                 | 19991799  | G             | Capital Z Financial Services Fund II, L.P.                |
|                 |           | G             | WIT Capital Group, Inc.                                   |
|                 |           | G             | WIT Capital Group, Inc.                                   |
|                 | 19991809  | G             | Brooke Group Ltd.   |
|                 |           | G             | New Valley Corporation.                                   |
|                 |           | G             | New Valley Corporation.                                   |

## TRANSACTION GRANTED EARLY TERMINATION—Continued

| ET date         | Trans No. | ET req status | Party name                                 |
|-----------------|-----------|---------------|--|
|                 | 19991810  | G             | Brooke Group Ltd.                          |
|                 |           | G             | RJR Nabisco Holdings Corp.                 |
|                 |           | G             | RJR Nabisco Holdings Corp.                 |
|                 | 19991840  | G             | XL Capital Ltd.                            |
|                 |           | G             | NAC RE Corporation.                        |
|                 |           | G             | NAC RE Corporation.                        |
|                 | 19991843  | G             | Thomas R. Galloway, Sr.                    |
|                 |           | G             | Sinclair Broadcast Group, Inc.             |
|                 |           | G             | Sinclair Broadcast Group, Inc.             |
|                 | 19991848  | G             | Dow Jones & Company, Inc.                  |
|                 |           | G             | OptiMark Technologies, Inc.                |
|                 |           | G             | OptiMark Technologies, Inc.                |
|                 | 19991881  | G             | The IT Group, Inc.                         |
|                 |           | G             | ICF Kaiser International, Inc.             |
|                 |           | G             | ICF Kaiser International, Inc.             |
|                 | 19991886  | G             | Code, Hennessy & Simmons III, L.P.         |
|                 |           | G             | Carlisle Companies Incorporated.           |
|                 |           | G             | Motion Control Industries, Inc.            |
|                 | 19991898  | G             | Silicon Graphics, Inc.                     |
|                 |           | G             | WAM!NET Inc.                               |
|                 |           | G             | WAM!NET Inc.                               |
|                 | 19991901  | G             | MJD Communications, Inc.                   |
|                 |           | G             | William & Marilyn M. Haugen.               |
|                 |           | G             | Union Telephone Company of Hartford.       |
|                 |           | G             | Armour Independent Telephone Company.      |
|                 |           | G             | WMW Cable TV Company.                      |
|                 | 19991904  | G             | The General Electric Company, p.l.c.       |
|                 |           | G             | CMT Associates, L.P.                       |
|                 |           | G             | RELTEC Corporation.                        |
|                 | 19991910  | G             | Gannett Co., Inc.                          |
|                 |           | G             | A.H. Belo Corporation.                     |
|                 |           | G             | Great Western Broadcasting Corp.           |
|                 | 19991911  | G             | A.H. Belo Corporation.                     |
|                 |           | G             | Gannett Co., Inc.                          |
|                 |           | G             | KVUE-TV, Inc.                              |
|                 | 19991938  | G             | Quanta Services, Inc.                      |
|                 |           | G             | Seaward Corporation.                       |
|                 |           | G             | Seaward Corporation.                       |
|                 | 19991948  | G             | MBNA Corporation.                          |
|                 |           | G             | First Virginia Banks, Inc.                 |
|                 |           | G             | First Virginia Banks, Inc.                 |
|                 | 19991956  | G             | Carclo Engineering Group, PLC.             |
|                 |           | G             | Douglas J. & Daniel S. Wood.               |
|                 |           | G             | Wood Industries, Inc. d/b/a Carrera Corp.  |
|                 | 19991866  | G             | CIENA Corporation.                         |
|                 |           | G             | Lightera Networks, Inc.                    |
|                 |           | G             | Lightera Networks, Inc.                    |
|                 | 19991976  | G             | Gerald R. Forsythe.                        |
|                 |           | G             | Ogden Corporation.                         |
|                 |           | G             | Pacific Penobscot Power Company.           |
| 25-MAR-99 ..... | 19991941  | G             | ZENECA Group PLC.                          |
|                 |           | G             | Astra AB (a Swedish company).              |
|                 |           | G             | Astra AB (a Swedish company).              |
|                 | 19991919  | G             | WCAS Capital Partners III, L.P.            |
|                 |           | G             | Spectrasite Holdings, Inc.                 |
|                 |           | G             | Spectrasite Holdings, Inc.                 |
|                 | 19991920  | G             | Welsh, Carson, Anderson & Stowe VIII, L.P. |
|                 |           | G             | Spectrasite Holdings, Inc.                 |
|                 |           | G             | Spectrasite Holdings, Inc.                 |
|                 | 19991921  | G             | J.H. Whitney III, L.P.                     |
|                 |           | G             | Spectrasite Holdings, Inc.                 |
|                 |           | G             | Spectrasite Holdings, Inc.                 |
|                 | 19991922  | G             | Phillip F. Anschutz.                       |
|                 |           | G             | Atlantic Richfield Company.                |
|                 |           | G             | Atlantic Richfield Company.                |
|                 | 19991925  | G             | Welsh, Carson, Anderson & Stowe VIII, L.P. |
|                 |           | G             | Nextel Communications, Inc.                |
|                 |           | G             | Tower Merger Vehicle, Inc.                 |
|                 | 19991926  | G             | Nextel Communications, Inc.                |
|                 |           | G             | Welsh, Carson, Anderson & Stowe VIII, L.P. |
|                 |           | G             | Spectrasite Holdings, Inc.                 |
|                 | 19991931  | G             | Snyder Communications, Inc.                |

## TRANSACTION GRANTED EARLY TERMINATION—Continued

| ET date         | Trans No. | ET req status | Party name   |
|-----------------|-----------|---------------|--|
|                 |           | G             | Glenn Giordano.  |
|                 |           | G             | Manhattan Response Group, Inc.                             |
|                 |           | G             | Media Syndication Global, Inc., Preferred Customers Guild. |
|                 | 19991932  | G             | Snyder Communications, Inc.                                |
|                 |           | G             | Jeffrey Giordano.  |
|                 |           | G             | Preferred Customers Guild, L.P.                            |
|                 | 19991933  | G             | Steven Blake Development Corp., Even Steven Inc.           |
|                 |           | G             | Glen Giordano.   |
|                 |           | G             | Snyder Communications, Inc.                                |
|                 | 19991934  | G             | Snyder Communications, Inc.                                |
|                 |           | G             | Jeffrey Giordano.  |
|                 |           | G             | Snyder Communications, Inc.                                |
|                 | 19991936  | G             | Snyder Communications, Inc.                                |
|                 |           | G             | Applied Graphics Technologies, Inc.                        |
|                 | 19991936  | G             | Wace Group, PLC.   |
|                 | 19991937  | G             | Wace Group, PLC.   |
|                 |           | G             | Canadian Imperial Bank of Commerce.                        |
|                 |           | G             | Spectrasite Holdings, Inc.                                 |
|                 |           | G             | Spectrasite Holdings, Inc.                                 |
|                 | 19991954  | G             | Citigroup, Inc.  |
|                 |           | G             | Mellon Bank Corporation.                                   |
|                 |           | G             | Mellon Bank Corporation.                                   |
|                 | 19991963  | G             | The CIT Group.   |
|                 |           | G             | First Union Corporation.                                   |
|                 |           | G             | Congress Financial Corporation.                            |
|                 | 19991975  | G             | Koninklijke Hoogovens N.V.                                 |
|                 |           | G             | TDH III, L.P.  |
|                 |           | G             | Apollo Metals, Ltd.  |
|                 | 19991985  | G             | BMC Software, Inc.   |
|                 |           | G             | New Dimension Software Ltd.                                |
|                 |           | G             | New Dimension Software Ltd.                                |
| 26-MAR-99 ..... | 19991869  | G             | Becton, Dickinson and Company.                             |
|                 |           | G             | Millennium Pharmaceuticals, Inc.                           |
|                 |           | G             | Millennium Predictive Medicine Inc.                        |
|                 | 19991892  | G             | Metallgesellschaft AG.                                     |
|                 |           | G             | Dr. Ing. Otto Happel.                                      |
|                 |           | G             | GEA AG.  |
|                 | 19991979  | G             | Laird Norton Company.                                      |
|                 |           | G             | Michael H. Guetz.  |
|                 |           | G             | Home Lumber Acquisition LLC.                               |
|                 |           | G             | GLLC Acquisition LLC.                                      |
|                 |           | G             | MHGLLC Acquisition LLC.                                    |

**FOR FURTHER INFORMATION CONTACT:**  
Sandra M. Peay or Parcellena P. Fielding, Contact Representatives, Federal Trade Commission, Premerger Notification Office, Bureau of Competition, Room 303, Washington, DC 20580, (202) 326-3100.

By Direction of the Commission.

**Donald S. Clark,**  
Secretary.

[FR Doc. 99-9166 Filed 4-12-99; 8:45 am]

BILLING CODE 6750-01-M

## GENERAL ACCOUNTING OFFICE

### Federal Accounting Standards Advisory Board; Publication of Exposure Draft

**AGENCY:** General Accounting Office.

**ACTION:** Publication of Exposure Draft.

**SUMMARY:** The Chairman of the Federal Accounting Standards Advisory Board (FASAB), David Mosso, has announced that the FASAB has released for public comment an exposure draft of a proposed statement to amend SFFAS No. 2, *Accounting for Direct Loans and Loan Guarantees*, published in August 1993.

The amendments are intended to improve financial reporting by Federal credit agencies for subsidy costs incurred in providing direct loans and loan guarantees to the public.

The exposure draft has been mailed to FASAB's mailing list subscribers. Additionally, it is available on the Internet at FASAB's home page—<http://www.financenet.gov/fasab.htm>. Also, copies can be obtained by contacting FASAB at (202) 512-7350, or [comesw.fasab@gao.gov](mailto:comesw.fasab@gao.gov). In the document the Board has posed specific questions

for comment. Respondents are encouraged to address those questions and to comment on any part of the exposure draft. Responses are requested no later than July 2, 1999.

**FOR FURTHER INFORMATION CONTACT:**  
Wendy Comes, Executive Director, 441 G St., NW, Room 3B18, Washington, DC 20548, or call (202) 512-7350.

**Authority:** Federal Advisory Committee Act, Pub. L. No. 92-463, Section 10(a)(2), 86 Stat. 770, 774 (1972) (current version at 5 U.S.C. app. section 10(a)(2) (1988)); 41 CFR 101-6.1015 (1990).

Dated: April 7, 1999.

**Wendy M. Comes,**  
Executive Director.

[FR Doc. 99-9125 Filed 4-12-99; 8:45 am]

BILLING CODE 1610-01-M

## DEPARTMENT OF HEALTH AND HUMAN SERVICES

### Centers for Disease Control and Prevention

[Program Announcement 99107]

#### Health Communication Research; Notice of Availability of Funds

##### A. Purpose

In Cooperation with the Office of Prevention Research (Prevention Research Initiative), the Division of Health Communication within the Office of Communication in the Office of the Director at the Centers for Disease Control and Prevention (CDC) announces the availability of fiscal year (FY) 1999 funds for a health communication research grant program. This program addresses all of the "Healthy People 2000" priority areas. The purpose of this program is to further the understanding of, and ability to apply, effective health communication strategies and tactics.

##### B. Eligible Applicants

Applications may be submitted by private nonprofit organizations and by governments and their agencies; that is, universities, colleges, research institutions, hospitals, other public and private nonprofit organizations, State and local governments or their bona fide agents, and federally recognized Indian tribal governments, Indian tribes, or Indian tribal organizations.

**Note:** Public Law 104-65 states that an organization described in section 501(c)(4) of the Internal Revenue Code of 1986 that engages in lobbying activities is not eligible to receive Federal funds constituting an award, grant, cooperative agreement, contract, loan or any other form.

##### C. Availability of Funds

Approximately \$500,000 is available in FY 1999 to fund approximately 2 to 4 awards. It is expected that the average award will be \$150,000, ranging from \$100,000 to \$250,000. It is expected that the awards will begin on or about September 30, 1999, and will be made for a 12-month budget period within a project period of up to 3 years. Funding estimates may change.

Continuation awards within an approved project period will be made on the basis of satisfactory progress as evidenced by required reports and the availability of funds.

##### D. Program Priorities

Applications must address one of the following research priorities identified in CDC's Health Communication Research Agenda:

1. Discover effective strategies to communicate the public health implications of human genetic research.
2. Identify risk communication strategies for effectively communicating public health recommendations and products related to vaccines, human genetics, and environmental health.
3. Determine the conditions under which new communication approaches like entertainment education, internet and web TV, and media literacy are most effective for different audiences.
4. Test communication strategies designed to foster societal support for public health initiatives and systems.
5. Determine the communication strategies and tactics are most effective in promoting the adoption of health enhancing behaviors among members of diverse populations.

CDC's latest draft of the full Health Communication Research Agenda is included as Attachment II in the application packet.

##### E. Application Content

Use the information in the Other Requirements, and Evaluation Criteria sections to develop the application content. Your application will be evaluated on the criteria listed, so it is important to follow them in laying out your program plan.

Specifically, the applications for health communication research grants should include:

1. The project's focus that justifies the research needs and describes the scientific basis for the research, the expected outcome, and the relevance of the findings to improving the practices of health communication within a larger public health context.
2. Specific, measurable, and time-framed objectives.
3. A detailed plan describing the methods by which the objectives will be achieved, including their sequence.
4. A description of the grant's principal investigator's role and responsibilities.
5. A description of all the project staff regardless of their funding source. It should include their title, qualifications, experience, percentage of time each will devote to the project, as well as that portion of their salary to be paid by the grant.
6. A description of those activities related to, but not supported by the grant.
7. A description of the involvement of other entities that will relate to the proposed project, if applicable. It should include commitments of support and a clear statement of their roles.
8. A detailed first year's budget for the grant with future annual projections,

9. A plan for publishing/distributing results.

An applicant organization has the option of having specific salary and fringe benefit amounts for individuals omitted from the copies of the application which are made available to outside reviewing groups. To exercise this option: on the original and five copies of the application, the applicant must use asterisks to indicate those individuals for whom salaries and fringe benefits are not shown; the subtotals must still be shown. In addition, the applicant must submit an additional copy of page four of Form PHS-398, completed in full, with the salary and fringe amounts shown. This budget page will be reserved for internal staff use only.

##### F. Submission and Deadline

Submit the original and five copies of PHS-398 (OMB Number 0925-0001) adhere to the instructions on the Errata Instruction Sheet for PHS 398). Forms are in the application kit.

On or before June 30, 1999, submit the application to: Sheryl L. Heard, Grants Management Specialist, Grants Management Branch, Procurement and Grants Office, Announcement 99107, Centers for Disease Control and Prevention, 2920 Brandywine Road, Room 3000, Atlanta, Georgia 30341.

**Deadline:** Applications shall be considered as meeting the deadline if they are either:

- (a) Received on or before the deadline date; or
- (b) Sent on or before the deadline date and received in time for Objective Review. (Applicants must request a legibly dated U.S. Postal Service postmark or obtain a legibly dated receipt from a commercial carrier or U.S. Postal Service. Private metered postmarks shall not be acceptable as proof of timely mailing.)

**Late Applications:** Applications which do not meet the criteria in (a) or (b) above are considered late applications, will not be considered, and will be returned to the applicant.

##### G. Evaluation Criteria

Applications that are complete and responsive may be subjected to a preliminary evaluation by a peer review group to determine if the application is of sufficient technical and scientific merit to warrant further review (triage); the CDC will withdraw from further consideration applications judged to be noncompetitive and promptly notify the principal investigator/program director and the official signing for the applicant organization. Those applications judged

to be competitive will be further evaluated by a dual review process.

Each competitive application will be evaluated individually against the following criteria by a Special Emphasis Panel (SEP) appointed by CDC. The SEP will score each proposal based on scientific and technical merit. Factors to be considered by the SEP include:

1. A principal investigator who has conducted research, published the findings in peer-reviewed journals, and has specific authority and responsibility to carry out the proposed project.

2. Demonstrated experience (on the applicant's project team) in conducting, evaluating, and publishing in peer-reviewed journals that publish the health communication research theories and research findings.

3. Effective and well-defined working relationships within the performing organization and with outside entities that will ensure implementation of the proposed activities.

4. The specific aims of the research project, i.e., the broad long-term objectives, the intended accomplishment of the specific research proposal, and the hypothesis to be tested.

5. The background of the proposal, i.e., the basis for the present proposal, regarding how the proposed research will further understanding of, and the ability to apply, effective health communication strategies and tactics.

6. The significance and originality from a scientific or technical standpoint of the specific aims of the proposed research, including the adequacy of the theoretical and conceptual framework for the research.

7. The adequacy of the proposed research design, approaches, and methodology to carry out the research, including quality assurance procedures, plan for data management, and statistical analysis plan.

8. The extent to which the research findings will increase understanding of, and ability to apply, effective health communication strategies and tactics.

9. The degree to which the research is consistent with health communication research priorities as identified under the "Programmatic Priorities" section (section D) of this announcement.

10. The degree to which the evaluation plan will allow the measurement of progress toward the achievement of the stated objectives.

11. The degree to which the qualifications, adequacy, and appropriateness of personnel to accomplish the proposed activities.

12. The degree to which commitment and cooperation of other interested parties (as evidenced by letters detailing

the nature and extent of the involvement).

13. The degree to which adequacy of existing and proposed facilities and resources.

14. The degree to which the reasonableness of the proposed budget to the proposed research.

15. If Human Subjects are involved, does the applicant adequately address the requirements of 45 CFR 46 for the protection of human subject?

16. If Human Subjects are involved, has the applicant met the CDC Policy requirements regarding the inclusion of women, ethnic, and racial groups in the proposed research. This includes:

a. The proposed plan for the inclusion of both sexes and racial and ethnic minority populations for appropriate representation.

b. The proposed justification when representation is limited or absent.

c. A statement as to whether the design of the study is adequate to measure differences when warranted.

d. A statement as to whether the plans for recruitment and outreach for study participants include the process of establishing partnerships with community(ies) and recognition of mutual benefits.

A second review will be conducted by a panel of Senior Federal Officials. The Senior Federal Officials will review the ranked proposals to assure maximal impact and balance of the proposed research. The factors to be considered will include:

a. The results of the peer review.

b. The extent to which the proposed research addresses health communication research needs and priorities.

c. National needs.

d. Budgetary considerations.

#### H. Other Requirements

##### Technical Reporting Requirements

Provide CDC with the original plus two copies of:

1. Annual progress reports.

2. Financial status report, no more than 90 days after the end of the budget period.

3. Final financial status report and performance report, no more than 90 days after the end of the project period.

Send all reports to: Sheryl L. Heard, Grants Management Specialist, Grants Management Branch, Procurement and Grants Office, Announcement 99107, Centers for Disease Control and Prevention, 2920 Brandywine Road, Room 3000, Atlanta, GA 30341.

For descriptions of the following Other Requirements, see Attachment I in the application package:

AR-1 Human Subjects Requirements

AR-2 Requirements for Inclusion of Women and Racial and Ethnic Minorities in Research

AR-9 Paperwork Reduction Act Requirements

AR-10 Smoke-Free Workplace Requirements

AR-11 Healthy People 2000

AR-12 Lobbying Restrictions

#### I. Authority and Catalog of Federal Domestic Assistance Number

This program is authorized under section 1704 of the Public Health Service Act, 42 U.S.C. section 300u-3, as amended. The Catalog of Federal Domestic Assistance number is 93.283.

#### J. Where to Obtain Additional Information

Please refer to announcement number 99107 when requesting information and submitting applications. To receive additional written information and to request an application kit, call 1-888-GRANTS4 (1-888-472-6874). You will be asked to leave your name and address and will be instructed to identify the Announcement number of interest.

The application kit for 99107 can also be downloaded via the CDC home page on the Internet: <http://www.cdc.gov>.

If you have questions after reviewing the contents of all the documents, business management technical assistance may be obtained from: Sheryl L. Heard, Grants Management Specialist, Grants Management Branch Procurement and Grants Office, Announcement 99107, Centers for Disease Control and Prevention, 2920 Brandywine Road, Room 3000, Atlanta, GA 30341. Telephone (770) 488-2723, Email address: [slh3@cdc.gov](mailto:slh3@cdc.gov).

For program technical assistance, contact: Galen E. Cole, Ph.D., M.P.H., Division of Health Communication, Office of Communication, Office of the Director, Centers for Disease Control and Prevention, Mail Stop D42, 1600 Clifton Road, Atlanta, GA 30333, Phone: 404-639-7275, Email: [gxc9@cdc.gov](mailto:gxc9@cdc.gov).

Dated: April 7, 1999.

**John L. Williams,**

*Director, Procurement and Grants Office  
Centers of Disease Control and Prevention  
(CDC).*

[FR Doc. 99-9152 Filed 4-12-99; 8:45 am]

BILLING CODE 4163-18-P

**DEPARTMENT OF HEALTH AND HUMAN SERVICES****Administration for Children and Families****Fiscal year 1999 Discretionary Announcement for University-Head Start Partnerships and Head-Start Research Scholars; Availability of Funds and Request for Proposals**

**AGENCY:** Administration on Children, Youth and Families, ACF, DHHS.

**ACTION:** Notice.

**SUMMARY:** The Administration for Children and Families, Administration on Children, Youth and Families, Head Start Bureau announces the availability of funds for two Priority Areas; University-Head Start Partnerships (1.01) and Head Start Research Scholars (1.02). These priority areas will support research activities in the areas of infant and toddler development within the cultural context, the promotion of mental health in Head Start and Early Head Start, family literacy or field-initiated research which will increase our knowledge of low-income children's development for the purpose of improving services or have significant policy implications.

**DATES:** The closing date for receipt of applications is 5:00 P.M. EDT June 14, 1999.

**ADDRESSES:** Applications, including all necessary forms can be downloaded from the Head Start web site at [www.acf.dhhs.gov/programs/hsb](http://www.acf.dhhs.gov/programs/hsb). The web site also contains a listing of all Head Start and Early Start programs.

Hard copies of the application may be obtained by writing or calling the Operations Center or sending an e-mail to [hsr@lcgnet.com](mailto:hsr@lcgnet.com).

**FOR FURTHER INFORMATION CONTACT:** ACYF Operations Center at: 1815 N. Fort Meyer Drive Suite 300, Arlington, Virginia 22209 or (1-800) 351-2293.

**SUPPLEMENTARY INFORMATION:****Priority Areas***Priority Area 1.01 University-Head Start Partnerships*

**Eligible Applicants:** Universities and four-year colleges on behalf of a faculty member who holds a doctorate or equivalent in their respective field.

**Project Duration:** The announcement for Priority Area 1.01 is soliciting applications for project periods of three years with the first year as a planning grant. However, requests for project periods of four or five years will be considered if the applicant can make a strong justification for the need for a

longer project period in order to complete the research. It should be noted that requests for longer project periods will only be granted in only rare instances. Awards, on a competitive basis, will be for the first one-year planning budget period. Applications for continuation funds under these awards beyond the first-year budget period, but within the established project period, will be entertained in subsequent years on a noncompetitive basis, subject to availability of funds, satisfactory progress of the grantee, and a determination that continued funding would be in the best interests of the Government.

**Federal Share of Project Costs:** The maximum Federal share is \$75,000 for the first-year budget period. The Federal share for the subsequent years is approximately \$150,000 for each year of the project period. The Federal Share is inclusive of indirect costs.

**Anticipated Number of Projects to be Funded:** It is anticipated that 4-6 projects will be funded.

*Priority Area 1.02 Head Start Research Scholars*

**Eligible Applicants:** Institutions of higher education on behalf of graduate students who have been accepted into a doctoral program in the field of the proposed study and have completed their Master's degree or equivalent in that field prior to applying for this grant or by the time grants are awarded and have sent formal notification of having been granted the degree to ACYF. To be eligible to administer the grant on behalf of the student, the institution must be fully accredited by one of the regional accrediting commissions recognized by the Department of Education and the Council on Post-Secondary Accreditation. In addition, the specific graduate student on whose behalf the application is made must be identified and any resultant grant award if not transferable to another student.

**Project Duration:** The announcement for Priority Area 1.02 is soliciting applications for project periods up to two years. Awards, on a competitive basis, will be for a one-year budget period, although project periods may be for two years. It should be noted, that if the graduate student, on whose behalf the university is applying, expects to receive a doctorate by the end of the first year budget period, the applicant should request a one-year project period only. A second year budget period will not be granted if the student has graduated by the end of the first year. Applications for continuation grants will be entertained in the subsequent year on a non-competitive basis, subject

to availability of funds, satisfactory progress of the grantee and a determination that continued funding would be in the best interest of the Government

**Federal Share of Project Costs:** The maximum Federal share is not to exceed \$15,000 for the first-year budget period or a maximum of \$30,000 for a two-year project period.

**Anticipated Number of Projects to be Funded:** It is anticipated that 10 projects will be funded. No university will be funded for more than one candidate, unless there are no other approved applications.

**Statutory Authority:** The Head Start Act, as amended 42 U.S.C. 9801 *et seq.*

Dated: April 8, 1999.

**James A. Harrell,**

*Deputy Commissioner, Administration on Children, Youth and Families.*

[FR Doc. 99-9187 Filed 4-12-99; 8:45 am]

**BILLING CODE 4184-01-M**

**DEPARTMENT OF HEALTH AND HUMAN SERVICES****Food and Drug Administration**

[Docket No. 99N-0486]

**Physician Labeling and Patient Labeling for Progestational Drug Products; Warnings and Contraindications**

**AGENCY:** Food and Drug Administration, HHS.

**ACTION:** Notice.

**SUMMARY:** The Food and Drug Administration (FDA) is announcing that it intends to revoke previously issued guidance texts for physician labeling and patient labeling for progestational drug products that were published in the **Federal Register** of January 12, 1989 (54 FR 1243). The reasons for revoking the guidance texts are discussed in a notice of proposed rulemaking on progestational drug products that appears elsewhere in this issue of the **Federal Register**.

**DATES:** Written comments by July 12, 1999.

**ADDRESSES:** Submit written comments to the Dockets Management Branch (HFA-305), Food and Drug Administration, 5630 Fishers Lane, rm. 1061, Rockville, MD 20852.

**FOR FURTHER INFORMATION CONTACT:** Diane V. Moore, Center for Drug Evaluation and Research (HFD-580), Food and Drug Administration, 5600 Fishers Lane, Rockville, MD 20857, 301-827-4260.



Dated: March 25, 1999.

**William K. Hubbard,**

*Acting Deputy Commissioner for Policy.*

[FR Doc. 99-9147 Filed 4-12-99; 8:45 am]

BILLING CODE 4160-01-F

## DEPARTMENT OF HEALTH AND HUMAN SERVICES

### National Institutes of Health

#### National Cancer Institute; Notice of Closed Meeting

Pursuant to section 10(d) of the Federal Advisory Committee Act, as amended (5 U.S.C. Appendix 2), notice is hereby given of the following meeting.

The meeting will be closed to the public in accordance with the provisions set forth in sections 552b(c)(4) and 552b(c)(6), title 5 U.S.C., as amended. The grant applications and the discussions could disclose confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the grant applications, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

*Name of Committee:* National Cancer Institute Special Emphasis Panel, University of Texas SPORE in Lung Cancer.

*Date:* April 26, 1999.

*Time:* 2:00 PM to 5:00 PM.

*Agenda:* To review and evaluate grant applications.

*Place:* National Institutes of Health, National Cancer Institute, 6130 Executive Boulevard, 6th Floor, Rockville, MD 20852 (Telephone Conference Call).

*Contact Person:* Maureen Johnson, Grants Review Branch, Division of Extramural Activities, National Cancer Institute, National Institutes of Health, 6130 Executive Blvd., Bethesda, MD 20892-7408, 301-496-2378. (Catalogue of Federal Domestic Assistance Program Nos. 93.392, Cancer Construction; 93.393, Cancer Cause and Prevention Research; 93.394, Cancer Detection and Diagnosis Research; 93.395, Cancer Treatment Research; 93.396, Cancer Biology Research; 93.397, Cancer Centers Support; 93.398, Cancer Research Manpower; 93.399, Cancer Control, National Institutes of Health, HHS)

Dated: April 6, 1999.

**LaVerne Y. Stringfield,**

*Committee Management Officer, NIH.*

[FR Doc. 99-9104 Filed 4-12-99; 8:45 am]

BILLING CODE 4140-01-M

## DEPARTMENT OF HEALTH AND HUMAN SERVICES

### National Institutes of Health

#### National Cancer Institute; Notice of Meeting

Pursuant to section 10(d) of the Federal Advisory Committee Act, as amended (5 U.S.C. Appendix 1), notice is hereby given of the meeting of the National Cancer Institute Director's Consumer Liaison Group.

The meeting will be open to the public as indicated below, with attendance limited to space available. Individuals who plan to attend and need special assistance, such as sign language interpretation or other reasonable accommodations, should notify the Contact Person listed below in advance of the meeting.

A portion of the meeting will be closed to the public in accordance with the provisions set forth in section 552b(c)(6), Title 5 U.S.C., as amended because the premature disclosure of discussions would constitute a clearly unwarranted invasion of personal privacy.

*Name of Committee:* National Cancer Institute Director's Consumer Liaison Group.

*Date:* April 19-20, 1999.

*Open:* April 19, 1999, 9:00 a.m., to 5:00 p.m.

*Agenda:* Director's Report; DCLG-NCI Communications Initiative; Consumer Involvement in Peer Review.

*Place:* National Institutes of Health, Natcher Conference Center, 45 Center Drive, Bethesda, MD 20892.

*Contact Person:* Eleanor Nealon, Executive Secretary, Office of Liaison Activities, National Institutes of Health, National Cancer Institute, Building 31, Room 10A06, Bethesda, MD 20892-2580, (301) 594-3194.

*Name of Committee:* National Cancer Institute Director's Consumer Liaison Group.

*Open:* April 20, 1999, 9:00 a.m. to 4:15 p.m.

*Agenda:* Communications Initiatives; Mechanisms for Ongoing Feedback from the Advocacy Community; Future Plans for DCLG.

*Place:* National Institutes of Health, Natcher Conference Center, 45 Center Drive, Bethesda, MD 20892.

*Contact Person:* Eleanor Nealon, Executive Secretary, Office of Liaison Activities, National Institutes of Health, National Cancer Institute, Building 31, Room 10A06, Bethesda, MD 20892-2580, (301) 594-3194.

*Name of Committee:* National Cancer Institute Director's Consumer Liaison Group.

*Closed:* April 20, 1999, 4:15 p.m. to 5:00 p.m.

*Agenda:* Personnel Issues Related to Committee Membership.

*Place:* National Institutes of Health, Natcher Conference Center, 45 Center Drive, Bethesda, MD 20892.

*Contact Person:* Eleanor Nealon, Executive Secretary, Office of Liaison Activities, National Institutes of Health, National Cancer Institute, Building 31, Room 10A06, Bethesda, MD 20892-2580, (301) 594-3194.

(Catalogue of Federal Domestic Assistance Program Nos. 93.392, Cancer Construction; 93.393, Cancer Cause and Prevention Research; 93.394, Cancer Detection and Diagnosis Research; 93.395, Cancer Treatment Research; 93.396, Cancer Biology Research; 93.397, Cancer Centers Support; 93.398, Cancer Research Manpower; 93.399, Cancer Control, National Institutes of Health, HHS)

Dated: April 1, 1999.

**LaVerne Y. Stringfield,**

*Committee Management Officer, NIH.*

[FR Doc. 99-9108 Filed 4-12-99; 8:45 am]

BILLING CODE 4140-01-M

## DEPARTMENT OF HEALTH AND HUMAN SERVICES

### National Institutes of Health

#### National Heart, Lung, and Blood Institute; Notice of Meeting

Pursuant to section 10(d) of the Federal Advisory Committee Act, as amended (5 U.S.C. Appendix 2), notice is hereby given of a meeting of the National Heart, Lung, and Blood Advisory Council.

The meeting will be open to the public as indicated below, with attendance limited to space available. Individuals who plan to attend and need special assistance, such as sign language interpretation or other reasonable accommodations, should notify the Contact Person listed below in advance of the meeting.

The meeting will be closed to the public in accordance with the provisions set forth in sections 552b(c)(4) and 552b(c)(6), Title 5 U.S.C., as amended. The grant applications and/or contract proposals and the discussions could disclose confidential trade secrets or commercial property such as patentable materials, and personal information concerning individuals associated with the grant applications and/or contract proposals, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

*Name of Committee:* National Heart, Lung, and Blood Advisory Council.

*Date:* May 20-21, 1999.

*Open:* May 20, 1999, 8:30 a.m. to 2:00 p.m.

*Agenda:* For discussion of program policies and issues.

*Place:* National Institutes of Health, Building 31, C wing, Conference Room 10, 9000 Rockville Pike, Bethesda, MD 20892.

*Closed:* May 20, 1999, 2:00 p.m. to adjournment.

*Agenda:* To review and evaluate grant applications.

*Place:* National Institutes of Health, Building 31, C Wing, Conference Room 10, 9000 Rockville Pike, Bethesda, MD 20892.

*Contact Person:* Robert Carlsen, Acting Director, Division of Extramural Affairs, Nat. Heart, Lung, and Blood Institute, NIH, Two Rockledge Center, Room 7100, 6701 Rockledge Drive, Bethesda, MD 20892, 301/435-0260.

(Catalogue of Federal Domestic Assistance Program Nos. 93.233, National Center for Sleep Disorders Research; 93.837, Heart and Vascular Diseases Research; 93.838, Lung Diseases Research; 93.839, Blood Diseases and Resources Research, National Institutes of Health, HHS)

Dated: April 5, 1999.

**LaVerne Y. Stringfield,**

*Committee Management Officer, NIH.*

[FR Doc. 99-9107 Filed 4-12-99; 8:45 am]

BILLING CODE 4140-01-M

## DEPARTMENT OF HEALTH AND HUMAN SERVICES

### National Institutes of Health

#### National Institute of Allergy and Infectious Diseases; Notice of Closed Meeting

Pursuant to section 10(d) of the Federal Advisory Committee Act, as amended (5 U.S.C. Appendix 2), notice is hereby given of a meeting of the Board of Scientific Counselors, NIAID.

The meeting will be closed to the public as indicated below in accordance with the provisions set forth in section 552b(c)(6), Title 5 U.S.C., as amended for the review, discussion, and evaluation of individual intramural programs and projects conducted by the National Institute of Allergy and Infectious Diseases, including consideration of personnel qualifications and performance, and the competence of individual investigators, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

*Name of Committee:* Board of Scientific Counselors, NIAID.

*Date:* June 7-8, 1999.

*Time:* June 7, 1999, 8:00 AM to adjournment.

*Agenda:* To review and evaluate the staff and programs of the Laboratory of Immunoregulation.

*Place:* Building 10, Sheldon M. Wolff Memorial Conference Room 11S235, 10 Center Drive, National Institutes of Health, Bethesda, MD 20892.

*Contact Person:* Thomas J. Kindt, Director, Division of Intramural Research, National Inst. of Allergy & Infectious Diseases, Building 10, Room

4A31, Bethesda, MD 20892, 301-496-3006, tk9c@nih.gov.

(Catalogue of Federal Domestic Assistance Program Nos. 93.855, Allergy, Immunology, and Transplantation Research; 93.856, Microbiology and Infectious Diseases Research, National Institutes of Health, HHS)

Dated: April 6, 1999.

**LaVerne Y. Stringfield,**

*Director, Office of Federal Advisory Committee Policy, NIH.*

[FR Doc. 99-9100 Filed 4-12-99; 8:45 am]

BILLING CODE 4140-01-M

## DEPARTMENT OF HEALTH AND HUMAN SERVICES

### National Institutes of Health

#### National Institute of Allergy and Infectious Diseases; Notice of Closed Meeting

Pursuant to section 109(d) of the Federal Advisory Committee Act, as amended (5 U.S.C. Appendix 2), notice is hereby given of the following meeting.

The meeting will be closed to the public in accordance with the provisions set forth in sections 552b(c)(4) and 552b(c)(6), Title 5 U.S.C., as amended. The grant applications and the discussions could disclose confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the grant applications, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

*Name of Committee:* National Institute of Allergy and Infectious Diseases Special Emphasis Panel Adult Therapeutic Clinical Trials Program for AIDS—Statistical & Data Management Center.

*Date:* May 11-14, 1999.

*Time:* May 11, 1999, 7:00 PM to recess.

*Agenda:* To review and evaluate grant applications.

*Place:* Holiday Inn Georgetown, Kaleidoscope Room, 2101 Wisconsin Avenue, Washington, DC 20007.

*Time:* May 12, 1999, 9:00 AM to adjournment.

*Agenda:* To review and evaluate grant applications.

*Place:* Holiday Inn Georgetown, Kaleidoscope Room, 2101 Wisconsin Avenue, Washington, DC 20007.

*Contact Person:* Peter R. Jackson, Scientific Review Administrator, Scientific Review Program, Division of Extramural Activities, NIAID, NIH, Solar Building, Room 4C10, 6003 Executive Boulevard MSC 7610,

Bethesda, MD 20892-7610, 301-496-8426.

(Catalogue of Federal Domestic Assistance Program Nos. 93.855, Allergy, Immunology, and Transplantation Research; 93.856, Microbiology and Infectious Diseases Research, National Institutes of Health, HHS)

Dated: April 6, 1999.

**LaVerne Y. Stringfield,**

*Director, Office of Federal Advisory Committee Policy, NIH.*

[FR Doc. 99-9101 Filed 4-12-99; 8:45 am]

BILLING CODE 4140-01-M

## DEPARTMENT OF HEALTH AND HUMAN SERVICES

### National Institutes of Health

#### National Institute of Diabetes and Digestive and Kidney Diseases; Notice of Closed Meetings

Pursuant to section 10(d) of the Federal Advisory Committee Act, as amended (5 U.S.C. Appendix 2), notice is hereby given of the following meetings.

The meetings will be closed to the public in accordance with the provisions set forth in sections 552b(c)(4) and 552b(c)(6), Title 5 U.S.C., as amended. The grant applications and the discussions could disclose confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the grant applications, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

*Name of Committee:* National Institute of Diabetes and Digestive and Kidney Diseases Special Emphasis Panel, ZDK1, GRB-1 M1(P).

*Date:* April 8-9, 1999.

*Time:* April 8, 1999, 7:30 p.m. to adjournment.

*Agenda:* To review and evaluate grant applications.

*Place:* Holiday Inn Chevy Chase, 5520 Wisconsin Avenue, Chevy Chase, MD 20815.

*Contact Person:* Carolyn Miles, Scientific Research Administrator, Review Branch, DEA, NIDDK, Natcher Building, Room 6AS-37, National Institutes of Health, Bethesda, MD 20892, (301) 594-7791.

This notice is being published less than 15 days prior to the meeting due to the timing limitations imposed by the review and funding cycle.

*Name of Committee:* National Institute of Diabetes and Digestive and Kidney Diseases Special Emphasis Panel, ZDK1 GRB B M1.

*Date:* April 29-30, 1999.

*Time:* April 29, 1999, 8:30 a.m. to adjournment.

*Agenda:* To review and evaluate grant applications.

*Place:* Holiday Inn Bethesda, 8120 Wisconsin Avenue, Bethesda, MD 20814.

*Contact Person:* Ned Feder, Scientific Review Administrator, Review Branch, DEA, NIDDK, Natcher Building Room 6AS25s, National Institutes of Health, Bethesda, MD 20892, (301) 594-8890.

*Name of Committee:* National Institute of Diabetes and Digestive and Kidney Diseases Special Emphasis Panel, ZDK1 GRB 4 M5.

*Date:* May 13-14, 1999.

*Time:* May 13, 1999, 7:30 p.m. to adjournment.

*Agenda:* To review and evaluate grant applications.

*Place:* Doubletree Guest Suites, 1300 Concourse Drive, Linthicum, MD 21090.

*Contact Person:* William E. Elzinga, Scientific Review Administrator, Review Branch, DEA NIDDK, Natcher Building, Room 6AS-37, National Institutes of Health, Bethesda, MD 20892-6600, (301) 594-8895. (Catalogue of Federal Domestic Assistance Program Nos. 93.847, Diabetes, Endocrinology and Metabolic Research; 93.848, Digestive Diseases and Nutrition Research; 93.849, Kidney Diseases, Urology and Hematology Research, National Institutes of Health, HHS)

*Dated:* April 6, 1999.

**LaVerne Y. Stringfield,**

*Committee Management Officer, NIH.*

[FR Doc. 99-9102 Filed 4-12-99; 8:45 am]

BILLING CODE 4140-01-M

## DEPARTMENT OF HEALTH AND HUMAN SERVICES

### National Institutes of Health

#### National Institute of Diabetes and Digestive and Kidney Diseases; Notice of Closed Meeting

Pursuant to section 10(d) of the Federal Advisory Committee Act, as amended (5 U.S.C. Appendix 2), notice is hereby given of the following meeting.

The meeting will be closed to the public in accordance with the provisions set forth in sections 552b(c)(4) and 552b(c)(6), Title 5 U.S.C., as amended. The contract proposals and the discussions could disclose confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the contract proposals, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

*Name of Committee:* National Institute of Diabetes and Digestive and Kidney Diseases Special Emphasis Panel, ZDK1 GRB-D (C3).  
*Date:* May 10, 1999.

*Time:* 9:00 a.m. to Adjournment.

*Agenda:* To review and evaluate contract proposals.

*Place:* Hyatt Regency Hotel, One Bethesda Metro Center, Bethesda, MD 20814.

*Contact Person:* Richard A. Pledger, Scientific Review Administrator, Review

Branch, DEA, NIDDK, Natcher Building, Room 6AS37F, National Institutes of Health, Bethesda, MD 20892, (301) 594-8886.

(Catalogue of Federal Domestic Assistance Program Nos. 93.847, Diabetes, Endocrinology and Metabolic Research; 93.848, Digestive Diseases and Nutrition Research; 93.849, Kidney Diseases, Urology and Hematology Research, National Institutes of Health, HHS)

*Dated:* April 5, 1999.

**LaVerne Y. Stringfield,**

*Director, Office of Federal Advisory Committee Policy.*

[FR Doc. 99-9105 Filed 4-12-99; 8:45 am]

BILLING CODE 4140-01-M

## DEPARTMENT OF HEALTH AND HUMAN SERVICES

### National Institutes of Health

#### National Institute of Allergy and Infectious Diseases; Notice of Closed Meeting

Pursuant to section 10(d) of the Federal Advisory Committee Act, as amended (5 U.S.C. Appendix 2), notice is hereby given of the following meeting.

The meeting will be closed to the public in accordance with the provisions set forth in sections 552b(c)(4) and 552b(c)(6), Title 5 U.S.C., as amended. The contract proposals and the discussions could disclose confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the contract proposals, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

*Name of Committee:* National Institute of Allergy and Infectious Diseases Special Emphasis Panel, HIV Vaccine Production: Part: B: Safety and Immunogenicity Testing.

*Date:* April 28, 1999.

*Time:* 1:00 p.m. to 4 p.m.

*Agenda:* To review and evaluate contract proposals.

*Place:* Room 4C07, Solar Building, 6003 Executive Boulevard, Rockville, MD 20852, (Telephone Conference Call).

*Contact Person:* Dianne E. Tingley, Scientific Review Administrator, Scientific Review Program, Division of Extramural Activities, NIAID, NIH, Solar Building, Room 4C07, 6003 Executive Boulevard MSC 7610, Bethesda, MD 20892-7610, 301/496-0818.

(Catalogue of Federal Domestic Assistance Program Nos. 93.855, Allergy, Immunology, and Transplantation Research; 93.856, Microbiology and Infectious Diseases Research, National Institutes of Health, HHS)

*Dated:* April 5, 1999.

**LaVerne Y. Stringfield,**

*Director, Office of Federal Advisory Committee Policy, NIH.*

[FR Doc. 99-9106 Filed 4-12-99; 8:45 am]

BILLING CODE 4140-01-M

## DEPARTMENT OF HEALTH AND HUMAN SERVICES

### National Institutes of Health

#### Center for Scientific Review; Notice of Closed Meetings.

Pursuant to section 10(d) of the Federal Advisory Committee Act, as amended (5 U.S.C. Appendix 2), notice is hereby given of the following meetings.

The meetings will be closed to the public in accordance with the provisions set forth in sections 552b(c)(4) and 552b(c)(6), Title 5 U.S.C., as amended. The grant applications and the discussions could disclose confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the grant applications, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

*Name of Committee:* Center for Scientific Review Special Emphasis Panel.

*Date:* April 12, 1999.

*Time:* 2:00 p.m. to 3:00 p.m.

*Agenda:* to review and evaluate grant applications.

*Place:* NIH, Rockledge 2, Bethesda, MD 20892 (Telephone Conference Call).

*Contact Person:* Ranga Srinivas, Scientific Review Administrator, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 5108, MSC 7852, Bethesda, MD 20892, (301) 435-1167.

This notice is being published less than 15 days prior to the meeting due to the timing limitations imposed by the review and funding cycle.

*Name of Committee:* Center for Scientific Review Special Emphasis Panel.

*Date:* April 14, 1999.

*Time:* 2:00 p.m. to 4:00 p.m.

*Agenda:* To review and evaluate grant applications.

*Place:* NIH, Rockledge 2, Bethesda, MD 20892 (Telephone Conference Call).

*Contact Person:* Gloria B. Levin, Scientific Review Administrator, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 3166, MSC 7848, Bethesda, MD 20892, (301) 435-0692.

This notice is being published less than 15 days prior to the meeting due to the timing limitations imposed by the review and funding cycle.

*Name of Committee:* Center for Scientific Review Special Emphasis Panel, MDCN-5.

*Date:* April 15, 1999.

*Time:* 11:00 a.m. to 1:00 p.m.

*Agenda:* To review and evaluate grant applications.

*Place:* NIH, Rockledge 2, Bethesda, MD 20892 (Telephone Conference Call).

*Contact Person:* Syed Husain, Scientific Review Administrator, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 5216, MSC 7850, Bethesda, MD 20892-7850, (301) 435-1224.

This notice is being published less than 15 days prior to the meeting due to the timing limitations imposed by the review and funding cycle.

*Name of Committee:* Center for Scientific Review Special Emphasis Panel.

*Date:* April 15, 1999.

*Time:* 12:30 p.m. to 1:30 p.m.

*Agenda:* To review and evaluate grant applications.

*Place:* NIH, Rockledge 2, Bethesda, MD 20892 (Telephone Conference Call).

*Contact Person:* James Deatherage, Scientific Review Administrator, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 5140, MSC 7840, Bethesda, MD 20892, (301) 435-1023.

This notice is being published less than 15 days prior to the meeting due to the timing limitations imposed by the review and funding cycle.

*Name of Committee:* Center for Scientific Review Special Emphasis Panel, ZRG1 VISB (02B).

*Date:* April 16, 1999.

*Time:* 8:30 a.m. to 5:00 p.m.

*Agenda:* To review and evaluate grant applications.

*Place:* Holiday Inn—Silver Spring, 8777 Georgia Avenue, Silver Spring, MD 20910.

*Contact Person:* Leonard Jakubczak, Scientific Review Administrator, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 5172, MSC 7844, Bethesda, MD 20892, (301) 435-1247.

This notice is being published less than 15 days prior to the meeting due to the timing limitations imposed by the review and funding cycle.

*Name of Committee:* Center for Scientific Review Special Emphasis Panel, ZRG-TMP-2.

*Date:* April 16, 1999.

*Time:* 1:00 p.m. to 4:00 p.m.

*Agenda:* To review and evaluate grant applications.

*Place:* NIH, Rockledge 2, Bethesda, MD 20892 (Telephone Conference Call).

*Contact Person:* Jean Hickman, Scientific Review Administrator, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 4194, MSC 7808, Bethesda, MD 20892, (301) 435-1146.

This notice is being published less than 15 days prior to the meeting due to the timing limitations imposed by the review and funding cycle.

*Name of Committee:* Center for Scientific Review Special Emphasis Panel.

*Date:* April 19, 1999.

*Time:* 1:00 p.m. to 4:00 p.m.

*Agenda:* To review and evaluate grant applications.

*Place:* NIH, Rockledge 2, Bethesda, MD 20892 (Telephone Conference Call).

*Contact Person:* Martin Slater, Scientific Review Administrator, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 4184, MSC 7808, Bethesda, MD 20892, (301) 435-1149.

This notice is being published less than 15 days prior to the meeting due to the timing limitations imposed by the review and funding cycle.

*Name of Committee:* Center for Scientific Review Special Emphasis Panel.

*Date:* April 19, 1999.

*Time:* 2:30 p.m. to 4:00 p.m.

*Agenda:* To review and evaluate grant applications.

*Place:* NIH, Rockledge 2, Bethesda, MD 20892 (Telephone Conference Call).

*Contact Person:* Patricia H. Hand, Scientific Review Administrator, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 4140, MSC 7804, Bethesda, MD 20892, (301) 435-1767.

This notice is being published less than 15 days prior to the meeting due to the timing limitations imposed by the review and funding cycle.

*Name of Committee:* Center for Scientific Review Special Emphasis Panel.

*Date:* April 20, 1999.

*Time:* 8:30 a.m. to 6:00 p.m.

*Agenda:* To review and evaluate grant applications.

*Place:* Bethesda Marriott Hotel, 5151 Pooks Hill Road, Bethesda, MD 20814.

*Contact Person:* J. Terrell Hoffeld, Scientific Review Administrator, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 4116, MSC 7816, Bethesda, MD 20892, (301) 435-1781.

This notice is being published less than 15 days prior to the meeting due to the timing limitations imposed by the review and funding cycle.

*Name of Committee:* Center for Scientific Review Special Emphasis Panel.

*Date:* April 20, 1999.

*Time:* 1:00 p.m. to 4:00 p.m.

*Agenda:* To review and evaluate grant applications.

*Place:* NIH, Rockledge 2, Bethesda, MD 20892 (Telephone Conference Call).

*Contact Person:* Timothy J. Henry, Scientific Review Administrator, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 4180, MSC 7808, Bethesda, MD 20892, (301) 435-1147.

This notice is being published less than 15 days prior to the meeting due to the timing limitations imposed by the review and funding cycle.

*Name of Committee:* Center for Scientific Review Special Emphasis Panel.

*Date:* April 20, 1999.

*Time:* 2:00 p.m. to 3:00 p.m.

*Agenda:* To review and evaluate grant applications.

*Place:* NIH, Rockledge 2, Bethesda, MD 20892 (Telephone Conference Call).

*Contact Person:* Jay Cinque, Scientific Review Administrator, Center for Scientific

Review, National Institutes of Health, 6701 Rockledge Drive, Room 5186, MSC 7846, Bethesda, MD 20892, (301) 435-1252.

This notice is being published less than 15 days prior to the meeting due to the timing limitations imposed by the review and funding cycle.

*Name of Committee:* Center for Scientific Review Special Emphasis Panel.

*Date:* April 20, 1999.

*Time:* 2:00 p.m. to 4:00 p.m.

*Agenda:* To review and evaluate grant applications.

*Place:* NIH, Rockledge 2, Bethesda, MD 20892, (Telephone Conference Call).

*Contact Person:* Patricia H. Hand, Scientific Review Administrator, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 4140, MSC 7804, Bethesda, MD 20892, (301) 435-1767.

This notice is being published less than 15 days prior to the meeting due to the timing limitations imposed by the review and funding cycle.

*Name of Committee:* Center for Scientific Review Special Emphasis Panel.

*Date:* April 20, 1999.

*Time:* 12:00 p.m. to 2:00 p.m.

*Agenda:* To review and evaluate grant applications.

*Place:* NIH, Rockledge 2, Bethesda, MD 20892, (Telephone Conference Call).

*Contact Person:* Martin L. Padarathsingh, Scientific Review Administrator, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 4146, MSC 7804, Bethesda, MD 20892, (301) 435-1717.

This notice is being published less than 15 days prior to the meeting due to the timing limitations imposed by the review and funding cycle.

*Name of Committee:* Center for Scientific Review Special Emphasis Panel.

*Date:* April 20, 1999.

*Time:* 12:30 p.m. to 2:30 p.m.

*Agenda:* To review and evaluate grant applications.

*Place:* NIH, Rockledge 2, Bethesda, MD 20892, (Telephone Conference Call).

*Contact Person:* Cheri Wiggs, Scientific Review Administrator, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 5194, MSC 7848, Bethesda, MD 20892, (301) 435-1261.

This notice is being published less than 15 days prior to the meeting due to the timing limitations imposed by the review and funding cycle.

(Catalogue of Federal Domestic Assistance Program Nos. 93.306, Comparative Medicine, 93.306; 93.333, Clinical Research, 93.333, 93.337, 93.393-93.396, 93.837-93.844, 93.846-93.878, 93.892, 93.893, National Institutes of Health, HHS)

Dated: April 6, 1999.

**LaVerne Y. Stringfield,**

*Committee Management Officer, NIH.*

[FR Doc. 99-9103 Filed 4-12-99; 8:45 am]

BILLING CODE 4140-01-M

**DEPARTMENT OF HEALTH AND HUMAN SERVICES**
**Public Health Service**
**National Toxicology Program Special Emphasis Panel; Notice of Meeting**

Pursuant to section 10(d) of the Federal Advisory Committee Act, as amended (5 U.S.C. Appendix 2), and Public Law 103-43, notice is hereby given of a public meeting (Conference Call) of the National Toxicology Program Special Emphasis Panel (NTPSEP) sponsored by the NIEHS and the National Toxicology Program (NTP), and coordinated by the Interagency NIEHS and the National Toxicology Program (NTP), and coordinated by the Interagency Coordinating Committee on the Validation of Alternative Methods (ICCVAM) and the NTP Interagency Center for the Evaluation of Alternative Toxicological Methods (NICEATM).

The meeting will be open to the public as indicated below, with attendance limited to space available. Individuals who plan to attend and need special assistance or reasonable accommodations should notify the Contact Person listed below in advance of the meeting.

*Name of Committee:* National Toxicology Program Special Emphasis Panel.

*Date:* April 22, 1999.

*Open:* 9:00 a.m. to 11:00 a.m.

*Agenda:* To agree on the final report of the public meeting held on January 21, 1999, where an independent peer review of Corrositex®, a test method for dermal corrosivity was conducted.

*Place:* National Institute of Environmental Health Sciences, East Campus, 79 Alexander Drive, Room 122, Research Triangle Park, NC 27709.

*Contact Person:* Loretta Brammell, MD EC-17, P.O. Box 12233, Research Triangle Park, NC 27709, Phone: 919-541-3398, FAX: 919-541-0947, E-mail: NICEATM@niehs.nih.gov.

Dated: April 5, 1999.

**Samuel H. Wilson,**

*Deputy Director, NIEHS.*

[FR Doc. 99-9099 Filed 4-12-99; 8:45 am]

BILLING CODE 4140-01-M

**DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT**

[Docket No. FR-4445-N-09]

**Notice of Proposed Information Collection: Comment Request**

**AGENCY:** Office of the Assistant Secretary for Housing, HUD.

**ACTION:** Notice.

**SUMMARY:** The proposed information collection requirement described below will be submitted to the Office of Management and Budget (OMB) for review, as required by the Paperwork Reduction Act. The Department is soliciting public comments on the subject proposal.

**DATES:** Comments due date: June 14, 1999.

**ADDRESSES:** Interested persons are invited to submit comments regarding this proposal. Comments should refer to the proposal by name and/or OMB Control Number and should be sent to: Wayne Eddins, Reports Management Officer, Department of Housing and Urban Development, 451 7th Street, SW, Room 4176, Washington, DC 20410.

**FOR FURTHER INFORMATION CONTACT:** Helene DeVous, Multifamily Housing, Department of Housing and Urban Development, 451 7th Street, SW, Washington, DC 20410, telephone (202) 708-2866 (this is not a toll free number) for copies of the proposed forms and other available information.

**SUPPLEMENTARY INFORMATION:** The Department is submitting the proposed information collection to OMB for review, as required by the Paperwork Reduction Act of 1995 (44 U.S.C. Chapter 35, as amended).

This Notice is soliciting comments from members of the public and affected agencies concerning the proposed collection of information to: (1) Evaluate whether the proposed collection of information is necessary for the proper performance of the functions of the agency, including whether the information will have practical utility; (2) Evaluate the accuracy of the agency's estimate of the burden of the proposed collection of information; (3) Enhance the quality, utility, and clarity of the information to be collected; and (4) Minimize the burden of the collection of information on those who are to respond; including the use of appropriate automated collection techniques or other forms of information technology, e.g., permitting electronic submission of responses.

This Notice also lists the following information:

*Title of Proposal:* Restrictions on Assistance to Noncitizens—FR-4154.

*OMB Control Number, if applicable:* 2502-0014.

*Description of the Need for the Information and Proposed Use:* This Notice informs the public that the Department of Housing and Urban Development is submitting the proposed information collection to OMB for

review, as required by the Paperwork Reduction Act of 1995 (44 U.S.C. Chapter 35, as amended).

This Notice is soliciting comments from the public and affected agencies concerning the proposed collection of information in accordance with Section 214 of the Housing and Community Development Act of 1980, as amended. Section 214 prohibits HUD from making housing assistance under certain covered programs available to persons who are not U.S. citizens, nationals or eligible noncitizens under the categories specified in the statute.

*Agency Form Numbers, if applicable:* None.

*Status of the proposed information collection:* Extension of currently approved collection—Reinstatement without change.

*Estimation of the total number of hours needed to prepare the information collection including number of respondents, frequency of response, and hours of response:* The estimated number of respondents is 3,030,547, frequency of responses is on occasion, the total annual responses are 10,794,339, and the estimated annual burden hours requested is 405,458.

**Authority:** The Paperwork Reduction Act of 1995, 44 U.S.C. Chapter 35, as amended.

Dated: April 5, 1999.

**William C. Appar,**

*Assistant Secretary for Housing—Federal Housing Commissioner.*

[FR Doc. 99-9086 Filed 4-12-99; 8:45 am]

BILLING CODE 4210-27-M

**DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT**

[Docket No. FR-4363-FA-08]

**Super Notice of Funding Availability (SuperNOFA) for FY 1998 Public and Indian Housing Economic Development and Supportive Services and Tenant Opportunities Programs Announcement of Funding Awards**

**AGENCY:** Office of the Assistant Secretary for Public and Indian Housing, HUD.

**ACTION:** Announcement of Funding Awards.

**SUMMARY:** In accordance with Section 102(a)(4)(C) of the Department of Housing and Urban Development Reform Act of 1989, this announcement notifies the public of funding decisions made by the Department in a competition for funding under the FY 1998 Super Notice of Funding Availability (SuperNOFA) for the Economic Development and

Empowerment Program. This announcement contains the consolidated names and addresses of those award recipients under the Economic Development and Supportive Services (EDSS) and Tenant Opportunities (TOP) Programs and the amounts of the awards.

**FOR FURTHER INFORMATION CONTACT:** For questions concerning the EDSS/TOP funding awards, contact the Office of Public and Indian Housing's Grant Management Center Director Michael E. Diggs, Department of Housing and Urban Development, Washington, DC, telephone (202) 358-0221. For questions concerning Native American program awards, please contact Tracy Outlaw, HUD National Office, Native American Programs (ONAP), 1999 Broadway, Suite 3390, Box 90, Denver, Colorado 80202, telephone number (303) 675-1600. For the hearing-or speech-impaired, these numbers may be accessed via TTY (text telephone) by calling the Federal Information Relay Service at 1 (800) 877-8339. (Other than the "800" TTY number, these telephone numbers are not toll-free.)

**SUPPLEMENTARY INFORMATION:** TOP and EDSS have been combined to highlight HUD's parallel restructuring of these complementary programs. The restructuring represents a major HUD initiative to improve the targeting and

management of limited resources for resident self sufficiency. The goal is to most effectively focus these resources on "welfare to work" and on independent living for the elderly and persons with disabilities. HUD believes that it is imperative that housing authorities and residents work together to meet the challenge of welfare reform.

The purpose of the competition for the EDSS program was to provide direct funding on a competitive basis to Public Housing Authorities (PHAs), Tribes or their Tribally Designated Housing Entities (TDHEs), to enable them to establish and implement programs that increase resident self sufficiency and support continued independent living for elderly and disabled residents.

The purpose of the competition for the Tenant Opportunities Program was to provide direct funding on a competitive basis to public housing site-based Resident Organizations, and Intermediary Resident Organizations to provide resident training such as improving resident educational, professional, and economic levels by providing skills to make them more employable in the local community, organizational capacity-building for the newly created resident associations, and training residents to resolve disputes in public housing. The primary focus of

TOP is to move a substantial number of welfare dependent families to work.

The 1998 awards announced in this Notice were selected for funding in a competition announced in a **Federal Register** Notice published on April 30, 1998 (63 FR 23907). Applications were scored and selected for funding based on the selection criteria in that Notice. Under the Top's Organizational Development category, awards were made to all eligible applicants.

A total of \$7,000,932 was awarded to 77 TOP grantees and \$9,104,679 awarded to 46 EDSS grantees who have submitted comprehensive implementation plans with specific measurable goals to promote self sufficiency of public and Native American housing residents. In accordance with Section 102(a)(4)(C) of the Department of Housing and Urban Development Reform Act of 1989 (103 Stat. 1987, 42 U.S.C. 3545), the Department is publishing the names, addresses, and amounts of those awards provided in Appendix A to this document.

The Catalog of Federal Domestic Assistance number for these programs are 14.853 and 14.864.

Dated: April 5, 1999.

**Harold Lucas,**  
*Assistant Secretary for Public and Indian Housing.*

APPENDIX A.—NOTICE OF FUNDING AVAILABILITY FOR THE FY 1998 PUBLIC AND INDIAN HOUSING TENANT OPPORTUNITIES PROGRAM AND ECONOMIC DEVELOPMENT AND SUPPORTIVE SERVICES

|   | Amount awarded |
|---|----------------|
| <b>Top—Grantees</b>   |                |
| Resident Council of South Scattered Sites, Mr. Claude Pickens, President, 1928 El Segundo Blvd. Apt. 16, Los Angeles, CA 91755 .....                | \$100,000      |
| Dana Strand Village Resident Advisory Council, Ms. Laura R Contreras, President, 1006 E. Court, Wilmington, CA 90744-5058 .....                     | 100,000        |
| Hacienda Village Resident Management Corporation, Mr. Richard Linzy, President, 10516 Antwerp Street, Los Angeles, CA 90002 .....                   | 5,000          |
| Rancho San Pedro Resident Advisory Council, Mr. Ernie Pierre, President, 201 W. 2nd Street #179, San Pedro, CA 90731 ...                            | 100,000        |
| Barstow Resident Management Group, Inc., Ms. Dyane Harrison, President, 921 Bighorn Drive, Barstow, CA 92311 .....                                  | 100,000        |
| Midway Village Resident Association, Ms. Estella Cirilo, President, 24 Cypress Lane, Daly City, CA 94014 .....                                      | 100,000        |
| Berkeley Heights Tenants Council, Inc., Ms. Diane Nealy, President, 9 Barris Circle, Apt 1E, Waterbury, CT 06704 .....                              | 70,000         |
| Mount Pleasant Resident Council, Ms. Kay B Davis, President, 603 Myrtle Street, New Britain, CT 06053 .....   | 96,568         |
| Oval Grove Resident Council, Ms. Bettye Henry, President, 96 Malikowski Circle, New Britain, CT 06053 .....   | 96,568         |
| National Assoc of Resident Management Corporations, Ms. Debra Crawford, 4524 Douglas Street NE, Washington, DC 20019 .....                          | 250,000        |
| Acorn Tenant Union Training and Organizing Project, Ms. Melanie Marcus, 739 8th Street SE, Washington, DC 20003 .....                               | 99,900         |
| Northeast Resident Council, Mr. Troy Davis, President, 2401 Thatcher Street, Wilmington, DE 19801 .....   | 100,000        |
| Carver Estates Resident Council, Ms. Verona Gillion, President, 770 SW 12th Terrace, Delray Beach, FL 33444-1367 .....                              | 40,000         |
| Ft Pierce Housing Authority Resident Council, Inc., Mr. Paul Roth, President, 1009 South 17th Street, Fort Pierce, FL 34950-4911 .....              | 9,515          |
| Ivey Lane Resident Association, Ms. Doris Lane Stallworth, President, 24 Fanfair Avenue, Orlando, FL 32811-3836 .....                               | 40,000         |
| Omega Resident Association, Ms. Sandra Roman, President, 2811 Gamma Drive, Orlando, FL 32810-3755 .....   | 40,000         |
| Winter Haven Housing Authority Tenant Association, Mr. Anthony Bobo, 2670 Avenue "C" S.W., Winter Haven, FL 33880 ...                               | 93,000         |
| Rome Housing Authority Resident Council, Inc., Mr. William Kent, President, 1322 Carver Avenue, Rome, GA 30161 .....                                | 99,290         |
| BTRMC, INC, Ms. Linda D Curtis, 3015 B Baltimore, Indianapolis, IN 46218 .....  | 97,000         |
| Edgewood Resident Council, Ms. Shari A Banks, President, 1600 Haskell Avenue #169, Lawrence, KS 66044-4329 .....                                    | 40,000         |
| Concerned Tenant Organization of Hopkinsville Inc., Ms. Angela Griffie, President, 400 N. Elm Street (PO Box 437) Hopkinsville, KY 42241-0437 ..... | 40,000         |
| Lafitte Resident Council, Ms. Leah Green, President, 709 North Galvez Street, New Orleans, LA 70119-5013 .....                                      | 99,950         |

## APPENDIX A.—NOTICE OF FUNDING AVAILABILITY FOR THE FY 1998 PUBLIC AND INDIAN HOUSING TENANT OPPORTUNITIES PROGRAM AND ECONOMIC DEVELOPMENT AND SUPPORTIVE SERVICES—Continued

|   | Amount awarded |
|---|----------------|
| Guste Homes Resident Management Corporation, Ms. Cynthia Wiggins, President, 2300 Erato Street Apt. D, New Orleans, LA 70113 .....                        | 60,000         |
| St. Bernard Resident Council, Ms. Laura French, President, 1500 Milton Apt. A, New Orleans, LA 70114 .....  | 100,000        |
| Fischer Resident Council, Ms. Constance Haynes, President, 2030 Wagner Court Apt. 1-D, New Orleans, LA 70114 .....  | 100,000        |
| Christopher Park Homebuyers Association, Ms. Karen Johnson, 2000 Murl, New Orleans, LA 70114 .....  | 40,000         |
| Mystic View Tenants Association, Mr. Roger J Desrochers, Jr., Vice President 15 River Road, Apt. 1503, Somerville, MA 02145 .....                         | 100,000        |
| Mary Ellen McCormack Tenant Task Force, Mr. Keegan Crick, Executive Director, 345 Old Colony Avenue, South Boston, MA 02127 .....                         | 100,000        |
| Roosevelt Towers Tenant Council, Ms. Nancy L Tierney, Tenant Liaison, 675 Massachusetts Avenue, Cambridge, MA 02139 .....                                 | 50,000         |
| Massachusetts Union of Public Housing Tenants Inc., Mr. John A Cooper, 784 Washington Street #504, Dorchester, MA 02124-4434 .....                        | 250,000        |
| Franklin Field Task Force, Inc., Ms. MaryAnn Veale, Chairperson, 93 Ames Street, Dorchester, MA 02124-3001 .....  | 100,000        |
| Massachusetts Union of Public Housing Tenants Inc., Mr. John A Cooper, 784 Washington Street, #504, Dorchester, MA 02124-4434 .....                       | 100,000        |
| Putnam Gardens Tenant Council, Ms. Nancy L Tierney, Tenant Liaison, 675 Massachusetts Avenue, Cambridge, MA 02139 .....                                   | 50,000         |
| Presidents Council of PHA Hi-Rises of Saint Paul, Ms. Phoebe McNeill, Secretary, 261 E. University Avenue, St. Paul, MN 55101-2240 .....                  | 100,000        |
| Jefferson-Haven Tenant Organization, Ms. Beverly Johnson, President, 425 East 32nd Street, Hibbing, MN 55746 .....  | 42,500         |
| Hamilton House Club, Ms. Jacqueline Webb, Secretary/Treasurer, 2400 Nevada Avenue South Apt. 223, St. Louis Park, MN 55426-2623 .....                     | 77,400         |
| Sam Estess Estates Resident Council, Mr. Floyd Taylor, President, 101 King Ranch Circle, Canton, MS 39046-5300 .....                                      | 95,000         |
| Belle Ville Resident Council, Ms. Margaret A Sevilla, President, 202 Ladnier Road—Apt 5E, Gautier, MS 39553 .....   | 100,000        |
| Troy Housing Resident Council, Ms. Ina Ledbetter, President, 201 Stanley Street, Troy, NC 27371 .....   | 100,000        |
| Hillcrest Resident Organization, Ms. Rosa Webb, President, 1402 Meares Street, Wilmington, NC 28402 .....   | 88,400         |
| Alexander Hamilton Dev. Resident Management, Inc., Ms. Kathy Chitty, President, 202 Alabama Avenue, Paterson, NJ 07505 .....                              | 100,000        |
| Parkside Tenants Association, Ms. Charline Foendoe, President, 1 Parkside Street, Somerset, NJ 08873 .....  | 40,000         |
| New Jersey Association of Public Housing Residents, Ms. Glenda Wright, 303-309 Washington Street Suite 300, Newark, NJ 07102-2718 .....                   | 250,000        |
| New Jersey Association of Public Housing Residents, Ms. Glenda Wright, 303-309 Washington Street Suite 300, Newark, NJ 07102-2718 .....                   | 100,000        |
| Marzitelli Court Resident Association, Inc., Ms. Colleen Day, President, 15 Grand Street, Garfield, NJ 07026 .....  | 100,000        |
| Chelton Terrace Management Corporation, Ms. Kathryn Blackshear, President, 609-A Chelton Avenue, Camden, NJ 08104 ..                                      | 100,000        |
| Ravenswood Resident Association, Inc., Ms. Carol Wilkins, President, 35-35 21st Street, Long Island City, NY 11106 .....                                  | 100,000        |
| Fairview Gardens Tenant Organization, Ms. Tammy Williams, President, 2919 Duke Street S.E., Warren, OH 44484 .....  | 40,000         |
| CMHA Resident Council, Ms. Dale W Hartle, 401½ Main Street, Coshocton, OH 43812 .....   | 100,000        |
| Renaissance Council Resident Council, Ms. Colette Checkal, President, 5650 S. Prospect Street #108, Ravenna, OH 44266-3628 .....                          | 40,000         |
| Resident Initiatives Network of Oklahoma, Inc., Ms. Michelle Foster, President, 700 North Berry Road, Norman, OK 73069 ..                                 | 248,500        |
| Morgan Resident Council, Ms. Joyce Creighton, President, 500 Morgan Drive, Apt 1F, Morgan, PA 15064-9733 .....  | 40,000         |
| Allequippa Terrace Resident Council, Mr. Delfonte Ellis, Vice President, 415 Burrows Street, Wadsworth Hall, Pittsburgh, PA 15219 .....                   | 40,000         |
| St. Clair Citizens Council, Ms. Karen Cellars, President, 930 Cresswell Street, Pittsburgh, PA 15210-3026 .....   | 100,000        |
| Crest Manor Resident Council, Ms. Renee Williams, 244 West Queen Street, Philadelphia, PA 19144 .....   | 100,000        |
| Resident Council of Venice Ashby, Inc., Ms. Joyce Graves, President, 5401 Beaver Dam Road, Bristol, PA 19007 .....  | 15,775         |
| Pennsylvania Association of Resident Councils, Mr. Charles B Gennaro, President, 320 West Mine Street, Hazleton, PA 18201 .....                           | 250,000        |
| Jardines de Judelly Resident Council, Inc., Mr. Juan Ramon Ortiz, Presidente, Jardines de Judelly Campo Rico Avenue, Las Piedras, PR 00936 .....          | 100,000        |
| San Martin Resident Council, Inc., Ms. Zoraida Romero Dones, President, San Martin Housing Proj. Campo Rico Avenue, Rio Piedras, PR 00936 .....           | 100,000        |
| El Prado Resident Council, Inc., Ms. Myrna Medina, President, El Prado Housing Project Campo Rico Avenue, Rio Piedras, PR 00936 .....                     | 100,000        |
| Jardines de Country Club Resident Council, Inc., Mr. Orlando R Escute, President, Jardines de Country Club Campo Rico Avenue, Rio Piedras, PR 00936 ..... | 100,000        |
| Comité de Iniciativa Reparto Horizonte, Inc., Ms. Maria A Feliciano Rivera, President, Reparto Horizonte Housing, Yabucoa, PR 00767 .....                 | 100,000        |
| Pro Desarrollo Jardines de Sellé, Ms. Rosa M Serrano Tirado, President, Campo Rico Avenue Jardines de Selles, Rio Piedras, PR 00936 .....                 | 100,000        |
| Villa del Caribe Resident Council, Inc., Ms. Ana M Amaro Laboy, President, Calle A Riccies Bo Marney Villa del Caribe Housing, Patillas, PR 00723 .....   | 100,000        |
| Villa Real Resident Council, Inc., Ms. Violeta Sanchez, President, Edif. 9 Apt. 34 Villa Real Project, Patillas, PR 00723 .....                           | 100,000        |
| Isla Nena en Progreso, Inc., Ms. Nelida Cruz Feliciano, President, Oficina de Admin. Apto 51 Jardines de Vieques, Vieques, PR 00765 .....                 | 100,000        |
| Cons. de Residentes del Dr. Rafael Lopez-Nussa Inc, Ms. Adriana Torres, President, Bldg 17, Apto 181 Dr. Rafael Lopez Nussa Pr, Ponce, PR 00731 .....     | 100,000        |
| Junta de Residentes Copper View, Inc., Ms. Evelyn Soler, President, 375 Calle Vista del Cobre Suite 102, Ponce, PR 00731 .....                            | 100,000        |
| Cons. de Residentes del Res. Canas Housing, Inc., Ms. Candida R Figueroa, President, Canas Housing Street No. 14, Ponce, PR 00731 .....                   | 100,000        |

## APPENDIX A.—NOTICE OF FUNDING AVAILABILITY FOR THE FY 1998 PUBLIC AND INDIAN HOUSING TENANT OPPORTUNITIES PROGRAM AND ECONOMIC DEVELOPMENT AND SUPPORTIVE SERVICES—Continued

|   | Amount awarded   |
|---|------------------|
| Wilmington House Apartments Residents Council, Inc. Ms. Mary Oscar-Ford, 4000 Wilmington Street Apt 179, Houston, TX 77051-3300 ..... | 60,000           |
| Clayton Apartment Homes Resident Council, Inc., Ms. Torsonya Morgan, 1919 Runnels Street #270, Houston, TX 77003-1027 .....           | 60,000           |
| Forest Green Resident Council, Inc., Ms. Etta Johnson, 8942 Forest Hollow Street, Houston, TX 77078 .....                             | 60,000           |
| Kennedy Place Residents Council, Inc., Ms. Merline Harrison, 500 Meadow Street #107, Houston, TX 77020-5909 .....                     | 60,000           |
| Housing Auth. of the City of Austin Advisory Board, Mr. Max Kennison, President, 1640-B East Second Street, Austin, TX 78702 .....    | 100,000          |
| Liberty View Tenant Association, Ms. Angela Merritt, President, 317 Grant Street, Danville, VA 24541-2507 .....                       | 100,000          |
| Clark County Resident Council, Ms. Kathleen Ortega, President, 412 Omaha Way, Vancouver, WA 98661 .....                               | 60,000           |
| Springwood Resident Council, Mr. Michael Nadal, President, 27307 130th Ave., S.E. #10, Kent, WA 98031-8439 .....                      | 66,566           |
| <b>National Total—TOP .....</b>   | <b>7,000,932</b> |
| <b>EDSS—Grantees</b>  |                  |
| James Gurke, Alaska Housing Finance Corporation, 4300 Boniface Parkway, Anchorage, AK 99504 .....                                     | 85,500           |
| James Mirando, Elmira Housing Authority, 346 Woodlawn Avenue, Elmira, NY 14901 .....  | 59,000           |
| John Randazzo, Mississippi Regional Housing Authority, PO Drawer 8746, Jackson, MS 39284 .....  | 34,000           |
| John Lamb, Greenwood Housing Authority, 315 Foundry Rd., Greenwood, SC 29648 .....  | 55,750           |
| Sheryl Ford, Petersburg Redevelopment and Housing Authority, PO Box 311, Petersburg, VA 23804-0311 .....                              | 150,000          |
| Howard Turner, Allegheny County Housing Authority, 341 Fourth Ave., Pittsburgh, PA 15222 .....  | 300,000          |
| Carl DeChellis, Beaver County Housing Authority, 300 State St., Beaver, PA 15009-1798 .....   | 300,000          |
| George Vogel, Wilkes-Barre Housing Authority, 50 Lincoln Plaza, Wilkes-Barre, PA 18702 .....  | 152,000          |
| Philip Spagnolo, Dauphin County Housing Authority, 501 Mohn St., Steelton, PA 17113-0598 .....  | 130,000          |
| Philip Spagnolo, Dauphin County Housing Authority, 501 Mohn St., Steelton, PA 17113 .....   | 66,000           |
| Dorothy Jones, McComb Housing Authority, 1002 Sedgewick St., McComb, MS 39648 .....   | 108,747          |
| Merrill Wallace II, Bremerton Housing Authority, 110 Russell Road, Bremerton, WA 98312 .....  | 150,000          |
| Floyd Johnson, Starkville Housing Authority, 111 Wood St., Starkville, MS 39759 .....   | 150,000          |
| Margaret Trejo, Santa Barbara City, 808 Laguna St., Santa Barbara, CA 93101 .....   | 62,253           |
| Barbara Huppee, Lawrence Housing Authority, 1600 Haskell Ave., Lawrence, KS 66044 .....   | 92,000           |
| Christine Bohrer, Austin Housing Authority, 1640-B E. Second St., Austin, TX 78702 .....  | 442,400          |
| Christine Bohrer, Austin Housing Authority, 1640-B E. Second St., Austin, TX 78702 .....  | 39,600           |
| Frank Wilcox, Monroe Housing Authority, 300 Harrison St., Monroe, LA 71201 .....  | 315,000          |
| Sandra Henriquez, Boston Housing Authority, 52 Chauncy St., Boston, MA 02111 .....  | 700,000          |
| Paul Bailey, Springfield Housing Authority, 25 Saab Ct., Springfield, MA 01101 .....  | 500,000          |
| Anthony Bobo, Winter Haven Housing Authority, 7501 Okeechobee Ct., Temple Terrace, FL 33617 .....                                     | 56,000           |
| A. Ambrogio, Ansonia Housing, Ansonia Housing Authority, Ansonia, CT 06401 .....  | 67,750           |
| Peter Smith, Yonkers Housing Authority, 1511 Central Park Ave., Yonkers, NY 10710 .....   | 200,000          |
| Kathleen Sims, Chillicothe Metropolitan Housing Authority, 178 W. 4th St., Chillicothe, OH 45601 .....                                | 91,750           |
| J.W. Cadotte, Lac Courte Oreilles, 13416 W Trepania Rd., Hayward, WI 54843 .....  | 110,000          |
| Doreen Bell, Ft. Belknap, RR 1 Box 66, Harlem, MT 59526 .....   | 150,000          |
| George Peter, Akiachak, PO Box 70, Akiachak, AK 99551 .....   | 54,245           |
| Cielo Gibson, Nez Perce, PO Box 188, Lapwai, ID 83540 .....   | 72,000           |
| Maurice Lambert, Ft. Peck, PO Box 667, Poplar, MT 59255 .....   | 300,000          |
| Maurice Lambert, Ft. Peck, PO Box 667, Poplar, MT 59255 .....   | 54,250           |
| Richard Daugherty, Indian Twsp. Passamaquoddy, PO Box 99, Princeton 04668 .....   | 47,750.00        |
| Howard Leederman, Northern Ponca, 1405 Rivershade Blvd., Box 2486, Norfolk, NE 68701 .....  | 149,934          |
| James Marshall, Danville Housing Authority, PO Box 312, Danville, IL 61834-0312 .....   | 150,000          |
| Alvin Stevenson, Meridian Housing Authority, 2305 D St., Meridian, MS 39302-0870 .....  | 142,250          |
| Jim Boyd, Zanesville Metropolitan Housing Authority, 407 Pershing Rd., Zanesville, OH 43701 .....                                     | 150,000          |
| Russell Sossamon, Choctaw, PO Box G, Hugo, OK 74743 .....   | 456,250          |
| Fred Zawilinski, Portage Metropolitan Housing Authority, 2832 State Route 59, Ravenna, OH 44266 .....                                 | 76,250           |
| DeLois Burney, Cuyahoga Metropolitan Housing Authority, 6001 Woodland Ave., Cleveland, OH 44113 .....                                 | 1,000,000        |
| Roland Turpin, Dayton Metropolitan Housing Authority, 400 Wayne St. Dayton, OH 45410-1106 .....                                       | 500,000          |
| Pamela Morrison, Indianapolis Housing Authority, 5 Indiana Square, Indianapolis, IN 46204 .....                                       | 500,000          |
| Rita Whicker, Martin Housing Authority, PO Box 806, Martin, KY 41649 .....  | 32,000           |
| Linda Bassett, Murray Housing Authority, 716 Nash Dr., Murray, KY 42971 .....   | 51,500           |
| Mary Philpot, Paducah Housing Authority, 2330 Ohio St., Paducah, KY 42003 .....   | 200,000          |
| Ann Webb, Flint Area Consolidated Housing Authority, 137 Richardson St., Montezuma, GA 31063 .....                                    | 26,000           |
| Steven Bennett, Rome Housing Authority, 800 N. 5th Ave., Rome, GA 30161 .....   | 274,500          |
| Elaine Haines, Columbus Metropolitan Housing Authority, 960 E. 5th Ave., Columbus, OH 43201 .....                                     | 300,000          |



[FR Doc. 99-9087 Filed 4-12-99; 8:45 am]  
BILLING CODE 4210-33-P

## DEPARTMENT OF THE INTERIOR

### Bureau of Land Management

[NV-033-99-1230-00-OHV1]

#### Temporary Closure of Public Lands: Nevada, Carson City District

**AGENCY:** Bureau of Land Management, Interior Department.

**ACTION:** Temporary closure of affected public lands in Lyon, Storey, Churchill, Carson, Douglas, Mineral and Washoe Counties on and adjacent to Off Highway Vehicle race course routes. Races are conducted at various times from May through November, 1999:

1. May 8 & 9, 1999: Virginia City Grand Prix—Permit Number NV-030-99504A.
2. May 30, 1999: Yerington 300 Desert Race—Permit Number NV-030-96510A.
3. June 6, 1999: Hungry Valley ORV Area—Permit Number NV-030-99028.
4. August 7, 1999: Top Gun Desert Race—Permit Number NV-030-96510B.
5. October 1, 1999: Vegas to Reno OHV Race—Permit Number (Pending).
6. October 31, 1999: Wassuks Motorcycle Race—Permit Number (Pending).
7. November 14, 1999: Dead Camels Race—Permit Number NV-030-99504B.
8. November 28, 1999: Prison Hill ORV Area—Permit Number (Pending).

**SUMMARY:** The Assistant Manager, Non-Renewable Resources announces the temporary closure of selected public lands under her administration. This action is taken to provide for public safety and to protect adjacent resources.

**EFFECTIVE DATES:** Listed above. Events may be cancelled or rescheduled.

**FOR FURTHER INFORMATION CONTACT:** Fran Hull, Outdoor Recreation Planner, Carson City District, Bureau of Land Management, 5665 Morgan Mill Road, Carson City, Nevada 89701, Telephone: (775) 885-6161.

**SUPPLEMENTARY INFORMATION:** Bureau lands to be closed to public use include the width and length of those roads and trails identified as the race route by colorful flagging and directional arrows attached to wooden stakes. A map of each closure area may be obtained at the contact address. The event permittees are required to clearly mark and monitor the event routes during the closure periods. Closure period is from 6:00 a.m. race day until race finish. Spectator and support vehicles may be driven on open roads only and may observe the

races from safe locations as directed by event and BLM officials.

Exemptions: Closure restrictions do not apply to race officials, medical/rescue, law enforcement and agency personnel monitoring the event.

Authority: 43 CFR 8364 and 43 CFR 8372.

Penalty: Any person failing to comply with the closure orders may be subject to imprisonment for not more than 12 months, or a fine in accordance with the applicable provisions of 18 USC 3571, or both.

Dated: March 31, 1999.

**Margaret L. Jensen,**

*Assistant Manager, Non-renewable Resources.*

[FR Doc. 99-9094 Filed 4-12-99; 8:45 am]

BILLING CODE 4310-HC-M

## DEPARTMENT OF THE INTERIOR

### Bureau of Land Management

[CO-034-99-5440-00-CO23; COC61945, COC61357, COC61209]

## DEPARTMENT OF AGRICULTURE

### Forest Service

#### Notice of Intent

**AGENCY:** Bureau of Land Management, Interior; Forest Service, Agriculture.

*Responsible Officials:*

Ann Morgan, State Director, Colorado State Office, Bureau of Land Management, 2850 Youngfield, Denver, CO 80215.

Robert L. Storch, Forest Supervisor, Grand Mesa, Uncompahgre and Gunnison National Forests, U.S. Forest Service, 2250 US Hwy 50, Delta, CO 81416.

**ACTION:** Notice of Intent and Notice of Scoping to prepare an Environmental Impact Statement (EIS) on lease and exploration license applications for Federal coal in Delta and Gunnison Counties, Colorado.

**SUMMARY:** The Bureau of Land Management (BLM) and the Forest Service (FS) will direct preparation of a third-party Environmental Impact Statement (EIS) to document the analysis and disclose the environmental effects of proposed actions to offer the Iron Point and Elk Creek Coal Lease Tracts for competitive bidding and the Iron Point Coal Exploration license for exploration drilling in accordance with 43 CFR parts 3425 and part 3410. The BLM will be the lead agency for preparation of the EIS and the FS will be a joint lead agency. The Office of

Surface Mining Reclamation and Enforcement (OSM) will participate as a cooperating agency.

The original application for coal lease was filed in August 1997 by Bowie Resources Limited (Bowie) requesting the BLM to offer for competitive lease for approximately 3,403.27 acres of federal coal in Delta County, Colorado. It was designated the Iron Point Tract. In December 1997, the BLM received a competitive lease application from Oxbow Mining, Inc. (Oxbow), requesting for competitive lease approximately 3,702.81 acres of federal coal in Delta and Gunnison Counties, Colorado. The Tract delineation by the Uncompahgre Field Office resulted in the addition of 160 acres of federal coal for a total of 3,862.81 acres. This tract was designated the Elk Creek Tract. In addition, Bowie Resources, LTD submitted an application for a coal exploration license on unleased lands adjacent to the above coal lease application areas. The exploration lands contain approximately 6,053.00 acres. Lands affected by these applications are managed by both the BLM and Forest Service.

Separate Environmental Assessments (EA) were completed on the two lease applications, but not on the exploration license. As part of the NEPA public process, the BLM and USFS subsequently determined that the requirements of NEPA would be best served by preparing a single EIS for these coal applications.

**DATES:** The public has the opportunity to submit written comments on concerns or issues that the Agencies should address in processing these coal applications. The Agencies will accept written comments on the scope of analyses for the application areas at the address given below. Comments should be submitted by May 17, 1999, in order to be considered in the draft EIS. A public scoping meeting will be held April 21, 1999 at the Hotchkiss High School, 3535J 60 Lane, Hotchkiss, CO at 7:00 pm. At this time, it is estimated that a Draft EIS will be available in mid August 1999 and a Final EIS will be available in mid December 1999.

**ADDRESSES:** Please address questions, comments, or concerns on the EIS to the Bureau of Land Management, Attn: Jerry Jones, 2465 South Townsend Ave., Montrose, CO, 81401, or fax them to 970-240-5368.

**FOR FURTHER INFORMATION CONTACT:** Jerry Jones at the above address, or phone: 970-240-5338.

**SUPPLEMENTARY INFORMATION:** In August of 1997, Bowie filed coal lease application COC61209 (Iron Point Tract)

requesting BLM offer federal coal for competitive lease. This application was later amended to reduce the acreage, but the original application was for the following lands:

- T. 12 S., R. 91 W., 6th P.M.  
 Sec. 33, lots 1 to 16, inclusive, S $\frac{1}{2}$ N $\frac{1}{2}$ ;  
 Sec. 34, lots 1 to 16, inclusive, S $\frac{1}{2}$ N $\frac{1}{2}$ .
- T. 13 S., R. 91 W., 6th P.M.  
 Sec. 2, SW $\frac{1}{4}$ NW $\frac{1}{4}$ , NW $\frac{1}{4}$ SW $\frac{1}{4}$ , and E $\frac{1}{2}$ SW $\frac{1}{4}$ ;  
 Sec. 3, lots 1 to 4, inclusive, S $\frac{1}{2}$ N $\frac{1}{2}$ , and N $\frac{1}{2}$ S $\frac{1}{2}$ ;  
 Sec. 4, lots 1 to 4, inclusive, S $\frac{1}{2}$ N $\frac{1}{2}$ , and S $\frac{1}{2}$ ;  
 Sec. 5, S $\frac{1}{2}$ SE $\frac{1}{4}$ , and SE $\frac{1}{4}$ SW $\frac{1}{4}$ ;  
 Sec. 8, NE $\frac{1}{4}$ ;  
 Sec. 9, NW $\frac{1}{4}$ , and N $\frac{1}{2}$ SW $\frac{1}{4}$ ;  
 Sec. 11, NE $\frac{1}{4}$ NW $\frac{1}{4}$ .
- containing 3,403.27 +/- acres, with an estimated 26.3 million tons of recoverable coal. The coal resource within the Iron Point tract is limited to coal recoverable by underground mining methods.

In December of 1997, Oxbow filed coal lease application COC61357, (Elk Creek Tract), requesting the BLM offer for competitive lease federal coal in the lands described as:

- T. 12 S., R. 90 W., 6th P.M.  
 Sec. 31, lots 1 to 14, inclusive, and NE $\frac{1}{4}$ ;  
 Sec. 32, lots 3 to 6, inclusive, lots 11 to 14, inclusive, and NW $\frac{1}{4}$ .
- T. 12 S., R. 91 W., 6th P.M.  
 Sec. 35, lots 1, 2, and 4 to 8, inclusive, 13 to 16, inclusive, lots 21, 22, and that part of HES No. 134 lying in the NE $\frac{1}{4}$ ;  
 Sec. 36, lots 1 to 17, inclusive, NE $\frac{1}{4}$ , E $\frac{1}{2}$ NW $\frac{1}{4}$ , SW $\frac{1}{4}$ NW $\frac{1}{4}$ , and that part of HES No. 134 lying in lot 1.
- T. 13 S., R. 90 W., 6th P.M.  
 Sec. 5, lots 7 to 10, inclusive;  
 Sec. 6, lots 8 to 17, inclusive.
- T. 13 S., R. 91 W., 6th P.M.  
 Sec. 1, lots 1 to 4, inclusive, S $\frac{1}{2}$ NW $\frac{1}{4}$  and SW $\frac{1}{4}$ ;  
 Sec. 2, lot 1, and S $\frac{1}{2}$ NE $\frac{1}{4}$ ;  
 Sec. 12, S $\frac{1}{2}$ NE $\frac{1}{4}$ , and NW $\frac{1}{4}$ .
- containing 3,862.81 +/- acres with approximately 21 million tons of recoverable coal. The coal resource to be offered for lease is limited to coal recoverable by underground mining methods.

In May of 1998, Bowie filed a coal exploration license application, (COC61945), with the BLM. The Iron Point Exploration License contains unleased coal deposits owned by the United States of America in the following described lands in Delta County, Colorado.

- T. 12 S., R. 91 W., 6th P.M.  
 Sec. 14, lots 7, 8, S $\frac{1}{2}$ S $\frac{1}{2}$ , NE $\frac{1}{4}$ SW $\frac{1}{4}$ , NW $\frac{1}{4}$ SE $\frac{1}{4}$ ;  
 Sec. 22, S $\frac{1}{2}$ ;  
 Sec. 23, lots 1 to 7, inclusive, W $\frac{1}{2}$ , and that part of HES No. 133 lying in the S $\frac{1}{2}$ SE $\frac{1}{4}$ ;  
 Sec. 26, lots 1 to 5, inclusive, W $\frac{1}{2}$ , N $\frac{1}{2}$ SE $\frac{1}{4}$ , and that part of HES No. 133 lying in the NE $\frac{1}{4}$ ;  
 Sec. 27, all;

- Sec. 28, S $\frac{1}{2}$ ;  
 Sec. 29, SE $\frac{1}{4}$ ;  
 Sec. 32, lots 1, 2, 7 to 10, inclusive, lots 15, 16, and NE $\frac{1}{4}$ ;  
 Sec. 33, lots 1 to 16, inclusive, and N $\frac{1}{2}$ ;  
 Sec. 34, lots 1 to 16, inclusive, and N $\frac{1}{2}$ ;  
 Sec. 35, lots 3, and 7 to 22, inclusive, NE $\frac{1}{4}$ NW $\frac{1}{4}$ , W $\frac{1}{2}$ NW $\frac{1}{4}$ , that part of HES No. 134 and that part of lots 4 to 6, inclusive, lying in the S $\frac{1}{2}$ S $\frac{1}{2}$ NE $\frac{1}{4}$ .
- The area described contains approximately 6,053.00 +/- acres.

These applications encompass federal coal on BLM and Gunnison National Forest lands. Additions and/or deletions to the delineated tracts may be considered as alternatives to the proposed action. Alternatives will be developed and analyzed based on issues and management needs.

Bowie and Oxbow applied to the BLM for the Iron Point and Elk Creek coal lease tracts respectfully to extend the production life of their existing underground mines. Similarly, Bowie applied to the BLM for an exploration license to further delineate to coal resource in lands adjacent to their ongoing mining. The requested Iron Point tract and the exploration license area are adjacent to the presently approved permit area for the Bowie No. 2 Mine which is operated by Bowie. Likewise, the requested Elk Creek tract is adjacent to the presently approved permit area for the Sanborn Creek Mine which is operated by Oxbow.

If the Iron Point and Elk Creek tracts are leased, the coal would be mined by underground techniques. Both Bowie and Oxbow have existing surface portal facilities which are located on private property controlled by the companies and which would continue to be used for any future extraction of coal from the subject lease tracts. Both companies plan for upgrades to their existing surface facilities. Bowie plans for the installation of a new conveyor system and coal storage area to replace an existing truck haul road. Oxbow would construct a new portal pad and drive new entries to access the Elk Creek tract. This portal pad is on private land and is immediately adjacent to the Oxbow surface facilities.

If another company is a successful bidder for either tract, it is likely that new surface facilities may be required. Regardless of what company obtains the subject lease tracts, underground mining methods would be needed to extract the coal.

The EIS will consider the mining plans as proposed by Bowie and Oxbow, the no-action alternative, the possibility of other companies obtaining and developing operations to extract coal from the subject lease tracts, and other

alternatives. The analysis will also consider mitigation developed during the process. The development of alternatives will occur after the completion of project scoping.

The Bureau of Land Management must decide whether or not to approve the coal applications and if so identify special stipulations needed to protect the mineral and non-mineral resources. In accordance with the Coal Leasing Amendments Act of 1976, which amended the Mineral Leasing Act of 1920, the Forest Supervisor for the Grand Mesa, Uncompahgre and Gunnison National Forest, must decide whether or not to consent to leasing by the Bureau of Land Management and if so identify special stipulations needed to protect non-mineral resources on National Forest lands.

OSM will be a cooperating agency in the preparation of the EIS. If the tracts are leased to the applicants, the new leases must be incorporated into the existing mining plans of Oxbow and Bowie and the Secretary of the Interior must approve the revised mining plan before the Federal coal in the tract can be mined. OSM is the Federal agency that would be responsible for recommending approval, approval with conditions, or disapproval of the revised mining plan to the Secretary if the tracts are leased.

A tentative list of permits or licenses that may be required to mine the coal resources is listed below:

- Bureau of Land Management
  - Plan of Operations (mining and exploration)
  - Special use permits (Right-of-Ways, etc.)
- Forest Service
  - Plan of Operations (mining and exploration)
  - Special use permits (Right-of-Ways, etc.)
- U.S. Army Corps of Engineers
  - Section 404 Permit
- Environmental Protection Agency
  - Spill Prevention Control and Countermeasure (SPCC) Plan
  - Review of Section 404 permit
  - Notification of Hazardous Waste Activity
- U.S. Fish and Wildlife Service
  - Threatened and Endangered Species Consultation
- Treasury Department (Dept. of Alcohol, Tobacco and Firearms)
  - Explosives User Permit
- Mines Safety and Health Administration
  - Mine Identification Number
  - Legal Identity Report
  - Miner Training Plan Approval
  - Ventilation Plan Approval
  - Ground Control Plan

Office of Surface Mining  
Mining Plan Concurrence  
Colorado Department of Minerals and  
Geology  
Exploration Permit  
Mining and Reclamation Permit  
Colorado Department of Public Health &  
Environment—Air Pollution  
Control Division  
Permit to Construct  
Permit to Operate  
Colorado Department of Public Health &  
Environment—Water Quality  
Control Division  
Stormwater Discharge Permit  
National Pollutant Discharge  
Elimination System (NPDES)  
Colorado State Engineer  
Water Rights  
Water Well Permits  
Dam Safety Permits  
Colorado State Historic Preservation  
Office  
Historic and Archaeological Review  
Colorado Department of Transportation  
Highway Access  
Delta County  
Special Use Permit  
Building Permit  
Gunnison County  
Special Use Permit  
Building Permit

There are four underground coal mines (Bowie No. 1 (inactive), Bowie No. 2, Sanborn Creek, and West Elk) located east of Paonia, Colorado, in Delta and Gunnison Counties. Several issues related to these applications were identified during the initial scoping for the EA's in 1998, including the potential impacts to water rights, surface and ground water, agricultural lands, wildlife habitat, noise, train and truck traffic, socio-economics, and access to public lands that may occur if these applications are issued. If you have specific concerns about these issues, or have other concerns or issues that BLM should consider in processing these applications, please address them in writing to the above address. Written comments should be received by May 17, 1999, in order to be fully considered in the draft EIS.

Please note that your comments, name, address, and any other personal information you provide will become part of the public record and will be available for public review. You may request confidentiality by clearly stating your request at the beginning of your comment. The agencies will consider withholding your name, address and any other personal identifying information on a case-by-case basis to the extent allowed by law. Submissions from organizations, businesses, and individuals identifying themselves as representatives or officials of

organizations or businesses will be made part of the public record.

The comment period on the Draft EIS will be sixty (60) days from the date the Environmental Protection Agency publishes the notice of availability in the **Federal Register**. (Now anticipated to be in mid August.) At this early stage, it is important to give reviewers notice of several court rulings related to public participation in the environmental review process. First, reviewers of draft environmental impact statements must structure their participation in the environmental review of the proposal so that it is meaningful and alerts an agency to the reviewer's position and contentions, *Vermont Yankee Nuclear Power Corp. v. NRDC*, 435 U.S. 519, 553 (1978). Also, environmental objections that could be raised at the Draft EIS stage but that are not raised until after completion of the Final EIS may be waived or dismissed by the courts, *City of Angoon v. Hodel*, 803 F.2d 1016, 1022 (9th Cir. 1986) and *Wisconsin Heritages, Inc. v. Harris*, 490 F. Supp. 1334, 1338 (e.d. Wis. 1980). Because of these court rulings, it is very important that those interested in this proposed action participate by the close of the comment period so that substantive comments and objections are made available to the agencies at a time when they can meaningfully consider them and respond to them. To assist the agencies in identifying and considering issues and concerns on the proposed action, comments on the Draft EIS should be as specific as possible. It is also helpful if comments refer to specific pages or chapters of the draft statement. Comments may also address the adequacy of the Draft EIS or the merits of the alternatives formulated and discussed in the statement. Reviewers may wish to refer to the Council on Environmental Quality regulations for implementing the procedural provisions of the National Environmental Policy Act at 40 CFR 1503.3 in addressing these points.

Dated: April 7, 1999.

**Jerald L. Jones**,

*EIS Project Manager, Uncompahgre Field Office.*

**Thomas Condos**,

*Forest Engineer, Grand Mesa, Uncompahgre and Gunnison National Forests.*

[FR Doc. 99-9151 Filed 4-12-99; 8:45 am]

BILLING CODE 4310-JB-P

## DEPARTMENT OF THE INTERIOR

### Bureau of Land Management

[CO-030-99-1010-00-1784]

#### Southwest Resource Advisory Council Meeting

**AGENCY:** Bureau of Land Management, Interior.

**ACTION:** Notice; Resource Advisory Council Meeting.

**SUMMARY:** Notice is hereby given that the Southwest Resource Advisory Council (Southwest RAC) will meet in Dolores, Colorado.

**DATES:** The meeting will be held on Thursday, May 13, 1999.

**ADDRESSES:** For additional information, contact Roger Alexander, Bureau of Land Management (BLM), Southwest Center, 2465 South Townsend Avenue, Montrose, Colorado 81401; telephone 970-240-5335; TDD 970-240-5366; e-mail r2alexan@co.blm.gov.

**SUPPLEMENTARY INFORMATION:** The May 13, 1999, meeting will begin at 9:00 a.m. at BLM's Anasazi Heritage Center, 27501 Highway 184, Dolores, Colorado. The agenda will focus on proposed statewide recreation guidelines for BLM administered public lands. Public comment is scheduled for 1:00 p.m.

All Resource Advisory Council meetings are open to the public. Interested persons may make oral statements to the Council, or written statements may be submitted for the Council's consideration. If necessary, a per-person time limit may be established by the Southwest Center Manager.

Summary minutes for Council meetings are maintained in the Southwest Center Office and on the World Wide Web at [http://www.co.blm.gov/mdo/mdo\\_sw\\_rac.htm](http://www.co.blm.gov/mdo/mdo_sw_rac.htm) and are available for public inspection and reproduction within thirty (30) days following each meeting.

Dated: March 25, 1999.

**Roger Alexander**,

*Public Affairs Specialist.*

[FR Doc. 99-8171 Filed 4-12-99; 8:45 am]

BILLING CODE 4310-JB-P

**DEPARTMENT OF THE INTERIOR****Bureau of Land Management**

[OR-010-1430-00; GP9-0149]

**Notice of Meeting of Fuels/Prescribed Fire/Forest Health Subcommittee of the Southeast Oregon Resource Advisory Council**

**AGENCY:** Lakeview District, Bureau of Land Management, Interior.

**ACTION:** Notice.

**SUMMARY:** The Fuels/Prescribed Fire/Forest Health Subcommittee of the Southeast Oregon Resource Advisory Council will meet at the Lakeview Interagency Fire Center, 1000 South 9th Street, Lakeview, Oregon on Monday, May 3, 1999, from 8:00 am to 4:30 pm, Pacific Standard Time (PST). The meeting will continue on Tuesday, May 4, 1999, from 8:00 am to 12:00 pm, PST. The Subcommittee will attempt to tour an on-site prescribed burn in progress. While this meeting is open to the public, transportation for the tour will be provided only for the Subcommittee members and Federal employees.

**DATED:** March 29, 1999.

**FOR FURTHER INFORMATION CONTACT:** Sonya Hickman, Bureau of Land Management, Lakeview District Office, HC 10 Box 337, Lakeview, OR 97630, (Telephone: 541-947-2177).

**Steve Ellis,**

*Designated Federal Official.*

[FR Doc. 99-9096 Filed 4-12-99; 8:45 am]

**BILLING CODE** 4310-33-P

**DEPARTMENT OF THE INTERIOR****Bureau of Land Management**

[NV-952-09-1420-00]

**Filing of Plats of Survey; Nevada**

**AGENCY:** Bureau of Land Management, DOI.

**ACTION:** Notice.

**SUMMARY:** The purpose of this notice is to inform the public and interested State and local government officials of the filing of Plats of Survey in Nevada.

**EFFECTIVE DATES:** Filing is effective at 10:00 a.m. on the dates indicated below.

**FOR FURTHER INFORMATION CONTACT:** David J. Clark, Chief, Branch of Geographic Services, Bureau of Land Management (BLM), Nevada State Office, 1340 Financial Blvd., P.O. Box 12000, Reno, Nevada 89520, 702-861-6559.

**SUPPLEMENTARY INFORMATION:** 1. The Plat of Survey of the following described

lands was officially filed at the Nevada State Office, Reno, Nevada on January 21, 1999:

The plat, representing the dependent resurvey of a portion of the subdivisional lines, and a metes-and-bounds survey in sec. 8, T. 19 S., R. 63 E., Mount Diablo Meridian, Nevada, under Group No. 777, was accepted January 19, 1999.

This survey was executed to meet certain administrative needs of Mr. Lou Birbas and the Bureau of Land Management.

2. The Supplemental Plat of the following described lands was officially filed at the Nevada State Office, Reno, Nevada on January 21, 1999:

The supplemental plat, showing amended lottings in sec. 9, T. 19 S., R. 63 E., Mount Diablo Meridian, Nevada, was accepted January 19, 1999.

This supplemental plat was prepared to meet certain administrative needs of Mr. Lou Birbas and the Bureau of Land Management.

3. The Supplemental Plat of the following described lands was officially filed at the Nevada State Office, Reno, Nevada on January 21, 1999:

The supplemental plat, showing additional lotting in sec. 26, T. 18 S., R. 63 E., Mount Diablo Meridian, Nevada, was accepted January 19, 1999.

This supplemental plat was prepared to meet certain administrative needs of the Bureau of Land Management.

4. The Supplemental Plat of the following described lands was officially filed at the Nevada State Office, Reno, Nevada on February 3, 1999:

The supplemental plat, showing a subdivision of original lot 3, sec. 4, T. 2 N., R. 43 E., Mount Diablo Meridian, Nevada, was accepted February 3, 1999.

This supplemental plat was prepared to meet certain administrative needs of the Bureau of Land Management.

5. The Plat of Survey of the following described lands was officially filed at the Nevada State Office, Reno, Nevada on February 4, 1999:

The plat, representing the corrective dependent resurvey of a portion of the east boundary of T. 37 N., R. 62 E.; and a portion of the subdivisional lines of T. 37 N., R. 63 E., Mount Diablo Meridian, Nevada, under Group No. 773, was accepted February 2, 1999.

This survey was executed to meet certain administrative needs of the Bureau of Land Management.

6. The Supplemental Plats of the following described lands were officially filed at the Nevada State Office, Reno, Nevada on March 4, 1999:

The supplemental plat, showing amended lottings in sec. 20, T. 31 N., R. 43 E., Mount Diablo Meridian, Nevada, was accepted March 2, 1999.

The supplemental plat, showing amended lottings in sec. 21, T. 31 N., R. 43 E., Mount Diablo Meridian, Nevada, was accepted March 2, 1999.

The supplemental plat, showing amended lottings in sec. 28, T. 31 N., R. 43 E., Mount Diablo Meridian, Nevada, was accepted March 2, 1999.

The supplemental plat, showing amended lottings in sec. 29, T. 31 N., R. 43 E., Mount Diablo Meridian, Nevada, was accepted March 2, 1999.

The supplemental plat, showing new lottings in sec. 33, T. 31 N., R. 43 E., Mount Diablo Meridian, Nevada, was accepted March 2, 1999.

The supplemental plat, showing amended lottings in sec. 34, T. 31 N., R. 43 E., Mount Diablo Meridian, Nevada, was accepted March 2, 1999.

These supplemental plats were prepared to meet certain administrative needs of the Bureau of Land Management.

7. The Supplemental Plat of the following described lands was officially filed at the Nevada State Office, Reno, Nevada on March 25, 1999:

The supplemental plat, showing a subdivision of lot 13, sec. 6, T. 35 N., R. 38 E., Mount Diablo Meridian, Nevada, was accepted March 23, 1999.

This supplemental plat was prepared to meet certain administrative needs of the Bureau of Land Management.

8. The above-listed surveys are now the basic records for describing the lands for all authorized purposes. These surveys have been placed in the open files in the BLM Nevada State Office and are available to the public as a matter of information. Copies of the surveys and related field notes may be furnished to the public upon payment of the appropriate fees.

Dated: March 31, 1999.

**David J. Clark,**

*Chief Cadastral Surveyor, Nevada.*

[FR Doc. 99-9095 Filed 4-12-99; 8:45 am]

**BILLING CODE** 4310-HC-P

**DEPARTMENT OF THE INTERIOR****Bureau of Land Management**

[ES-960-1420-00; ES-50265, Group 160, Wisconsin]

**Notice of Filing of Plat of Survey; Wisconsin**

The plat of the dependent resurvey of a portion of the west boundary, a portion of the subdivisional lines, and the subdivision of sections 7 and 18, in Township 35 North, Range 15 West, of the 4th Principal Meridian, Wisconsin, will be officially filed in Eastern States,

Springfield, Virginia at 7:30 a.m., on May 14, 1999.

The survey was requested by the Bureau of Indians Affairs.

All inquiries or protests concerning the technical aspects of the survey must be sent to the Chief Cadastral Surveyor, Eastern States, Bureau of Land Management, 7450 Boston Boulevard, Springfield, VA 22153, prior to 7:30 a.m., May 14, 1999.

Copies of the plat will be made available upon request and prepayment of the reproduction fee of \$2.75 per copy.

Dated: April 5, 1999.

**Joseph W. Beaudin,**

*Chief Cadastral Surveyor.*

[FR Doc. 99-9168 Filed 4-12-99; 8:45 am]

BILLING CODE 4310-GJ-M

## DEPARTMENT OF THE INTERIOR

### Bureau of Land Management

[ID-930-1920-00-4373; IDI-31741]

#### Legal Description of Juniper Butte Range Withdrawal, Correction; Idaho

**AGENCY:** Bureau of Land Management, Interior.

**ACTION:** Notice.

**SUMMARY:** This notice corrects the total acreage figure and the land description of the public lands withdrawn for the Juniper Butte Range Withdrawal published in 63 FR 251, of December 31, 1998, on page 72326 and correction published in 64 FR 12, of January 20, 1999, on page 3134. In addition to those areas officially noted in the previous **Federal Register** notices the following added land description corrects the descriptions, lines and areas improperly noting a portion of the westerly boundary of the Juniper Butte Range:

#### Boise Meridian

- T. 12S., R. 9E.,  
section 35, lot 5, containing 2.73 acres.
- T. 13S., R. 9E.,  
section 2, lots 13 and 16, containing a total of 5.11 acres.  
section 11, lots 9 and 12, containing a total of 5.48 acres.  
section 14, lots 10 and 13 containing a total of 5.48 acres.  
section 23, lots 9 and 12 containing a total of 5.48 acres.

The acreage figure of 11,796.64 acres is corrected to 11,820.92 the correct acreage figure for the Juniper Butte Range Withdrawal in Owyhee County, Idaho.

**EFFECTIVE DATE:** April 13, 1999.

**FOR FURTHER INFORMATION CONTACT:** Jon Foster, BLM Idaho State Office, 1387 S.

Vinnell Way, Boise, Idaho 83709, 208-373-3813.

**Jimmie Buxton,**

*Branch Chief, Lands and Minerals.*

[FR Doc. 99-9093 Filed 4-12-99; 8:45 am]

BILLING CODE 4310-GG-P

## DEPARTMENT OF THE INTERIOR

### National Park Service

#### Notice of Boundary Revision, Point Reyes National Seashore

**SUMMARY:** This notice announces a revision of the boundaries of Point Reyes National Seashore to include within the boundaries one unimproved parcel of land.

#### FOR FURTHER INFORMATION CONTACT:

Sondra S. Humphries, Chief, Pacific Land Resources Program Center at (415) 427-1416.

**SUPPLEMENTARY INFORMATION:** Notice is hereby provided that the boundaries of Point Reyes National Seashore are revised, effective as of the date of publication of this notice to include all that certain property, situated in the County of Marin, State of California. The privately owned parcel, to be donated to the United States, is immediately adjacent to the park boundary and contains 6.47 acres, more or less. The parcel is identified as Tract P03-101 of Segment Map 03 and Drawing No. 612/03780, dated September, 1998. Detailed information is on file at the National Park Service, Pacific Land Resources Program Center, 600 Harrison Street, Suite 600, San Francisco, California 94107-1372.

Dated: April 5, 1999.

**John Reynolds,**

*Regional Director, Pacific West Region.*

[FR Doc. 99-9097 Filed 4-12-99; 8:45 am]

BILLING CODE 4310-70-M

## DEPARTMENT OF THE INTERIOR

### National Park Service

#### Kaloko-Honokohau National Historical Park Advisory Commission; Notice of Meeting

Notice is given in accordance with the Federal Advisory Committee Act that a meeting of the Na Hoapili o Kaloko Honokohau, Kaloko Honokohau National Historical Park Advisory Commission will be held at 10:00 a.m. to 12:00 noon., April 17, 1999, at the Keauhou Beach Hotel, Kalakaua House, Kailua-Kona, Hawaii.

Superintendent's and Committee Reports will be presented.

This meeting is open to the public. It will be recorded for documentation and transcribed for dissemination. Minutes of the meeting will be available to the public after approval of the full Advisory Commission. A transcript will be available after May 29, 1999. For copies of the minutes, contact the Kaloko-Honokohau National Historical Park Superintendent at (808) 329-6881.

Dated: March 30, 1999.

**Gary Barbano,**

*Acting Superintendent, Pacific Islands Support Office.*

[FR Doc. 99-9098 Filed 4-12-99; 8:45 am]

BILLING CODE 4310-70-P

## DEPARTMENT OF THE INTERIOR

### National Park Service

#### National Register of Historic Places; Notification of Pending Nominations

Nominations for the following properties being considered for listing in the National Register were received by the National Park Service before April 3, 1999. Pursuant to § 60.13 of 36 CFR Part 60 written comments concerning the significance of these properties under the National Register criteria for evaluation may be forwarded to the National Register, National Park Service, 1849 C St. NW, NC400, Washington, DC 20240. Written comments should be submitted by April 28, 1999.

**Carol D. Shull,**

*Keeper of the National Register.*

#### CALIFORNIA

##### Los Angeles County

La Puente Valley Woman's Club, 200 N. First St., La Puente, 99000482

#### COLORADO

##### Chaffee County

Maysville School (Rural School Buildings in Colorado MPS), S of US 50, Maysville, 99000484

##### Larimer County

Plummer School (Rural School Buildings in Colorado MPS), 2524 E. Vine Dr., Fort Collins vicinity, 99000485

##### Mesa County

Pipe Line School (Rural School Buildings in Colorado MPS), 101 16.5 S Rd., Glade Park, 99000483

#### INDIANA

##### Marion County

Crown Hill National Cemetery (Civil War Era National Cemeteries MPS), 700 W. 38th St., Indianapolis, 99000486

**IOWA****Cedar County**

Green, William, House, 1709 Madison St., Rochester vicinity, 99000488

**Keokuk County**

Public Square Historic District (Sigourney, Iowa MPS), Roughly around Keokuk County Court House, Sigourney, 99000487

**Montgomery County**

Chicago, Burlington Northern and Quincy Depot, 305 S. Second St., Red Oak, 99000489

**Plymouth County**

Le Mars Central High School, 335 1st Ave. SW, Le Mars, 99000492

**Polk County**

Teachout Building (Architectural Legacy of Proudfoot & Bird in Iowa MPS), 500-502 E. Locust St., Des Moines, 99000491

**Taylor County**

Lenox Round Barn (Iowa Round Barns: The Sixty Year Experiment TR), 1001 Pollock Blvd., Bedford vicinity, 99000490

**KENTUCKY****Jefferson County**

Country Estates of River Road (Louisville and Jefferson County MPS), Roughly along River Rd. and Wolf Pen Branch Rd. from Longview Ln. to 500 ft. W of US 42, Glenview, 99000495

**Jessamine County**

Canewood Farm, 8080 Harrodsburg Rd., Nicholasville vicinity, 99000494

**Nelson County**

Walnut Groves Farm (Boundary Increase I), 801 Taylorsville Rd., Bloomfield vicinity, 99000521

**LOUISIANA****Caddo Parish**

South Highlands Historic District, Roughly bounded by Richmond Ave., Trabue St., Line Ave., and Southfield Rd., Shreveport, 99000496

**East Baton Rouge Parish**

Fuqua Hardware Store Building, 358 Third St., Baton Rouge, 99000497

**MASSACHUSETTS****Middlesex County**

Watertown Arsenal Historic District, Arsenal St., Watertown, 99000498

**MISSISSIPPI****Grenada County**

Glenwild Plantation Manager's House, 3557 MS 51 S, Grenada, 99000499

**NEW MEXICO****Rio Arriba County**

Chimayo Trading Post and Trujillo, E.D., House, 110 Sandia Dr., Espanola, 99000500

**NEW YORK****Cayuga County**

Wall Street Methodist Episcopal Church, 69 Wall St., Auburn, 99000507

**Delaware County**

Downsville Covered Bridge, Bridge St., Downsville, 99000503  
Fitches Covered Bridge, Fitches Bridge Rd., East Delhi, 99000508  
Hamden Covered Bridge, Basin Clove Rd., Hamden, 99000502  
Lower Shavertown Covered Bridge, 682 Methol Rd., Methol, 99000504

**Franklin County**

Smith's, Paul, Hotel Cottages, NY 30, Brighton, 99000501

**Montgomery County**

Saint Stanislaus Roman Catholic Church Complex, 42, 46, 50 Cornell St. 73 Reid St., Amsterdam, 99000505

**Oneida County**

Dorrance, W.H., House, 32 Church St., Camden, 99000506

**NORTH CAROLINA****Wake County**

Hood—Anderson Farm (Wake County MPS), Old Battle Bridge Rd., 0.4 mi. S of jct. with Old Tarboro Rd., Eagle Rock vicinity, 99000509

**OHIO****Belmont County**

Kinney, James, Farmstead, 44680 Belmont-Centerville Rd., Belmont vicinity, 99000510

**Hamilton County**

Boulter, Cedric G., and Patricia Neils, House, 1 Rawson Woods Circle, Cincinnati, 99000512  
Cary, Freeman Grant, Pleasant Hill Academy, 5651 Hamilton Ave., Cincinnati, 99000511

**PENNSYLVANIA****Clearfield County**

Coalport Historic District, Along Main St., roughly from Mill to Walnut STs., Coalport, 99000517

**Fayette County**

Oak Hill Estate, US 40, 0.25 mi. W of US 119, North Union Township, 99000514

**Greene County**

Thralls, Ernest, House, PA 218 S at TR 353 and TR 522, Spraggs, 99000513

**Lehigh County**

Rodale Organic Gardening Experimental Farm, 2056 Minesite Rd., Lower Macungie township, 99000515

**Westmoreland County**

Academy Hill Historic District, Roughly bounded by Baughman St., N. Maple Ave., Kenneth St., Culbertson Ave., Beacon St., and Pennsylvania Ave., Greensburg, 99000516

**WISCONSIN****Dane County**

Middleton Depot, Chicago, Milwaukee, and St. Paul Railroad, 1811 Parmenter St., Middleton, 99000520  
Rowley, Dr. Newman C., House, 7410 Hubbard Ave., Middleton, 99000518

[FR Doc. 99-9150 Filed 4-12-99; 8:45 am]

BILLING CODE 4310-70-P

**DEPARTMENT OF THE INTERIOR****National Park Service****Official Insignia Designation**

**SUMMARY:** This notice establishes the official National Park Service insignia commemorating the Bicentennial Anniversary of the Lewis and Clark Expedition, 2003-2006.

**DATES:** This action is effective April 13, 1999.

**FOR FURTHER INFORMATION CONTACT:** Mark Engler, Interim Superintendent, Corps of Discovery II: 200 Years to the Future, Route 3, Box 47, Beatrice, Nebraska 68310, telephone 402-223-3514.

**SUPPLEMENTARY INFORMATION:** The National Park Service has designated an official insignia of the Lewis and Clark Expedition Bicentennial Anniversary, 2003-2006. You may obtain a copy of the insignia from the address under **FOR FURTHER INFORMATION CONTACT**. Notice is given that whoever manufactures, sells, or possesses this insignia, or any colorable imitation thereof, or photographs, prints or in any other manner makes or executes any engraving photograph or print, or impression in the likeness of this insignia, or any colorable imitation thereof, without authorization from the United States Department of the Interior is subject to the penalty provisions of Section 701, Title 18 of the United States Code.

Dated: March 22, 1999.

**David N. Given,**

*Deputy Regional Director, Midwest Region.*  
[FR Doc. 99-8130 Filed 4-12-99; 8:45 am]

BILLING CODE 4310-70-P

**DEPARTMENT OF JUSTICE****Notice of Lodging of Consent Decree Pursuant to the Clean Air Act**

In accordance with Departmental policy, 28 CFR § 50.7, notice is hereby given that a proposed consent decree in *United States v. Galatin Steel Company*, Civil Action No. 99-30 was lodged on February 25, 1999, with the United

States District Court for the Eastern District of Kentucky. The United States filed this action pursuant to Section 113(b) of the Clean Air Act, 42 U.S.C. 7413(b) for civil penalties and injunctive relief.

Gallatin Steel (Gallatin) was issued a synthetic minor source permit by the Kentucky Division of Air Quality (KDAQ) in 1993. The complaint alleged that Gallatin exceeded its minor source permit limit for nitrogen oxides (NO<sub>x</sub>) and carbon monoxide (CO) from its electric arc furnaces (EAFs); violated NO<sub>x</sub> emissions limits at its reheat furnace; constructed emissions units of regulated pollutants without a permit; started up the EAFs without operating its emission control equipment in violation of its permit; and circumvented the Clean Air Act's requirements to assure Prevention of Significant Deterioration (PSD) of air quality in violation of Section 165 of the Clean Air Act, 42 U.S.C. 7475, and 401 KAR 51:017, Section 8(1).

The consent decree provides that Gallatin will pay a civil penalty of \$450,000 and will perform a Supplemental Environmental Projects (SEP) designed to reduce NO<sub>x</sub> and CO at the Gallatin facility. The cost to Gallatin for the SEP will be not less than \$750,000. The consent decree does not provide for injunctive relief because Gallatin received and is in compliance with a PSD permit issued from KDAQ.

The Department of Justice will receive, for a period of 30 days from the date of this publication, comments relating to the proposed consent decree. Comments should be addressed to the Attorney General for the Environment and Natural Resources Division, Department of Justice, Washington, D.C. 20530, and should refer to: *United States v. Gallatin Steel Company* DOJ Ref. #90-5-2-1-2115.

The proposed consent decree may be examined at the Office of the United States Attorney, Eastern District of Kentucky, 110 West Vine, Lexington, Kentucky 40596 and at the Consent Decree Library, 1120 G Street, N.W., 3rd Floor, Washington, D.C. 20005, (202) 624-0892. A copy of the proposed consent decree may be obtained in person or by mail from the Consent Decree Library, 1120 G Street, N.W., 3rd Floor, Washington, D.C. 20005. In requesting a copy, please refer to the referenced case and enclose a check in the amount of \$7.00 (25 cents per page

reproduction costs), payable to the Consent Decree Library.

**Joel Gross,**

*Chief, Environmental Enforcement Section, Environment and Natural Resources Division.*

[FR Doc. 99-9145 Filed 4-12-99; 8:45 am]

BILLING CODE 4410-15-M

## DEPARTMENT OF JUSTICE

### Notice of Lodging of Consent Decree Pursuant to the Clean Air Act

Notice is hereby given that on March 31, 1999, the United States lodged a proposed consent decree with the United States District Court for the Western District of Wisconsin, in *United States v. Prairie Sand & Gravel, Inc.*, Civil No. 98 C 0586 -S, under section 113(b) of the Clean Air Act, 42 U.S.C. 7413(b). The proposed consent decree resolves certain claims of the United States against Prairie Sand & Gravel, Inc., arising out of its grain transfer facility located at St. Feriole Island in Prairie du Chien, Wisconsin. Under the proposed Consent Decree PS&G will pay the United States a \$115,000 penalty as well as perform injunctive relief.

The Department of Justice will receive comments relating to the proposed Consent Decree for 30 days following publication of this Notice. Comments should be addressed to the Assistant Attorney General, Environment and Natural Resources Division, United States Department of Justice, P.O. Box 7611, Ben Franklin Station, Washington, DC 20044-7611, and should refer to *United States v. Prairie Sand & Gravel, Inc.*, Civil No. 98 C 0586 -S, 90-5-2-1-2218. The proposed Consent Decree may be examined at the Office of the United States Attorney for the Western District of Wisconsin, Madison, Wisconsin; the Region V Office of the United States Environmental Protection Agency, 77 West Jackson Boulevard, Chicago, Illinois 60604; and at the Consent Decree Library, 1120 G Street, NW, 3rd Floor, Washington, DC 20005, telephone number (202) 624-0892. A copy of the proposed Consent Decree may be obtained in person or by mail from the Consent Decree Library, 1120 G Street, NW, 3rd Floor, Washington, DC 20005. In requesting a copy, please enclose a check for reproduction costs (at 25 cents per page) in the amount of \$6.50 for the Decree, payable to the Consent Decree Library.

**Bruce S. Gelber,**

*Deputy Chief, Environmental Enforcement Section, Environment and Natural Resources Division.*

[FR Doc. 99-9167 Filed 4-12-99; 8:45 am]

BILLING CODE 4410-15-M

## DEPARTMENT OF JUSTICE

### Notice of Lodging of Consent Decree Pursuant to the Comprehensive Environmental Response, Compensation and Liability Act of 1980

In accordance with Departmental policy, 28 CFR 50.7, and 42 U.S.C. 9622(d)(2), notice is hereby given that on March 24, 1999, a Consent Decree was lodged in *United States v. Ribi Immunochem Research, Inc. et al.*, Civil Action No. 98-55-M-LBE, with the United States District Court for the District of Montana.

The Consent Decree resolves contribution claims brought on behalf of the National Institutes of Health ("NIH") against defendants Charles Mann, Mary Louise Mann, and Bitterroot Valley Sanitary Landfill, Inc under Sections 107 and 113 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended ("CERCLA"), 42 U.S.C. 9607 and 9613, with respect to the Bitterroot Valley Sanitary Landfill and surrounding areas (the "Site"). The Site is located in Hamilton, Montana. Under the proposed consent decree, defendants Charles Mann, Mary Louise Mann, and Bitterroot Valley Sanitary Landfill, Inc will pay \$440,000 in contribution for response costs incurred by the National Institutes of Health ("NIH") for response costs incurred in connection with the Site.

The Department of Justice will receive comments relating to the proposed Consent Decree for a period of thirty days from the date of publication of this notice. Comments should be addressed to the Assistant Attorney General, Environment and Natural Resources Division, Department of Justice, Washington, D.C. 20530, and should refer to *United States v. Ribi Immunochem Research, Inc.*, Civil Action No. NO.98-55-M-LBE, DOJ Ref. No. 90-11-3-1713. The proposed Consent Decree may be examined at the office of the United States Attorney, District of Montana, United States Attorney's Office, Russell Smith Courthouse, 201 E. Broadway, Room 210 Missoula, Montana 59802. Copies of the Consent Decree may also be examined and obtained by mail at the Consent Decree Library, 1120 G Street, N.W., 3rd Floor, Washington, D.C. 20005 (202-624-0892). When requesting a copy by mail, please enclose a check in the amount of \$3.25 (twenty-five cents per page reproduction

costs) for the Consent Decree, payable to the "Consent Decree Library."

**Joel M. Gross,**

*Chief, Environmental Enforcement Section,  
Environment and Natural Resources Division.*

[FR Doc. 99-9144 Filed 4-12-99; 8:45 am]

BILLING CODE 4410-15-M

## DEPARTMENT OF JUSTICE

### Notice of Lodging of Two Proposed Consent Decrees in Comprehensive Environmental Response, Compensation and Liability Act Cost Recovery Action

In accordance with the Departmental Policy, 28 C.F.R. 50.7, notice is hereby given that two Consent Decrees in *United States v. Ralph Riehl Jr. et al.*, Civil Action No. 89-226E were lodged with the United States District Court for the Western District of Pennsylvania on March 29, 1999. These Consent Decrees resolve the United States' claims against Kondu Corporation and Lincoln Metal Processing Company under Sections 106 and 107(a) of the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"), 42 U.S.C. 9606 and 9607(a), for response costs incurred at the Millcreek Dump Superfund Site in Millcreek Township, PA. The Kondu Consent Decree requires Kondu to pay \$230,000 in reimbursement of response costs relating to the Millcreek Dump Superfund Site cleanup. The Lincoln Consent Decree requires Lincoln to pay \$90,000 in reimbursement of response costs relating to the Millcreek Dump Superfund Site cleanup, over a three-year period. Kondu and Lincoln have each agreed to pay a \$10,000 civil penalty, pursuant to Section 106 of CERCLA, 42 U.S.C. 9606, for failure to comply with a Unilateral Administrative Order issued by the Environmental Protection Agency on March 31, 1992, requiring cleanup at the Site. The Department of Justice will accept written comments on the proposed Consent Decrees for thirty (30) days from the date of publication of this notice. Please address comments to the Assistant Attorney General, Environment and Natural Resources Division, Department of Justice, P.O. Box 7611, Ben Franklin Station, Washington, D.C. 20044 and refer to *United States v. Ralph Riehl Jr. et al.*, DOJ No. 90-11-3-519.

Copies of the proposed Consent Decree may be examined at the Office of the United States Attorney, Western District of Pennsylvania, 100 State Street, Suite 302, Erie, PA 16507; EPA Region III, 1650 Arch Street,

Philadelphia, PA 19103; and at the Consent Decree Library, 1120 G Street, N.W., 3rd Floor, Washington, D.C.

20005, (202) 624-0892. A copy of the proposed Kondu or Lincoln Consent Decree may be obtained in person or by mail from the Consent Decree Library, 1120 G Street, N.W., 3rd Floor, Washington, D.C. 20005. When requesting a copy of the proposed Consent Decrees, please enclose a check to cover the twenty-five cents per page reproduction costs payable to the "Consent Decree Library" in the amount of \$5.50 for the Kondu Decree only (\$51.25 for the Decree and all attachments) and \$6.25 for the Lincoln Decree only (\$20.75 for the Decree and all attachments), and please reference *United States v. Ralph Riehl, Jr. et al.* DOJ No. 90-11-3-519.

**Joel M. Gross,**

*Chief, Environmental Enforcement Section,  
Environment and Natural Resources Division,  
Department of Justice.*

[FR Doc. 99-9142 Filed 4-12-99; 8:45 am]

BILLING CODE 4410-15-M

## DEPARTMENT OF JUSTICE

### Notice of Lodging of Consent Decree Pursuant to the Clean Water Act

In accordance with Departmental policy, 28 CFR 50.7, notice is hereby given that a proposed consent decree in *United States v. Yellowstone Pipe Line Company and Conoco Pipe Line Company*, Civil Action No. 96-47-M-CCL, was lodged on March 30, 1999, with the United States District Court for the District of Montana. The proposed consent decree would settle a civil action that the United States brought on behalf of the United States Environmental Protection Agency under Sections 309(d) and 311(b) of the Federal Water Pollution Control Act (also known as the "Clean Water Act"), 33 U.S.C. 1319(d), 1321(b), against Yellowstone Pipe Line Company ("Yellowstone") and Conoco Pipe Line Company ("Conoco") (collectively, "defendants") seeking civil penalties and injunctive relief to redress defendants' alleged violations of Sections 301(a) and 311(b)(3) of the Clean Water Act, 33 U.S.C. 1311(a), 1321(b)(3), in connection with a discharge of a reportable quantity of oil into or upon the navigable waters of the United States and adjoining shorelines. The discharge, from the Yellowstone Pipeline owned by Yellowstone and operated by Conoco, occurred during the winter of 1993-94 into Camas Creek, into the creek sediments, onto adjoining wetlands and into the soil surrounding

the pipeline, all within the boundaries of the Flathead Indian Reservation in Sanders County, Montana.

Under the terms of the proposed consent decree, the defendants will be required to (1) pay a civil penalty of \$165,000, and (2) perform a supplemental environmental project at a cost of approximately \$130,000, consisting of a selective fish passageway to be constructed in the Lower Jocko River. The fish passageway will be designed to enhance the population of a threatened species, the bull trout, while preserving one of the few remaining genetically pure populations of westslope cutthroat trout, in the same ecosystem where the Camas Creek oil spill occurred.

The Department of Justice will receive, for a period of thirty (30) days from the date of this publication, comments relating to the proposed consent decree. Comments should be addressed to the Assistant Attorney General of the Environment and Natural Resources Division, Department of Justice, Washington, D.C. 20530, and should refer to *United States v.*

*Yellowstone Pipe Line Company and Conoco Pipe Line Company*, DOJ Ref. No. 90-5-1-1-4205.

The proposed consent decree may be examined at the office of the United States Attorney for the District of Montana, Federal Building, 201 E. Broadway, Suite 210, Missoula, Montana 59807; the Region VIII Office of the Environmental Protection Agency, 999 Eighteenth Street, Suite 500, Denver, Colorado 80202; and at the Consent Decree Library, 1120 G Street, N.W., 3rd Floor, Washington, D.C. 20005, (202) 624-0892. A copy of the proposed consent decree may be obtained in person or by mail from the Consent Decree Library, 1120 G Street, N.W., 3rd Floor, Washington, D.C. 20005. In requesting a copy, please refer to the referenced case and enclose a check in the amount of \$10.00 (25 cents per page reproduction costs) payable to the Consent Decree Library.

**Joel M. Gross,**

*Chief, Environmental Enforcement Section,  
Environment and Natural Resources Division.*

[FR Doc. 99-9143 Filed 4-12-99; 8:45 am]

BILLING CODE 4410-15-M

## DEPARTMENT OF JUSTICE

[AAG/A Order No. 160-99]

### Privacy Act of 1974; Privacy Act Systems of Records

Pursuant to the Privacy Act of 1974 (5 U.S.C. 552a) and Office of Management and Budget Circular No. A-130,



Department components have reviewed their Privacy Act systems of records to identify any minor changes that will clarify and/or more accurately describe their systems of records. As a result, the Executive Office for Immigration Review (EOIR); the Immigration and Naturalization Service (INS); and the Justice Management Division (JMD) are reporting "System Location" changes.

The EOIR and INS have revised their appendices of principal office addresses, Justice/EOIR-999 and Justice/INS-999. In addition, the JMD proposes "System Location" changes for the "Department of Justice Payroll System, Justice/JMD-003" Specifically, paragraph c. has been added to the "System Location" of the Department of Justice Payroll System. Paragraph c. indicates that post conversion historical records may also be located on a server at the Justice Data Center in Rockville, Maryland, and may include any post conversion payroll data for which a determination is made that such data no longer requires storage in a current status. Any comments may be addressed to Mary Cahill, Management Planning Staff, Justice Management Division, Department of Justice, Washington, DC 20530 (Suite 1400, National Place Building).

Dated: March 26, 1999.

**Stephen R. Colgate,**  
*Assistant Attorney General for Administration.*

#### Justice/EOIR-999

**SYSTEM NAME:** Appendix to Executive Office for Immigration Review System of Records.

EOIR field offices are located as follows:

Executive Office for Immigration Review, Immigration Court, 901 N. Stuart Street, Suite 1300, Arlington, VA 22203

Executive Office for Immigration Review, Immigration Court, Martin Luther, King Jr. Federal Bldg., 77 Forsyth Street, Room 112, Atlanta, GA 30303

Executive Office for Immigration Review, Immigration Court, US Appraisers Bldg., 103 S. Gay Street, Room 702, Baltimore, MD 21202

Executive Office for Immigration Review, Immigration Court, 7850 Metro Parkway, Suite 320, Bloomington, MN 55425

Executive Office for Immigration Review, Immigration Court, JFK Federal Bldg., 15 New Sudbury Street, Room 320, Boston, MA 02203

Executive Office for Immigration Review, Immigration Court, 515 11th Street W., 3rd Floor, Bradenton, FL 34205

Executive Office for Immigration Review, Immigration Court, 130 Delaware Avenue, Suite 410, Buffalo, NY 14202

Executive Office for Immigration Review, Immigration Court, Federal Bldg., 55 E. Monroe Street, Suite 1900, Chicago, IL 60603

Executive Office for Immigration Review, Immigration Court, 1200 Main Street, Suite 700, Dallas, TX 75202

Executive Office for Immigration Review, Immigration Court, Byron G. Rogers Federal Bldg., 1961 Stout Street, Room 1403, Denver, CO 80294

Executive Office for Immigration Review, Immigration Court, Brewery Park II, 1155 Brewery Park Blvd., Suite 450, Detroit, MI 48207

Executive Office for Immigration Review, Immigration Court, 625 Evans Street, Room 148A, Elizabeth, NJ 07201

Executive Office for Immigration Review, Immigration Court, 1545 Hawkins Blvd., Suite 205, El Paso, TX 79925

Federal Detention Center, 1705 E. Hanna Road, Suite 366, Eloy, AZ 85232

Executive Office for Immigration Review, Immigration Court, 3260 N. Pinal Parkway Avenue, Florence, AZ 85232

Executive Office for Immigration Review, Immigration Court, GSA Center, 651 Federal Dr., Suite 111-14, Guaynabo, San Juan, PR 00965

Executive Office for Immigration Review, Immigration Court, 201 E. Jackson Street, Harlingen, TX 78550

Executive Office for Immigration Review, Immigration Court, AA Ribicoff Federal Bldg. and Courthouse, 450 Main Street, Room 509, Hartford, CT 06103-3015

Executive Office for Immigration Review, Immigration Court, PJKK Federal Bldg., 300 Ala Moanu Blvd., Room 8-112, Honolulu, HI 96850

Executive Office for Immigration Review, Immigration Court, 2320 La Branch Street, Room 2235, Houston, TX 77004

Executive Office for Immigration Review, Immigration Court, 2409 La Brucherie Road, Imperial, CA 92251

Krome North Processing Center, 18201 SW 12th Street, Miami, FL 33194

Laredo Service Processing Center, PO Box 440110, Laredo, TX 78044-0110

Executive Office for Immigration Review, Immigration Court, Mira Loma Facility, 45100 N. 60th Street West, Lancaster, CA 93536

Executive Office for Immigration Review, Immigration Court, Pacific Enterprise Plaza, 3365 Pepper Lane, Suite 200, Las Vegas, NV 89120

Executive Office for Immigration Review, Immigration Court, 606 S. Olive Street, Suite 1500, Los Angeles, CA 90014

Port Isabel Processing Center, Route 3, Box 341, Bldg. 37, Los Fresnos, TX 78566

Executive Office for Immigration Review, Immigration Court, Clifton B. Davis Federal Bldg., 167 N. Main Street, Room 1026, Memphis, TN 38103

Executive Office for Immigration Review, Immigration Court, 155 S. Miami Avenue, Room 800, Miami, FL 33130

Ulster Correctional Facility, Berme Road, Napanoch, NY 12458

Executive Office for Immigration Review, Immigration Court, 970 Broad Street, Room 1135, Newark, NJ 07102

Executive Office for Immigration Review, Immigration Court, One Canal Place, 365 Canal Street, Suite 2450, New Orleans, LA 70130

Executive Office for Immigration Review, Immigration Court, 26 Federal Plaza, Suite 1000, New York, NY 10278

Executive Office for Immigration Review, Immigration Court, 1900 E. Whatley Road, Oakdale, LA 71463

Executive Office for Immigration Review, Immigration Court, 5449 South Semoran Blvd., Suite 200, Orlando, FL 32803

Executive Office for Immigration Review, Immigration Court, 1600 Calowhill Street, Room 400, Philadelphia, PA 19130

Executive Office for Immigration Review, Immigration Court, Federal Bldg., 200 E. Mitchell Dr., Suite 200, Phoenix, AZ 85102

Executive Office for Immigration Review, Immigration Court, U.S. Post Office/Courthouse Bldg., 615 E. Houston Street, Room 598, San Antonio, TX 78205-2040

Executive Office for Immigration Review, Immigration Court, 401 West A Street, Suite 800, San Diego, CA 92101-7904

Executive Office for Immigration Review, Immigration Court, 550 Kearny Street, Suite 800, San Francisco, CA 94108

INS San Pedro Service Processing Center, 2001 Seaside Avenue, Room 136, San Pedro, CA 90731

Executive Office for Immigration Review, Immigration Court, Key Tower Bldg., 1000 Second Avenue, Suite 3150, Seattle, WA 98104

Executive Office for Immigration Review, Immigration Court, 160 N. Stone Avenue, Suite 300, Tucson, AZ 85701-1502

Executive Office for Immigration Review, Immigration Court, 201 Varick Street, Room 1140, New York, NY 10014

Executive Office for Immigration Review, Immigration Court, 3434 Concord Road, York, PA 17402

#### JUSTICE/INS-999

##### SYSTEM NAME:

INS Appendix: List of principal offices of the Immigration and Naturalization Service.

Headquarters: Immigration and Naturalization Service; 425 "I" Street NW, Washington, DC 20536.

Regional Offices: Eastern Regional Office, 70 Kimball Avenue, South Burlington, VT 05403-6813.

Central Regional Office, 7701 North Stemmons Freeway, Dallas, TX 75247-9998.

Western Regional Office, PO Box 30080, Laguna Niguel, CA 92607-0080.

Regional Service Centers: Eastern Service Center, 75 Lower Welden Street, St. Albans, VT 05479-0011.

Northern Service Center, PO Box 82521, Lincoln, NE 68501-2521.

Southern Service Center, PO Box 851488, Mesquite, TX 75185-1488.

Western Service Center, 24000 Avila Road, 2nd Floor, Laguna Niguel, CA 92677.

Administrative Center: Eastern Administrative Center, 70 Kimball Avenue, South Burlington, VT 05403-6813.

Southern Administrative Center, 7701 North Stemmons Freeway, Dallas, TX 75247.

Northern Administrative Center, Bishop Henry Whipple Fed. Bldg., Room 480, One Federal Drive, Fort Snelling, MN 55111-4007.

Western Administrative Center, 24000 Avila Road, Laguna Niguel, CA 92677-8080.  
 District Office in the United States:  
 Anchorage District Office, Michaelis Building, Suite 102, 620 East 10th Avenue, Anchorage, AK 99501-3708.  
 Atlanta District Office, 77 Forsyth Street, SW, Room 284, Atlanta, GA 30303.  
 Baltimore District Office, Equitable Bank Center, 12th Floor, Tower One, 100 South Charles Street, Baltimore, MD 21201.  
 Boston District Office, JFK Federal Building, Government Center, Boston, MA 02203.  
 Buffalo District Office, 130 Delaware Avenue, Buffalo, NY 14202.  
 Chicago District Office, 10 West Jackson Boulevard, Second Floor, Chicago, IL 60604.  
 Cleveland District Office, Anthony J. Celebrezze Federal Office Building, 1240 East 9th Street, Room 1917, Cleveland, OH 44199.  
 Dallas District Office, 8101 North Stemmons Freeway, Dallas, TX 75247.  
 Denver District Office, 4730 Paris Street, Albrook Center, Denver, CO 80239-2804.  
 Detroit District Office, Federal Building, 333 Mt. Elliott St., Detroit, MI 48207.  
 El Paso District Office, 1545 Hawkins Blvd., Suite 170, El Paso, TX 79925.  
 Harlingen District Office, 2102 Teege Road, Harlingen, TX 78550.  
 Helena District Office, 2800 Skyway Drive, Helena, MT 59601.  
 Honolulu District Office, 595 Ala Moana Boulevard, Honolulu, HI 96813.  
 Houston District Office, 126 Northpoint, Houston, TX 77060.  
 Kansas District Office, 9747 N. Connant Avenue, Kansas City, MO 64153.  
 Los Angeles District Office, 300 North Los Angeles Street, Los Angeles, CA 90012.  
 Miami District Office, 7880 Biscayne Boulevard, Miami, FL 33138.  
 Newark District Office, Federal Building, 970 Broad Street, Newark, NJ 07102.  
 New Orleans District Office, Postal Services Bldg., Room T-8005, 701 Loyola Ave., New Orleans, LA 70113.  
 New York District Office, 26 Federal Plaza, New York, NY 10278.  
 Omaha District Office, 3736 South 132nd Street, Omaha, NE 68144.  
 Philadelphia District Office, 1600 Callowhill Street, Philadelphia, PA 19130.  
 Phoenix District Office, 2035 North Central Avenue, Phoenix, AZ 85004.  
 Portland Maine District Office, 176 Gannett Drive, South Portland, ME 04106-6909.  
 Portland Oregon District Office, Federal Office Building, 511 NW., Broadway, Portland, OR 97209.  
 San Antonio District Office, 8940 Four Winds, San Antonio, TX 78239.  
 San Diego District Office, 880 Front Street, Suite 2233, San Diego, 92101-8834.  
 San Francisco District Office, 630 Sansome Street, Appraisers Building, San Francisco, CA 94111.  
 San Juan District Office, PO Box 365068, San Juan, PR 00936-5068.  
 Seattle District Office, 815 Airport Way South, Seattle, WA 98134.  
 St. Paul District Office, 2901 Metro Drive, Suite 100, Bloomington, MN 55425.  
 Washington, DC District Office, 4420 North Fairfax Drive, Arlington, VA 22203.

Suboffices (Files Control Offices) in the United States:  
 Agana Office, Pacific News Building, Room 801, 238 Archbishop Flores Street, Agana, GU 96910.  
 Albany Office, James T. Foley Federal Courthouse, 445 Broadway, Room 220, Albany, NY 12207.  
 Charlotte Office, 6 Woodlawn Green, Suite 138, Charlotte, NC 28217.  
 Charlotte Amalie Office, Federal District Court Bldg., PO Box 610, Charlotte Amalie, St. Thomas, VI 00801.  
 Cincinnati Office, J.W. Peck Federal Building, 550 Main Street, Room 8525, Cincinnati, OH 45202.  
 El Paso Intelligence Center, SSG Sims Street, Building 11339, EL Paso, TX 79918-5100.  
 Hartford Office, Ribicoff Building, 450 Main Street, Hartford, CT 06103-3060.  
 Indianapolis Office, Gateway Plaza, 950 North Meridian, Suite 400, Indianapolis, IN 46204.  
 Las Vegas Office, 3373 Pepper Lane, Las Vegas, NV 89120-2739.  
 Memphis Office, 1341 Sycamore View, Memphis, TN 38134.  
 Milwaukee Office, Federal Building, Room 186, 517 East Wisconsin Avenue, Milwaukee, WI 53202.  
 Norfolk Office, 5280 Henneman Drive, Norfolk, VA 23513.  
 Oakdale Office, PO Box 5095, Oakdale, LA 71464.  
 Pittsburgh Office, 314 Federal Building, 1000 Liberty Avenue, Pittsburgh, PA 15222.  
 Providence Office, Federal Building U.S. Post Office Exchange Terrace, Providence, RI 02903.  
 Reno Office, 1351 Corporate Blvd., Reno, NV 89502.  
 St. Albans Office, PO Box 328, St. Albans, VT 05478.  
 St. Louis Office, R.A. Young Federal Building, 1222 Spruce Street, Room 1.100, St. Louis, MO 63101-2815.  
 Salt Lake City Office, 230 West 400 South Street, Salt Lake City, UT 84101.  
 Spokane Office, U.S. Courthouse Building, Room 691, Spokane, WA 99201.  
 Border Patrol Sector Headquarters:  
 Blaine Sector Headquarters, 1590 "H" Street, PO Box 3529, Blaine, WA 98231  
 Blaine, WA 98230.  
 Buffalo Sector Headquarters, 231 Grand Island Boulevard, Tonawanda, NY 14150.  
 Del Rio Sector Headquarters, Qualia Drive, PO Box 2020, Del Rio, TX 78841-2020.  
 Detroit Sector Headquarters, 26000 S. Street, Selfridge, MI 48045.  
 El Centro Sector Headquarters, 1111 North Imperial Avenue, El Centro, CA 92243.  
 El Paso Sector Headquarters, 8901 Montana Avenue, El Paso, TX 79925-1212.  
 Grand Forks Sector Headquarters, 2320 South Washington Street, Grand Forks, ND 58201.  
 Harve Sector Headquarters, 2605 5th Avenue, SE, Harve, MT 59501.  
 Houlton Sector Headquarters, PO Box 706, Rt. 1 Calais Rd., Houlton, ME 04730.  
 Laredo Sector Headquarters, 207 W. Del Mar Boulevard, Laredo, TX 78041.  
 Livermore Sector Headquarters, 6102 9th St., Dublin, CA 94268.

Marfa Sector Headquarters, PO Box "I", 300 Madrid Street, Marfa, TX 79843.  
 Mayaguez Sector Headquarters, Box 467, Ramey, PR 00604.  
 McAllen Sector Headquarters, PO Box 1179, 2301 South Main Street, McAllen, TX 78505.  
 Miami Sector Headquarters, PO Box 8909, 7201 Pembroke Rd., Pembroke Pines, FL 33023.  
 New Orleans Sector Headquarters, PO Box 6218, 3819 Patterson Drive, New Orleans, LA 70114.  
 San Diego Sector Headquarters, 3752 Beyer Blvd, P.O. Box 439022, San Diego CA 92073.  
 Spokane Sector Headquarters, North 10710 Newport Highway, PO Box 18930, Spokane, WA 99208.  
 Swanton Sector Headquarters, Grand Avenue, Swanton, VT 05488.  
 Tucson Sector Headquarters, 1970 West Ajo Way, Tucson, AZ 85713.  
 Yuma Sector Headquarters, 350 First Street, PO Box 2708 Yuma, AZ 85366-2708.  
 Border Patrol Academy:  
 DOJ/INS (FLETC) Artesia, 1300 West Richey Avenue, Artesia, NM 88210.  
 Officer Development and Training Facility, Building 64 FLETC Glynco, GA 31524.  
 District Offices in Foreign Countries:  
 Bangkok District Office, U.S. Immigration and Naturalization Service, c/o American Embassy, Box 12, 95 Wireless Road, Bangkok, Thailand 10330.  
 Mexico District Office, U.S. Immigration and Naturalization Service, c/o American Embassy, Room 118, PO Box 3087, Laredo, TX 78044.  
 Rome District Office, U.S. Immigration and Naturalization Service, c/o American Embassy, Rome, Italy, PSC59 Box 100 APO AE 09624.  
 Suboffices (Files Control Offices) in Foreign Countries:  
 Athens Office, U.S. Immigration and Naturalization Service, c/o American Embassy, Athens, Greece, PSC 108 Box 25 APO AE 09842.  
 Frankfurt Office, U.S. Immigration and Naturalization Service, American Consulate General, Frankfurt, Unit 25401 APO AE 09213.  
 Guadalajara Office, U.S. Immigration and Naturalization Service, Box 3088, Guadalajara Laredo, TX 70844-3088.  
 Hong Kong Office, U.S. Immigration and Naturalization Service, c/o American Consulate General, Hong Kong, PSC 464, Box 30, FPO AP 96522-0002.  
 London Office, U.S. Immigration and Naturalization Service, c/o American Embassy, London, England, PSC 801, Box 06, FPO AE 09498-4006.  
 Mexico Office, U.S. Immigration and Naturalization Service, c/o American Embassy, Mexico City, Mexico, PO Box 3087, Room 118, Laredo, TX 78044.  
 Monterrey Office, U.S. Immigration and Naturalization Service, c/o American Consulate, PO Box 3098, Laredo, TX 78044-3098.  
 Moscow Office, U.S. Immigration and Naturalization Service, c/o American Embassy, Moscow, USSR, PSC 77, APO AE 09721.  
 Nairobi Office, U.S. Immigration and Naturalization Service, c/o American

Embassy, Nairobi, Kenya Unit 64100, Box 21, APO AE 09831-4100.

New Delhi Office, U.S. Immigration and Naturalization Service, c/o American Embassy, New Delhi, India, Department of State, Washington, DC 20521-9000.

Rome Office, U.S. Immigration and Naturalization Service, c/o American Embassy, Rome, Italy, PSC 59 APO AE 09624.

Seoul, Korea Office, U.S. Immigration and Naturalization Service, c/o American Embassy, Seoul, Korea Unit 15550, APO AP 96205-0001.

Shannon Office, U.S. Immigration and Naturalization Service, c/o AER-RIANTA, Attn: Port Director, Shannon Airport, Shannon, Co, Clare, Ireland.

Singapore Office, U.S. Immigration and Naturalization Service, c/o American Embassy, Singapore, FPO AP 96534.

Tijuana Office, U.S. Immigration and Naturalization Service, c/o American Consulate General, Tijuana, PO Box 439039, San Diego, CA 92143-9039.

Vienna Office, U.S. Immigration and Naturalization Service, c/o American Embassy, Vienna, Austria Unit 27937, Box 21, APO AE 9222.

#### JUSTICE/JMD-003

##### SYSTEM NAME:

Department of Justice Payroll System, Justice/JMD-003

##### SYSTEM LOCATION:

Payroll records in electronic or paper format may be found in the following locations:

a. Post Conversion Records: <sup>1</sup> on a computer maintained by the NFC in New Orleans, Louisiana; and at backup facilities in Philadelphia. Relevant data may also be stored on Justice Data Center Computers at the Department of Justice for use in distributing accounting information to the individual Bureaus. Paper and electronic payroll information may be kept at various time and attendance recording and processing stations around the world. Paper records may be located in the Department's Personnel Staff, in servicing personnel offices throughout the Department, and in the offices of employee supervisors and managers.

b. Pre-Conversion Historical Records: on magnetic tape at the Justice Data Center in Rockville, Maryland; on microfiche maintained by the Department's Finance Staff; and in paper format maintained by the Department's Finance and Personnel Staffs, servicing personnel offices, and offices of employee supervisors and managers.

c. Post Conversion Historical Records: On a server at the Justice Data Center in

Rockville, Maryland. Information may include any post conversion payroll data for which a determination is made that such data no longer requires storage in a current status. For example, it may be determined that data for a designated period of time no longer requires storage on the NFC data base or on the Justice Data Center computers.

##### CATEGORIES OF INDIVIDUALS COVERED BY THE SYSTEM:

Current and former DOJ employees (excluding the FBI).

##### CATEGORIES OF RECORDS IN THE SYSTEM:

Any and all records essential to the conduct of payroll-related activities. Included may be:

- Personal Identifying/personnel data
- Time and attendance records
- Leave records
- Allotment or deduction information such as bonds, garnishments, health benefits, life insurance, Thrift Savings Plan and other savings, retirement, and union dues.
- Travel and Relocation information
- Court orders to initiate garnishments
- Check mailing information
- Tax, withholding, and exemption information
- Accounting and organization funding information
- Salary, severance pay, award, and bonus information; active retirement records
- Former employee pay records
- Employee death records
- Returned employee check records
- Indebtedness records, e.g., overpayment of pay or travel

**AUTHORITY FOR MAINTENANCE OF THE SYSTEM:** Budget and Accounting Act of 1950, as amended, 31 U.S.C. 66, 66a, and 20(a).

**PURPOSE(S):** This system of records is maintained to enable the Department to administer the payroll and payroll-related functions, and any other related financial matters, in accordance with applicable laws and regulations and the requirements of the General Accounting Office (GAO) and the Office of Personnel Management (OPM). It enables the Department to prepare and document payment to all Department employees entitled to be paid and to effect all authorized deductions from gross pay; to coordinate pay, leave and allowance operations with personnel functions and other related activities; meet internal and external reporting requirements; support investigations of fraud, the collection of debts, and litigation activities.

##### ROUTINE USES OF RECORDS MAINTAINED IN THE SYSTEM, INCLUDING CATEGORIES OF USERS AND THE PURPOSES OF SUCH USES:

Pursuant to Subsection (b)(3) of the Privacy Act, the Department of Justice (DOJ) may disclose relevant and necessary data as follows:

In accordance with an interagency agreement (as provided for in Office of

Management and Budget (OMB) implementing regulations (40 FR 28948)), the DOJ may disclose to the U.S. Department of Agriculture (USDA), National Finance Center (NFC), in order to effect all financial transactions on behalf of the DOJ related to employee pay.

Specifically, the NFC may effect employee pay or deposit funds on behalf of DOJ employees, and/or it may withhold, collect or offset funds from employee salaries as required by law or as necessary to correct overpayment or amounts due. For example, the NFC will routinely make the necessary disclosures to Treasury for the issuance of checks; to Federal, State, and local authorities and the Social Security Administration for tax withholdings; and, according to employee directions, to the appropriate financial institutions, charitable organizations, unions, health carriers, or other appropriate entities to effect such pay distributions as savings bonds, charitable contributions, allotments, alimony, child support, union dues, and health and life insurance. In addition, the NFC will use the data to perform related administrative activities such as to certify payroll vouchers chargeable to DOJ funds; and either to perform or participate in routine audit/oversight operations of USDA/DOJ management and/or of GAO, OMB, and OPM; and to meet related reporting requirements.

In addition, based on such data as the DOJ has input to the NFC data base for these purposes, the DOJ may subsequently make a paper request, or an electronic request to the NFC data base, for information which will allow the DOJ to disclose relevant information as follows; or, where appropriate or necessary, DOJ may authorize the NFC to make the disclosure:

To Federal, State, or local housing authorities to enable these authorities to determine eligibility for low cost housing.

To heirs, executors and legal representatives of beneficiaries for estate settlement purposes.

To State and local courts of competent jurisdiction for the enforcement of child support, alimony, or both, pursuant to 41 U.S.C. 659.

To individuals, organizations, or agencies to enable such person, organization, or agency to determine the identity or location of a current or former Federal employee to collect debts owed, where collection of such debts are authorized (either by statute, implementing regulation, or order issued pursuant thereto) and the

<sup>1</sup> The Department is under contract with the Department of Agriculture's National Finance Center (NFC) to maintain payroll information and conduct payroll-related activities for its employees. Conversion began in July of 1991 and was incrementally completed as of May of 1993.

individual, organization, or agency, has provided sufficient evidence as will reasonably validate such claims, e.g., where a spouse or creditor seeking to obtain a garnishment of wages for such purposes as alimony and/or child support has provided a court order to substantiate the indebtedness. Information relevant to the request for such garnishment may include informing the individual, organization, or agency of the unavailability of funds where, for example, a currently active garnishment precludes the implementation of a further garnishment.

To the Office of Child Support Enforcement (OCSE), Administration for Children and Families, Department of Health and Human Services, any information specifically required by statute or implementing regulation or otherwise determined to be necessary and proper for OCSE's use (as outlined more specifically in relevant OCSE published systems of records) in locating individuals owing child support obligations, and in establishing and collecting child support obligations from such individuals, including enforcement action. Information disclosed may include: name, address, date of birth, date of hire, duty station, and social security number of the employee; the wages paid to the employee during the previous quarter; and the appropriate address and Federal Employer Identification Number of the Department of Justice.

To the appropriate Federal, State, or local agencies, e.g., to State unemployment agencies and/or the Department of Labor, to assist these agencies in performing their lawful responsibilities in connection with administering unemployment, workers' compensation, or other benefit programs; and similarly, to such agencies to obtain information that may assist the Department of Justice in performing its lawful responsibilities as they relate to such benefit programs.

To labor organizations recognized under 5 U.S.C., Chapter 71, the home addresses or designated mailing addresses of bargaining unit members.

In the event that a record(s), either on its face or in conjunction with other information, indicates a violation or a potential violation of law, whether civil, criminal or regulatory in nature, to the agency charged with enforcing or implementing such law.

To the Internal Revenue Service (IRS) to obtain taxpayer mailing addresses for the purpose of locating such taxpayer to collect or compromise a Federal claim against the taxpayer.

To a person or organization with whom the head of the agency has contracted for collection services to recover indebtedness owed to the United States. Addresses of taxpayers obtained from the IRS will also be disclosed, but only where necessary to locate such taxpayer to collect or compromise a Federal claim.

To a Federal, State, local, or foreign agency or to an individual or organization if there is reason to believe that such agency, individual, or organization possesses information relating to the debt, the identity or location of the debtor, the debtor's ability to pay, or relating to any other matter which is relevant and necessary to the settlement, effective litigation and enforced collection of the debt, or relating to the civil action trial or hearing, and the disclosure is reasonably necessary to elicit such information or to obtain the cooperation of a witness or an agency.

To employers to effect salary or administrative offsets to satisfy a debt owed the United States by that person; or when other collection efforts have failed, to the IRS to effect an offset against an income tax refund otherwise due.

To the news media and the public pursuant to 28 CFR 50.2 unless it is determined that release of the specific information in the context of a particular case would constitute an unwarranted invasion of personal privacy.

To a Member of Congress or staff acting upon the Member's behalf when the Member or staff requests the information on behalf of and at the request of the individual who is the subject of the record.

To the National Archives and Records Administration and the General Services Administration for use in records management inspections conducted under the authority of 44 U.S.C. 2904 and 2906.

In a proceeding before a court or adjudicative body before which the Department is authorized to appear when any of the following is a party to litigation or has an interest in litigation and such records are determined by the Department to be arguably relevant to the litigation: The Department, or any of the Department's components or their subdivisions; any Department employee in his/her official capacity, or in his/her individual capacity where the Department of Justice agrees to represent the employee; or the United States where the Department determines that the litigation is likely to affect it or any of the Department's components or their subdivisions.

Consistent with the foregoing routine use provisions, the Department may disclose records from this system of records for use in a computer matching program (as defined in the Privacy Act, 5 U.S.C. 552a(8)). In accordance with the requirements of the Privacy Act, the public will be given advance notice in the **Federal Register** of the Department's participation in any such computer matching program(s).

In addition to the above routine use disclosures under subsection (b)(3) of the Privacy Act, the DOJ may retrieve from the NFC data base information which will enable the DOJ to make relevant and necessary disclosures pursuant to any of the other relevant and appropriate Privacy Act disclosure provisions.

Finally, 31 U.S.C. 3711 requires that the notice required by section 552(e)(4) of title 5 must indicate that information in the system may be disclosed to a consumer reporting agency pursuant to subsection (b)(12). Such notice is provided as follows:

*Notice of Disclosure to Consumer Reporting Agencies Under Subsection (b)(12) of the Privacy Act:* Records relating to the identity of debtors and the history of claims may be disseminated to consumer reporting agencies to encourage payment of the past-due debt. Such disclosures will be made only when a claim is overdue and only after due process steps have been taken to notify the debtor and give him or her a chance to meet the terms of the debt.

(Any disclosures that may be made for debt collection purposes, whether made pursuant to subsection (b)(3) or (b)(12), would be made only when all the relevant due process or procedural steps established by the relevant statutes and implementing regulations have been taken.)

**POLICIES AND PRACTICES FOR STORING, RETRIEVING, ACCESSING, RETAINING AND DISPOSING OF RECORDS IN THE SYSTEM:**

**STORAGE:**

Records are stored on computer disks, magnetic tapes, microfiche and on paper.

**RETRIEVABILITY:**

Records are retrieved by name and social security number.

**SAFEGUARDS:**

Access to premises where records are stored is restricted via building passes and security guards. Access to all records is supervised and restricted to those employees with a need to know. In addition, access to computerized records is protected by encryption, password and appropriate user ID's.

**RETENTION AND DISPOSAL:**

Records are disposed of in accordance with General Records Schedule No. 2 as promulgated by the General Services Administration.

**SYSTEM MANAGER(S) AND ADDRESS:**

Director, Personnel Staff, Justice Management Division, Department of Justice, National Place Building, Room 1110, 1331 Pennsylvania Avenue, NW., Washington, DC 20530.

**NOTIFICATION PROCEDURE:**

The individual may address inquires to the servicing personnel office of the Department component(s) by which he/she is or was employed. Addresses of Department components may be found in Appendix I., to part 16 of the Code of Federal Regulations. The individual may also address his/her request to the system manager named above.

**RECORD ACCESS PROCEDURE:**

Same as above.

**CONTESTING RECORD PROCEDURE:**

Same as above.

**RECORD SOURCE CATEGORIES:**

Individuals covered by the system; personnel offices; time and attendance clerks; supervisors, administrative officers, other officials; financial institutions or employee organizations; previous federal employers; consumer reporting agencies; debt collection agencies; and the courts.

**SYSTEMS EXEMPTED FROM CERTAIN PROVISIONS OF THE ACT:**

None.

[FR Doc. 99-9140 Filed 4-12-99; 8:45 am]

BILLING CODE 4410-CH-M

**DEPARTMENT OF JUSTICE**

[AAG/A Order No. 161-99]

**Privacy Act of 1974; Notice of the Removal of a System of Records**

Pursuant to the provisions of the Privacy Act of 1974 (5 U.S.C. 552a), the Immigration and Naturalization Service (INS), Department of Justice, is removing a published Privacy Act system of records entitled, "Automated Data Processing Equipment Inventory Management System (AIMS), JUSTICE/INS-018." JUSTICE/INS-018 was last published in the **Federal Register** on October 10, 1995 (60 FR 52700).

The AIMS no longer exists as a system of records. Both the AMIS functionality and records were incorporated into another system of records entitled, "The Asset Management Information System (AIMS), JUSTICE/INS-004." AMIS was

most recently published April 27, 1998 (63 FR 20651). Therefore, the "AIMS," is removed from the Department's compilation of Privacy Act systems.

Dated: March 30, 1999.

**Stephen R. Colgate,**  
*Assistant Attorney General for Administration.*

[FR Doc. 99-9141 Filed 4-12-99; 8:45 am]

BILLING CODE 4410-CH-M

**DEPARTMENT OF JUSTICE**

**Drug Enforcement Administration**

**Manufacturer of Controlled Substances; Notice of Application**

Pursuant to Section 1301.33(a) of Title 21 of the Code of Federal Regulations (CFR), this is notice that on June 18, 1998, The Church of the Living Tree, 64200 Old Redwood Highway, P.O. 64, Leggett, California 95585, made application, which was received August 14, 1998, to the Drug Enforcement Administration (DEA) for registration as a bulk manufacturer of marihuana (7360), a basic class of controlled substance listed in Schedule I.

The applicant plans to grow marihuana for human consumption.

Any other such applicant and any person who is presently registered with DEA to manufacture such substance may file comments or objections to the issuance of the proposed registration.

Any such comments or objections may be addressed, in quintuplicate, to the Deputy Assistant Administrator, Office of Diversion Control, Drug Enforcement Administration, United States Department of Justice, Washington, DC 20537, Attention: DEA Federal Register Representative (CCR), and must be filed no later than June 14, 1999.

Dated: April 2, 1999.

**John H. King,**  
*Deputy Assistant Administrator, Office of Diversion Control, Drug Enforcement Administration.*

[FR Doc. 99-9090 Filed 4-12-99; 8:45 am]

BILLING CODE 4410-09-M

**DEPARTMENT OF JUSTICE**

**Drug Enforcement Administration**

**Importation of Controlled Substances; Notice of Application**

Pursuant to Section 1008 of the Controlled Substances Import and Export Act (21 U.S.C. 958(i)), the Attorney General shall, prior to issuing a registration under this Section to a

bulk manufacturer of a controlled substance in Schedule I or II and prior to issuing a regulation under Section 1002(a) authorizing the importation of such a substance, provide manufacturers holding registrations for the bulk manufacture of the substance an opportunity for a hearing.

Therefore, in accordance with Section 1301.34 of Title 21, Code of Federal Regulations (CFR), notice is hereby given that on May 20, 1998, Ethical Nutritionals, LLC, 176 University Parkway, Pomona, California 91768-4300, made application to the Drug Enforcement Administration to be registered as an importer of the basic classes of controlled substances listed below:

| Drug                     | Schedule |
|--------------------------|----------|
| Marihuana (7360) .....   | I        |
| Peyote (7415) .....      | I        |
| Coca Leaves (9040) ..... | II       |
| Cocaine (9041) .....     | II       |
| Opium, raw (9600) .....  | II       |

The firm plans to import the listed controlled substances for the production of homeopathic remedies.

Any manufacturer holding, or applying for, registration as a bulk manufacturer of these basic classes of controlled substances may file written comments on or objections to the application described above and may, at the same time, file a written request for a hearing on such application in accordance with 21 CFR 1301.43 in such form as prescribed by 21 CFR 1316.47.

Any such comments, objections or requests for a hearing may be addressed, in quintuplicate, to the Deputy Assistant Administrator, Office of Diversion Control, Drug Enforcement Administration, United States Department of Justice, Washington, D.C. 20537, Attention: DEA Federal Register Representative (CCR), and must be filed no later than May 13, 1999.

This procedure is to be conducted simultaneously with and independent of the procedures described in 21 CFR 1301.34 (b), (c), (d), (e), and (f). As noted in a previous notice at 40 FR 43745-46 (September 23, 1975), all applicants for registration to import basic classes of any controlled substances in Schedule I or II are and will continue to be required to demonstrate to the Deputy Assistant Administrator, Office of Diversion Control, Drug Enforcement Administration that the requirements for such registration pursuant to 21 U.S.C. 958(a), 21 U.S.C. 823(a), and 21 CFR 1301.34 (a), (b), (c), (d), (e), and (f) are satisfied.

Dated: April 2, 1999.

**John H. King,**

*Deputy Assistant Administrator, Office of Diversion Control, Drug Enforcement Administration.*

[FR Doc. 99-9089 Filed 4-12-99; 8:45 am]

BILLING CODE 4410-09-M

**DEPARTMENT OF JUSTICE**

**Drug Enforcement Administration**

**Manufacturer of Controlled Substances; Notice of Registration**

By Notice dated December 2, 1998, and published in the **Federal Register** on December 23, 1998, (63 FR 71156), High Standard Products, 1100 W. Florence Avenue, #B, Inglewood, California 90301, made application by renewal to the Drug Enforcement Administration (DEA) to be registered as a bulk manufacturer of the basic classes of controlled substances listed below:

| Drug   | Schedule |
|--|----------|
| Methaqualone (2565) .....                          | I        |
| Lysergic acid diethylamide (7315)                  | I        |
| Tetrahydrocannabinols (7370) .....                 | I        |
| 3,4-Methylenedioxyamphetamine (7400) .....         | I        |
| 3,4-Methylenedioxy-N-ethylamphetamine (7404) ..... | I        |
| 3,4-Methylenedioxy-methamphetamine (7405) .....    | I        |
| 4-Methoxyamphetamine (7411) .....                  | I        |
| Heroin (9200) .....                                | I        |
| 3-Methylfentanyl (9813) .....                      | I        |
| Amphetamine (1100) .....                           | II       |
| Methamphetamine (1105) .....                       | II       |
| Secobarbital (2315) .....                          | II       |
| Phencyclidine (7471) .....                         | II       |
| Cocaine (9041) .....                               | II       |
| Codeine (9050) .....                               | II       |
| Hydromorphone (9150) .....                         | II       |
| Diphenoxylate (9170) .....                         | II       |
| Hydrocodone (9193) .....                           | II       |
| Methadone (9250) .....                             | II       |
| Morphine (9300) .....                              | II       |
| Fentanyl (9801) .....                              | II       |

The firms plans to manufacture analytical reference standards.

No comments or objections have been received. DEA has considered the factors in Title 21, United States Code, Section 823(a) and determined that the registration of High Standard Products to manufacture the listed controlled substances is consistent with the public interest at this time. DEA has investigated High Standard Products on a regular basis to ensure that the company's continued registration is consistent with the public interest. These investigations have included inspection and testing of the company's physical security systems, audits of the

company's records, verification of the company's compliance with state and local laws, and a review of the company's background and history. Therefore, pursuant to 21 U.S.C. 823 and 28 CFR 0.100 and 0.104, the Deputy Assistant Administrator, Office of Diversion Control, hereby orders that the application submitted by the above firm for registration as a bulk manufacturer of the basic classes of controlled substances listed above is granted.

Dated: April 2, 1999.

**John H. King,**

*Deputy Assistant Administrator, Office of Diversion Control, Drug Enforcement Administration.*

[FR Doc. 99-9091 Filed 4-12-99; 8:45 am]

BILLING CODE 4410-09-M

**NATIONAL TRANSPORTATION SAFETY BOARD**

**Sunshine Act Meeting**

**AGENDA—NATIONAL TRANSPORTATION SAFETY BOARD**

**TIME AND DATE:** 9:30 a.m., Tuesday, April 20, 1999.

**PLACE:** NTSB Board Room, 5th Floor, 490 L'Enfant Plaza, S.W., Washington, D.C. 20594.

**STATUS:** Open.

**MATTERS TO BE CONSIDERED:**

7144—Brief of Accident: Gates Learjet 25B, N627WSx, at Houston, Texas, on January 13, 1998, and Safety Recommendation to the Federal Aviation Administration concerning adherence to standard operating procedures and enhanced ground proximity warning systems.

7141—Accident Summary Report and Recommendation: To the Federal Highway Administration and Dion Oil Company concerning procedures and training for loading and unloading cargo tanks, Key West, Florida on June 29, 1998.

**NEWS MEDIA CONTACT:** Telephone: (202) 314-6100.

**FOR MORE INFORMATION CONTACT:** Rhonda Underwood, (202) 314-6065.

Dated: April 9, 1999.

**Rhonda Underwood,**

*Federal Register Liaison Officer.*

[FR Doc. 99-9338 Filed 4-9-99; 3:26 pm]

BILLING CODE 7533-01-M

**NUCLEAR REGULATORY COMMISSION**

**Agency Information Collection Activities: Proposed Collection; Comment request**

**AGENCY:** U.S. Nuclear Regulatory Commission (NRC).

**ACTION:** Notice of pending NRC action to submit an information collection request to OMB and solicitation of public comment.

**SUMMARY:** The NRC is preparing a submittal to OMB for review of continued approval of information collections under the provisions of the Paperwork Reduction Act of 1995 (44 U.S.C. Chapter 35).

Information pertaining to the requirement to be submitted:

1. The title of the information collection: 10 CFR part 26, "Fitness for Duty Program".

2. Current OMB approval number: 3150-0146.

3. How often the collection is required: On occasion.

4. Who is required or asked to report: All licensees authorized to construct or operate a nuclear power reactor and all licensees authorized to possess, use, or transport unirradiated Category 1 nuclear material.

5. The number of annual respondents: 72.

6. The number of hours needed annually to complete the requirement or request: 59,800 (5,786 hours of reporting burden and 54,074 hours of recordkeeping burden).

7. Abstract: 10 CFR part 26, "Fitness for Duty Program," requires licensees of nuclear power plants and licensees authorized to possess, use, or transport unirradiated Category 1 nuclear material to implement fitness-for-duty programs to assure that personnel are not under the influence of any substance or mentally or physically impaired, to retain certain records associated with the management of these programs, and to provide reports concerning significant events and program performance. Compliance with these program requirements is mandatory for licensees subject to 10 CFR part 26.

Submit, by June 14, 1999, comments that address the following questions:

1. Is the proposed collection of information necessary for the NRC to properly perform its functions? Does the information have practical utility?

2. Is the burden estimate accurate?

3. Is there a way to enhance the quality, utility, and clarity of the information to be collected?

4. How can the burden of the information collection be minimized,

including the use of automated collection techniques or other forms of information technology?

A copy of the draft supporting statement may be viewed free of charge at the NRC Public Document Room, 2120 L Street, NW. (lower level), Washington, DC. OMB clearance requests are available at the NRC worldwide web site (<http://www.nrc.gov/NRC/PUBLIC/OMB/index.html>). The document will be available on the NRC home page site for 60 days after the signature date of this notice.

Comments and questions about the information collection requirements may be directed to the NRC Clearance Officer, Brenda Jo Shelton, U.S. Nuclear Regulatory Commission, T-6 E6, Washington, DC 20555-0001, by telephone at 301-415-7233, or by Internet electronic mail at [BJS1@NRC.GOV](mailto:BJS1@NRC.GOV).

Dated at Rockville, Maryland, this 7th day of April 1999.

For the Nuclear Regulatory Commission.

**Brenda Jo Shelton,**

*NRC Clearance Officer, Office of the Chief Information Officer.*

[FR Doc. 99-9169 Filed 4-12-99; 8:45 am]

BILLING CODE 7590-01-P

## NUCLEAR REGULATORY COMMISSION

### Agency Information Collection Activities: Submission for OMB Review; Comment Request

**AGENCY:** U.S. Nuclear Regulatory Commission (NRC).

**ACTION:** Notice of the OMB review of information collection and solicitation of public comment.

**SUMMARY:** The NRC has recently submitted to OMB for review the following proposal for the collection of information under the provisions of the Paperwork Reduction Act of 1995 (44 U.S.C. Chapter 35). The NRC hereby informs potential respondents that an agency may not conduct or sponsor, and that a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

1. Type of submission, new, revision, or extension: Extension.

2. The title of the information collection: 10 CFR Part 20, Standards for Protection Against Radiation.

3. How often the collection is required: Annually for most reports; at license termination for reports dealing with decommissioning.

4. Who will be required or asked to report: NRC licensees, including those requesting license termination.

5. The number of annual respondents: The total annual number of NRC licensees responding to this requirement by either reporting or recordkeeping is 5939.

6. The number of hours needed annually to complete the requirement or request: 165,498 (approximately 28 hours per licensee).

7. An indication of whether Section 3507(d), Pub. L. 104-13 applies: Not applicable.

8. Abstract: 10 CFR Part 20 establishes standards for protection against ionizing radiation resulting from activities conducted under licenses issued by the NRC. These standards require the establishment of radiation protection programs, maintenance of radiation records, recording of radiation received by workers, reporting of incidents which could cause exposure to radiation, submittal of an annual report to NRC of the results of individual monitoring, and submittal of license termination information. These mandatory requirements are needed to protect occupationally exposed individuals from undue risks of excessive exposure to ionizing radiation and to protect the health and safety of the public.

A copy of the final supporting statement may be viewed free of charge at the NRC Public Document Room, 2120 L Street, NW (lower level), Washington, DC. OMB clearance requests are available at the NRC worldwide web site (<http://www.nrc.gov>) under the FedWorld collection link on the home page tool bar. The document will be available on the NRC home page site for 60 days after the signature date of this notice.

Comments and questions should be directed to the OMB reviewer by May 13, 1999: Erik Godwin, Office of Information and Regulatory Affairs (3150-0014), NEOB-10202, Office of Management and Budget, Washington, DC 20503.

Comments can also be submitted by telephone at (202) 395-3084.

The NRC Clearance Officer is Brenda Jo. Shelton, 301-415-7233.

Dated at Rockville, Maryland, this 7th day of April 1999.

For the Nuclear Regulatory Commission.

**Brenda Jo. Shelton,**

*NRC Clearance Officer, Office of the Chief Information Officer.*

[FR Doc. 99-9173 Filed 4-12-99; 8:45 am]

BILLING CODE 7590-01-P

## NUCLEAR REGULATORY COMMISSION

[Docket Nos. 50-317 and 50-318]

### In the Matter of Baltimore Gas & Electric Company (Calvert Cliffs Nuclear Power Plant, Unit Nos. 1 and 2); Exemption

#### I.

The Baltimore Gas and Electric Company (BGE or the licensee) is the holder of Facility Operating Licenses Nos. DPR-53 and DPR-69, which authorize operation of the Calvert Cliffs Nuclear Power Plant, Unit Nos. 1 and 2 (the facilities), respectively. The licenses provide, among other things, that the facilities are subject to all rules, regulations, and orders of the U.S. Nuclear Regulatory Commission (NRC or the Commission) now or hereafter in effect.

The facilities are pressurized-water reactors located at the licensee's site in Calvert County, Maryland.

The licensee, in letters dated October 6, 1997, and July 22, 1998, requested an exemption from the technical requirements of 10 CFR Part 50, Appendix R, Section III.J, Emergency lighting, as follows: (1) To be allowed to use security lighting required by 10 CFR 73.55, powered by the security emergency diesel generator, for exterior lighting in lieu of 8-hour battery powered emergency lighting units, (2) to be able to use portable lights powered by an 8-hour power supply, for actions in high radiation areas, in lieu of 8-hour battery powered emergency lighting units, and (3) to be able to use helmet lanterns inside of switchgear cabinets, again in lieu of 8-hour battery powered emergency lighting units.

#### II.

Section III.J of Appendix R to 10 CFR Part 50 applies to nuclear power plants that were operating prior to January 1, 1979. Unit 1 of Calvert Cliffs Nuclear Power Plant was licensed to operate July 31, 1974, and Unit 2 was licensed to operate on November 30, 1976.

Section III.J of Appendix R specifies that emergency lighting units with at least an 8-hour battery supply shall be provided in all areas needed for operation of safe shutdown equipment and in access and egress routes thereto. The licensee has not provided 8-hour battery supplied emergency lighting units in plant exterior areas, inside of electrical cabinets, or in high radiation areas that require such units under Section III.J.

The licensee proposed to credit the security lighting system, required by 10

CFR 73.55, which is backed by a security emergency diesel generator, for exterior lighting in lieu of 8-hour battery powered emergency lighting units. The licensee stated that the security lighting system is powered by an independent, uninterruptible power supply. According to the licensee, the generator backing the security lighting system is located in a separate structure from other plant area buildings and would not be affected by a fire requiring safe shutdown. The licensee stated that the generator is maintained with a fuel supply greater than 8 hours. The licensee also stated that the security lighting system, which meets the illumination requirements of 10 CFR 73.55, provides more than adequate illumination for exterior access and egress routes inside of the security protected area.

The licensee also proposed to be able to use portable lights in high radiation areas in lieu of fixed emergency lighting units with at least an 8-hour battery power supply. The exemption to permit this was requested to reduce radiation exposure to levels as low as reasonably achievable (ALARA) by eliminating emergency lighting testing and maintenance in high radiation areas. According to the licensee, the licensee's battery-powered portable lights have a wide base and are designed to be placed on the floor adjacent to the proposed work activity. The position of the lamp head can be adjusted to provide illumination necessary to perform the required work at the activity site. The lights are stored in a controlled cabinet near the activity sites, are dedicated for Appendix R safe shutdown activities, and are periodically tested. The lights have an 8-hour capacity. The licensee stated that fixed emergency lighting units are provided on the access and egress routes to the cabinet which contains the portable lights and to the entrance to the high radiation areas. According to the licensee, activities requiring the use of the portable lights are cold shutdown activities and are not time critical. In addition, the reduction of personnel radiation exposure from maintenance is in accordance with other NRC requirements. The portable lights, according to the licensee, would enable the performance in locked high radiation areas of limited non-time critical safe shutdown activities.

Finally, the licensee proposed to be able to use helmet mounted lights inside switchgear cabinets in lieu of fixed emergency lighting units specified by Section III.J of Appendix R. The licensee stated that due to space limitations and seismic qualification requirements, installation of fixed emergency lighting

units is not feasible. Emergency lighting units installed outside of the cabinets may not provide adequate lighting for the activity inside of the cabinet due to shadows cast by the operator. Activities performed inside of the cabinets requiring the use of helmet lights are limited to pulling fuses to isolate the cabinet from fire effects, according to the licensee. The helmet lights are stored inside of the Appendix R safe shutdown locker for each unit. This locker also contains the safe shutdown procedures and the locker is the first stop for the operators upon control room evacuation. The helmet mounted lights consist of a light head attached to a wide rubber band that is placed around a hardhat. A belt with two attached battery packs (each weighing about one pound) and a connector to attach the lamps to the battery completes the assembly. The helmet lights for pulling fuses inside of electrical switchgear, according to the licensee, will provide an adequate method of providing the necessary illumination to accomplish the limited activities.

### III.

The underlying purpose of 10 CFR Part 50, Appendix R, Section III.J, is to provide adequate illumination to assure the capability of performing all necessary safe shutdown functions, as well as to assure personnel movement to and from the equipment and components that must be manually operated by plant personnel to effect safe shutdown during emergencies. In addition, the illumination must have a capability to allow sufficient time for normal lighting to be restored. The staff has determined that the security lighting, portable lights, and helmet lights, as described by the licensee and discussed above, satisfy the underlying purpose of 10 CFR Part 50 Appendix R, Section III.J.

### IV.

In consideration of the foregoing, the Commission has determined that pursuant to 10 CFR 50.12, the exemption requested is authorized by law, will not present an undue risk to public health and safety, and is consistent with the common defense and security. The Commission further has determined that special circumstances, as provided in 10 CFR 50.12(a)(2)(ii), are present in that application of the regulation in the particular circumstances is not necessary to achieve the underlying purpose of the rule.

Therefore, the licensee's request for an exemption from the requirements of Section III.J of Appendix R to 10 CFR

Part 50, to the extent applicable to the areas and locations described by the licensee in its application, is granted, provided the licensee's proposed alternative lighting arrangements are implemented.

Pursuant to 10 CFR 51.32, the Commission has determined that granting the above exemption will have no significant impact on the quality of the human environment (64 FR 14275).

The subject exemption is effective from the date of issuance.

Dated this 7th day of April 1999.

For the Nuclear Regulatory Commission.

**John A. Zwolinski,**

*Director, Division of Licensing Project Management, Office of Nuclear Reactor Regulation.*

[FR Doc. 99-9170 Filed 4-12-99; 8:45 am]

BILLING CODE 7590-01-P

## NUCLEAR REGULATORY COMMISSION

[Docket No. 50-220]

### Niagara Mohawk Power Corporation; Nine Mile Point Nuclear Station, Unit No. 1 Environmental Assessment and Finding of No Significant Impact

The U.S. Nuclear Regulatory Commission (the Commission) is considering issuance of an amendment to Facility Operating License No. DPR-63, issued to Niagara Mohawk Power Corporation (the licensee), for operation of the Nine Mile Point Nuclear Station, Unit No. 1 (NMP1), located in the town of Scriba, Oswego County, New York.

#### Environmental Assessment

##### *Identification of the Proposed Action*

The proposed action would increase the number of fuel assemblies that can be stored in the NMP1 spent fuel pool (SFP) from 2776 (i.e., 1066 in the northern half of the pool and 1710 in the southern half of the pool) to 4086. The modification will be achieved by two separate campaigns. For the 1999 refueling outage (RFO15), the licensee will first replace the non-poison racks in the northern half of the pool with high density racks providing 1840 storage cells. Later, as further capacity increase is warranted, the licensee will replace the racks in the southern half of the pool with high density racks providing 2246 storage cells. The design of the new high density spent fuel storage racks incorporates Boral as a neutron absorber in the cell walls to allow for more dense storage of spent fuel.

The proposed action is in accordance with the licensee's application for amendment dated May 15, 1998, as



supplemented September 25, October 13, December 9 (two letters), 1998; January 11 and April 1, 1999.

#### *The Need for the Proposed Action*

An increase in spent fuel storage capacity is needed to reestablish full core off-load capability. Loss of that capability will occur as a result of RFO-15, currently scheduled to start April 11, 1999. Thus, after RFO-15, the licensee will replace the eight non-poison rack modules in the northern half of the NMP1 pool (which currently provides 1066 spent fuel storage locations) with new poison rack modules providing 1840 storage locations. Ultimately, additional capacity will be needed to accommodate future refueling outages. Thus, as further capacity increase is warranted by the increasing fuel inventory in the pool, the licensee will increase the capacity of the southern half of the pool (currently limited to 1,710 storage locations) so as to provide a total pool capacity for 4086 spent fuel assemblies. This capacity of 4086 storage locations is sufficient to extend full core off-load capability to at least the expiration date of the plant operating license, August 22, 2009.

#### *Environmental Impacts of the Proposed Action*

##### Radioactive Waste Treatment

NMP1 uses waste treatment systems designed to collect and process gaseous, liquid, and solid waste that might contain radioactive material. These radioactive waste treatment systems were evaluated in the Final Environmental Statement (FES) dated January 1974. The proposed SFP expansion will not involve any change in the waste treatment systems described in the FES.

##### Gaseous Radioactive Wastes

The storage of additional spent fuel assemblies in the pool is not expected to affect the releases of radioactive gases from the pool. Gaseous fission products such as Krypton-85 and Iodine-131 are produced by the fuel in the core during reactor operation. A small percentage of these fission gases is released to the reactor coolant from the small number of fuel assemblies that are expected to develop leaks during reactor operation. During refueling operations, some of these fission products enter the pool and are subsequently released into the air. Since the frequency of refueling (and therefore the number of freshly offloaded spent fuel assemblies stored in the pool at any one time) will not increase, there will be no increase in the

amounts of these types of fission products released into the atmosphere as a result of the increased pool fuel storage capacity.

The increased heat load on the pool from the storage of additional spent fuel assemblies will potentially result in an increase in the pool's evaporation rate. However, this increased evaporation rate is not expected to result in an increase in the amount of gaseous tritium released from the pool. The overall release of radioactive gases from NMP1 will remain a small fraction of the limits of 10 CFR 20.1301.

##### Solid Radioactive Wastes

Spent resins are generated by the processing of SFP water through the pool's purification system at NMP1. These spent resins are disposed of as solid radioactive waste ("radwaste"). The water turbulence caused by the removal and replacement operations in the pool ("reracking") may result in some resuspension of particulate matter in the pool. This could result in a temporary increase in the replacement frequency of the resin in the SFP purification system during the pool reracking operation. The licensee will use an underwater vacuum to clean the floor of the pool following removal of the old spent fuel rack modules. Vacuuming the SFP floor will remove any extraneous debris and crud and ensure visual clarity in the pool (to facilitate diving operations). Filters from this underwater vacuuming will be a source of solid radwaste. These filters and resins are collected and disposed of in accordance with existing plant radwaste procedures. Additional solid radwaste will consist of the old spent fuel rack modules themselves, as well as any interferences or pool hardware that may have to be removed from the pool to permit installation of the new rack modules. The old rack modules and removed hardware will be decontaminated, placed in shipping containers approved by the U.S. Department of Transportation, and shipped offsite to a licensed processing or disposal facility. Other than the radwaste generated during the actual reracking operation, the NRC staff does not expect that the additional fuel storage provided by the increased SFP storage capacity will result in a significant change in the generation of solid radwaste at NMP1.

##### Liquid Radioactive Wastes

The release of radioactive liquids will not be affected directly as a result of the SFP modifications. The SFP ion exchanger resins remove soluble radioactive materials from the pool

water. When the resins are replaced, the small amount of resin sluice water that is released is processed by the radwaste system. As previously stated, the frequency of resin replacement may increase slightly during the installation of the new racks. However, the amount of radioactive liquid released to the environment as a result of the proposed SFP expansion is expected to be negligible.

##### Occupational Dose Consideration

Radiation Protection personnel at NMP1 will constantly monitor the doses to the workers during the SFP expansion operation. If it becomes necessary to utilize divers for the reracking operation, the licensee will equip each diver with whole-body and extremity dosimeters having remote, above surface, readouts that will be continuously monitored by Health Physics personnel. The total occupational dose to plant workers as a result of the SFP expansion operation is estimated to be between 6 and 12 person-rem. This dose estimate is comparable to doses for similar SFP modifications performed at other nuclear plants. The upcoming SFP rack installation will follow detailed procedures prepared with full consideration of ALARA (as low as is reasonably achievable) principles.

On the basis of its review of the licensee's proposal, the NRC staff concludes that the NMP1 SFP reracking operation can be performed in a manner that will ensure that doses to workers will be maintained ALARA. The estimated dose of 6 to 12 person-rem to perform the proposed SFP reracking operation is a small fraction of the annual collective dose accrued at NMP1.

##### Accident Considerations

In its application, the licensee evaluated the possible consequences of a fuel handling accident to determine the thyroid and whole-body doses at the site's Exclusion Area Boundary, Low Population Zone, and in the NMP1 Control Room. The proposed SFP rack installation at NMP1 will not affect any of the assumptions or inputs used in evaluating the dose consequences of a fuel handling accident and, therefore, will not result in an increase in the doses from a postulated fuel handling accident.

The NRC staff reviewed the licensee's analysis of a fuel handling accident and performed confirmatory calculations to check the acceptability of the licensee's doses. The NRC staff's calculations confirmed that the thyroid doses at the Exclusion Area Boundary, Low

Population Zone, and in the Control Room from a fuel handling accident meet the acceptance criteria and that the licensee's calculations are acceptable. The results of the NRC staff's calculations are presented in the Safety Evaluation to be issued with the license amendment.

An accidental cask drop into the pool continues to be unlikely as none of the features preventing such a drop (e.g., design and maintenance of the main hoist, the controlled cask movement path, and the hydraulic guide cylinder cask drop protection system) are affected by the proposed action. The licensee also found that the consequences of a loss of SFP cooling was acceptable in that ample time would be available for the operators to re-establish cooling before the onset of pool boiling. Evaluation of a design basis seismic event indicated the new racks would remain safe and impact-free, the structural capability of the pool would not be exceeded, and the reactor building and crane structure would continue to retain necessary safety margins. Thus, these potential accidents have no environmental consequences.

In summary, the proposed action will not increase the probability or consequences of accidents, no changes are being made to radioactive waste treatment systems or in the types of any radioactive effluents that may be released offsite, and the proposed action will not result in a significant increase in occupational or offsite radiation exposure. Accordingly the Commission concludes that there are no significant radiological environmental impacts associated with the proposed action.

With regard to potential nonradiological impacts, the proposed action does not affect nonradiological plant effluents and has no other nonradiological environmental impact.

Accordingly, the Commission concludes that there are no significant environmental impacts associated with the proposed action.

### **Alternatives to the Proposed Action**

#### *Shipping Fuel to a Permanent Federal Fuel Storage/Disposal Facility*

Shipment of spent fuel to a high-level radioactive storage facility is an alternative to increasing the onsite spent fuel storage capacity. However, the U.S. Department of Energy's (DOE's) high-level radioactive waste repository is not expected to begin receiving spent fuel until approximately 2010, at the earliest. In October 1996, the Administration did commit DOE to begin storing waste at a centralized location by January 31, 1998. However, no location has been

identified and an interim federal storage facility has yet to be identified in advance of a decision on a permanent repository. Therefore, shipping spent fuel to the DOE repository is not considered an alternative to increased onsite spent fuel storage capacity at this time.

#### *Shipping Fuel to a Reprocessing Facility*

Reprocessing of spent fuel from the Nine Mile Point Nuclear Station is not a viable alternative since there are no operating commercial reprocessing facilities in the United States. Therefore, spent fuel would have to be shipped to an overseas facility for reprocessing. However, this approach has never been used and it would require approval by the Department of State as well as other entities. Additionally, the cost of spent fuel reprocessing is not offset by the salvage value of the residual uranium; reprocessing represents an added cost.

#### *Shipping Fuel to Another Utility or Site or to the NMP2 Spent Fuel Pool for Storage*

The shipment of fuel to another utility or transferring NMP1 spent fuel to the NMP2 spent fuel pool for storage would provide short-term relief from the storage problem at NMP1. The Nuclear Waste Policy Act of 1982 and 10 CFR Part 53, however, clearly place the responsibility for the interim storage of spent fuel with each owner or operator of a nuclear plant. The NMP2 spent fuel pool has been designed with capacity to accommodate NMP2 and, therefore, transferring spent fuel from NMP1 to the NMP2 pool would create fuel storage capacity problems for NMP2. The shipment of fuel to another site or transferring it to NMP2 is not an acceptable alternative because of increased fuel handling risks and additional occupational radiation exposure, as well as the fact that no additional storage capacity would be created.

#### *Alternatives Creating Additional Storage Capacity*

Alternative technologies that would create additional storage capacity include rod consolidation, dry cask storage, modular vault dry storage, and constructing a new pool. Rod consolidation involves disassembling the spent fuel assemblies and storing the fuel rods from two or more assemblies into a stainless steel canister that can be stored in the spent fuel racks. Industry experience with rod consolidation is currently limited, primarily due to concerns for potential gap activity release due to rod breakage, the potential for increased fuel cladding

corrosion due to some of the protective oxide layer being scraped off, and because the prolonged consolidation activity could interfere with ongoing plant operations. Dry cask storage is a method of transferring spent fuel, after storage in the pool for several years, to high capacity casks with passive heat dissipation features. After loading, the casks are stored outdoors on a seismically qualified concrete pad. Concerns for dry cask storage include the potential for fuel or cask handling accidents, potential fuel clad rupture due to high temperatures, the need for special security provisions, and high cost. Vault storage consists of storing spent fuel in shielded stainless steel cylinders in a horizontal configuration in a reinforced concrete vault. The concrete vault provides missile and earthquake protection and radiation shielding. Due to large space requirements, a vault secured area for NMP1 would have to be located outside the secured perimeter of the plant site. Concerns for vault dry storage include security, land consumption, eventual decommission of the new vault, the potential for fuel or clad rupture due to high temperatures, and high cost. The alternative of constructing and licensing a new fuel pool is not practical for NMP1 because such an effort would require about 10 years to complete and would be the most expensive alternative.

The alternative technologies that could create additional storage capacity involve additional fuel handling with an attendant opportunity for a fuel handling accident, involve higher cumulative dose to workers effecting the fuel transfers, require additional security measures, are significantly more expensive, and would not result in a significant improvement in environmental impacts compared to the proposed reracking modifications.

#### *Reduction of Spent Fuel Generation*

Generally, improved usage of the fuel and/or operation at a reduced power level would be an alternative that would decrease the amount of fuel being stored in the pool and thus increase the amount of time before full core off-load capacity is lost. With extended burnup of fuel assemblies, the fuel cycle would be extended and fewer offloads would be necessary. This is not an alternative for resolving the loss of full-core offload capability that will occur as a result of the NMP1 refueling outage scheduled to begin about April 11, 1999, because the spent fuel to be transferred to the pool for storage has now almost completed its operating history in the core. For many years now, NMP1 has been

operating on the basis of 24-month refueling cycles, with core designs and fuel management schemes optimized accordingly. Operating the plant at a reduced power level would not make effective use of available resources, and would cause unnecessary economic hardship on the licensee and its customers. Therefore, reducing the amount of spent fuel generated by increasing burnup further or reducing power is not considered a practical alternative.

#### *The No-Action Alternative*

The NRC staff also considered denial of the proposed action, (i.e., the "no-action" alternative). Denial of the application would result in no significant change in current environmental impacts. The environmental impacts of the proposed action and the alternative actions are similar.

#### **Alternative Use of Resources**

This action does not involve the use of any resources not previously considered in the Final Environmental Statement for the Nine Mile Point Nuclear Station, Unit No. 1.

#### **Agencies and Persons Consulted**

In accordance with its stated policy, on April 7, 1999, the NRC staff consulted with the New York State official, Jack Spath of the New York State Research and Development Authority, regarding the environmental impact of the proposed action. The State official had no comments.

#### **Finding of No Significant Impact**

On the basis of the environmental assessment, the Commission concludes that the proposed action will not have a significant effect on the quality of the human environment. Accordingly, the Commission has determined not to prepare an environmental impact statement for the proposed action.

For further details with respect to the proposed action, see the licensee's letter dated May 15, 1998, as supplemented by letters dated September 25, October 13, December 9 (two letters), 1998; January 11 and April 1, 1999. These letters are available for public inspection at the Commission's Public Document Room, The Gelman Building, 2120 L Street, NW., Washington, D.C., and at the local public document room located at the Reference and Documents Department, Penfield Library, State University of New York, Oswego, New York 13126.

Dated at Rockville, Maryland, this 7th day of April 1999.

For the Nuclear Regulatory Commission.

**S. Singh Bajwa,**

*Chief, Section 1, Project Directorate I, Division of Licensing Project Management, Office of Nuclear Reactor Regulation.*

[FR Doc. 99-9172 Filed 4-12-99; 8:45 am]

BILLING CODE 7590-01-P

## **SECURITIES AND EXCHANGE COMMISSION**

[Investment Company Act Release No. 23772; 812-11540]

### **The Goldman Sachs Group, Inc., et al.; Notice of Application**

April 7, 1999.

**AGENCY:** Securities and Exchange Commission ("Commission").

**ACTION:** Notice of application under section 6(c) of the Investment Company Act of 1940 (the "Act") for an exemption from section 12(d)(3) of the Act.

#### **SUMMARY OF THE APPLICATION:**

Applicants request an order to amend a prior order ("Prior Order") relating to certain registered investment companies advised by the Goldman Advisers, as defined below, and one or more other investment advisers ("Unaffiliated Advisers").<sup>1</sup> The Prior Order permits the portion of the portfolio of these registered investment companies advised by an Unaffiliated Adviser ("Unaffiliated Portion") to engage in certain principal and brokerage transactions with and to purchase certain securities from Goldman, Sachs & Co. ("Goldman Sachs") or a member of an underwriting syndicate in which Goldman Sachs is a principal underwriter. The requested order would permit the Unaffiliated Portion to purchase equity or debt securities issued by The Goldman Sachs Group, Inc. ("Goldman Sachs, Inc.") or an affiliated person of Goldman Sachs, Inc. ("Goldman Securities"), subject to the limits in rule 12d3-1 under the Act. **APPLICANTS:** Goldman Sachs, Inc., Goldman Sachs, Goldman Sachs Asset Management ("GSAM"), Liberty Investment Management ("Liberty"), Goldman Sachs Asset Management International ("GSAMI"), and Goldman Sachs Funds Management, L.P. ("GSFM"); The Diversified Investors Funds Group, Diversified Investors Portfolios, the Managers Funds, the Hirtle Callaghan Trust, EAI Select Managers Equity Fund, and the Seasons Series Trust (collectively, the "Funds").

<sup>1</sup> *Goldman Sachs & Co., et al., Investment Company Act Release Nos. 22858 (Oct. 17, 1997) (notice) and 22887 (Nov. 13, 1997) (order).*

GSAM, Liberty, GSAMI, GSFM, and any other entities controlling, controlled by, or under common control with Goldman Sachs that serve as investment advisers to the Funds are collectively referred to as the "Goldman Advisers."

**FILING DATES:** The application was filed on April 6, 1999.

**HEARING OR NOTIFICATION OF HEARING:** An order granting the application will be issued unless the Commission orders a hearing. Interested persons may request a hearing by writing to the Commission's Secretary and serving applicants with a copy of the request, personally or by mail. Hearing requests should be received by the SEC by 5:30 p.m. on April 28, 1999, and should be accompanied by proof of service on applicants, in the form of an affidavit or, for lawyers, a certificate of service. Hearing requests should state the nature of the writer's interest, the reason for the request, and the issues contested. Persons who wish to be notified of a hearing may request notification by writing to the Commission's Secretary.

**ADDRESSES:** Secretary, SEC, 450 Fifth Street, N.W., Washington, D.C. 20549-0609. Applicants, 85 Broad Street, New York, NY 10004.

**FOR FURTHER INFORMATION CONTACT:** Kathleen L. Knisely, Staff Attorney, at (202) 942-0517, or Nadya B. Roytblat, Assistant Director, at (202) 942-0564 (Division of Investment Management, Office of Investment Company Regulation).

**SUPPLEMENTARY INFORMATION:** The following is a summary of the application. The complete application may be obtained for a fee at the Commission's Public Reference Branch, 450 Fifth Street, NW, Washington, DC 20549-0102 (tel. 202-942-8090).

#### **Applicants' Representations**

1. Goldman Sachs, Inc. is a newly created entity that owns The Goldman Sachs Group, L.P. ("Goldman Sachs Group"), the parent holding company of Goldman Sachs. Goldman Sachs is registered as a broker-dealer under the Securities Exchange Act of 1934 and an investment adviser under the Investment Advisers Act of 1940 ("Advisers Act"). GSAMI and GSFM are under common control with Goldman Sachs and are investment advisers registered under the Advisers Act. GSAM is an operating division of Goldman Sachs, and Liberty is an operating division of GSFM.

2. The Funds, open-end management investment companies registered under the Act, are organized as Massachusetts business trusts, or in the case of The Hirtle Callaghan Trust, as a Delaware

business trust.<sup>2</sup> GSAM and Liberty serve as an investment adviser to series of the Funds that have more than one investment adviser ("Multi-Managed Portfolios"). Each Multi-Managed Portfolio is advised by one or more Unaffiliated Advisers registered under the Advisers Act. The Unaffiliated Advisers are not affiliated persons of Goldman Sachs or affiliated persons of Goldman Sachs or any Goldman Adviser ("Unaffiliated Advisers," together with the Goldman Advisers, the "Subadvisers").<sup>3</sup> Each Subadviser is responsible for managing only the investments of a discrete portion of the Multi-Managed Portfolio's assets.

3. Applicants state that in managing a portion of a Multi-Managed Portfolio, each Subadviser acts as if it were managing a separate investment company. The Subadvisers do not collaborate, and each is responsible for making independent investment and brokerage allocation decisions for its portion of the Multi-Managed Portfolio based on its own research and analysis. The Subadvisers do not receive information about investment or brokerage allocation decisions of another portion of the Multi-Managed Portfolio before they are implemented. Each Subadviser is compensated for advisory services based only on a percentage of the value of the assets of the portion of the Multi-Managed Portfolio allocated to that Subadviser. Applicants state that Goldman Sachs does not and will not control the Multi-Managed Portfolio for which a Goldman Adviser acts as Subadviser or otherwise influence the investment decisions of the Unaffiliated Portion.

4. The Goldman Sachs Group publicly announced on March 8, 1999 that it will sell approximately 12.8% of its equity in an initial public offering scheduled to take place during the Spring of 1999. Applicants request relief to permit the Unaffiliated Portions to purchase Goldman Securities in the initial public offering, in any subsequent offering, or in the secondary market.

#### Applicants' Legal Analysis

1. Section 12(d)(3) of the Act generally prohibits a registered

investment company from acquiring any security issued by any person who is a broker, dealer, investment adviser, or engaged in the business of underwriting (collectively, "securities-related activities"). Applicants state that because the issuer of the Goldman Securities is engaged in securities-related activities, an Unaffiliated Portion would be prohibited by section 12(d)(3) from purchasing the Goldman Securities.

2. Rule 12d3-1 under the Act exempts from the prohibition of section 12(d)(3) purchases of securities of an issuer engaged in securities-related activities if certain conditions are met. One of these conditions, set forth in rule 12d3-1(c), prohibits the acquisition of a security issued by the investment company's investment adviser, promoter, or principal underwriter, or any affiliated person of the investment adviser, promoter, or principal underwriter.

3. Section 2(a)(3) of the Act defines an "affiliated person" of another person to include: (a) any person that directly or indirectly owns, controls, or holds with power to vote 5% or more of the outstanding voting securities of the other person; (b) any person 5% or more of whose outstanding voting securities are directly or indirectly owned, controlled, or held with power to vote by the other person; (c) any person directly or indirectly controlling, controlled by, or under common control with the other person; and (d) if the other person is an investment company, any investment adviser of that company.

4. Applicants state that the issuer of the Goldman Securities would be an affiliated person of a Goldman Adviser. As an investment adviser to a portion of a Multi-Managed Portfolio, a Goldman Adviser is deemed to be an investment adviser to the entire Multi-Managed Portfolio. Thus, applicants state that a purchase by an Unaffiliated Portion of Goldman Securities would not meet rule 12d3-1(c) and that applicants are therefore unable to rely on the rule.

5. Applicants request an exemption under section 6(c) from section 12(d)(3) to permit the Unaffiliated Portions to purchase Goldman Securities, provided that all of the requirements of rule 12d3-1, except rule 12d3-1(c), are met. Applicants state that their proposal does not raise the conflicts of interest that rule 12d3-1(c) was designed to address because of the nature of the affiliation between a Goldman Adviser and the Unaffiliated Portion. Applicants submit that each Subadviser acts independently of the other Subadvisers in making investment and brokerage allocation decisions for the assets allocated to its portion of the Multi-Managed Portfolio.

Applicants state that Goldman Securities will not be purchased by any portion advised by a Goldman Adviser. Applicants assert that prohibiting the Unaffiliated Portions from purchasing Goldman Securities may cause Unaffiliated Advisers to forego investment opportunities that would be in the best interests of the Funds' shareholders.

#### Applicants' Conditions

Applicants agree that any order granting the requested relief and amending the Prior Order will be subject to the following conditions:

1. Each Multi-Managed Portfolio will be advised by a Goldman Adviser and at least one Unaffiliated Adviser and will be operated consistent with the manner described in the application. No Goldman Adviser will serve as a Primary Adviser to a Multi-Managed Portfolio.

2. No Goldman Adviser or any future investment adviser that is an affiliated person of a Goldman Adviser or an affiliated person of an affiliated person of a Goldman Adviser will purchase for its portion of a Multi-Managed Portfolio any Goldman Securities.

3. Each Multi-Managed Portfolio will abide by the restrictions imposed by rule 12d3-1, except paragraph (c) of that rule with respect to purchases of Goldman Securities by Unaffiliated Portions.

4. No Subadviser will directly or indirectly consult with any other Subadviser concerning any investment management decisions, including those relating to the Goldman Securities. Subadvisers may only consult with a Primary Adviser about Goldman Securities in order to monitor compliance with the limits in rule 12d3-1.

5. No Subadviser will participate in an arrangement whereby the amount of its compensation will be affected by the investment performance of any other Subadviser.

6. Neither a Goldman Adviser (except by virtue of serving as Subadviser) nor Goldman Sachs will be an affiliated person or an affiliated person of an affiliated person of any Unaffiliated Adviser or any officer, trustee or employee of the registered investment company relying on this order.

For the Commission, by the Division of Investment Management, under delegated authority.

**Margaret H. McFarland,**  
Deputy Secretary.

[FR Doc. 99-9124 Filed 4-12-99; 8:45 am]

BILLING CODE 8010-01-M

<sup>1</sup> All registered investment companies that currently intend to rely on the order are named as applicants. Any other existing or future registered investment company that relies on the order will comply with the terms and conditions of the application.

<sup>2</sup> The term "Subadvisers" includes a primary adviser ("Primary Adviser") to the extent the Primary Adviser is responsible for managing a portion of a Multi-Managed Portfolio. No Goldman Adviser will serve as a Primary Adviser to a Multi-Managed Portfolio.

**SMALL BUSINESS ADMINISTRATION****Notice of Action Subject to Intergovernmental Review Under Executive Order 12372**

**AGENCY:** U.S. Small Business Administration.

**ACTION:** Notice of Action Subject to Intergovernmental Review Under Executive Order 12372.

**SUMMARY:** The Small Business Administration (SBA) is notifying the public that it intends to grant the pending applications of 22 existing Small Business Development Centers (SBDCs) for refunding on October 1, 1999, subject to the availability of funds. Four states do not participate in the EO 12372 process, therefore, their addresses are not included. A short description of the SBDC program follows in the supplementary information below.

The SBA is publishing this notice at least 120 days before the expected refunding date. The SBDCs and their mailing addresses are listed below in the addresses section. A copy of this notice also is being furnished to the respective State single points of contact designated under the Executive Order. Each SBDC application must be consistent with any area-wide small business assistance plan adopted by a State-authorized agency.

**DATES:** A State single point of contact and other interested State or local entities may submit written comments regarding an SBDC refunding to the applicable SBDC on or before May 13, 1999.

**ADDRESSES:***Addresses of Relevant SBDC State Directors*

Mr. Robert McKinley, Region Director, Univ. of Texas at San Antonio, 1222 North Main Street, San Antonio, TX 78212, (210) 458-2450

Mr. Dennis Gruell, State Director, University of Connecticut, 2 Bourn Place, U-94, Storrs, CT 06269-5094, (860) 486-4135

Mr. Michael Young, Region Director, University of Houston, 1100 Louisiana, Suite 500, Houston, TX 77002, (713) 752-8444

Ms. Hazel Kroesser Palmer, State Director, West Virginia Development Office, 950 Kanawha Boulevard, East Charleston, WV 25301, (304) 558-2960

Mr. Clinton Tymes, State Director, University of Delaware, Suite 005—Purnell Hall, Newark, DE 19711, (302) 831-2747

Ms. Janet Holloway, State Director, University of Kentucky, 225 Business

& Economics Bldg., Lexington, KY 40506-0034, (606) 257-7668

Ms. Liz Klimback, Region Director, Dallas Community College, 1402 Corinth Street, Dallas, TX 75212, (214) 860-5835

Mr. Craig Bean, Region Director, Texas Tech University, 2579 South Loop 289, Suite 114, Lubbock, TX 79423-1637, (806) 745-3973

Mr. Max Summers, State Director, University of Missouri, Suite 300, University Place, Columbia, MO 65211, (573) 882-0344

Mr. James L. King, State Director, State University of New York, SUNY Plaza, S-523, Albany, NY 12246, (518) 443-5398

Ms. Rene Sprow, State Director, Univ. of Maryland/College Park, 7100 Baltimore Avenue, Suite 401, Baltimore, MD 20740, (301) 403-8163

Ms. Diane Wolverton, State Director, University of Wyoming, P.O. Box 3622, Laramie, WY 82701-3622, (307) 766-3505

Mr. Ronald Manning, State Director, Iowa State University, 137 Lynn Avenue, Ames, IA 50010, (515) 292-6351

Ms. Holly Schick, State Director, Ohio Department of Development, 77 South High Street, Columbus, OH 43226-1001, (614) 466-2711

Mr. Donald L. Kelpinski, State Director, Vermont Technical College, P.O. Box 422, Randolph Center, VT 05060, (802) 728-9101

Ms. Carmen Marti, SBDC Director, Inter American University, Ponce de Leon Avenue, #416, Edificio Union Plaza, Suite 7-A, Hato Rey, PR 00918, (787) 763-6811

Mr. Ian Hodge, Acting SBDC Director, University of the Virgin Islands, 8000 Nisky Center, Suite 202, St. Thomas, US V. Islands 00802, (809) 776-3206

**FOR FURTHER INFORMATION CONTACT:**

Johnnie L. Albertson, Associate Administrator for SBDCs, U.S. Small Business Administration, 409 Third Street, S.W., Suite 4600, Washington, D.C. 20416.

**SUPPLEMENTARY INFORMATION:****Description of the SBDC Program**

A partnership exists between SBA and an SBDC. SBDCs offer training, counseling and other business development assistance to small businesses. Each SBDC provides services under a negotiated Cooperative Agreement with SBA, the general management and oversight of SBA, and a state plan initially approved by the Governor. Non-Federal funds must match Federal funds. An SBDC must operate according to law, the

Cooperative Agreement, SBA's regulations, the annual Program Announcement, and program guidance.

**Program Objectives**

The SBDC program uses Federal funds to leverage the resources of states, academic institutions and the private sector to:

- (a) Strengthen the small business community;
- (b) Increase economic growth;
- (c) Assist more small businesses; and
- (d) Broaden the delivery system to more small businesses.

**SBDC Program Organization**

The lead SBDC operates a statewide or regional network of SBDC subcenters. An SBDC must have a full-time Director. SBDCs must use at least 80 percent of the Federal funds to provide services to small businesses. SBDCs use volunteers and other low cost resources as much as possible.

**SBDC Services**

An SBDC must have a full range of business development and technical assistance services in its area of operations, depending upon local needs, SBA priorities and SBDC program objectives. Services include training and counseling to existing and prospective small business owners in management, marketing, finance, operations, planning, taxes, and any other general or technical area of assistance that supports small business growth. The SBA district office and the SBDC must agree upon the specific mix of services. They should give particular attention to SBA's priority and special emphasis groups, including veterans, women, exporters, the disabled, and minorities.

**SBDC Program Requirements**

An SBDC must meet programmatic and financial requirements imposed by statute, regulations or its Cooperative Agreement. The SBDC must:

- (a) Locate subcenters so that they are as accessible as possible to small businesses;
- (b) Open all subcenters at least 40 hours per week, or during the normal business hours of its state or academic Host Organization, throughout the year;
- (c) Develop working relationships with financial institutions, the investment community, professional associations, private consultants and small business groups; and
- (d) Maintain lists of private consultants at each subcenter.

Dated: April 6, 1999.

**Johnnie L. Albertson,**

*Associate Administrator for Small Business Development Centers.*

[FR Doc. 99-9126 Filed 4-12-99; 8:45 am]

BILLING CODE 8025-01-P

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### **EIS No. 990029, Draft EIS, Toledo Express Airport (TOL), Proposed Noise Compatibility Plan, Air Traffic Actions and Proposed Aviation Related Industrial Development, Airport Layout Plan, Funding**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Extension of comment period.

**SUMMARY:** The Federal Aviation Administration (FAA) is extending the time allowed for the public to comment on the Toledo EIS until April 30, 1999.

**POINT OF CONTACT:** Mr. Wally Welter, Environmental specialist, FAA Great Lakes Region, Air Traffic Division, AGL-520.V, 2300 East Devon Avenue, Des Plaines, IL 60018.

Issued in Des Plaines, Illinois on March 24, 1999.

**Richard K. Peterson,**

*Acting Manager, Air Traffic Division.*

[FR Doc. 99-9200 Filed 4-12-99; 8:45 am]

BILLING CODE 4910-13-M

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### **Intent To Prepare an Environmental Impact Statement and To Conduct Environmental Scoping for Implementation of Air Traffic Control Procedures and Associated Noise Compatibility Program Mitigation at T.F. Green Airport, Warwick, Rhode Island**

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Notice of agency scoping meeting.

**SUMMARY:** In accordance with Council on Environmental Quality's Regulations and FAA Order 1050.1D, Policies and Procedures for Considering Environmental Impacts, the Federal Aviation Administration (FAA) is issuing notice to advise that an Environmental Impact Statement (EIS) will be prepared for revision and implementation of air traffic control procedures and associated noise

compatibility program mitigation measures at the T.F. Green Airport. In order to determine that all significant issues related to the proposed action are identified, an agency scoping meeting will be held.

**DATES:** The agency scoping meeting will be held on May 11, 1999. The meeting will be held between 2:00 p.m. and 4:00 p.m. for all interested agencies. Comments and suggestions may be mailed to the FAA informational contact listed below by May 11, 1999.

**ADDRESSES:** The meeting will be held at T.F. Green Airport in the Mary Brennan Board Room, located on the second floor of the Terminal Building, at 2000 Post Road, Warwick, Rhode Island.

**FOR FURTHER INFORMATION CONTACT:** Ms. Terry Fliieger, Federal Aviation Administration, New England Region, 12 New England Executive Park, Burlington, Massachusetts, 01803, (781) 238-7524.

**SUPPLEMENTARY INFORMATION:** The FAA is preparing an EIS for proposed changes in air traffic procedures for noise abatement, including related noise compatibility program measures at T.F. Green Airport. These will modify existing noise abatement procedures and mitigation measures proposed in the FAR Part 150 Noise Compatibility Program, approved by the FAA in 1986.

Comments and suggestions are invited from federal, state, and local agencies and other interested parties to ensure that the full range of issues related to the proposed action are addressed and all significant issues identified. Copies of a scoping document with additional details can be obtained by contacting the FAA informational contact listed above. Comments and suggestions may be mailed to the same address.

Dated: March 26, 1999.

**William C. Yuknewicz,**

*Assistant Manager, Air Traffic Division, FAA, New England Region.*

[FR Doc. 99-9201 Filed 4-12-99; 8:45 am]

BILLING CODE 4910-13-M

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### **Notice of Intent To Rule on an Application To Impose a Passenger Facility Charge (PFC) at John F. Kennedy International Airport (JFK), LaGuardia Airport (LGA), and Newark International Airport (EWR), and To Use the Revenue from the PFC at JFK**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Request for comments, notice of intent to rule on a PFC application.

**SUMMARY:** This document requests public comment on (1) the supplementary material provided by the applicant, the Port Authority of New York and New Jersey (PANYNJ), in support of its application to the FAA for authority to impose a PFC at JFK, LGA, and EWR and use the PFC revenue at JFK to construct an airport ground access light rail system (LRS), and (2) FAA and Federal Transit Administration memoranda pertaining to the supplemental material, and correspondence from the FAA to the PANYNJ concerning the supplemental material.

The FAA's prior decision, dated February 9, 1998, on the PANYNJ's application was vacated and remanded by the United States Court of Appeals for the District of Columbia Circuit on March 5, 1999. In accordance with the Court's order, the FAA is soliciting public comment on the supplementary material. The FAA will review the comments received and issue a new decision approving or disapproving the application, in whole or in part, within 120 days of the date of this Notice. The new ruling will be issued under the provisions of the Aviation Safety and Capacity Expansion Act of 1990 (Title IX of the Omnibus Budget Reconciliation Act of 1990) (Pub. L. 101-508) and Part 158 of the Federal Aviation Regulations (14 CFR Part 158).

**DATES:** Comments must be received on or before May 13, 1999.

**ADDRESSES:** Comments on this supplemental information may be mailed or delivered in triplicate to the FAA at the following address: Mr. Phil Brito, Manager, New York Airports District Office, 600 Old Country Road, Suite 446, Garden City, NY 11530.

In addition, one copy of any comments submitted to the FAA must be mailed or delivered to Mr. Anthony G. Cracchiolo, Director, Priority Capital Projects, Port Authority of New York and New Jersey, One World Trade Center, 63 South, New York, NY 10048.

**FOR FURTHER INFORMATION CONTACT:** Mr. Thomas Felix, Planning and Development Branch (AEA-610), Fitzgerald Federal Building, JFK International Airport, Jamaica, NY 11430, (718) 553-3335. The supplemental information may be reviewed in person at this same location.

**SUPPLEMENTARY INFORMATION:** The FAA invites public comment on supplemental material provided by the applicant, the PANYNJ, to the FAA in

support of the PANYNJ's application to impose a PFC at JFK, LGA, and EWR and use the PFC revenue at JFK for the construction of an LRS. The supplemental material includes all correspondence and data provided to the FAA by the PANYNJ after July 21, 1997, which was the date of the PANYNJ's submission of its formal application for the LRS. In addition, the FAA invites comment on FAA and Federal Transit Administration memoranda pertaining to the supplemental material, and correspondence from the FAA to the PANYNJ concerning the supplemental material. The FAA will issue a new decision on the PANYNJ's application under the provisions of the Aviation Safety and Capacity Expansion Act of 1990 (Title IX of the Omnibus Budget Reconciliation Act of 1990) (Pub. L. 101-508) and Part 158 of the Federal Aviation Regulations (14 CFR Part 158). This new decision will replace the FAA's prior decision dated February 9, 1998, which was vacated by the United States Court of Appeals for the District of Columbia on March 5, 1999.

#### Background

On February 9, 1998, the FAA issued a Record of Decision (ROD) on a PFC application submitted by the PANYNJ. This ROD approved collection of \$823,000,000 in PFC revenue and use of \$1,148,000,000 (includes previously approved PFC collections) to construct an LRS at JFK. The LRS consists of three segments: a central terminal area (CTA) loop component; a component to connect the CTA loop to the Howard Beach subway station; and a component to connect the CTA loop to the Jamaica Station Long Island Rail Road/Sutphin Boulevard subway station.

As a part of the decision making process for PFC applications, the FAA publishes a notice in the **Federal Register** informing the public of the FAA's intention to rule on the pending application and inviting public comment on that application. The FAA considers all comments during its deliberations on the application and responds to all substantive comments in the ROD. The PFC application for the LRS was submitted to the FAA by the PANYNJ on July 21, 1997. The FAA published the **Federal Register** notice on July 29, 1997. The **Federal Register** public comment period closed on August 28, 1997.

As a part of the FAA's responsibilities with regard to rendering decisions on PFC applications, the FAA must determine that each approved project is adequately justified. After reviewing the application submitted by the PANYNJ,

the FAA found that further documentation was required to support a finding of adequate justification. Accordingly, the FAA asked the PANYNJ for information which the agency deemed to be clarifying information. In its March 5, 1999, decision, *Air Transport Authority v. Federal Aviation Administration* (No. 98-1109), the United States Court of Appeals for the District of Columbia found that the clarifying information was a material supplement to the PANYNJ's application provided after the close of the Federal Register comment period. The Court vacated and remanded the FAA's ROD on the PANYNJ PFC application ordering that the public be given the opportunity to comment upon the information submitted by the PANYNJ subsequent to the close of the prior Federal Register comment period.

Any person may inspect the application and supplementary information described above in person at the FAA office listed above under **FOR FURTHER INFORMATION CONTACT**, and at the FAA's New York Airports District Office located at 600 Old Country Road, Suite 446, Garden City, NY, and at the FAA's Passenger Facility Charge Branch office located at FAA Headquarters, 800 Independence Avenue, SW, Washington, DC, in room 619 (call (202) 267-3845 to arrange for access).

In addition, any person may, upon request, inspect the application, notice and supplemental information germane to the application in person at the offices of the PANYNJ.

Issued in Washington, DC, on April 1, 1999.

**Paul L. Galis,**

*Director, Office of Airport Planning and Programming.*

[FR Doc. 99-9133 Filed 4-12-99; 8:45 am]

BILLING CODE 4910-13-M

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### Notice of Intent To Rule on Application To Impose and Use the Revenue From a Passenger Facility Charge (PFC) at Metropolitan Oakland International Airport, Oakland, CA

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of Intent to Rule on Application.

**SUMMARY:** The FAA proposes to rule and invites public comment on the application to impose and use the revenue from a PFC at Metropolitan

Oakland International Airport under the provisions of the Aviation Safety and Capacity Expansion Act of 1990 (Title IX of the Omnibus Budget Reconciliation Act of 1990) (Pub. L. 101-508) and Part 158 of the Federal Aviation Regulations (14 CFR part 158).

**DATES:** Comments must be received on or before May 13, 1999.

**ADDRESSES:** Comments on this application may be mailed or delivered in triplicate to the FAA at the following address: Federal Aviation Administration, Airports Division, 15000 Aviation Blvd., Lawndale, CA 90261, or San Francisco Airports District Office, 831 Mitten Road, Room 210, Burlingame, CA 94010-1303. In addition, one copy of any comments submitted to the FAA must be mailed or delivered to Mr. Steven J. Grossman, Director of Aviation of the Port of Oakland, at the following address: 530 Water Street, Oakland, CA 94604. Air carriers and foreign air carriers may submit copies of written comments previously provided to the Port of Oakland under section 158.23 of Part 158.

**FOR FURTHER INFORMATION CONTACT:** Marlys Vandervelde, Airports Program Analyst, San Francisco Airports District Office, 831 Mitten Road, Room 210, Burlingame, CA 94010-1303, Telephone: (650) 876-2806. The application may be reviewed in person at this same location.

**SUPPLEMENTARY INFORMATION:** The FAA proposes to rule and invites public comment on the application to impose and use the revenue from a PFC at Metropolitan Oakland International Airport under the provisions of the Aviation Safety and Capacity Expansion Act of 1990 (Title IX of the Omnibus Budget Reconciliation Act of 1990) (Pub. L. 101-508) and Part 158 of the Federal Aviation Regulations (14 CFR Part 158). On February 4, 1999, the FAA determined that the application to impose and use the revenue from a PFC submitted by the Port of Oakland was not substantially completed within the requirements of section 158.25 of Part 158. The following items are required to complete the application: where applicable, all projects included in the application for authority to impose and use a PFC must be shown on the approved Airport Layout Plan, all environmental requirements must be completed, and all the FAA airspace determinations must be completed; the Airport Capital Improvement Plan (ACIP) submitted with the application must be consistent with the information provided in the Attachment B.

On February 18, 1999, the Port of Oakland submitted supplemental information for this application. The FAA will approve or disapprove the application, in whole or in part, no later than June 18, 1999. The following is a brief overview of the impose and use application No. 99-08-C-00-OAK:

*Level of proposed PFC:* \$3.00

*Proposed charge effective date:* July 1, 1999

*Proposed charge expiration date:* January 1, 2001

*Total estimated PFC revenue:* \$22,122,844

*Brief description of the proposed projects:* Year 2000 Compliance Program, Multi-User System Equipment/Common Use Terminal Equipment, Airport Comprehensive Management System, Upgrade Security Access System, Rehabilitate Apron at Building L820 and a Portion of Taxiway "D", Construct Concrete Apron South East of Building L812, Threshold Improvement of Runway 11/29, Overlay Taxiway "R", Airport Facilities Complex and Noise Insulation Program.

Class or classes of air carriers which the public agency has requested not be required to collect PFCs: Air Taxi/Commercial Operators filing FAA Form 1800-31 and Commuters or Small Certificated Air Carriers filing DOT Form 298-C T1 or E1.

Any person may inspect the application in person at the FAA office listed above under **FOR FURTHER INFORMATION CONTACT** and at the FAA Regional Airports Division located at: Federal Aviation Administration, Airports Division, 15000 Aviation Blvd., Lawndale, CA 90261. In addition, any person may, upon request, inspect the application, notice and other documents germane to the application in person at the Port of Oakland.

Issued in Hawthorne, California, on March 12, 1999.

**Herman C. Bliss,**

*Manager, Airports Division, Western-Pacific Region.*

[FR Doc. 99-9136 Filed 4-12-99; 8:45 am]

BILLING CODE 4910-13-M

## DEPARTMENT OF TRANSPORTATION

### Surface Transportation Board

[STB Finance Docket No. 33733]

#### CSX Transportation, Inc.—Trackage Rights Exemption—Consolidated Rail Corporation

Consolidated Rail Corporation (Conrail), has agreed to grant overhead trackage rights to CSX Transportation, Inc. (CSXT), to operate its trains,

locomotives, cars and equipment with CSXT's own crews over Conrail's Porter Branch milepost 246.7± at Willow Creek, IN, and milepost 259.5± at Gibson, IN (CP Ivanhoe), a total distance of approximately 12.8 miles.<sup>1</sup>

As noted in CSXT's notice of exemption, this trackage rights arrangement is only temporary. The Conrail trackage that is the subject of the trackage rights is to be allocated to Conrail's subsidiary, New York Central Lines LLC, and operated by CSXT, after what is referred to as the "Split Date," or the date of the division of Conrail's assets, as authorized by the Board in *CSX Corporation and CSX Transportation, Inc., Norfolk Southern Corporation and Norfolk Southern Railway Company—Control and Operating Leases/Agreements—Conrail Inc., and Consolidated Rail Corporation*, STB Finance Docket No. 33388 (STB served July 23, 1998). CSXT states that it expects the Split Date to occur on June 1, 1999. The parties intend for the trackage rights to terminate on the Split Date, but if the Split Date does not occur before June 30, 1999, the parties' agreement provides for termination of the trackage rights on June 30, 1999.

The transaction was scheduled to be consummated on or shortly after April 1, 1999. The purpose of the trackage rights is to allow CSXT to qualify its crew and engine personnel on the trackage that CSXT will operate following the Split Date of Conrail's rail properties. As a condition to this exemption, any employees affected by the trackage rights will be protected by the conditions imposed in *Norfolk and Western Ry. Co.—Trackage Rights—BN*, 354 I.C.C. 605 (1978), as modified in *Mendocino Coast Ry., Inc.—Lease and Operate*, 360 I.C.C. 653 (1980). This notice is filed under 49 CFR 1180.2(d)(7). If it contains false or misleading information, the exemption is void *ab initio*. Petitions to revoke the exemption under 49 U.S.C. 10502(d) may be filed at any time. The filing of a petition to revoke will not automatically stay the transaction.

An original and 10 copies of all pleadings, referring to STB Finance Docket No. 33733, must be filed with the Surface Transportation Board, Office of the Secretary, Case Control Unit, 1925

K Street, NW, Washington, DC 20423-0001. In addition, one copy of each pleading must be served on Charles M. Rosenberger, Senior Counsel, CSX Transportation, Inc., 500 Water Street, J-150, Jacksonville, FL 32202.

Board decisions and notices are available on our website at "WWW.STB.DOT.GOV."

Decided: April 6, 1999.

By the Board, David M. Konschnik, Director, Office of Proceedings.

**Vernon A. Williams,**

*Secretary.*

[FR Doc. 99-9034 Filed 4-12-99; 8:45 am]

BILLING CODE 4915-00-P

## DEPARTMENT OF THE TREASURY

### Departmental Offices; Debt Management Advisory Committee Meeting

Notice is hereby given, pursuant to 5 U.S.C. App. § 10(a)(2), that a meeting will be held at the U.S. Treasury Department, 15th and Pennsylvania Avenue, NW, Washington, DC, on May 4, 1999, of the following debt management advisory committee:

The Bond Market Association  
Treasury Borrowing Advisory  
Committee

The agenda for the meeting provides for a technical background briefing by Treasury staff, followed by a charge by the Secretary of the Treasury or his designate that the committee discuss particular issues, and a working session. Following the working session, the committee will present a written report of its recommendations.

The background briefing by Treasury staff will be held at 9:00 a.m. Eastern time and will be open to the public. The remaining sessions and the committee's reporting session will be closed to the public, pursuant to 5 U.S.C. App. section 10(d).

This notice shall constitute my determination, pursuant to the authority placed in heads of departments by 5 U.S.C. App. § 10(d) and vested in me by Treasury Department Order No. 101-05, that the closed portions of the meeting are concerned with information that is exempt from disclosure under 5 U.S.C. 552b(c)(9)(A). The public interest requires that such meetings be closed to the public because the Treasury Department requires frank and full advice from representatives of the financial community prior to making its final decision on major financing operations. Historically, this advice has been offered by debt management advisory committees established by the

<sup>1</sup> On March 25, 1999, CSXT filed a petition for exemption in STB Finance Docket No. 33733 (Sub-No. 1), *CSX Transportation, Inc.—Trackage Rights Exemption—Consolidated Rail Corporation*, wherein CSXT requests that the Board permit the proposed overhead trackage rights arrangement described in the present proceeding to expire on the Split Date (as described in this decision) or June 30, 1999, whichever occurs first. That petition will be addressed by the Board in a separate decision.



several major segments of the financial community. When so utilized, such a committee is recognized to be an advisory committee under 5 U.S.C. App section 3.

Although the Treasury's final announcement of financing plans may not reflect the recommendations provided in reports of the advisory committee, premature disclosure of the committee's deliberations and reports would be likely to lead to significant financial speculation in the securities market. Thus, these meetings fall within the exemption covered by 5 U.S.C. 552b(c)(9)(A).

The Office of the Assistant Secretary for Financial Markets is responsible for maintaining records of debt management advisory committee meetings and for providing annual reports setting forth a summary of committee activities and such other matters as may be informative to the public consistent with the policy of 5 U.S.C. 552b.

Dated: April 8, 1999.

**Gary Gensler,**

*Assistant Secretary (Financial Markets).*

[FR Doc. 99-9161 Filed 4-12-99; 8:45 am]

BILLING CODE 4810-25-M

## DEPARTMENT OF THE TREASURY

### Bureau of Alcohol, Tobacco and Firearms

#### Proposed Collection; Comment Request

**ACTION:** Notice and request for comments.

**SUMMARY:** The Department of the Treasury, as part of its continuing effort to reduce paperwork and respondent burden, invites the general public and other Federal agencies to take this opportunity to comment on proposed and/or continuing information collections, as required by the Paperwork Reduction Act of 1995, Public Law 104-13 (44 U.S.C. 3506(c)(2)(A)). Currently, the Bureau of Alcohol, Tobacco and Firearms within the Department of the Treasury is soliciting comments concerning the Application and Permit to Ship Puerto Rican Spirits to the United States Without Payment of Tax.

**DATES:** Written comments should be received on or before June 14, 1999 to be assured of consideration.

**ADDRESSES:** Direct all written comments to Linda Barnes, Bureau of Alcohol, Tobacco and Firearms, 650 Massachusetts Avenue, NW, Washington, DC 20226, (202) 927-8930.

#### FOR FURTHER INFORMATION CONTACT:

Requests for additional information or copies of the form(s) and instructions should be directed to Mary A. Wood, Regulations Division, 650 Massachusetts Avenue, NW, Washington, DC 20226, (202) 927-8185.

#### SUPPLEMENTARY INFORMATION:

*Title:* Application and Permit to Ship Puerto Rican Spirits to the United States Without Payment of Tax.

*OMB Number:* 1512-0200.

*Form Number:* ATF F 5110.31.

*Abstract:* ATF F 5110.31 is used to allow a person to ship spirits in bulk into the U.S. The form identifies the person in Puerto Rico from where shipments are to be made, the person in the U.S. receiving the spirits, amounts of spirits to be shipped, and the bond of the U.S. person to cover taxes on such spirits.

*Current Actions:* There are no changes to this information collection and it is being submitted for extension purposes only.

*Type of Review:* Extension.

*Affected Public:* Business or other for-profit.

*Estimated Number of Respondents:* 20.

*Estimated Time Per Respondent:* 45 minutes.

*Estimated Total Annual Burden Hours:* 450.

#### Request For Comments

Comments submitted in response to this notice will be summarized and/or included in the request for OMB approval. All comments will become a matter of public record. Comments are invited on: (a) Whether the collection of information is necessary for the proper performance of the functions of the agency, including whether the information shall have practical utility; (b) the accuracy of the agency's estimate of the burden of the collection of information; (c) ways to enhance the quality, utility, and clarity of the information to be collected; (d) ways to minimize the burden of the collection of information on respondents, including through the use of automated collection techniques or other forms of information technology; and (e) estimates of capital or start-up costs and costs of operation, maintenance, and purchase of services to provide information.

Dated: April 5, 1999.

**William T. Earle,**

*Assistant Director (Management) CFO.*

[FR Doc. 99-9188 Filed 4-12-99; 8:45 am]

BILLING CODE 4810-31-P

## DEPARTMENT OF THE TREASURY

### Bureau of Alcohol, Tobacco and Firearms

#### Proposed Collection; Comment Request

**ACTION:** Notice and request for comments.

**SUMMARY:** The Department of the Treasury, as part of its continuing effort to reduce paperwork and respondent burden, invites the general public and other Federal agencies to take this opportunity to comment on proposed and/or continuing information collections, as required by the Paperwork Reduction Act of 1995, Public Law 104-13 (44 U.S.C. 3506(c)(2)(A)). Currently, the Bureau of Alcohol, Tobacco and Firearms within the Department of the Treasury is soliciting comments concerning the Excise Tax Return, Alcohol and Tobacco (Puerto Rico).

**DATES:** Written comments should be received on or before June 14, 1999, to be assured of consideration.

**ADDRESSES:** Direct all written comments to Linda Barnes, Bureau of Alcohol, Tobacco and Firearms, 650 Massachusetts Avenue, NW., Washington, DC 20226, (202) 927-8930.

**FOR FURTHER INFORMATION CONTACT:** Requests for additional information or copies of the form(s) and instructions should be directed to Joan Kravchak, Revenue Division, 650 Massachusetts Avenue, NW., Washington, DC 20226, (202) 927-8930.

#### SUPPLEMENTARY INFORMATION:

*Title:* Excise Tax Return, Alcohol and Tobacco (Puerto Rico).

*OMB Number:* 1512-0497.

*Form Number:* ATF F 5000.25.

*Abstract:* Businesses in Puerto Rico report their Federal excise tax liability on distilled spirits, wine, beer, tobacco products, cigarette papers and tubes on ATF F 5000.25. ATF uses this form to identify the taxpayer and to determine the amount and type of taxes due and paid.

*Current Actions:* The form has 1 change. Under the title CALCULATION OF TAX DUE, (b) TAX CLASS is deleted. (c) AMOUNT OF TAX is changed to (b) AMOUNT OF TAX.

*Type of Review:* Extension

*Affected Public:* Business or other for-profit.

*Estimated Number of Respondents:* 30.

*Estimated Time Per Respondent:* 15 minutes.

*Estimated Total Annual Burden Hours:* 130.

*Request for Comments:* Comments submitted in response to this notice will be summarized and/or included in the request for OMB approval. All comments will become a matter of public record. Comments are invited on: (a) whether the collection of information is necessary for the proper performance of the functions of the agency, including whether the information shall have practical utility; (b) the accuracy of the agency's estimate of the burden of the collection of information; (c) ways to enhance the quality, utility, and clarity of the information to be collected; (d) ways to minimize the burden of the collection of information on respondents, including through the use of automated collection techniques or other forms of information technology; and (e) estimates of capital or start-up costs and costs of operation, maintenance, and purchase of services to provide information.

Date: April 5, 1999.

**William T. Earle,**

*Assistant Director (Management) CFO.*

[FR Doc. 99-9189 Filed 4-12-99; 8:45 am]

BILLING CODE 4810-31-P

## DEPARTMENT OF THE TREASURY

### Bureau of Alcohol, Tobacco and Firearms

#### Proposed Collection; Comment Request

**ACTION:** Notice and request for comments.

**SUMMARY:** The Department of the Treasury, as part of its continuing effort to reduce paperwork and respondent burden, invites the general public and other Federal agencies to take this opportunity to comment on proposed and/or continuing information collections, as required by the Paperwork Reduction Act of 1995, Public Law 104-13 (44 U.S.C. 3506(c)(2)(A)). Currently, the Bureau of Alcohol, Tobacco and Firearms within the Department of the Treasury is soliciting comments concerning the Excise Tax Return, Alcohol and Tobacco.

**DATES:** Written comments should be received on or before June 14, 1999, to be assured of consideration.

**ADDRESSES:** Direct all written comments to Linda Barnes, Bureau of Alcohol, Tobacco and Firearms, 650 Massachusetts Avenue, NW., Washington, DC 20226, (202) 927-8930.

**FOR FURTHER INFORMATION CONTACT:** Requests for additional information or

copies of the form(s) and instructions should be directed to Joan Kravchak, Revenue Division, 650 Massachusetts Avenue, NW., Washington, DC 20226, (202) 927-6993.

#### SUPPLEMENTARY INFORMATION:

*Title:* Excise Tax Return, Alcohol and Tobacco.

*OMB Number:* 1512-0467.

*Form Number:* ATF F 5000.24.

*Abstract:* ATF is responsible for the collection of the excise taxes on distilled spirits, wine, beer, cigars, cigarettes, chewing tobacco, snuff, and cigarette papers and tubes imposed by Chapters 51 and 52 of Title 26 of the United States Code. The information requested on the form is necessary to establish the taxpayer's identity, the amount and type of taxes due, and the amount of payments made.

*Current Actions:* The form has 1 change. Under the title CALCULATION OF TAX DUE, (b) TAX CLASS is deleted. (C) AMOUNT OF TAX is changed to (b) AMOUNT OF TAX.

*Type of Review:* Extension.

*Affected Public:* Business or other for-profit.

*Estimated Number of Respondents:* 2,800.

*Estimated Time Per Respondent:* 15 minutes.

*Estimated Total Annual Burden Hours:* 35,280.

*Request for Comments:* Comments submitted in response to this notice will be summarized and/or included in the request for OMB approval. All comments will become a matter of public record. Comments are invited on: (a) whether the collection of information is necessary for the proper performance of the functions of the agency, including whether the information shall have practical utility; (b) the accuracy of the agency's estimate of the burden of the collection of information; (c) ways to enhance the quality, utility, and clarity of the information to be collected; (d) ways to minimize the burden of the collection of information on respondents, including through the use of automated collection techniques or other forms of information technology; and (e) estimates of capital or start-up costs and costs of operation, maintenance, and purchase of services to provide information.

Dated: April 5, 1999.

**William T. Earle,**

*Assistant Director (Management) CFO.*

[FR Doc. 99-9190 Filed 4-12-99; 8:45 am]

BILLING CODE 4810-31-P

## DEPARTMENT OF THE TREASURY

### Bureau of Alcohol, Tobacco and Firearms

#### Proposed Collection; Comment Request

**ACTION:** Notice and request for comments.

**SUMMARY:** The Department of the Treasury, as part of its continuing effort to reduce paperwork and respondent burden, invites the general public and other Federal agencies to take this opportunity to comment on proposed and/or continuing information collections, as required by the Paperwork Reduction Act of 1995, Public Law 104-13 (44 U.S.C. 3506(c)(2)(A)). Currently, the Bureau of Alcohol, Tobacco and Firearms within the Department of the Treasury is soliciting comments concerning the Records and Supporting Data: Daily Summaries, Records of Production, Storage, and Disposition, and Supporting Data By Licensed Explosives Manufacturers and Manufacturers (Limited).

**DATES:** Written comments should be received on or before June 14, 1999 to be assured of consideration.

**ADDRESSES:** Direct all written comments to Linda Barnes, Bureau of Alcohol, Tobacco and Firearms, 650 Massachusetts Avenue, NW., Washington, DC 20226, (202) 927-8930.

**FOR FURTHER INFORMATION CONTACT:** Requests for additional information or copies of the form(s) and instructions should be directed to Paul Veto, Chief, Public Safety Branch, 650 Massachusetts Avenue, NW., Washington, DC 20226, (202) 927-8690.

#### SUPPLEMENTARY INFORMATION:

*Title:* Records and Supporting Data: Daily Summaries, Records of Production, Storage, and Disposition, and Supporting Data By Licensed Explosives Manufacturers and Manufacturers (Limited).

*OMB Number:* 1512-0372.

*Recordkeeping Requirement ID Number:* ATF REC 5400/2.

*Abstract:* These records show daily activities in the manufacture, use, storage, and disposition of explosive materials by manufacturers and manufacturers (limited) covered under 18 U.S.C. Chapter 40. The records are used to show where and to whom explosive materials are sent, thereby ensuring that any diversion will be readily apparent and, if lost or stolen, ATF will be immediately notified on discovery of the loss or theft. ATF

requires that records be kept 5 years from date of transaction.

*Current Actions:* There are no changes to this information collection and it is being submitted for extension purposes only.

*Type of Review:* Extension.

*Affected Public:* Business or other for-profit.

*Estimated Number of Respondents:* 1,053.

*Estimated Time Per Respondent:* 15 minutes.

*Estimated Total Annual Burden Hours:* 68,835.

**REQUEST FOR COMMENTS:** Comments submitted in response to this notice will be summarized and/or included in the request for OMB approval. All comments will become a matter of public record. Comments are invited on: (a) whether the collection of information is necessary for the proper performance of the functions of the agency, including whether the information shall have practical utility; (b) the accuracy of the agency's estimate of the burden of the collection of information; (c) ways to enhance the quality, utility, and clarity of the information to be collected; (d) ways to minimize the burden of the collection of information on respondents, including through the use of automated collection techniques or other forms of information technology; and (e) estimates of capital or start-up costs and costs of operation, maintenance, and purchase of services to provide information.

Dated: April 5, 1999.

**William T. Earle,**

*Assistant Director (Management) CFO.*

[FR Doc. 99-9191 Filed 4-12-99; 8:45 am]

BILLING CODE 4810-31-P

## DEPARTMENT OF THE TREASURY

### Bureau of Alcohol, Tobacco and Firearms

#### Proposed Collection; Comment Request

**ACTION:** Notice and request for comments.

**SUMMARY:** The Department of the Treasury, as part of its continuing effort to reduce paperwork and respondent burden, invites the general public and other Federal agencies to take this opportunity to comment on proposed and/or continuing information collections, as required by the Paperwork Reduction Act of 1995, Public Law 104-13 (44 U.S.C. 3506(c)(2)(A)). Currently, the Bureau of Alcohol, Tobacco and Firearms within the Department of the Treasury is

soliciting comments concerning the Manufacturer of Tobacco Products Monthly Report.

**DATES:** Written comments should be received on or before June 14, 1999 to be assured of consideration.

**ADDRESSES:** Direct all written comments to Bureau of Alcohol, Tobacco and Firearms, Linda Barnes, 650 Massachusetts Avenue, NW., Washington, DC 20226, (202) 927-8930.

#### FOR FURTHER INFORMATION CONTACT:

Requests for additional information or copies of the form(s) and instructions should be directed to Mary A. Wood, Regulations Division, 650 Massachusetts Avenue, NW., Washington, DC 20226, (202) 927-8185.

#### SUPPLEMENTARY INFORMATION:

*Title:* Manufacturer of Tobacco Products Monthly Report.

*OMB Number:* 1512-0163.

*Form Number:* ATF F 3068 (5210.5).

*Abstract:* ATF F 3068 (5210.5)

documents a tobacco products manufacturer's accounting of cigars and cigarettes. The form describes the tobacco products manufactured, articles produced, received, disposed of, and statistical classes of large cigars. ATF examines and verifies entries on these reports so as to identify unusual activities, errors and omissions.

*Current Actions:* The burden has increased due to a small increase in the number of respondents.

*Type of Review:* Extension.

*Affected Public:* Business or other for-profit.

*Estimated Number of Respondents:* 108.

*Estimated Time Per Respondent:* 1 hour.

*Estimated Total Annual Burden Hours:* 1,296.

#### Request For Comments

Comments submitted in response to this notice will be summarized and/or included in the request for OMB approval. All comments will become a matter of public record. Comments are invited on: (a) whether the collection of information is necessary for the proper performance of the functions of the agency, including whether the information shall have practical utility; (b) the accuracy of the agency's estimate of the burden of the collection of information; (c) ways to enhance the quality, utility, and clarity of the information to be collected; (d) ways to minimize the burden of the collection of information on respondents, including through the use of automated collection techniques or other forms of information technology; and (e) estimates of capital or start-up costs and costs of operation,

maintenance, and purchase of services to provide information.

Dated: April 5, 1999.

**William T. Earle,**

*Assistant Director (Management) CFO.*

[FR Doc. 99-9192 Filed 4-12-99; 8:45 am]

BILLING CODE 4810-31-P

## DEPARTMENT OF THE TREASURY

### Internal Revenue Service

#### Proposed Collection; Comment Request for Form 8233

**AGENCY:** Internal Revenue Service (IRS), Treasury.

**ACTION:** Notice and request for comments.

**SUMMARY:** The Department of the Treasury, as part of its continuing effort to reduce paperwork and respondent burden, invites the general public and other Federal agencies to take this opportunity to comment on proposed and/or continuing information collections, as required by the Paperwork Reduction Act of 1995, Public Law 104-13 (44 U.S.C. 3506(c)(2)(A)). Currently, the IRS is soliciting comments concerning Form 8233, Exemption From Withholding on Compensation for Independent (and Certain Dependent) Personal Services of a Nonresident Alien Individual.

**DATES:** Written comments should be received on or before June 14, 1999 to be assured of consideration.

**ADDRESSES:** Direct all written comments to Garrick R. Shear, Internal Revenue Service, room 5571, 1111 Constitution Avenue NW, Washington, DC 20224.

#### FOR FURTHER INFORMATION CONTACT:

Requests for additional information or copies of the form and instructions should be directed to Faye Bruce, (202) 622-6665, Internal Revenue Service, Room 5577, 1111 Constitution Avenue NW, Washington, DC 20224.

#### SUPPLEMENTARY INFORMATION:

*Title:* Exemption From Withholding on Compensation for Independent (and Certain Dependent) Personal Services of a Nonresident Alien Individual.

*OMB Number:* 1545-0795.

*Form Number:* 8233.

*Abstract:* Compensation paid to a nonresident alien individual for independent personal services (self-employment) is generally subject to 30% withholding or graduated rates. However, such compensation may be exempt from withholding because of a U.S. tax treaty or the personal exemption amount. Form 8233 is used to request exemption from withholding.

Nonresident alien students, teachers, and researchers performing dependent personal services also use Form 8233 to request exemption from withholding.

*Current Actions:* There are no changes being made to Form 8233 at this time.

*Type of Review:* Extension of a currently approved collection.

*Affected Public:* Individuals, business or other for-profit organizations, and not-for-profit institutions.

*Estimated Number of Respondents:* 480,000.

*Estimated Time Per Respondent:* 1 hr., 35 min.

*Estimated Total Annual Burden Hours:* 763,200.

The following paragraph applies to all of the collections of information covered by this notice:

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the collection of information displays a valid OMB control number. Books or records relating to a collection of information must be retained as long as their contents may become material in the administration of any internal revenue law. Generally, tax returns and tax return information are confidential, as required by 26 U.S.C. 6103.

#### Request for Comments

Comments submitted in response to this notice will be summarized and/or included in the request for OMB approval. All comments will become a matter of public record. Comments are invited on: (a) Whether the collection of information is necessary for the proper performance of the functions of the agency, including whether the information shall have practical utility; (b) the accuracy of the agency's estimate of the burden of the collection of information; (c) ways to enhance the quality, utility, and clarity of the information to be collected; (d) ways to minimize the burden of the collection of information on respondents, including through the use of automated collection techniques or other forms of information technology; and (e) estimates of capital or start-up costs and costs of operation, maintenance, and purchase of services to provide information.

Approved: April 6, 1999.

**Garrick R. Shear,**

*IRS Reports Clearance Officer.*

[FR Doc. 99-9078 Filed 4-12-99; 8:45 am]

BILLING CODE 4830-01-U

## DEPARTMENT OF THE TREASURY

### Internal Revenue Service

#### Proposed Collection; Comment Request for Form 8689

**AGENCY:** Internal Revenue Service (IRS), Treasury.

**ACTION:** Notice and request for comments.

**SUMMARY:** The Department of the Treasury, as part of its continuing effort to reduce paperwork and respondent burden, invites the general public and other Federal agencies to take this opportunity to comment on proposed and/or continuing information collections, as required by the Paperwork Reduction Act of 1995, Public Law 104-13 (44 U.S.C. 3506(c)(2)(A)). Currently, the IRS is soliciting comments concerning Form 8689, Allocation of Individual Income Tax to the Virgin Islands.

**DATES:** Written comments should be received on or before June 14, 1999 to be assured of consideration.

**ADDRESSES:** Direct all written comments to Garrick R. Shear, Internal Revenue Service, Room 5571, 1111 Constitution Avenue NW, Washington, DC 20224.

**FOR FURTHER INFORMATION CONTACT:** Requests for additional information or copies of the form and instructions should be directed to Faye Bruce, (202) 622-6665, Internal Revenue Service, Room 5577, 1111 Constitution Avenue NW., Washington, DC 20224.

#### SUPPLEMENTARY INFORMATION:

*Title:* Allocation of Individual Income Tax to the Virgin Islands.

*OMB Number:* 1545-1032.

*Form Number:* 8689.

*Abstract:* Form 8689 is used by U.S. citizens or residents as an attachment to Form 1040 when they have Virgin Islands source income. The data is used by IRS to verify the amount claimed on Form 1040 for taxes paid to the Virgin Islands.

*Current Actions:* There are no changes being made to Form 8689 at this time.

*Type of Review:* Extension of a currently approved collection.

*Affected Public:* Individuals or households.

*Estimated Number of Respondents:* 800.

*Estimated Time Per Respondent:* 2 hr., 13 min.

*Estimated Total Annual Burden Hours:* 1,768.

The following paragraph applies to all of the collections of information covered by this notice:

An agency may not conduct or sponsor, and a person is not required to

respond to, a collection of information unless the collection of information displays a valid OMB control number. Books or records relating to a collection of information must be retained as long as their contents may become material in the administration of any internal revenue law. Generally, tax returns and tax return information are confidential, as required by 26 U.S.C. 6103.

#### Request for Comments

Comments submitted in response to this notice will be summarized and/or included in the request for OMB approval. All comments will become a matter of public record.

Comments are invited on: (a) Whether the collection of information is necessary for the proper performance of the functions of the agency, including whether the information shall have practical utility; (b) the accuracy of the agency's estimate of the burden of the collection of information; (c) ways to enhance the quality, utility, and clarity of the information to be collected; (d) ways to minimize the burden of the collection of information on respondents, including through the use of automated collection techniques or other forms of information technology; and (e) estimates of capital or start-up costs and costs of operation, maintenance, and purchase of services to provide information.

Approved: April 6, 1999.

**Garrick R. Shear,**

*IRS Reports Clearance Officer.*

[FR Doc. 99-9079 Filed 4-12-99; 8:45 am]

BILLING CODE 4830-01-U

## DEPARTMENT OF THE TREASURY

### Internal Revenue Service

#### Proposed Collection; Comment Request for Form 8823

**AGENCY:** Internal Revenue Service (IRS), Treasury.

**ACTION:** Notice and request for comments.

**SUMMARY:** The Department of the Treasury, as part of its continuing effort to reduce paperwork and respondent burden, invites the general public and other Federal agencies to take this opportunity to comment on proposed and/or continuing information collections, as required by the Paperwork Reduction Act of 1995, Public Law 104-13 (44 U.S.C. 3506(c)(2)(A)). Currently, the IRS is soliciting comments concerning Form 8823, Low-Income Housing Credit

Agencies Report of Noncompliance or Building Disposition.

**DATES:** Written comments should be received on or before June 14, 1999 to be assured of consideration.

**ADDRESSES:** Direct all written comments to Garrick R. Shear, Internal Revenue Service, Room 5571, 1111 Constitution Avenue NW, Washington, DC 20224.

**FOR FURTHER INFORMATION CONTACT:** Requests for additional information or copies of the form and instructions should be directed to Faye Bruce, (202) 622-6665, Internal Revenue Service, Room 5577, 1111 Constitution Avenue NW, Washington, DC 20224.

**SUPPLEMENTARY INFORMATION:**

*Title:* Low-Income Housing Credit Agencies Report of Noncompliance or Building Disposition.

*OMB Number:* 1545-1204.

*Form Number:* 8823.

*Abstract:* Under Internal Revenue Code section 42(m)(1)(B)(iii), state housing credit agencies are required to notify the IRS of noncompliance with the low-income housing tax credit provisions. A separate form must be filed for each building that is not in compliance. The IRS uses this information to determine whether the low-income housing credit is being correctly claimed and whether there is any credit recapture.

*Current Actions:* There are no changes being made to Form 8823 at this time.

*Type of Review:* Extension of a currently approved collection.

*Affected Public:* State or local government housing credit agencies.

*Estimated Number of Respondents:* 20,000.

*Estimated Time Per Respondent:* 8 hr., 48 min.

*Estimated Total Annual Burden Hours:* 176,000.

The following paragraph applies to all of the collections of information covered by this notice:

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the collection of information displays a valid OMB control number. Books or records relating to a collection of information must be retained as long as their contents may become material in the administration of any internal revenue law. Generally, tax returns and tax return information are confidential, as required by 26 U.S.C. 6103.

**Request for Comments**

Comments submitted in response to this notice will be summarized and/or included in the request for OMB approval. All comments will become a matter of public record.

Comments are invited on: (a) Whether the collection of information is necessary for the proper performance of the functions of the agency, including whether the information shall have practical utility; (b) the accuracy of the agency's estimate of the burden of the collection of information; (c) ways to enhance the quality, utility, and clarity of the information to be collected; (d) ways to minimize the burden of the collection of information on respondents, including through the use of automated collection techniques or other forms of information technology; and (e) estimates of capital or start-up costs and costs of operation, maintenance, and purchase of services to provide information.

Approved: April 2, 1999.

**Garrick R. Shear,**

*IRS Reports Clearance Officer.*

[FR Doc. 99-9080 Filed 4-12-99; 8:45 am]

BILLING CODE 4830-01-U

**DEPARTMENT OF THE TREASURY**

**Internal Revenue Service**

**Proposed Collection; Comment Request for Form 4563**

**AGENCY:** Internal Revenue Service (IRS), Treasury.

**ACTION:** Notice and request for comments.

**SUMMARY:** The Department of the Treasury, as part of its continuing effort to reduce paperwork and respondent burden, invites the general public and other Federal agencies to take this opportunity to comment on proposed and/or continuing information collections, as required by the Paperwork Reduction Act of 1995, Public Law 104-13 (44 U.S.C. 3506(c)(2)(A)). Currently, the IRS is soliciting comments concerning Form 4563, Exclusion of Income for Bona Fide Residents of American Samoa.

**DATES:** Written comments should be received on or before June 14, 1999 to be assured of consideration.

**ADDRESSES:** Direct all written comments to Garrick R. Shear, Internal Revenue Service, room 5571, 1111 Constitution Avenue NW., Washington, DC 20224.

**FOR FURTHER INFORMATION CONTACT:** Requests for additional information or copies of the form and instructions should be directed to Faye Bruce, (202) 622-6665, Internal Revenue Service, Room 5577, 1111 Constitution Avenue NW., Washington, DC 20224.

**SUPPLEMENTARY INFORMATION:**

*Title:* Exclusion of Income for Bona Fide Residents of American Samoa.

*OMB Number:* 1545-0173.

*Form Number:* 4563.

*Abstract:* Form 4563 is used by bona fide residents of American Samoa to exclude income from sources within American Samoa, Guam, and the Commonwealth of the Northern Mariana Islands to the extent specified in Internal Revenue Code section 931. This information is used by the IRS to determine if an individual is eligible to exclude possession source income.

*Current Actions:* There are no changes being made to Form 4563 at this time.

*Type of Review:* Extension of a current OMB approval.

*Affected Public:* Individuals and households.

*Estimated Number of Respondents:* 100.

*Estimated Time Per Respondent:* 1 hr., 49 min.

*Estimated Total Annual Burden Hours:* 182.

The following paragraph applies to all of the collections of information covered by this notice:

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the collection of information displays a valid OMB control number. Books or records relating to a collection of information must be retained as long as their contents may become material in the administration of any internal revenue law. Generally, tax returns and tax return information are confidential, as required by 26 U.S.C. 6103.

**Request for Comments**

Comments submitted in response to this notice will be summarized and/or included in the request for OMB approval. All comments will become a matter of public record.

Comments are invited on: (a) Whether the collection of information is necessary for the proper performance of the functions of the agency, including whether the information shall have practical utility; (b) the accuracy of the agency's estimate of the burden of the collection of information; (c) ways to enhance the quality, utility, and clarity of the information to be collected; (d) ways to minimize the burden of the collection of information on respondents, including through the use of automated collection techniques or other forms of information technology; and (e) estimates of capital or start-up costs and costs of operation, maintenance, and purchase of services to provide information.

Approved: April 2, 1999.

**Garrick R. Shear,**

*IRS Reports Clearance Officer.*

[FR Doc. 99-9081 Filed 4-12-99; 8:45 am]

BILLING CODE 4830-01-U

## DEPARTMENT OF THE TREASURY

### Internal Revenue Service

[PS-264-82]

#### Proposed Collection; Comment Request for Regulation Project

**AGENCY:** Internal Revenue Service (IRS), Treasury.

**ACTION:** Notice and request for comments.

**SUMMARY:** The Department of the Treasury, as part of its continuing effort to reduce paperwork and respondent burden, invites the general public and other Federal agencies to take this opportunity to comment on proposed and/or continuing information collections, as required by the Paperwork Reduction Act of 1995, Public Law 104-13 (44 U.S.C. 3506(c)(2)(A)). Currently, the IRS is soliciting comments concerning an existing final regulation, PS-264-82 (TD 8508), Adjustments to Basis of Stock and Indebtedness to Shareholders of S Corporations and Treatment of Distributions by S Corporations to Shareholders. (Regulation §§ 1.1367-1(f), 1.1368-1(f), 1.1368-1(g)).

**DATES:** Written comments should be received on or before June 14, 1999 to be assured of consideration.

**ADDRESSES:** Direct all written comments to Garrick R. Shear, Internal Revenue Service, Room 5571, 1111 Constitution Avenue NW., Washington, DC 20224.

**FOR FURTHER INFORMATION CONTACT:** Requests for additional information or copies of this regulation should be directed to Faye Bruce, (202) 622-6665, Internal Revenue Service, room 5577, 1111 Constitution Avenue NW., Washington, DC 20224.

#### SUPPLEMENTARY INFORMATION:

**Title:** Adjustments to Basis of Stock and Indebtedness to Shareholders of S Corporations and Treatment of Distributions by S Corporations to Shareholders.

**OMB Number:** 1545-1139.

**Regulation Project Number:** PS-264-82.

**Abstract:** The regulation provides the procedures and the statements to be filed by S corporations for making the election provided under Internal Revenue Code section 1368, and by shareholders who choose to reorder

items that decrease their basis. Statements required to be filed will be used to verify that taxpayers are complying with the requirements imposed by Congress.

**Current Actions:** There is no change to this existing regulation.

**Type of Review:** Extension of a currently approved collection.

**Affected Public:** Business or other for-profit organizations and individuals.

**Estimated Number of Respondents:** 2,000.

**Estimated Time Per Respondent:** 6 min.

**Estimated Total Annual Burden Hours:** 200 hours.

The following paragraph applies to all of the collections of information covered by this notice.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the collection of information displays a valid OMB control number. Books or records relating to a collection of information must be retained as long as their contents may become material in the administration of any internal revenue law. Generally, tax returns and tax return information are confidential, as required by 26 U.S.C. 6103.

#### Request for Comments

Comments submitted in response to this notice will be summarized and/or included in the request for OMB approval. All comments will become a matter of public record. Comments are invited on: (a) Whether the collection of information is necessary for the proper performance of the functions of the agency, including whether the information shall have practical utility; (b) the accuracy of the agency's estimate of the burden of the collection of information; (c) ways to enhance the quality, utility, and clarity of the information to be collected; (d) ways to minimize the burden of the collection of information on respondents, including through the use of automated collection techniques or other forms of information technology; and (e) estimates of capital or start-up costs and costs of operation, maintenance, and purchase of services to provide information.

Approved: March 25, 1999.

**Garrick R. Shear,**

*IRS Reports Clearance Officer.*

[FR Doc. 99-9082 Filed 4-12-99; 8:45 am]

BILLING CODE 4830-01-U

## DEPARTMENT OF THE TREASURY

### Internal Revenue Service

#### Amendment to Open Meeting of the Citizen Advocacy Panel, Pacific-Northwest District

**AGENCY:** Internal Revenue Service (IRS), Treasury.

**ACTION:** Notice.

**SUMMARY:** The meeting location scheduled for April 24, 1999 (64 FR 15205, March 30, 1999), has been changed.

**FOR FURTHER INFORMATION CONTACT:** Deborah A. Diamond at 1-888-912-1227 or 206-220-6099.

**SUPPLEMENTARY INFORMATION:** Notice is hereby given pursuant to Section 10(a)(2) of the Federal Advisory Committee Act, 5 U.S.C. App. (1988) that an operational meeting of the Citizen Advocacy Panel will be held Saturday, April 24, 1999, 9:00 a.m. to 5:00 p.m. at the Heathman Lodge, Sacajawea Room, 7801 NE Greenwood Drive, Vancouver, WA. Due to limited conference space, notification of intent to attend the meeting must be made with Deborah Diamond.

Ms. Diamond can be reached at 1-888-912-1227 or 206-220-6099. The public is invited to make oral comments from 10:00 am to 11:00 am on Saturday, April 24, 1999. Individual comments will be limited to 5 minutes. If you would like to have the CAP consider a written statement, please call 1-888-912-1227 or 206-220-6099, or write Deborah Diamond, CAP Office, 915 2nd Avenue; M/S W-406, Seattle, WA 98174.

The Agenda will include the following: subcommittee reports and various IRS issues.

**Note:** Last minute changes to the agenda are possible and could prevent effective advance notice.

Dated: April 5, 1999.

**Jack Mannion,**

*Chief, Special Projects.*

[FR Doc. 99-9083 Filed 4-12-99; 8:45 am]

BILLING CODE 4830-01-P

## DEPARTMENT OF THE TREASURY

### Internal Revenue Service

#### Open Meeting of Citizen Advocacy Panel, Brooklyn District

**AGENCY:** Internal Revenue Service (IRS), Treasury.

**SUMMARY:** An open meeting of the Brooklyn District Citizen Advocacy

Panel will be held in Brooklyn, New York.

**DATES:** The meeting will be held Tuesday, April 20, 1999, 6:00 p.m. to 9:00 p.m. at 10 MetroTech Center, 6th Floor, 625 Fulton Street, Brooklyn, N.Y. 11201. Due to limited conference space, notification of intent to attend the meeting must be made with Kevin McKeon. Mr. McKeon can be reached at 1-888-912-1227 or 718-488-3555. The public is invited to make oral comments from 7:00 p.m. to 8:00 p.m. on Tuesday, April 20, 1999. Individual comments will be limited to 5 minutes.

**FOR FURTHER INFORMATION CONTACT:** Kevin McKeon at 1-888-912-1227 or 718-488-3555.

**SUPPLEMENTARY INFORMATION:** Notice is hereby given pursuant to Section 10(a)(2) of the Federal Advisory Committee Act, 5 U.S.C. App. (1988) that an operational meeting of the Citizen Advocacy Panel will be held Tuesday, April 20, 1999, 6:00 p.m. to 9:00 p.m. at 10 MetroTech Center, 6th Floor, 625 Fulton Street, Brooklyn, N.Y. 11201. Due to limited conference space, notification of intent to attend the meeting must be made with Kevin McKeon. Mr. McKeon can be reached at 1-888-912-1227 or 718-488-3555. The public is invited to make oral comments from 7:00 p.m. to 8:00 p.m. on Tuesday, April 20, 1999. Individual comments will be limited to 5 minutes.

If you would like to have the CAP consider a written statement, please call 1-888-912-1227 or 718-488-3555, or write Kevin McKeon, CAP Office, P.O. Box R, Brooklyn, N.Y., 11202. The Agenda will include the following: initial start up issues and various IRS issues.

**Note:** Last minute changes to the agenda are possible and could prevent effective advance notice.

Dated: April 5, 1999.

**Jack Mannion,**

*Chief, Special Projects.*

[FR Doc. 99-9084 Filed 4-12-99; 8:45 am]

BILLING CODE 4830-01-P

## DEPARTMENT OF THE TREASURY

### Internal Revenue Service

#### Open Meeting of Citizen Advocacy Panel, So. Fla District

**AGENCY:** Internal Revenue Service (IRS), Treasury.

**ACTION:** Notice.

**SUMMARY:** An open meeting of the So. Fla Citizen Advocacy Panel will be held in Sunrise, Florida.

**DATES:** The meeting will be held Friday, April 23, 1999 and Saturday, April 24, 1999.

**FOR FURTHER INFORMATION CONTACT:** Nancy Ferree at 1-888-912-1227, or 954-423-7973.

**SUPPLEMENTARY INFORMATION:** Notice is hereby given pursuant to Section 10(a)(2) of the Federal Advisory Committee Act, 5 U.S.C. App. (1988) that an open meeting of the Citizen Advocacy Panel will be held Friday, April 23, 1999 from 6:00pm to 9:00pm and Saturday, April 24, 1999 from 9:00am to 1:00 pm, in Room 225, CAP Office, 7771 W. Oakland Park Blvd., Sunrise, Florida 33351. The public is invited to make oral comments. Individual comments will be limited to 10 minutes. If you would like to have the CAP consider a written statement, please call 1-888-912-1227 or 954-423-7973, or write Nancy Ferree, CAP Office, 7771 W. Oakland Park Blvd. Rm. 225, Sunrise, FL 33351. Due to limited conference space, notification of intent to attend the meeting must be made with Nancy Ferree. Ms. Ferree can be reached at 1-888-912-1227 or 954-423-7973.

The agenda will include the following: various IRS issue updates and reports by the CAP sub-groups.

**Note:** Last minute changes to the agenda are possible and could prevent effective advance notice.

Dated: April 5, 1999.

**Jack Mannion,**

*Chief, Special Projects.*

[FR Doc. 99-9085 Filed 4-12-99; 8:45 am]

BILLING CODE 4830-01-P

## UNITED STATES INFORMATION AGENCY

### Culturally Significant Objects Imported for Exhibition Determinations: Portraits by Ingres: Image of an "Epoch"

**AGENCY:** United States Information Agency.

**ACTION:** Notice.

**SUMMARY:** Notice is hereby given of the following determinations: Pursuant to the authority vested in me by the Act of October 19, 1965 (79 Stat. 985, 22 U.S.C. 2459), Executive Order 12047 of March 27, 1978 (43 FR 133359, March 29, 1978), and Delegation Order No. 85-5 of June 27, 1985 (50 FR 27393, July 2, 1985), I hereby determine that the objects to be included in the exhibit "Portraits by Ingres: Image of an Epoch", imported from abroad for the temporary exhibition without profit within the United States, are of cultural significance. These objects are imported pursuant to loan agreements with foreign lenders. I also determine that the exhibition or display of the exhibit objects at The National Gallery of Art, Washington, D.C., from on or about May 23, 1999, until on or about August 22, 1999, The Metropolitan Museum, New York, N.Y., from on or about September 27, 1999, to on or about January 2, 2000 is in the national interest. Public Notice of these determinations is ordered to be published in the **Federal Register**.

**FOR FURTHER INFORMATION CONTACT:** For a copy of the list of exhibit items or for other information, contact Neila Sheahan, Assistant General Counsel, Office of the General Counsel at 202/619-5030. The address is Room 700, U.S. Information Agency, 301 4th Street, S.W., Washington, D.C. 20547-0001.

Dated: April 7, 1999.

**Les Jin,**

*General Counsel.*

[FR Doc 99-9138 Filed 4-12-99; 8:45 am]

BILLING CODE 8230-01-M

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# Corrections

**Federal Register**

Vol. 64, No. 70

Tuesday, April 13, 1999

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This section of the FEDERAL REGISTER contains editorial corrections of previously published Presidential, Rule, Proposed Rule, and Notice documents. These corrections are prepared by the Office of the Federal Register. Agency prepared corrections are issued as signed documents and appear in the appropriate document categories elsewhere in the issue.

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## DEPARTMENT OF DEFENSE

### Office of the Secretary

#### Revised Non-Foreign Overseas Per Diem Rates

##### *Correction*

In notice document 99-8359 beginning on page 16712 in the issue of Tuesday, April 6, 1999, make the following correction:

On page 16712, the table for the "revised non-foreign overseas per diem rates" should read as listed below:



Maximum Per Diem Rates for official travel in Alaska, Hawaii, the Commonwealths of Puerto Rico and the Northern Mariana Islands and Possessions of the United States by Federal Government civilian employees.

| LOCALITY                 | MAXIMUM         |               | MAXIMUM<br>PER DIEM<br>RATE<br>(C) | EFFECTIVE<br>DATE |
|--------------------------|-----------------|---------------|------------------------------------|-------------------|
|                          | LODGING         | M&IE          |                                    |                   |
|                          | AMOUNT<br>(A) + | RATE<br>(B) = |                                    |                   |
| ALASKA:                  |                 |               |                                    |                   |
| ANCHORAGE [INCL NAV RES] |                 |               |                                    |                   |
| 05/01 - 09/30            | 161             | 63            | 224                                | 03/01/99          |
| 10/01 - 04/30            | 89              | 56            | 145                                | 03/01/99          |
| BARROW                   | 115             | 73            | 188                                | 03/01/99          |
| BETHEL                   | 105             | 60            | 165                                | 03/01/99          |
| COLD BAY                 | 110             | 68            | 178                                | 03/01/99          |
| CORDOVA                  | 85              | 62            | 147                                | 03/01/98          |
| CRAIG                    |                 |               |                                    |                   |
| 05/01 -- 08/31           | 95              | 66            | 161                                | 05/01/97          |
| 09/01 -- 04/30           | 79              | 64            | 143                                | 05/01/97          |
| DEADHORSE                | 80              | 67            | 147                                | 03/01/99          |
| DENALI NATIONAL PARK     |                 |               |                                    |                   |
| 06/01 -- 08/31           | 115             | 52            | 167                                | 03/01/98          |
| 09/01 -- 05/31           | 90              | 50            | 140                                | 03/01/98          |
| DILLINGHAM               | 95              | 59            | 154                                | 08/01/98          |
| DUTCH HARBOR-UNALASKA    | 110             | 71            | 181                                | 03/01/99          |
| EARECKSON AIR STATION    | 80              | 57            | 137                                | 03/01/99          |
| EIELSON AFB              |                 |               |                                    |                   |
| 05/15 -- 09/15           | 118             | 58            | 176                                | 03/01/99          |
| 09/16 -- 05/14           | 81              | 54            | 135                                | 03/01/99          |
| ELMENDORF AFB            |                 |               |                                    |                   |
| 05/01 - 09/30            | 161             | 63            | 224                                | 03/01/99          |
| 10/01 - 04/30            | 89              | 56            | 145                                | 03/01/99          |
| FAIRBANKS                |                 |               |                                    |                   |
| 05/15 -- 09/15           | 118             | 58            | 176                                | 03/01/99          |
| 09/16 -- 05/14           | 81              | 54            | 135                                | 03/01/99          |
| FT. RICHARDSON           |                 |               |                                    |                   |
| 05/01 - 09/30            | 161             | 63            | 224                                | 03/01/99          |
| 10/01 - 04/30            | 89              | 56            | 145                                | 03/01/99          |
| FT. WAINWRIGHT           |                 |               |                                    |                   |
| 05/15 -- 09/15           | 118             | 58            | 176                                | 03/01/99          |
| 09/16 -- 05/14           | 81              | 54            | 135                                | 03/01/99          |
| GLENNALLEN               | 90              | 52            | 142                                | 10/01/98          |
| HEALY                    |                 |               |                                    |                   |
| 06/01 -- 08/31           | 115             | 52            | 167                                | 03/01/98          |
| 09/01 -- 05/31           | 90              | 50            | 140                                | 03/01/98          |
| HOMER                    |                 |               |                                    |                   |
| 05/15 -- 09/15           | 115             | 58            | 173                                | 03/01/99          |
| 09/16 -- 05/14           | 98              | 57            | 155                                | 03/01/99          |
| JUNEAU                   | 105             | 68            | 173                                | 03/01/99          |
| KAKTOVIK                 | 175             | 74            | 249                                | 03/01/99          |

Maximum Per Diem Rates for official travel in Alaska, Hawaii, the Commonwealths of Puerto Rico and the Northern Mariana Islands and Possessions of the United States by Federal Government civilian employees.

| LOCALITY            | MAXIMUM |        | M&IE | MAXIMUM  |      | EFFECTIVE |
|---------------------|---------|--------|------|----------|------|-----------|
|                     | LODGING | AMOUNT |      | PER DIEM | RATE |           |
|                     | (A)     | +      | (B)  | =        | (C)  |           |
| KAVIK CAMP          | 125     |        | 69   |          | 194  | 03/01/99  |
| KENAI-SOLDOTNA      |         |        |      |          |      |           |
| 05/01 -- 09/30      | 114     |        | 63   |          | 177  | 03/01/99  |
| 10/01 -- 04/30      | 76      |        | 59   |          | 135  | 03/01/99  |
| KENNICOTT           | 149     |        | 68   |          | 217  | 10/01/98  |
| KETCHIKAN           |         |        |      |          |      |           |
| 05/01 -- 09/30      | 110     |        | 74   |          | 184  | 03/01/99  |
| 10/01 -- 04/30      | 88      |        | 73   |          | 161  | 03/01/99  |
| KING SALMON         | 101     |        | 70   |          | 171  | 03/01/99  |
| KLAWOCK             |         |        |      |          |      |           |
| 05/01 -- 08/31      | 95      |        | 66   |          | 161  | 05/01/97  |
| 09/01 -- 04/30      | 79      |        | 64   |          | 143  | 05/01/97  |
| KODIAK              | 99      |        | 67   |          | 166  | 03/01/99  |
| KOTZEBUE            |         |        |      |          |      |           |
| 05/01 -- 08/31      | 137     |        | 75   |          | 212  | 03/01/99  |
| 09/01 -- 04/30      | 73      |        | 61   |          | 134  | 03/01/99  |
| KULIS AGS           |         |        |      |          |      |           |
| 05/01 - 09/30       | 161     |        | 63   |          | 224  | 03/01/99  |
| 10/01 - 04/30       | 89      |        | 56   |          | 145  | 03/01/99  |
| MCCARTHY            | 149     |        | 68   |          | 217  | 10/01/98  |
| METLAKATLA          |         |        |      |          |      |           |
| 05/30 - 10/01       | 85      |        | 52   |          | 137  | 03/01/99  |
| 10/02 - 05/29       | 78      |        | 51   |          | 129  | 03/01/99  |
| MURPHY DOME         |         |        |      |          |      |           |
| 05/15 -- 09/15      | 118     |        | 58   |          | 176  | 03/01/99  |
| 09/16 -- 05/14      | 81      |        | 54   |          | 135  | 03/01/99  |
| NOME                |         |        |      |          |      |           |
| 03/01 - 03/31       | 117     |        | 58   |          | 175  | 03/01/99  |
| 04/01 - 02/29       | 92      |        | 56   |          | 148  | 03/01/99  |
| NUIQSUT             | 120     |        | 69   |          | 189  | 03/01/99  |
| PETERSBURG          | 87      |        | 57   |          | 144  | 03/01/99  |
| POINT HOPE          | 130     |        | 70   |          | 200  | 03/01/99  |
| POINT LAY           | 105     |        | 67   |          | 172  | 03/01/99  |
| PRUDHOE BAY         | 80      |        | 67   |          | 147  | 03/01/99  |
| SEWARD              |         |        |      |          |      |           |
| 05/01 -- 09/30      | 122     |        | 65   |          | 187  | 03/01/99  |
| 10/01 -- 04/30      | 86      |        | 61   |          | 147  | 03/01/99  |
| SITKA-MT. EDGECOMBE |         |        |      |          |      |           |
| 04/01 -- 09/04      | 101     |        | 60   |          | 161  | 03/01/98  |
| 09/05 -- 03/31      | 83      |        | 59   |          | 142  | 03/01/98  |
| SKAGWAY             |         |        |      |          |      |           |
| 05/01 -- 09/30      | 110     |        | 74   |          | 184  | 03/01/99  |
| 10/01 -- 04/30      | 88      |        | 73   |          | 161  | 03/01/99  |

Maximum Per Diem Rates for official travel in Alaska, Hawaii, the Commonwealths of Puerto Rico and the Northern Mariana Islands and Possessions of the United States by Federal Government civilian employees.

| LOCALITY                         | MAXIMUM |      | MAXIMUM | EFFECTIVE |          |
|----------------------------------|---------|------|---------|-----------|----------|
|                                  | LODGING | M&IE |         |           | PER DIEM |
|                                  | AMOUNT  | RATE | RATE    | DATE      |          |
|                                  | (A)     | +    | (B) =   | (C)       |          |
| SPRUCE CAPE                      | 99      |      | 67      | 166       | 03/01/99 |
| TANANA                           |         |      |         |           |          |
| 03/01 - 03/31                    | 117     |      | 58      | 175       | 03/01/99 |
| 04/01 - 02/29                    | 92      |      | 56      | 148       | 03/01/99 |
| UMIAT                            | 107     |      | 33      | 140       | 03/01/99 |
| VALDEZ                           |         |      |         |           |          |
| 05/15 -- 10/01                   | 110     |      | 63      | 173       | 03/01/99 |
| 10/02 -- 05/14                   | 84      |      | 60      | 144       | 03/01/99 |
| WAINWRIGHT                       | 127     |      | 82      | 209       | 03/01/99 |
| WRANGELL                         |         |      |         |           |          |
| 05/01 -- 09/30                   | 110     |      | 74      | 184       | 03/01/99 |
| 10/01 -- 04/30                   | 88      |      | 73      | 161       | 03/01/99 |
| YAKUTAT                          | 110     |      | 68      | 178       | 03/01/99 |
| [OTHER]                          | 80      |      | 57      | 137       | 03/01/99 |
| AMERICAN SAMOA:                  |         |      |         |           |          |
| AMERICAN SAMOA                   | 73      |      | 53      | 126       | 03/01/97 |
| GUAM:                            |         |      |         |           |          |
| GUAM (INCL ALL MIL INSTAL)       | 150     |      | 79      | 229       | 05/01/98 |
| HAWAII:                          |         |      |         |           |          |
| CAMP H M SMITH                   | 110     |      | 61      | 171       | 07/01/97 |
| EASTPAC NAVAL COMP TELE AREA     | 110     |      | 61      | 171       | 07/01/97 |
| FT. DERUSSEY                     | 110     |      | 61      | 171       | 07/01/97 |
| FT. SHAFTER                      | 110     |      | 61      | 171       | 07/01/97 |
| HICKAM AFB                       | 110     |      | 61      | 171       | 07/01/97 |
| HONOLULU NAVAL & MC RES CTR      | 110     |      | 61      | 171       | 07/01/97 |
| ISLE OF HAWAII: HILO             | 80      |      | 52      | 132       | 06/01/98 |
| ISLE OF HAWAII: OTHER            | 100     |      | 54      | 154       | 06/01/98 |
| ISLE OF KAUAI                    |         |      |         |           |          |
| 05/01 -- 11/30                   | 115     |      | 62      | 177       | 06/01/98 |
| 12/01 -- 04/30                   | 136     |      | 64      | 200       | 06/01/98 |
| ISLE OF KURE                     | 60      |      | 41      | 101       | 07/01/97 |
| ISLE OF MAUI                     | 112     |      | 64      | 176       | 06/01/98 |
| ISLE OF OAHU                     | 110     |      | 61      | 171       | 07/01/97 |
| Kaneohe Bay MC Base              | 110     |      | 61      | 171       | 07/01/97 |
| KEKAHA PACIFIC MISSILE RANGE FAC |         |      |         |           |          |
| 05/01 -- 11/30                   | 115     |      | 62      | 177       | 06/01/98 |
| 12/01 -- 04/30                   | 136     |      | 64      | 200       | 06/01/98 |
| KILAUEA MILITARY CAMP            | 80      |      | 52      | 132       | 06/01/98 |
| LULUALEI NAVAL MAGAZINE          | 110     |      | 61      | 171       | 07/01/97 |
| NAS BARBERS POINT                | 110     |      | 61      | 171       | 07/01/97 |
| PEARL HARBOR [INCL ALL MILITARY] |         |      |         |           |          |
|                                  | 110     |      | 61      | 171       | 07/01/97 |
| SCHOFIELD BARRACKS               | 110     |      | 61      | 171       | 07/01/97 |

Maximum Per Diem Rates for official travel in Alaska, Hawaii, the Commonwealths of Puerto Rico and the Northern Mariana Islands and Possessions of the United States by Federal Government civilian employees.

| LOCALITY                                  | MAXIMUM |        | M&IE | MAXIMUM  |      | EFFECTIVE |
|---|---------|--------|------|----------|------|-----------|
|   | LODGING | AMOUNT |      | PER DIEM | RATE |           |
|   | (A)     | +      | (B)  | =        | (C)  |           |
| WHEELER ARMY AIRFIELD                     | 110     |        | 61   |          | 171  | 07/01/97  |
| [OTHER]                                   | 79      |        | 62   |          | 141  | 06/01/93  |
| JOHNSTON ATOLL:                           |         |        |      |          |      |           |
| JOHNSTON ATOLL                            | 13      |        | 9    |          | 22   | 07/01/97  |
| MIDWAY ISLANDS:                           |         |        |      |          |      |           |
| MIDWAY ISLANDS [INCL ALL MIL]             | 60      |        | 41   |          | 101  | 07/01/97  |
| NORTHERN MARIANA ISLANDS:                 |         |        |      |          |      |           |
| ROTA                                      | 105     |        | 71   |          | 176  | 05/01/97  |
| SAIPAN                                    | 170     |        | 78   |          | 248  | 05/01/97  |
| [OTHER]                                   | 61      |        | 53   |          | 114  | 05/01/97  |
| PUERTO RICO:                              |         |        |      |          |      |           |
| BAYAMON                                   |         |        |      |          |      |           |
| 04/16 -- 11/14                            | 117     |        | 67   |          | 184  | 09/01/98  |
| 11/15 -- 04/15                            | 148     |        | 70   |          | 218  | 09/01/98  |
| CAROLINA                                  |         |        |      |          |      |           |
| 04/16 -- 11/14                            | 117     |        | 67   |          | 184  | 09/01/98  |
| 11/15 -- 04/15                            | 148     |        | 70   |          | 218  | 09/01/98  |
| FAJARDO [INCL CEIBA, LUQUILLO & HUMACAO]  | 82      |        | 60   |          | 142  | 03/01/98  |
| FT. BUCHANAN [INCL GSA SVC CTR, GUAYNABO] |         |        |      |          |      |           |
| 04/16 -- 11/14                            | 117     |        | 67   |          | 184  | 09/01/98  |
| 11/15 -- 04/15                            | 148     |        | 70   |          | 218  | 09/01/98  |
| LUIS MUNOZ MARIN IAP AGS                  |         |        |      |          |      |           |
| 04/16 -- 11/14                            | 117     |        | 67   |          | 184  | 09/01/98  |
| 11/15 -- 04/15                            | 148     |        | 70   |          | 218  | 09/01/98  |
| MAYAGUEZ                                  | 94      |        | 60   |          | 154  | 06/01/98  |
| PONCE                                     | 101     |        | 67   |          | 168  | 09/01/98  |
| ROOSEVELT ROADS & NAV STA                 | 82      |        | 60   |          | 142  | 03/01/98  |
| SABANA SECA [INCL ALL MILITARY]           |         |        |      |          |      |           |
| 04/16 -- 11/14                            | 117     |        | 67   |          | 184  | 09/01/98  |
| 11/15 -- 04/15                            | 148     |        | 70   |          | 218  | 09/01/98  |
| SAN JUAN & NAV RES STA                    |         |        |      |          |      |           |
| 04/16 -- 11/14                            | 150     |        | 70   |          | 220  | 04/01/99  |
| 11/15 -- 04/15                            | 167     |        | 72   |          | 239  | 04/01/99  |
| [OTHER]                                   | 66      |        | 57   |          | 123  | 09/01/98  |
| VIRGIN ISLANDS (U.S.):                    |         |        |      |          |      |           |
| ST. CROIX                                 |         |        |      |          |      |           |
| 04/15 -- 12/14                            | 107     |        | 75   |          | 182  | 08/01/98  |
| 12/15 -- 04/14                            | 131     |        | 78   |          | 209  | 08/01/98  |
| ST. JOHN                                  |         |        |      |          |      |           |
| 04/15 -- 12/14                            | 286     |        | 89   |          | 375  | 08/01/98  |
| 12/15 -- 04/14                            | 413     |        | 102  |          | 515  | 08/01/98  |

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| LOCALITY       | MAXIMUM<br>LODGING |       | M&IE<br>RATE | MAXIMUM<br>PER DIEM |      | EFFECTIVE<br>DATE |
|----------------|--------------------|-------|--------------|---------------------|------|-------------------|
|                | AMOUNT<br>(A)      | + (B) |              | = (C)               | RATE |                   |
| ST. THOMAS     |                    |       |              |                     |      |                   |
| 04/15 -- 12/14 | 171                |       | 75           |                     | 246  | 08/01/98          |
| 12/15 -- 04/14 | 285                |       | 87           |                     | 372  | 08/01/98          |
| WAKE ISLAND:   |                    |       |              |                     |      |                   |
| WAKE ISLAND    | 60                 |       | 32           |                     | 92   | 09/01/98          |

**FEDERAL TRADE COMMISSION****16 CFR Part 241****Request for Comment Concerning Guides for the Dog and Cat Food Industry***Correction*

In proposed rule document 99-6597, beginning on page 13368, in the issue of Thursday, March 18, 1999, make the following corrections:

1. On page 13369, in the first column, under the heading **II. Regulatory Review Program**, in the second line from the bottom, "technologies" should read "technological".

2. On the same page, in the same column, under the heading **III. Request for Comment**, in paragraph (2), in the fourth line, "effect" should read "affect".

3. On the same page, in the same column, under the same heading, in paragraph (6), in the last line of the column, "good" should read "food".

[FR Doc. C9-6597 Filed 4-12-99; 8:45 am]

BILLING CODE 1505-01-D

**FEDERAL TRADE COMMISSION****16 CFR Part 256****Request for Comment Concerning the Guides for the Law Book Industry***Correction*

In proposed rule document 99-6596, beginning on page 13369, in the issue of Thursday, March 18, 1999, make the following corrections:

1. On page 13369, in the third column, in the ninth line, after "seventeen" add "guides".

2. On the same page, in the same column, in the first paragraph, in the seventh line, "property" should read "properly", and in the eighth line "sole" should read "sold".

3. On the same page, in the same column, in the same paragraph, in the 30th line, after "have" add "not".

4. On page 13370, in the first column, in the second line, "solicitation" should read "solicitations".

5. On the same page, in the same column, in the first full paragraph, in the first line, "practice" should read "practices", and in the 10th line, "related" should read "relate".

6. On the same page, in the same column, in the second full paragraph, in the fifth line, "provides" should read "provide".

[FR Doc. C9-6596 Filed 4-12-99; 8:45 am]

BILLING CODE 1505-01-D

Tuesday  
April 13, 1999



# FEDERAL REGISTER

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Part II

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Department of Housing and Urban  
Development

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**Office of Federal Housing Enterprise  
Oversight**

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12 CFR Part 1750  
Risk-Based Capital; Proposed Rule

**DEPARTMENT OF HOUSING AND  
URBAN DEVELOPMENT**

**Office of Federal Housing Enterprise  
Oversight**

**12 CFR Part 1750**

**RIN 2550-AA02**

**Risk-Based Capital**

**AGENCY:** Office of Federal Housing Enterprise Oversight, HUD.

**ACTION:** Notice of proposed rulemaking.

**SUMMARY:** The Office of Federal Housing Enterprise Oversight (OFHEO) is directed by the Federal Housing Enterprises Financial Safety and Soundness Act of 1992 to develop a risk-based capital regulation for Freddie Mac and Fannie Mae (collectively, the Enterprises). The regulation specifies the risk-based capital stress test that will determine the amount of capital an Enterprise is required to hold to maintain positive capital throughout a ten-year period of economic stress. The results of the risk-based capital stress test will be used to determine each Enterprise's risk-based capital requirements and, along with the minimum capital requirement, to determine each Enterprise's capital classification for purposes of possible supervisory action.

This Notice of Proposed Rulemaking is the second of two notices of proposed rulemaking pertaining to the risk-based capital regulation, both of which respond to comments received on the Advance Notice of Proposed Rulemaking. The first Notice of Proposed Rulemaking describes the methodology and rationale OFHEO used to identify the proposed benchmark loss experience, which is used to determine Enterprise credit losses during the stress test, and proposes the use of OFHEO's House Price Index in the stress test. The second Notice of Proposed Rulemaking specifies the interest rate risk and other components of the stress test, as well as the overall structure of the test.

**DATES:** Comments regarding this NPR must be received in writing on or before August 11, 1999.

**ADDRESSES:** Send written comments to Anne E. Dewey, General Counsel, Office of General Counsel, Office of Federal Housing Enterprise Oversight, 1700 G Street, NW., Fourth Floor, Washington, D.C. 20552. Written comments may also be sent by electronic mail at RegComments@OFHEO.gov.

**FOR FURTHER INFORMATION CONTACT:** Patrick J. Lawler, Director of Policy Analysis and Chief Economist; David J.

Pearl, Director, Office of Research, Analysis and Capital Standards; or Gary L. Norton, Deputy General Counsel, Office of General Counsel, Office of Federal Housing Enterprise Oversight, 1700 G Street, NW., Fourth Floor, Washington, D.C. 20552, telephone (202) 414-3800 (not a toll-free number). The telephone number for the Telecommunications Device for the Deaf is (800) 877-8339.

**SUPPLEMENTARY INFORMATION:** The Supplementary Information is organized according to this table of contents:

- I. Introduction
  - A. Background
  - B. Statutory Requirements for Risk-Based Capital
  - C. History of the Development of the Regulation
- II. Structure and Operation of the Regulation
  - A. Summary of the Stress Test
    - 1. Introduction
    - 2. Data
    - 3. Stress Test Conditions
    - 4. Mortgage Performance
    - 5. Other Credit Factors
    - 6. Cash Flows
    - 7. Enterprise Operations & Taxes
    - 8. Financial Reporting
    - 9. Calculation of the Risk-based Capital Requirement
  - B. Sensitivity of Capital Requirement to Risk
    - 1. MBS Guarantees (Sold Loans)
    - 2. Commitments
    - 3. Assets and Liabilities
    - 4. Administrative Costs
    - 5. External Economic Conditions
    - 6. Implications of the Proposed Rule
  - C. Implications of the Proposed Rule
    - 1. Capital Requirements Under the Proposed Rule
    - 2. Enterprise Adjustments to Meet the Proposed Standard
    - 3. Guarantee Fees
    - 4. Mortgage Interest Rates
- III. Issues, Alternatives Considered
  - A. Mortgage Performance
    - 1. Statutory Requirements
    - 2. Overview of Mortgage Performance
    - 3. Statistical Models of Mortgage Performance
    - 4. General Methodological Issues
    - 5. Default/Prepayment Issues
    - 6. Loss Severity
    - 7. Relating Losses to the Benchmark Loss Experience
    - 8. Inflation Adjustment
  - B. Interest Rates
    - 1. Yields on Treasury Securities
    - 2. Yields of Non-Treasury Instruments
  - C. Mortgage Credit Enhancements
    - 1. Background
    - 2. Modeling Approach
    - 3. Comments and Alternatives Considered
  - D. Liabilities and Derivatives
    - 1. Modeling Methodology
    - 2. Foreign Currency Linked or Unusual Instruments
    - 3. Call and Cancellation Options
    - 4. Counterparty Risk
  - E. Non-mortgage Investments
  - F. Other Housing Assets
    - 1. Mortgage Revenue Bonds

- 2. Private Label REMICs
- 3. Interests in Partnerships and Joint Ventures
- G. Commitments
  - 1. Definition of the Term "Commitment"
  - 2. Retained vs. Securitized Mortgages
  - 3. Modeling Delivery Percentages
  - 4. Delivery Timing
  - 5. Loan Mix Distribution
  - 6. No New Business Rule
- H. New Debt and Investment Rules
  - 1. Rationale for New Debt and New Investment Rules
  - 2. Analysis of ANPR Comments
- I. Operating Expenses
- J. Dividends and Other Capital Distributions
  - 1. Introduction
  - 2. Statutory Provisions
  - 3. Proposed Approach
  - 4. Analysis of ANPR Comments
  - K. Other Off-Balance Sheet Guarantees
  - L. Calculation of the Risk-Based Capital Requirement
    - 1. Proposed Approach to Calculating Capital
    - 2. Justification for Using a Present Value Approach
- IV. Technical Supplement
  - A. Purpose and Scope
  - B. Single Family Default/Prepayment
    - 1. Introduction
    - 2. Conceptual Framework
    - 3. Data
    - 4. Specification of the Statistical Model
    - 5. Explanatory Variables for Default and Prepayment
    - 6. Empirical Results
    - 7. Application of the Models in the Stress Test
    - 8. Consistency with the Historical Benchmark Experience
    - 9. References
  - C. Single Family Loss Severity
    - 1. Introduction
    - 2. Conceptual Framework
    - 3. Data
    - 4. Statistical Analysis
    - 5. Consistency with the Benchmark Loss Experience
    - 6. Application to the Stress Test
    - 7. References
  - D. Multifamily Default/Prepayment
    - 1. Introduction and Conceptual Framework
    - 2. Historical Data
    - 3. Statistical Estimation
    - 4. Explanatory Variables
    - 5. Results of the Statistical Estimation of Default and Prepayment Equations
    - 6. Application to the Stress Test
    - 7. References
  - E. Multifamily Loss Severity
    - 1. Introduction
    - 2. Conceptual Framework
    - 3. Sources of Data
    - 4. Data Analysis
    - 5. Application to the Stress Test
    - 6. References
  - F. Property Valuation
    - 1. Introduction
    - 2. Conceptual Framework
    - 3. Data Sources
    - 4. Statistical Analysis
- V. Regulatory Impact
  - A. Executive Order 12612, Federalism
  - B. Executive Order 12866, Regulatory Planning and Review



- C. Executive Order 12988, Civil Justice Reform
- D. Regulatory Flexibility Act
- E. Paperwork Reduction Act

## I. Introduction

### A. Background

The Office of Federal Housing Enterprise Oversight (OFHEO) was established by title XIII of the Housing and Community Development Act of 1992, Pub. L. No. 102-550, known as the Federal Housing Enterprises Financial Safety and Soundness Act of 1992 (1992 Act). OFHEO is an independent office within the U.S. Department of Housing and Urban Development (HUD) with responsibility for ensuring that the Federal Home Loan Mortgage Corporation (Freddie Mac) and the Federal National Mortgage Association (Fannie Mae) (collectively, the Enterprises) are adequately capitalized and operating in a safe and sound manner. Included among the express statutory authorities of OFHEO's Director (the Director) is the authority to issue regulations establishing minimum and risk-based capital standards.<sup>1</sup>

Fannie Mae and Freddie Mac are Government-sponsored Enterprises with important public purposes.<sup>2</sup> These include providing liquidity to the residential mortgage market and increasing the availability of mortgage credit benefiting low- and moderate-income families and areas that are underserved by lending institutions. The Enterprises engage in two principal businesses: investing in residential mortgages and guaranteeing securities backed by residential mortgages. The securities the Enterprises guarantee and the debt instruments they issue are not backed by the full faith and credit of the United States and nothing in this document should be construed otherwise.<sup>3</sup> Yet financial markets accord the Enterprises' securities preferential treatment relative to securities issued by potentially higher-capitalized, fully private, but otherwise comparable firms. The market prices for Enterprise debt and mortgage-backed securities, and the fact that the market does not require that those securities be rated by a national rating agency, suggest that investors perceive that the government implicitly guarantees those securities. This

perception evidently arises from the public purposes of the Enterprises, their Congressional charters, their potential direct access to U.S. Department of Treasury (Treasury) funds, and the statutory exemptions of their debt and mortgage-backed securities (MBS) from otherwise mandatory investor protection provisions.<sup>4</sup>

Congress created OFHEO as the safety and soundness regulator of the Enterprises to reduce their risk of failure. Although each Enterprise at the time had experienced profitability and sustained growth, Congress determined that there was a need for a strong and independent regulator to promote the capital adequacy of the Enterprises. This determination was grounded in the recognition of many factors, including (1) the important public purpose served by the Enterprises in the secondary market for residential mortgages, and (2) the Enterprises' important role in providing access to mortgage credit in central cities, rural regions, and underserved areas.

Another important factor leading to OFHEO's creation was the recognition that the Enterprises are largely insulated from private market discipline relative to fully private firms. This insulation results from the apparent investor perception of an implied guarantee, and is best exemplified by the market's acceptance of Fannie Mae securities in the early 1980s and the Farm Credit System's securities in the mid-1980s when these GSEs were experiencing financial difficulties. The absence of normal market discipline on risk-taking is a strong argument for effective government regulation, including capital regulation.

Congress was also concerned about the serious disruptions to the nation's housing markets that could result from an Enterprise's failure. In introducing legislation in the House of Representatives, then House Banking Committee Chairman Henry Gonzalez noted that—

The savings and loan crisis and the large losses incurred by the Federal Government to resolve the crisis, raises concerns about the scope of other potential liabilities of the United States, including the liabilities of Fannie Mae, Freddie Mac, and the [Federal Home Loan] banks. These entities are privately owned federally chartered

enterprises established to meet certain credit needs. Together they have more than \$800 billion in mortgage-related liabilities.<sup>5</sup>

In expressing his view that the legislation did not go far enough to ensure the Enterprises' safety and soundness, then Ranking Minority Member Jim Leach stated that—

If there is a singular lesson of the 1980's, it is that prudential capital ratios are critical not only for providing a cushion between an institution's liabilities and the taxpayer's pocket book, but they ground institutional decision-making in less risky behavior. Where there is minimal private capital at risk there is always an inordinate incentive to bet the bank on speculative investments or interest rate moves. And perhaps most consequently, capital ratios determine constraints on growth. If institutions are allowed 50 or 100 to 1 leveraging, as occurred so recently in the thrift industry, imprudent or conflict driven decision making can too quickly cause disproportionate growth in certain institutions, industries and parts of the country, with the taxpayer on the line for management stupidity, foul play or bad luck.

Fortunately, both GSEs are well run today. Fannie, in particular has been a major market winner as the cost of funds has declined with more restrained levels of inflation. But Congress must understand that if interest rates had gone up rather than down in the 1980's, Fannie Mae would be the single largest institutional liability the U.S. government would ever have been forced to oversee.<sup>6</sup>

Similarly, the Senate Report<sup>7</sup> stated that—

Past performance indicates that [the risks of an Enterprise's failure] are not just hypothetical. While both GSEs are currently very prosperous, HUD estimated in a 1986 report to Congress, that Fannie Mae was insolvent on a marked-to-market basis at year-end 1978 and did not return to solvency until 1985. Its negative net worth reached a peak of more than \$20 billion in 1981, which was roughly 20 percent of its outstanding liabilities. Its recovery owed partly to improved management, but also, in considerable measure to fortuitous declines in interest rates.<sup>8</sup>

Because of Congress' concerns, OFHEO was established as the safety and soundness regulator of Fannie Mae and Freddie Mac. OFHEO is responsible for conducting examinations to ensure the Enterprises' safety and soundness and establishing and enforcing compliance with two types of capital

<sup>1</sup> 1992 Act, section 1313(b)(1) (12 U.S.C. 4513(b)(1)).

<sup>2</sup> 1992 Act, sections 1331-38 (12 U.S.C. 4561-67, 4562 note).

<sup>3</sup> See, Federal Home Loan Mortgage Corporation Act, section 306(h)(2) (12 U.S.C. 1455(h)(2)); Federal National Mortgage Association Charter Act, section 304(b) (12 U.S.C. 1719(b)); and 1992 Act, section 1302(4) (12 U.S.C. 4501(4)).

<sup>4</sup> See, e.g., 12 U.S.C. 24 (authorizing unlimited investment by national banks in obligations of or issued by the Enterprises); 12 U.S.C. 1455(g), 1719(d), 1723(c) (exempting securities from oversight from Federal regulators); 15 U.S.C. 77r-1(a) (preempting State law that would treat Enterprise securities differently from obligations of the United States for investment purposes); 15 U.S.C. 77r-1(c) (exempting Enterprise securities from State blue sky laws).

<sup>5</sup> Comments by Rep. Gonzalez upon introducing H.R. 2900, 137 Cong. Rec. H5497 (July 16, 1991).

<sup>6</sup> Dissenting views of Rep. Leach, *Government-Sponsored Housing Enterprises Financial Safety and Soundness Act of 1991*, H.R. Rep. No. 102-206 on H.R. 2900, at 114 (1991) (House Report).

<sup>7</sup> *Federal Housing Enterprises Regulatory Reform Act of 1992*, S. Rep. No. 102-282 (1992) (Senate Report).

<sup>8</sup> S. Rep. No. 102-282, at 10 (1992).

standards required by the 1992 Act. The first is the minimum capital standard.<sup>9</sup> Using this standard, which is based on a set of leverage ratios, OFHEO has classified each Enterprise's capital position every quarter since OFHEO's inception. After initially using an interim procedure, OFHEO published a rule regarding minimum capital, which incorporates a more careful evaluation of the credit risks associated with swaps and other off-balance sheet obligations.<sup>10</sup> The resulting standard is comparable in its construction to the risk-based capital standards of other financial institution regulators.

The second capital standard required by the 1992 Act is the risk-based capital standard. This standard requires each Enterprise to hold sufficient capital to survive a ten-year period characterized by adverse credit losses and large movements in interest rates, plus an additional amount to cover management and operations risk.<sup>11</sup> The level of capital<sup>12</sup> required under this standard for an Enterprise will reflect that Enterprise's specific risk profile at the beginning of each quarter for which the stress test will be run.

The risk-based standard is an essential component of the safety and soundness regulation of the Enterprises. Without the risk-based standard, an Enterprise might adopt risk positions of

sufficient magnitude to make a capital level that just meets the minimum standard inadequate for maintaining a safe and sound financial condition.

However, the risk-based standard cannot, by itself, ensure sufficient capital to meet all contingencies. While the interest rate and credit stresses that are incorporated in the stress test, as specified by statute, are historically unprecedented, future economic environments may be even more adverse. Additionally, the nature of actual future stresses may differ from the precise stresses incorporated in the model. Furthermore, the model contains factors such as mortgage default and prepayment rates that are based on historical experience and therefore may be less adverse than those actually occurring in future economic environments. Similarly, the consequences of risks other than interest rate and credit risks may also prove more serious than the fixed proportional amount allowed for management and operations risk.

In addition to the risk-based standard, there is a minimum capital standard, which requires that in the absence of large measurable risks, the Enterprise maintain a minimally acceptable level of capital. Complementing the two capital standards are OFHEO's examination and enforcement authorities, which provide the knowledge and authority necessary to require prudent management practices in all environments. All of these regulatory mechanisms operate in tandem to promote the safety and soundness of the Enterprises.

#### *B. Statutory Requirements for Risk-Based Capital*

The 1992 Act requires that OFHEO, by regulation, establish a risk-based capital test (known as the stress test) which, when applied to an Enterprise, shall determine that amount of total capital for the Enterprise that is sufficient for the Enterprise to maintain positive capital during the stress period. The 1992 Act also provides that, in order to meet its risk-based capital standard, each Enterprise is required to maintain an additional 30 percent of this amount to protect against management and operations risk.<sup>13</sup>

The 1992 Act requires that the stress test subject each Enterprise to large credit losses on mortgages it owns or guarantees. The frequency and severity of those losses must be reasonably related to the highest rates of default and severity of mortgage losses

experienced during a period of at least two consecutive years in contiguous areas of the United States that together contain at least five percent of the total U.S. population.<sup>14</sup> OFHEO is required to identify what it has characterized as the "benchmark loss experience" that resulted in the highest loss rate.<sup>15</sup> In this context, default and severity behavior means the frequency, timing, and severity of losses on mortgage loans, given the specific characteristics of those loans and the economic circumstances affecting those losses.

The 1992 Act also prescribes two interest rate scenarios, one with rates falling and the other with rates rising.<sup>16</sup> The risk-based capital amount is based on whichever scenario would require more capital for the Enterprise. In prescribing the two scenarios, the 1992 Act describes the path of the ten-year constant maturity yield (CMT) for each scenario and directs OFHEO to establish the yields on Treasury instruments of other maturities in a manner reasonably related to historical experience and judged reasonable by the Director.

In the falling or down-rate scenario, the ten-year CMT decreases during the first year of the stress period and then remains constant at the lesser of (a) 600 basis points below the average yield during the nine months preceding the stress period or (b) 60 percent of the average yield during the three years preceding the stress period. However, the 1992 Act limits the decrease in yield to 50 percent of the average yield in the nine months preceding the stress period.<sup>17</sup>

In the rising or up-rate scenario, the ten-year CMT increases during the first year of the stress period and then remains constant at the greater of (a) 600 basis points above the average yield during the nine months preceding the stress period or (b) 160 percent of the average yield during the three years preceding the stress period. However, the 1992 Act limits the increase in yield to 175 percent of the average yield over the nine months preceding the stress period.<sup>18</sup> The 1992 Act recognizes that interest rates can affect credit risk, specifically requiring that credit losses be adjusted for a correspondingly higher rate of general price inflation if

<sup>9</sup> 1992 Act, section 1362 (12 U.S.C. 4612).

<sup>10</sup> 12 CFR 1750.4; see Minimum Capital, Final Rule, 61 FR 35607, July 8, 1996.

<sup>11</sup> 1992 Act, section 1361 (12 U.S.C. 4611).

<sup>12</sup> For purposes of the risk-based capital standard, the term "capital" means "total capital" as defined under section 1303(18) of the 1992 Act (12 U.S.C. 4502(18)) to mean the sum of the following:

(A) The core capital of the enterprise;

(B) A general allowance for foreclosure losses, which—

(i) shall include an allowance for portfolio mortgage losses, an allowance for nonreimbursable foreclosure costs on government claims, and an allowance for liabilities reflected on the balance sheet for the enterprise for estimated foreclosure losses on mortgage-backed securities; and

(ii) shall not include any reserves of the enterprise made or held against specific assets.

(C) Any other amounts from sources of funds available to absorb losses incurred by the enterprise, that the Director by regulation determines are appropriate to include in determining total capital.

The term "core capital" is defined under section 1303(4) of the 1992 Act (12 U.S.C. 4502(4)) to mean the sum of the following (as determined in accordance with generally accepted accounting principles):

(A) The par or stated value of outstanding common stock.

(B) The par or stated value of outstanding perpetual, noncumulative preferred stock.

(C) Paid-in capital.

(D) Retained earnings.

The core capital of an enterprise shall not include any amounts that the enterprise could be required to pay, at the option of investors, to retire capital instruments.

<sup>13</sup> 1992 Act, section 1361(c)(2) (12 U.S.C. 4611(c)(2)).

<sup>14</sup> 1992 Act, section 1361(a)(1) (12 U.S.C. 4611(a)(1)).

<sup>15</sup> In this document, the word "benchmark," when used as an adjective or a noun, refers to the benchmark loss experience.

<sup>16</sup> 1992 Act, section 1361(a)(2) (12 U.S.C. 4611(a)(2)).

<sup>17</sup> 1992 Act, section 1361(a)(2)(B) (12 U.S.C. 4611(a)(2)(B)).

<sup>18</sup> 1992 Act, section 1361(a)(2)(C) (12 U.S.C. 4611(a)(2)(C)).

application of the stress test produces an increase of more than 50 percent in the ten-year CMT.<sup>19</sup>

The Act requires that the stress test take into account distinctions among mortgage product types and differences in seasoning. It may also take into account any other factors that the Director deems appropriate. The 1992 Act does not require a specific adjustment for any of these factors, allowing the Director to determine how best to account for them. Likewise, the 1992 Act requires the Director to determine losses and gains on Enterprise activities not specifically addressed, and all other characteristics of the stress test not explicitly defined in the 1992 Act, on the basis of available information, in a manner consistent with the stress test.<sup>20</sup> These stress test characteristics could include, among others, mortgage prepayment rates and Enterprise funding activities, operating expenses, and capital distribution activities.

The 1992 Act requires the stress test to provide initially that each Enterprise will conduct no new business within the stress period, except to fulfill contractual commitments to purchase mortgages or issue securities. Four years after the final risk-based capital regulation is issued, OFHEO is authorized to modify the stress test to incorporate assumptions about additional new business conducted during the stress period.<sup>21</sup> In doing so, OFHEO is required to take into consideration the results of studies conducted by the Congressional Budget Office and the Comptroller General of the United States on the advisability and appropriate forms of new business assumptions. The 1992 Act requires that the studies be completed within the first year after issuance of the final regulation.<sup>22</sup>

In developing this proposal, OFHEO considered whether it would be permissible and appropriate not to propose a detailed risk model, and instead to rely on the risk models developed by the Enterprises themselves.<sup>23</sup> Under such a regulatory

approach, OFHEO would specify only the basic interest rate and credit assumptions, rely on the Enterprises' internal modeling of these scenarios and review those models and the results.

OFHEO has thoroughly considered this approach and believes that it would not be consistent with the 1992 Act, which anticipates that a publicly-available, transparent and reproducible test would be applied to the Enterprises. The 1992 Act provides for both Enterprises to be subject to the same stress test;<sup>24</sup> that the full test be subject to notice and comment rulemaking;<sup>25</sup> that the risk-based capital regulation be sufficiently specific to permit anyone to apply the test, given relevant Enterprise data;<sup>26</sup> and that OFHEO must make the stress test model public.<sup>27</sup> Relying on the Enterprises to compute their own capital requirements with their proprietary models would be inconsistent with all of these provisions.

Moreover, a rule that specifies the details of the model will provide a more consistent and effective capital regulation and will not place undue burdens on the Enterprises. The structure of OFHEO's regulatory and enforcement authorities presumes a strong risk-based capital standard. The level of the minimum (leverage) capital standard was established with the assumption that there would be a meaningful risk-based standard that would address actual or potential risk not addressed by simple leverage ratios. In addition, important OFHEO enforcement authorities are tied to the risk-based capital requirement. An Enterprise's failure to meet these requirements triggers two important enforcement authorities: the ability to reduce or eliminate the Enterprise's dividends and the ability to require a capital restoration plan acceptable to OFHEO. Also, the grounds for a cease and desist action vary depending on whether an Enterprise meets the risk-based standard. Thus, a weaker standard would weaken OFHEO's enforcement authorities.

These objectives are best obtained by a clear standard that is presented to the

public for comment and then employed consistently to evaluate both Enterprises. Reliance instead on Enterprise models would likely result in a weaker inconsistently-applied standard. Use of Enterprise models would give the Enterprises broad discretion to determine their own risk-based capital requirements because stress test details beyond basic assumptions and modeling techniques can have a substantial cumulative effect on the results. Existing market distortions would give the Enterprises incentives to adjust those details to produce low requirements.

The Enterprises' status as government-sponsored-enterprises attenuates market discipline of Enterprise capital levels. The Enterprises are highly leveraged financial institutions. Fully private firms that depend heavily on debt markets are inhibited from taking on large amounts of risk relative to their equity capital. Interest rates on debt or guaranteed securities are sensitive to the perceived credit quality of the issuers or guarantors. However, because investors treat Enterprise obligations as implicitly guaranteed by the Federal government, the normal linkage between the adequacy of an Enterprise's capital and the interest rates on its obligations is severed. Thus, because of the perceived implicit guarantee, the Enterprises have an incentive to hold less capital, relative to their risk levels, than they would if their debt costs were subject to normal market forces. A strong risk-based capital standard can address this distortion, but the Enterprises have little incentive to assist in producing such a result.

Reliance on different Enterprise internal models would also result in unequal treatment. The nature of business risks and risk management techniques are very similar at the two Enterprises. It is most appropriate and most fair to determine each Enterprise's capital adequacy in the same way. However, capital models developed by the two Enterprises would likely differ significantly. Differences in resulting standards could easily mask significant differences in true capital adequacy between the Enterprises. Furthermore, a lower effective standard at one Enterprise could give that Enterprise important business advantages over the other. The resulting competitive pressures would give the Enterprise with the higher standard an incentive to conform with the lower standard.

A model fully specified in regulation and administered by OFHEO, on the other hand, does not suffer these disadvantages. Such a model is feasible

<sup>19</sup> 1992 Act, section 1361(a)(2)(E) (12 U.S.C. 4611(a)(2)(E)).

<sup>20</sup> 1992 Act, sections 1361(b) and (d)(2) (12 U.S.C. 4611(b) and (d)(2)).

<sup>21</sup> 1992 Act, sections 1361(a)(3)(B) and (D) (12 U.S.C. 4611(a)(3)(B) and (D)).

<sup>22</sup> 1992 Act, section 1361(a)(3)(C) (12 U.S.C. 4611(a)(3)(C)).

<sup>23</sup> This approach, which OFHEO considered in detail as it began to develop the risk-based capital regulation, was raised most recently by Fannie Mae during the OMB review process. See the letters from Ms. Jamie S. Gorelick, Vice Chair, Fannie Mae of December 4, 1998 to various OMB officials; and of March 10, 1999, to Dr. Janet Yellen, Chair, Council of Economic Advisers.

<sup>24</sup> See 12 U.S.C. 4611(a) ("The Director shall, by regulation, establish a risk-based capital test for the Enterprises. When applied to an Enterprise, the risk-based capital test shall determine the amount of total capital for the Enterprise . . .") (emphasis added). See also H.R. Rep. No. 102-206 at 62 (1991). ("Beyond these traditional capital ratios, the bill sets forth guidelines for the creation, in highly specific regulations, of a risk-based capital standard . . . The model, or stress test, will generate a number for each Enterprise, which will become the risk-based standard for that Enterprise.") (emphasis added).

<sup>25</sup> Section 1361(e)(1), 12 U.S.C. 4611(e)(1).

<sup>26</sup> Section 1361(e)(2), 12 U.S.C. 4611(e)(2).

<sup>27</sup> Section 1361(f), 12 U.S.C. 4611(f).

because OFHEO regulates only two institutions, with similar risks and relatively narrow lines of business. The transparency of this approach allows all interested parties to comment meaningfully on the precise method of determining Enterprise capital requirements, and it gives the Enterprises the ability to internalize the model for planning purposes.

In analyzing this issue, OFHEO is aware that some Federal financial institution regulators make limited use of internal models. However, those uses of internal models are made in very different circumstances and by regulators with different authorizing statutes. Many of the institutions in which these regulators rely upon internal models are exposed to substantial market discipline of their capital and risk positions because they rely heavily on uninsured liabilities. Such discipline effectively forces large banks to hold capital well in excess of regulatory requirements.

Even in these circumstances, other regulators depend on internal models only to a small extent as a supplement to other measures of capital adequacy. Bank capital requirements are primarily based on overall or risk-weighted ratios that are substantially higher than those applied to the Enterprises under the minimum capital standard. To supplement those ratios, regulators require banks with significant market risk exposures (those that have large trading accounts) to use their internal value-at-risk models to calculate a market-risk capital component of their overall risk-based capital requirements. However, partly because of the uncertainties surrounding model construction and verification, bank regulators require a multiple of three or more times the amount of capital for market risk exposures that the internal models estimate.<sup>28</sup> This limited use of internal models in very different

circumstances does not appear applicable to Enterprise capital regulation.

OFHEO considered whether an internal models approach could permit greater flexibility and innovation by the Enterprises, because they could modify their internal risk models at will. OFHEO believes the issues of flexibility and innovation have been appropriately addressed in the proposed regulation. In general, OFHEO expects that credit and interest rate risk of new Enterprise activities and instruments will be reflected in the stress test by simulating their credit and cash flow characteristics using the approaches described in the regulation. OFHEO will provide the Enterprises with its estimate of the capital treatment of new products, investments or instruments as soon as possible after the Enterprises notify OFHEO of the new activities. In addition, OFHEO will monitor the Enterprises' activities and, when appropriate, propose amendments to this regulation addressing the treatment of new instruments and activities.

For all the reasons described, OFHEO believes that the approach proposed in this Notice implements the requirement of the 1992 Act and provides an appropriate means for ensuring the capital adequacy of the Enterprises. In accordance with the requirements of the Administrative Procedure Act, OFHEO is requesting comments on all of the issues raised in this Notice of Proposed Rulemaking.

### *C. History of the Development of the Regulation*

OFHEO's mission is to ensure that the Enterprises are adequately capitalized and operating in a safe and sound manner. The principal objective of the risk-based capital standard is to reduce the risk of Enterprise insolvency. Another important objective of the risk-based capital standard is to align the incentives reflected in the regulatory capital requirement with the incentives of prudent risk management. The ultimate goal is for the Enterprises to maintain the financial health necessary

to fulfill their public purposes. Although the stress test produces a single capital requirement, it effectively creates incremental regulatory capital requirements for each additional dollar of business for every product type an Enterprise guarantees or holds in portfolio. Marginal capital requirements for mortgages held in portfolio will vary depending on the risk inherent in an Enterprise's funding strategy.

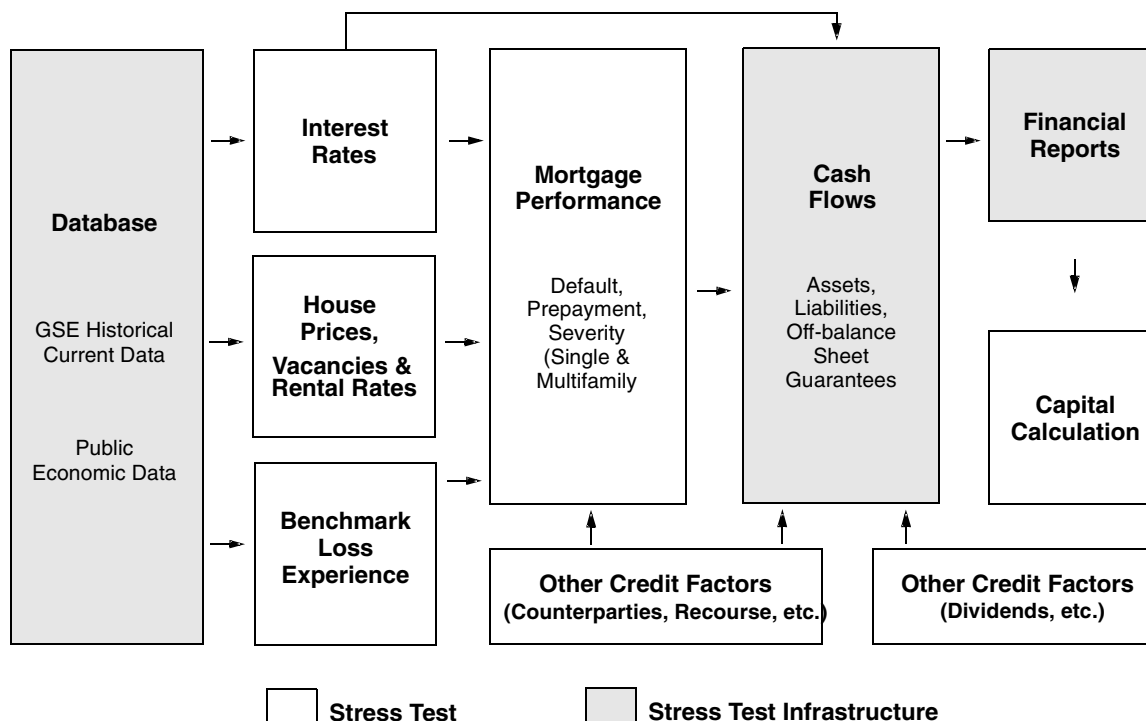
OFHEO designed the stress test so that the incentives it creates closely reflect the relative risks inherent in the Enterprises' different activities. To this end, the proposed regulation incorporates, to the extent feasible, consistent relationships between the economic environment of the stress period and the Enterprises' businesses. Doing so required OFHEO to model the Enterprises' assets, liabilities, and off-balance sheet positions at a sufficient level of detail to capture important risk characteristics.

However, as the level of detail of the stress test increased, so did its complexity, along with the time and other resources that were required to develop it. OFHEO also faced certain practical limits to the number of variables that could be modeled due to the limitations of existing data. Therefore, in developing this proposed regulation, OFHEO sought to achieve a level of complexity and realism in the stress test that appropriately balanced the associated benefits and costs.

OFHEO's stress test is comprised of a number of components, some that correspond to subjects specifically cited in the 1992 Act and others that represent the infrastructure that makes the stress test operational. Figure 1 illustrates these components and their interrelationships. The infrastructure components—database, cash flows, and financial reports—are shaded gray. The unshaded components implement the specific requirements of the 1992 Act, as well as the many other aspects of the stress test that the 1992 Act either requires or permits OFHEO to determine.

<sup>28</sup> See, for example, Darryll Hendricks and Beverly Hirtle, "Bank Capital Requirements for Market Risk: The Internal Models Approach," in *Economic Policy Review*, Federal Reserve Bank of New York, December 1997, pp. 3-6.

Figure 1. Risk Based Capital Stress Test



On February 8, 1995, OFHEO published an Advance Notice of Proposed Rulemaking (ANPR)<sup>29</sup> as its first step in developing the risk-based capital regulation. The ANPR announced OFHEO's intention to develop and publish a risk-based capital regulation and solicited public comment on issues relating to that regulation.

The comment period for the ANPR ended on May 9, 1995, and was extended through June 8, 1995.<sup>30</sup> OFHEO received 17 comments on the ANPR from a variety of interested parties. Commenters included two Executive Branch Departments, HUD and Department of Veterans Affairs (VA); one Federal financial institution regulatory agency Office of Thrift Supervision (OTS); one Federal regulatory agency, U.S. Commodity Futures Trading Commission (CFTC); the Enterprises, Fannie Mae and Freddie Mac; four trade groups, Mortgage Bankers Association of America (MBA), America's Community Bankers (ACB), National Association of Realtors (NAR), and Mortgage Insurance Companies of America (MICA); two mortgage banking firms, PNC Mortgage Corporation of

America and Norwest Mortgage, Inc.), one rating agency Standard and Poor's Ratings Group (S&P); one thrift institution, World Savings and Loan Association (MS&L); one private mortgage research firm, Mortgage Risk Assessment Corporation (MRAC); and one individual, Professor Anthony Yezer of George Washington University. The responses to the ANPR ranged from a comment on only one or two specific risk-based capital issues to an extensive analysis of every question or issue raised. OFHEO has considered these comments in the development of its risk-based capital regulation.

OFHEO determined that the scope of the regulatory project required the issuance of two separate Notices of Proposed Rulemaking (NPR), each addressing different components of the stress test. On June 11, 1996, OFHEO published a Notice of Proposed Rulemaking (NPR1),<sup>31</sup> which addresses two components. The first component is the methodology for identifying and measuring the benchmark loss experience, which provides the basis for determining credit losses that the Enterprises will experience during the stress period. The second is OFHEO's proposal to use the OFHEO House Price

Index (HPI), which is a weighted repeat transactions house price index, rather than the Constant Quality Home Price Index (CQHPI) published by the Secretary of Commerce, to measure differences in seasoning of single family mortgages in the stress test.<sup>32</sup> NPR1 included OFHEO's responses to all of the ANPR comments that related to those two areas. The comment period for NPR1 ended on September 9, 1996, and was extended through October 24, 1996.<sup>33</sup> OFHEO received 11 written comments on NPR1 and will consider and respond to those in the final risk-based capital regulation.

This Notice of Proposed Rulemaking (NPR2) specifies and proposes for public comment all of the remaining aspects of the risk-based capital stress test not covered in NPR1. The notice includes an overview of the stress test, the stress test's sensitivity to risk, the implications of the stress test for the Enterprises, and specific issues related to the stress test. Among the specific issues discussed are mortgage performance (i.e., default, prepayment, and loss severity), interest rates, new debt and new investments, commitments, dividends and other

<sup>29</sup> Risk-Based Capital, ANPR, 60 FR 7468, February 8, 1995.

<sup>30</sup> Risk-Based Capital, Extension of Public Comment Period for ANPR, 60 FR 25174, May 11, 1995.

<sup>31</sup> Risk-Based Capital, NPR1, 61 FR 29592, June 11, 1996.

<sup>32</sup> 61 FR 29616, June 11, 1996.

<sup>33</sup> Risk-Based Capital, Extension of Public Comment Period for NPR, 61 FR 42824, August 19, 1996.

capital distributions, operating expenses, credit enhancements, liabilities and derivatives, non-mortgage investments, and capital calculation. The notice also includes a technical supplement that explains the derivation of equations used in the stress test. Finally the notice contains the regulatory text which includes the regulatory appendix that provides the technical details of the regulation.

OFHEO believes that it is important for this proposal to receive full public review and comment. Accordingly, OFHEO invites all interested parties to comment on the issues raised in this NPR. OFHEO will consider comments received, together with those received on NPR1, in the development of the final risk-based capital regulation.

## II. Structure and Operation of the Regulation

### A. Summary of the Stress Test

#### 1. Introduction

OFHEO's risk-based capital regulation is part of a larger regulatory framework for the Enterprises that includes a minimum capital requirement and a comprehensive examination program. The purpose of this regulatory framework is to reduce the risk of failure of the Enterprises by ensuring that the Enterprises are adequately capitalized and operating safely, in accordance with the 1992 Act.

OFHEO's risk-based capital requirement differs from the minimum capital requirement by relating the required capital to the risk in an Enterprise's financial activities. In order to determine risk-based capital for the Enterprises, OFHEO has been charged with creating a stress test that simulates the effects of ten years of adverse economic conditions on the existing assets and obligations of the Enterprises. Both the minimum and the risk-based capital requirements work in conjunction with OFHEO's examination program to ensure that the Enterprises are adequately capitalized and operating safely.

In creating the proposed stress test, OFHEO had to ensure that it met all the statutory requirements outlined in the 1992 Act and that it accurately and appropriately captured the risks related to the business of the Enterprises. To accomplish this, OFHEO modeled both sides of the Enterprises' balance sheets, as well as their off-balance sheet obligations, at the level of detail necessary to capture the risk involved. In selecting among alternative approaches, OFHEO sought to minimize the possibility of perverse incentives in the stress test. The regulation was

designed to ensure that stresses were appropriate in order to promote safety and soundness and ensure the Enterprises' ability to fulfill their important public missions.

The stress test determines, as of a point in time, how much capital an Enterprise requires to survive the economically stressful conditions outlined by the 1992 Act. At a minimum, the stress test would be run on a quarterly basis. The stress test takes as inputs data on an Enterprise's assets and obligations, operations, interest rates, and the housing market. These data are used in econometric, financial, and accounting models to simulate Enterprise financial performance over a ten year period called the "stress period." The stress test then computes the amount of starting capital that would permit an Enterprise to maintain a positive capital position throughout the stress period. To determine the risk-based capital requirement, the 1992 Act requires that 30 percent of this amount is added to cover management and operations risk.

This summary provides a high level description of the stress test. For a more detailed description, refer to the Regulation Appendix. For explanations of the reasons for the approaches taken, refer to section III., Issues, Alternatives Considered. For detailed information on econometric models and historical property valuation-related indexes used in the stress test, refer to section IV., Technical Supplement. Throughout the summary, it may be helpful to refer to the stress test diagram, in section I., Introduction.

#### 2. Data

The stress test utilizes data characterizing at a point in time an Enterprise's assets, liabilities, and off-balance sheet obligations, as well as data on economic conditions. The Enterprises submit data to OFHEO for mortgages, securities, and derivative contracts at the instrument level, that is, for individual mortgages, securities, and contracts. OFHEO obtains data on economic conditions from public sources. All these data are referred to as "starting position data" for the date for which the stress test is run.

For modeling efficiency, the stress test aggregates loans into groups of loans with common risk and cash flow characteristics ("loan groups"). For instance, 30-year fixed-rate mortgages for single family homes in the same geographic region, originated in the same year, with similar interest rates

and LTVs,<sup>34</sup> and held in an Enterprise's portfolio, are grouped together in one loan group. In this way, over 24 million loans are aggregated into the minimum number of loan groups that captures important risk characteristics. These loan groups, instead of individual loans, are then used as inputs by the mortgage performance and cash flow components of the stress test.

In addition to starting position data for existing loans, the stress test creates loan group data for the new mortgages that will be added during the stress test. The 1992 Act requires that the stress test simulate the fulfillment of the Enterprises' contractual commitments, outstanding at the start of the stress period, to purchase and/or securitize mortgages. The new mortgages that the stress test adds consist of four single family loan product types: 30-year fixed-rate, 15-year fixed-rate, adjustable-rate, and balloon. The percentage of each type added is based on the relative proportions of those types of loans securitized by an Enterprise that were originated during the six months preceding the start of the stress period. The mix of LTV, region, guarantee fee, and other characteristics of these new loans also reflects the characteristics of the loans originated during the preceding six months. All new mortgages are securitized. In the down-rate scenario, 100 percent of these loans are added during the first three months of the stress period; in the up-rate scenario, 75 percent of these loans are added during the first six months. These loan groups are then treated like the loan groups created for loans on the Enterprise's books at the start of the stress period.

Because of the smaller number and greater diversity of the Enterprises' non-mortgage financial instruments (investments and debt), the stress test projects these cash flows at the individual instrument level, rather than at a grouped level. Data used for these projections include the instrument characteristics that are used to model securities, both investment and debt, as well as derivative contracts.

#### 3. Stress Test Conditions

##### a. Benchmark Loss Experience

In NPR1, OFHEO proposed the methodology for identifying the benchmark loss experience, the stressful credit conditions which are the basis for credit losses in the stress test. With this methodology, OFHEO identified the worst cumulative credit losses

<sup>34</sup> LTV is the loan to value ratio, which is the loan balance divided by the value of the property securing the loan.

experienced by loans originated during a period of at least two consecutive years, in contiguous states encompassing at least five percent of the U.S. population. The performance of these loans (i.e., the frequency, timing and severity of their losses) and the related interest rate and housing market environment, comprise the benchmark loss experience.

The benchmark loss experience is based on newly originated, 30-year, fixed-rate, first lien mortgages on owner-occupied, single family properties. The performance of these benchmark loans was a function of their original LTVs and other characteristics, as well as the specific house price and interest rate paths they experienced. The stress test applies the path of house prices from the benchmark loss experience and the interest rate paths required by the 1992 Act. Furthermore, the stress test simulates the performance of an Enterprise's entire mortgage portfolio, including loans of all types, ages, and characteristics. Primarily for these reasons, overall Enterprise mortgage loss rates in the stress test are much lower than the loss rates OFHEO reported in NPR1 for benchmark loans.

When the mortgage performance models are applied to benchmark loans, using the benchmark pattern of interest rates, losses are very close to those identified in NPR1. The remaining difference results from the fact that OFHEO based its mortgage performance models on all Enterprise historical loan data, not just the limited data for benchmark loans, and that the benchmark loss experience was particularly severe. This difference is corrected by calibrating the single family mortgage performance models, resulting in slight upward adjustments of default and loss severity rates, so that they are consistent with the benchmark loss experience.

For multifamily loans, the stress test also incorporates patterns of vacancy rates and rent growth rates that are consistent with the benchmark loss experience. In this manner, the stress test relates the performance of multifamily loans to the benchmark loss experience.

#### b. Interest Rates

Interest rates are a key component of the adverse economic conditions of the stress test. The 1992 Act specifies two scenarios for the ten-year Constant Maturity Treasury yield (CMT) during the stress period. During the first year of the stress period, the ten-year CMT:

- falls by the lesser of 600 basis points below the average yield during the nine months preceding the stress

period, or 60 percent of the average yield during the three years preceding the stress period, but in no case to a yield less than 50 percent of the average yield during the preceding nine months (down-rate scenario); or

- rises by the greater of 600 basis points above the average yield during the nine months preceding the stress period, or 160 percent of the average yield during the three years preceding the stress period, but in no case to a yield greater than 175 percent of the average yield during the preceding nine months (up-rate scenario).

Changes to the ten-year CMT occur in twelve equal monthly increments from the starting point for the ten-year CMT, which is the average of the daily yields for the month preceding the stress period. The ten-year CMT stays at the new level for the remainder of the stress period.

The stress test establishes the Treasury yield curve for the stress period in relation to the prescribed movements in the ten-year CMT. In the down-rate scenario the yield curve is upward sloping during the last nine years of the stress period. In the up-rate scenario the Treasury yield curve is flat for the last nine years of the stress period, that is, yields of other maturities are equal to that of the ten-year CMT.

Because many different interest rates affect the Enterprises' business performance, the ten-year CMT and the Treasury yield curve are not the only interest rates that must be determined. For example, current mortgage rates affect rates of refinancing of existing mortgages; adjustable-rate mortgages periodically adjust according to various indexes; floating rate securities (assets and liabilities) and many rates associated with derivative contracts also adjust; and appropriate yields must be established for new debt and investments. Thus, the stress test requires rates and indexes other than Treasury yields for the entire period of the stress test. Some of the key rates that are estimated are the Federal Funds rate, London Inter-Bank Offered Rate (LIBOR), Federal Home Loan Bank 11th District Cost of Funds Index (COFI), and Enterprise borrowing rates. The stress test establishes these rates and indexes by using Autoregressive Integrated Moving Average (ARIMA) procedures—time-series estimation techniques—to estimate their values based on historical spreads to yields on Treasuries of comparable maturities. The procedures use historical information to estimate values during the stress period. To reflect the market impact of stress test economic conditions on the Enterprises' costs of borrowing, beginning in the

second year of the stress period, 50 basis points are added to the computed yields for Enterprise debt securities.

#### c. Property Values

In determining the performance (rates of default, prepayment, and of loss severity) of an Enterprise's mortgages in the stress test, the 1992 Act requires OFHEO to consider seasoning, which the stress test captures by the use of current LTVs. The stress test calculates the numerator of current LTV, the current loan balance, based on the unpaid principal balance of the loan at the start of the stress period (starting UPB) and the amortization of the loan based on product type. Both the starting UPB and the loan product type are included in starting position data. The stress test uses the OFHEO HPI for the relevant Census division to track changes in property values—the denominator of current LTV—from the time of loan origination through to the start of the stress period. During the stress period, changes in property values are computed by applying the pattern of house price changes from the benchmark loss experience.

The HPI values represent average property value appreciation. In simulating mortgage performance, the stress test also captures variations from average house price movements, called dispersion. For this purpose, the stress test uses the mathematical measures of dispersion that OFHEO publishes along with the HPI.

For multifamily properties, property values are derived from estimates of a property's net operating income and capitalization rate multipliers. The stress test uses loan data together with rent growth rate and vacancy rate indexes to derive estimates of net operating income (NOI) for multifamily loans. Index values from the benchmark loss experience are applied to starting property values to derive current estimates of NOI for each month of the stress period. NOI is multiplied by a capitalization rate multiplier, reflecting current interest rates, to generate a property value. For example, if annual NOI is \$200,000 and the capitalization rate multiplier is ten, the property value is \$200,000 x 10, or \$2,000,000. This value is the denominator for current LTV for multifamily loans.

When the ten-year CMT increases by more than 50 percent over the average yield during the nine months preceding the stress period, the stress test takes general price inflation into consideration. Adjustments are made to the house price and rent growth paths of the benchmark loss experience equal to the percentage change in the ten-year

CMT in excess of 50 percent.<sup>35</sup> For example, if the ten-year CMT increases by 60 percent, house price and rent growth rates increase by ten percent. The stress test phases in this increase in equal monthly increments during the last five years of the stress period.

#### 4. Mortgage Performance

To simulate how mortgages fare during the adverse conditions of the stress period, the stress test uses models of mortgage performance, that project default, prepayment and loss severity rates. These models simulate the interaction of the patterns of house prices, residential rents, and vacancy rates of the benchmark loss experience, as well as stress test interest rates, and mortgage risk factors, in order to determine the performance of Enterprise loans for each month of the stress test. As described below in further detail, the models are based on the historical relationship of economic and mortgage risk factors to mortgage performance, as reflected in the historical experience of the Enterprises.

##### a. Loan Groups

Rather than simulating the behavior of individual loans, the models simulate the behavior of groups of loans with common risk characteristics. The default and prepayment models calculate the proportion of the outstanding principal balance for each loan group that defaults, prepays, or makes regularly scheduled loan payments in each of the 120 months of the stress period. Single family loans are aggregated into loan groups based on key risk and cash flow characteristics: product type<sup>36</sup> (e.g., 30-year fixed-rate, 15-year fixed-rate, adjustable rate, balloon), original LTV, interest rate, origination year, remittance cycle<sup>37</sup> and

<sup>35</sup> The stress test computes the difference between the level of the ten-year CMT in the last nine years of the stress period and the level of the ten-year CMT if it had increased 50 percent. The difference in yield is compounded over a nine-year period to determine the cumulative percentage adjustment to house prices at the end of the stress period.

<sup>36</sup> The 1992 Act requires that the stress test take into account appropriate distinctions among mortgage product types, including single or multifamily, fixed or adjustable interest rates and the term of the loans.

<sup>37</sup> For sold loans, the remittance cycle governs the length of time an Enterprise holds payments remitted by the seller/servicer before passing them through to the security investor.

Census division. Multifamily loans are similarly aggregated by product type, original LTV, origination year, interest rate, and Census region, as well as by debt coverage ratio (DCR)<sup>38</sup> and program type. Program type distinguishes between loans purchased individually rather than as part of a pool, and loans subject to recourse or repurchase.<sup>39</sup> These distinctions are associated with different risk characteristics.

##### b. Single Family Default and Prepayment

The single family models are estimated using historical data on the performance of Enterprise loans through 1995. To simulate defaults and prepayments, the stress test uses a 30-year fixed-rate loan model, an adjustable-rate loan (ARM) model, and a third model for other products, such as 15-year loans and balloon loans. Each of the three single family models was separately estimated based on data for the relevant product types. Each includes a calibration adjustment, so that the results properly reflect a relationship to the benchmark loss experience, as described earlier.

All three single family models simulate defaults and prepayments based on values for interest rates and property values, as described above, and variables capturing the risk characteristics of loan groups. The variables described below are the factors used to determine the rates of default and/or prepayment for single family loan groups:

- **Mortgage Age**—Patterns of mortgage default and prepayment have characteristic age profiles; defaults and prepayments increase during the first years following loan origination, and then peak between the fourth and seventh years.

- **Probability of Negative Borrower Equity**—Borrowers whose current loan balance is greater than the current value of their mortgaged property (reflecting negative equity) are more likely to default than those with positive equity in their properties. The probability of negative borrower equity within a loan

<sup>38</sup> DCR is the ratio of property net income to debt service.

<sup>39</sup> Recourse refers to the sharing of credit risk with a seller/servicer; repurchase refers to the obligation of a seller/servicer to repurchase 90-day delinquent loans.

group is a function of (1) house price changes (based on the HPI), and amortization of loan principal, which together establish the average current LTV, and (2) the dispersion of actual house price changes around the HPI value. Thus, even when the average current LTV for a loan group is less than one (positive equity), some percentage of the loans will have LTVs greater than one (negative equity).

- **Relative Spread**—This variable is an important factor in determining whether a borrower will prepay. It reflects the value to a borrower of the option to prepay and refinance. The stress test uses the relative spread between the interest rate on a loan and the current market rate on loans as a proxy for the mortgage premium value.

- **Burnout**—The value for this variable reflects whether a borrower has passed up earlier opportunities to refinance at favorable interest rates. Such a borrower is less likely to prepay the current loan and refinance, and more likely to default in the future.

- **Yield Curve Slope**—This variable reflects the relationship between short and long term interest rates. The shape of the yield curve, which reflects expectations for the future levels of interest rates, influences a borrower's decision to prepay a mortgage. Depending on the slope of the yield curve and the type of loan a borrower may have incentives to refinance to a fixed-rate or an adjustable-rate mortgage.

- **Original LTV**—The LTV at the time of mortgage origination serves as a proxy for factors relating to the financial status of a borrower, which can affect the borrower's future ability to make loan payments. Higher original LTVs, which generally reflect fewer economic resources and greater willingness to take financial risk, increase the probability of default and lower the probability of prepayment. The reverse is true for lower original LTVs.

- **Occupancy Status**—The value of this variable reflects the higher probability of default of investor-owners compared to that of occupant-owners. The stress test applies the portfolio-wide ratio of investor-to occupant-owners to each loan group. The single family default and prepayment variables are listed in Table 1.



**Table 1. Single Family Default & Prepayment Variables**

| <b>Variables for All Single Family Models</b> | <b>Single Family Default Variables</b> | <b>Single Family Prepayment Variables</b> |
|---|--|---|
| Mortgage Age                                  | X                                      | X   |
| Probability of Negative Equity                | X                                      | X   |
| Relative Spread                               |  | X   |
| Burnout                                       | X                                      | X   |
| Yield Curve Slope                             |  | X   |
| Original LTV                                  | X                                      | X   |
| Occupancy Status                              | X                                      | X   |

### c. Multifamily Default and Prepayment

The stress test utilizes two multifamily default models and five multifamily prepayment models to capture the behavior of loans purchased under different programs and loans at different stages in their life cycles. The models were estimated using historical data through 1995 on the performance of Enterprise multifamily loans. The stress test applies one default model to loans purchased under cash programs (i.e., loans purchased individually), and another to loans purchased under negotiated programs (i.e., loans purchased as part of a pool), because the programs have different risk profiles. The prepayment models distinguish among product types: fully-amortizing fixed-rate, balloon, and ARM loans; those with yield maintenance provisions (i.e., restrictions and/or penalties for prepaying a loan during a specified period of time); and balloon loans which have reached their stated maturity, because these distinctions affect the probability of prepayment.

As with the models of single family mortgage performance, the multifamily models simulate the probability of default and prepayment based on stress test conditions and loan group risk characteristics. To account for specific risks associated with multifamily loans, these loans are grouped somewhat differently from single family loans. Thus, multifamily loans are also grouped by original DCR and program type. All of the multifamily default and prepayment models include interest rates, rent growth rates, and vacancy rates to characterize stress test conditions.

The following variables are factors in determining default and prepayment rates for multifamily loan groups:

- **Mortgage Age**—As with single family loans, the risk of default and prepayment on multifamily loans varies over their lives.
- **Relative Spread**—As with single family loans, this variable reflects the value to the borrower of the option to prepay and refinance.
- **Program Restructuring**—This variable captures the difference between Enterprises' management of their original multifamily programs and current, restructured programs. That difference affects the probability of default.
- **Joint Probability of Negative Equity and Negative Cash Flow**—This variable plays a role similar to that of the probability of negative equity for single family loans. However, negative equity is not a sufficient condition for multifamily loan default. Residential rental property owners tend not to default unless a property's net cash flow is negative as well. This variable captures the joint probability of both conditions.
- **Balloon Maturity Risk**—To reflect the added risk of default at the balloon maturity date, this variable gives extra weight to the joint probability of negative equity and negative cash flow in the year before a balloon mortgage matures.
- **Default Type**—This variable distinguishes between loans for which the Enterprise is responsible for foreclosure and property disposition and loans for which the seller/servicer is responsible for repurchasing if the loan becomes 90 days delinquent.
- **Current LTV**—This variable captures the incentive for borrowers to

refinance in order to withdraw equity from their rental property.

- **Probability of Qualifying for Refinance**—This variable captures the effect on prepayments of a borrower who would not qualify for a new loan (one that lacks an LTV of 80 percent or less and a DCR of 120 percent or more).
  - **Pre-balloon Refinance Incentive**—This variable gives extra weight to the relative spread in the two years prior to the balloon maturity. This captures the additional incentive to prepay balloon loans after the date the yield maintenance period ends, but before the balloon maturity date.
  - **Conventional Market Rate for Mortgages**—Similar to the single family yield curve slope variable, this variable reflects the incentives for borrowers with ARMs to refinance into fixed-rate mortgages.
  - **Value of Depreciation Write-offs**—This variable captures the effect on default rates of the value to a new purchaser of the tax benefits associated with multifamily property ownership.
  - **Years-To-Go in the Yield Maintenance Period**—This variable captures the decreasing effect of yield maintenance provisions during the yield maintenance period. As the cost of the provision declines in the later years of the yield maintenance period, the disincentive to prepay declines.
- Just like the single family default and prepayment models, the multifamily models produce, for each loan group for each month of the stress period, default and prepayment rates which are used in the cash flow components of the stress test. Tables 2 and 3 list the variables included in the multifamily default and prepayment models.

**Table 2. Multifamily Default Model Variables**

| Variables   | Cash Program Loans | Negotiated Program Loans |
|---|--------------------|--------------------------|
| Mortgage Age  | X                  | X                        |
| Program Restructuring                                       | X                  |                          |
| Joint Probability of Negative Equity and Negative Cash Flow | X                  | X                        |
| Balloon Maturity Risk                                       | X                  | X                        |
| Default Type  |                    | X                        |
| Value of Depreciation Write-offs                            | X                  |                          |

**Table 3. Multifamily Prepayment Model Variables**

| Variables                                   | All Fixed-Rate Loans in Yield Maintenance | Fully-Amortizing Fixed-Rate Loans Out of Yield Maintenance | Balloon Loans Out of Yield Maintenance & Before Maturity | Fully-Amortizing ARMs & Balloon ARMs Before Maturity | All Balloon Loans at or After Maturity <sup>1</sup> |
|---|---|--|--|--|---|
| Mortgage Age                                | XA  | X  | X  | X  |   |
| Relative Spread                             | X   | X  | X  | X  |   |
| Current TV                                  | IX  | X  | X  | X  |   |
| Probability of Qualifying for Refinance     |   |  |  |  | X   |
| Pre-balloon Refinance Incentive             |   |  | X  |  |   |
| Conventional Market Rate for Mortgages      |   |  |  | X  |   |
| Years-to-Go in the Yield Maintenance Period | X   |  |  |  |   |

<sup>1</sup> The stress test reflects that the Enterprises may not foreclose on multifamily balloon loans if borrowers can continue to make payments at the then-current market rate of interest.

#### d. Loss Severity

Credit losses are determined by multiplying default rates by loss severity rates and loan group balances. Loss severity rates are computed as of

the date of default, and are expressed as a percentage of unpaid principal balance of the defaulting portion of a loan group.

In general, losses comprise three elements—loss of principal, transactions

costs, and funding costs. Loss of principal is the amount of defaulting loan UPB, offset by the net proceeds of the sale (disposition) of the foreclosed property. Transactions costs include

expenses related to foreclosure, property holding and disposition expenses. Funding costs are the costs of funding non-earning assets—first the defaulted loans, and then the foreclosed properties prior to disposition (except in the case of sold loans, for which four months of interest at the passthrough rate replace four months of funding costs).

For single family loans the stress test uses an econometric model to project the net proceeds from the sale of foreclosed properties. The model is based on historical data on defaulted Enterprise loans, and reflects the relationship between LTV at the time of loan default (based on a loan's original LTV, loan amortization, and house price changes and dispersion), and proceeds of property disposition. Just as with models of single family default and prepayment, this model includes a calibration adjustment to make the results consistent with the benchmark loss experience.

For multifamily loans, sale proceeds are a fixed percentage of the defaulting UPB, based on historical experience.

For both single family and multifamily loans, transactions costs are fixed amounts based on historical averages computed from Enterprise data. Funding costs are captured in a discounting process described in the following paragraph.

Foreclosure, disposition and associated costs occur over a period of time. In order to calculate losses associated with a default as of the time of the default, the stress test calculates loss severity rates by discounting the different elements of loss back to the time of default, based on stress period interest rates. The discounting process also captures funding costs at appropriate interest rates. For single family loans, the timing of each element is based on averages for the benchmark loans; for multifamily loans it is based on the historical average for the Enterprises, using data through 1995.

The calculation of loss severity rates for two types of multifamily loans

differs from the general approach. In the case of 90-day delinquent loans that are repurchased from Enterprise security pools by seller/servicers, rates are a fixed amount based on Enterprise historical experience representing claims submitted by seller/servicers for reimbursement by the Enterprise. In the case of FHA-insured loans, the stress test reflects no losses.

The loss severity component of the stress test generates loss severity rates for each loan group for each month of the stress period, which are used in the cash flow components of the stress test to calculate credit losses for the Enterprises.

## 5. Other Credit Factors

### a. Mortgage Credit Enhancements

In many cases, at least a portion of Enterprise losses on defaulted loans is offset by some form of credit enhancement. Credit enhancements are contractual arrangements with third parties that reduce Enterprise losses on defaulted loans. By including the effect of mortgage credit enhancements, the stress test more realistically reflects Enterprise risks related to mortgage defaults and credit losses during the stress period.

The stress test captures many types of credit enhancements, with differing depths and methods of coverage, for both single family and multifamily loans. These credit enhancements include private mortgage insurance, recourse to seller/servicers, indemnification, pool insurance, cash accounts, spread accounts, collateral accounts, and specific risk-sharing agreements for certain multifamily loans.

The stress test divides mortgage credit enhancements into two categories. One category is credit enhancements that cover losses on certain loans up to a specified percentage of the loss incurred. This category includes private mortgage insurance, unlimited recourse, unlimited indemnification and, for certain multifamily loans, risk-sharing agreements. The other category includes

those credit enhancements that cover all losses on a specified set of loans, up to a specified total amount. This category includes limited recourse, limited indemnification, pool insurance, cash accounts, spread accounts and collateral accounts.

The benefits of the first category of credit enhancements are incorporated in the calculation of monthly loss severity rates. The loss severity rate for a specific loan group is reduced based on the credit enhancements from the first category associated with loans in that group. The benefits of the second category of credit enhancements are taken into account directly in the cash flow calculations. The dollar balance of these credit enhancements is tracked and drawn down to offset the amount of credit losses for the covered loans in a loan group.

### b. Counterparty and Other Credit Risk

In addition to mortgage credit quality, the stress test considers the creditworthiness of companies and financial instruments to which the Enterprises are exposed. These include most mortgage credit enhancement counterparties (e.g., private mortgage insurance companies and seller/servicers), privately issued and municipal securities held as assets, derivative counterparties, and securities guaranteed for private issuers.

For credit enhancement counterparties, securities held as assets, and interest rate contract counterparties, the stress test reduces—or applies “haircuts” to—the amounts due from these instruments or counterparties according to their level of risk. The level of risk is determined by public credit ratings which the stress test classifies into four categories: AAA, AA, A and BBB. When no rating is available, the instrument or counterparty is rated BBB. The cash flow components of the stress test phase in the haircuts monthly in equal increments until the total reduction listed in Table 4 is reached in the final month of the stress period.

**Table 4. Final “Haircuts” for Other Sources of Credit Risk**

| Rating Classification | Derivative Counterparties <sup>1</sup> | All Other Counterparties & Instruments |
|-----------------------|--|--|
| AAA                   | 2%                                     | 10%                                    |
| AA                    | 4%                                     | 20%                                    |
| A                     | 8%                                     | 40%                                    |
| BBB                   | 16%                                    | 80%                                    |

<sup>1</sup> Haircuts for derivative counterparties are substantially less than those for other counterparties and instruments since derivative counterparties' credit risk is mitigated by agreements to post collateral, including provisions for frequent marks to market.

The stress test also applies haircuts to reflect the impact of impairment of counterparties for derivative contracts hedging foreign currency denominated debt. Since counterparty impairment would reduce the effectiveness of a hedge, the stress test reflects the associated risk by increasing the amounts owed by an Enterprise by the haircut percentage.

#### c. Other Off-Balance Sheet Guarantees

In addition to guaranteeing mortgage-backed securities they issue as part of their main business, the Enterprises occasionally provide guarantees for other securities. The guarantees provided by the Enterprises enhance the liquidity and appeal of these securities in the marketplace. These securities, notably single family and multifamily whole loan REMIC securities<sup>40</sup> and mortgage tax-exempt multifamily housing bonds, represent a small part of the Enterprises' business and have a significant level of credit enhancement that protects the Enterprises from losses. The performance of these securities is not explicitly modeled in the stress test. As a proxy for the present value of net losses on these guarantees during the stress test, the outstanding balance of these instruments at the beginning of the stress period is multiplied by 45 basis points. The resulting amount is subtracted from the lowest discounted monthly capital balance when calculating the risk-based capital requirement.

<sup>40</sup> Real Estate Mortgage Investment Conduit (REMIC) securities are multiclass mortgage passthrough securities. The classes of a REMIC security can take on a wide variety of attributes with regard to payment of principal and interest, cash flow timing (un)certainity, and maturity, among others.

#### 6. Cash Flows

For each month of the stress period, stress test cash flow components apply projected default, prepayment, and loss severity rates to loan group balances to produce mortgage cash flows. The cash flow components also reduce projected mortgage losses resulting from offsetting credit enhancements that are not accounted for in loss severity calculations. In addition, the cash flow components calculate cash flows for securities that the Enterprises hold as assets, or have issued as liabilities. They generate cash flows for derivative instruments like interest rate swaps, caps, and floors; and they apply the haircuts to cash flows to reflect the credit risk of securities and counterparties other than mortgage borrowers. Projected cash flows are the principal inputs in the creation of monthly financial statements during the stress period, which are, in turn, the basis for the calculation of the risk-based capital requirement.

Cash flows are generated for each single family and multifamily loan group. For retained loans, cash flows consist of scheduled principal, prepaid principal, defaulted principal, default losses, and interest. For sold loans, cash flows consist of credit losses, guarantee fee income, and float income.

Because losses on sold loans are absorbed by the Enterprises and are not passed through to security holders, no credit losses are reflected in cash flows calculated for Enterprise-issued MBS held as investments (including those issued by an Enterprise and later repurchased). The credit risk is borne by the MBS issuer rather than the MBS investor, so the credit risk on MBS has already been taken into account in the credit risk of sold loans. Thus, cash

flows for single class Enterprise-issued MBS held as investments consist only of principal and interest payments. Cashflows for private label securities consist of principal and interest payments and credit losses.<sup>41</sup> Principal payments are calculated by applying default and prepayment rates that are appropriate for the loans underlying the MBS (amounts of defaulted principal are assumed to be passed through to investors, as well as normal amortization). Interest is computed by multiplying the security principal balance by the coupon rate.

Multi-class mortgage securities such as REMICs and strips are treated in the same manner as single class MBS. The stress test generates cash flows for the underlying collateral, usually single class MBS, and applies the rules of the particular multi-class security that govern how these cash flows are directed to determine cash flows of the specific securities held by an Enterprise. In generating cash flows for mortgage-linked derivative contracts, where the notional amount of the contract is based on the declining principal balance of specified MBS, the stress test applies the terms of each contract and tracks the appropriate declining balances. The stress test generates cash flows for mortgage revenue bonds by treating the bonds like single class MBS backed by 30-year, fixed-rate single family mortgages maturing on each bond's stated maturity date.

For non-mortgage investments, outstanding debt securities and liability-linked derivative contracts, payments of principal and interest are calculated for each instrument based on its

<sup>41</sup> See section II. A. 5. c., Other Off-Balance Sheet Guarantees for a description of how credit losses for private label securities are calculated.

characteristics by applying the appropriate interest rates and principal payment rules. For asset-backed securities, one of two collateral prepayment speeds is applied, depending on the stress test interest rate scenario. The stress test computes cash flows for debt securities and liability-linked derivatives according to the rules and structure of each instrument.

#### 7. Enterprise Operations & Taxes

The stress test simulates the income taxes, operating expenses, issuance of new debt or purchase of new investments, exercise of options to retire debt early or cancel derivative contracts, and payment of dividends by the Enterprises. The stress test computes Federal income taxes using an effective tax rate of 30 percent. Estimated income tax is paid by the Enterprises quarterly.

An Enterprise's operating expenses decline in proportion to the change in the size of its combined mortgage portfolio of retained and sold loans during the stress period. The baseline level of monthly operating expenses at the start of the stress period is equal to one-third of operating expenses reported by the Enterprise for the quarter preceding the stress period.

When necessary, the stress test simulates the issuance of new debt or purchase of new investments by the Enterprises. New debt is issued in months when there is a shortfall of cash. All debt issued during the stress period is six-month discount notes, at Enterprise borrowing rates projected from the estimated yield curve. Excess cash is invested in one-month securities bearing the six-month Treasury yield.

For each month during the stress period that a security is subject to early redemption (call) or a derivative contract is subject to cancellation, the stress test calculates the effective remaining yield-to-maturity<sup>42</sup> of that instrument and compares it to the yield of a replacement security, given current stress period interest rates. If the yield is more than 50 basis points below the cost of the existing instrument, the call or cancellation option is exercised.

Capital distributions are also made during the stress period. If an Enterprise's capital exceeds the minimum capital requirement in any quarter, dividends on preferred stock are paid, unless payment would reduce the Enterprise's capital to an amount below the minimum requirement. Common stock dividends are paid only in the first four quarters of the stress

period (based on an estimate of how long capital would remain above the risk-based requirement), and only if capital remains above the minimum capital requirement before and after the dividends are paid. The amount paid is directly related to the earnings trend of the Enterprise. If the trend is positive, the dividend payout ratio is the same as the average of the four quarters preceding the stress test. Otherwise, dividends are based on the dollar amount per share paid in the last quarter preceding the stress test. The stress test does not provide for any other capital distributions, such as repurchases of common stock.

#### 8. Financial Reporting

To the extent applicable, the stress test makes use of Generally Accepted Accounting Principles (GAAP). The cash flows from the financial instruments on the books of the Enterprises are the principal basis for the creation of pro forma financial statements that capture an Enterprise's performance over the stress period. In addition, the stress test accounts for numerous non-cash items on the Enterprises' balance sheets, such as receivables and unamortized and deferred balances. The balance sheets show the monthly total capital amount for each Enterprise, which is used in the final calculation of risk-based capital.

#### 9. Calculation of the Risk-based Capital Requirement

The stress test determines the amount of capital that an Enterprise must hold at the start date in order to maintain positive capital throughout the ten-year stress period (stress test capital). Once stress test capital has been calculated, an additional 30 percent of that amount is added to protect against management and operations risk. This total is the risk-based capital requirement.

Using the financial statements generated by the stress test, the capital balance for each month is discounted back to the start of the stress period. This is done for both the up-rate and down-rate scenarios. The lowest discounted monthly capital balance is then decreased as described above to account for securities that are guaranteed by the Enterprises which are not explicitly modeled (other off-balance sheet guarantees). This lowest discounted monthly balance, if positive, represents a surplus of initial capital, that is, capital that was not "used" during the stress period. If negative, it represents a deficit of initial capital. The lowest discounted monthly balance is then subtracted from the Enterprise's initial capital. The resulting amount is

the smallest amount of starting capital required to maintain positive capital throughout the stress period.

For example, if an Enterprise holds starting capital of \$10 billion and the lowest discounted monthly balance is \$1 billion (representing a positive capital balance even in the worst month of the stress period), then the amount of starting capital necessary to maintain positive capital throughout the stress period is \$9.0 billion. If the lowest discounted monthly balance is -\$1 billion (representing a negative capital balance in the worst month), the necessary starting capital is \$11.0 billion.

In the final step, necessary starting capital is multiplied by 1.3 to complete the calculation of the risk-based capital requirement required by the 1992 Act.

#### B. Sensitivity of Capital Requirement to Risk

An Enterprise's risk-based capital requirement under this proposed regulation is sensitive to a wide variety of factors that affect Enterprise risk. The existing minimum capital requirement depends almost entirely on the size of an Enterprise's two principal businesses: MBS guarantees and leveraged investments in mortgages and in MBS. In contrast, the risk-based capital requirement depends not only on the outstanding volumes of an Enterprise's guarantees and assets, but also on the degree of risk taken on by the Enterprise in connection with these businesses. Thus, the risk-based requirement is sensitive to the characteristics of mortgages and mortgage guarantees that affect risk, credit enhancements for those mortgages, the asset/liability risk management strategies of the Enterprise, the value of properties collateralizing the mortgages, and recent interest rate levels.

In designing the stress test on which the risk-based capital requirement is based, OFHEO sought to incorporate all significant sources of credit and interest rate risk. OFHEO further sought to design the stress test so that differences in specific risk factors affect the risk-based capital requirement in amounts commensurate with the difference in risk. To quantify the marginal effects of changes in risk on the capital required for each scenario (required capital), OFHEO conducted a number of sensitivity tests. OFHEO first computed the risk-based capital requirement for each Enterprise in each interest rate

<sup>42</sup> Yields are calculated based on the outstanding principal balances for securities and notional amounts for derivative contracts.

scenario for June 30, 1997.<sup>43</sup> These results serve as a base case. OFHEO then made a series of small adjustments to each Enterprise's risk positions and compared the results for all four Enterprise-scenario combinations with the relevant base case results. The differences in results provide a measure of the incremental changes in required capital (which may be positive or negative) caused by the risk adjustment.

Section II. B.1., MBS Guarantees (Sold Loans), below presents the results of sensitivity tests related to an Enterprise's guarantee business. In each test, OFHEO simulated the effects on required capital of a hypothetical addition to each Enterprise's outstanding MBS guarantees (sold loans). The simulation results show, in both an absolute and relative sense, how different characteristics of sold loans affect required capital. Section II. B. 2., Commitments, illustrates how required capital would be affected if each Enterprise had had a larger volume of outstanding commitments. Section II. B. 3., Assets and Liabilities, discusses the effects of hypothetical additions of retained loans accompanied by additions of debt. Section II. B. 4., Administrative Costs, discusses how risk-based capital would be affected by higher administrative (operating) expenses. Finally, Section II. B. 5., External Economic Conditions, discusses how risk-based capital would be affected had house prices or interest rates behaved differently than they actually did in the period just preceding the starting date of the stress test.

Sensitivity test results differ between the two Enterprises for two reasons. First, the risk adjustments made to the two Enterprises' positions were not precisely the same. For example, in sensitivity tests involving changes in outstanding sold loan volumes, each Enterprise's additional sold loans reflect that Enterprise's typical security remittance cycles, and remittance cycles affect the risk characteristics of sold loans. Second, the incremental effects on required capital of any change in an Enterprise's risk positions are affected by the Enterprise's individual circumstances and policies. Two examples are the Enterprise's projected Federal income tax situation during the stress period and its dividend policies. During portions of the stress period in which an Enterprise is paying taxes or receiving refunds, financial gains and losses are shared with the government because changes in income cause changes in taxes. Conversely, during

portions of the stress period in which an Enterprise has exhausted tax carrybacks, the full benefit or cost of a change in income is experienced by the Enterprise. In the base case, both Enterprises exhaust their tax carrybacks mid-way through the stress period in the down-rate scenario. In the up-rate scenarios, Fannie Mae does the same, but Freddie Mac either pays taxes or receives refunds throughout the stress period. An Enterprise's tax situation during the stress period depends primarily on the Enterprise's risk exposures. The longer an Enterprise continues to be profitable in the stress environment, the longer it is affected by taxes.

Differences in recent dividend policies can cause small differences in the incremental capital associated with specific changes in risk because common stock dividends during the first year of the stress period depend on recent dividend payouts. Differences in dividend policies, therefore, can lead to differences in the amount of earnings changes that are shared with stockholders.

Results are shown for both interest rate scenarios, even though only one (the one that results in the highest required capital) can be binding at any specific time. For June 1997, the up-rate scenario resulted in higher required capital for Fannie Mae, while the down-rate scenario was more adverse for Freddie Mac. However, the relative adversity of the two scenarios may change over time for either Enterprise depending on business strategies and market conditions.

In the tables of this section, the phrase "incremental capital" is used to mean the change in the amount of required capital in a particular scenario accompanying a small change in the overall risk profile of an Enterprise. Several considerations affect appropriate interpretation of these numbers. First, the incremental capital percentages shown in the tables are not fixed. As discussed below in section II. B. 5. c., Sensitivity to Risk Characteristics in Different Economic Environments, future business strategies and economic conditions may alter the required capital sensitivities from those of June 1997, which are presented here. Furthermore, bigger or smaller changes in risk may not have a proportional effect on capital. A \$20 billion increase in a particular group of loan guarantees may not have exactly twice the effect on required capital as a \$10 billion increase in the same group of guarantees.

Second, in anticipating the effect on required capital of a change in any risk factor, an Enterprise likely will be

concerned not only with the immediate effect, but also with the longer term effect. For example, in considering the capital implications of making additional mortgage guarantees, the incremental effects on required capital of the guarantees at all future dates that the loans continue to be outstanding are relevant. In this case, an important consideration is that the incremental effects of mortgage guarantees generally diminish over time.

Third, the incremental capital percentages do not determine an amount of capital that must be added in order to accept a specific increase in risk. As discussed below in Section II. C. 2., Enterprise Adjustments to Meet the Proposed Standard, it may often be less costly to increase hedges of other risks than to raise equity funds in response to an increase in risks.

#### 1. MBS Guarantees (Sold Loans)

The Enterprises have two principal lines of business. They function both as guarantors of mortgage-backed securities and as leveraged investors in mortgages and mortgage-backed securities. As guarantors, the Enterprises receive principal and interest payments on home mortgages, which they pass through to security investors, minus a share of the interest payments, which they retain as a guarantee fee. Because of differences in the timing of their receipt of funds and payments to investors, they also earn float income (which may be positive or negative). In return, they bear the risk of loss if a borrower defaults, and they incur additional administrative expenses.

The stress test projects the flows of income and expenses associated with loan guarantees based on the characteristics of the mortgages and the economic circumstances of the stress period. The resulting net cash inflows or outflows are directly reflected in the Enterprise's borrowing or investing volumes during the stress period. The interest paid or received on the new debt issues or investments that are attributable to the guarantees have further effects on income, borrowing, and investing volumes. Income, in turn, affects taxes, dividends, capital, and (ultimately) required capital.

OFHEO examined the implications for required capital of risk factors associated with sold loans as follows. After computing the capital required under this proposed rule for data reflecting the Enterprises' books of business and the accompanying economic circumstances as of June 30, 1997, OFHEO added a quantity (\$10 billion) of sold loans that embodied the specific risk characteristics under

<sup>43</sup> The results are discussed in section II. C., Implications of the Proposed Rule.

examination. The capital required for each scenario was then recomputed and compared with the capital required for the same scenario before loans were added. The difference is the incremental capital required for the additional sold loans in that scenario. The results are expressed as a percent of the volume of sold loans added.

Additional sold loans would normally be accompanied by additional administrative expenses. In computing required capital for books-of-business that included additional sold loans, OFHEO estimated the additional costs by increasing administrative expense for each Enterprise in proportion to the increase in that Enterprise's overall (retained plus sold loan) portfolio. Those costs amounted to about six basis points (0.06 percent) per year on the new sold loans for each Enterprise. Different assumptions about

administrative costs would affect the results; Section II. B. 4., Administrative Costs, discusses the effects on required capital of differences in administrative costs.

Section II. B. 1. a., Loans with Mixed Characteristics Reflecting Enterprise Portfolios, discusses a simulation incorporating a general increase in sold loans embodying the same mix of characteristics as that found in each Enterprise's sold loan portfolio in June 1997 and describes how the increase affects various types of income and expense over the course of the stress period. Section II. B. 1. b., Loans with Specific Identical Characteristics, discusses a series of simulations, each incorporating an increase in sold loans with specific characteristics.

a. Loans with Mixed Characteristics Reflecting Enterprise Portfolios

The first simulation (Simulation 1) was designed to examine the incremental effects of a general increase in each Enterprise's sold loan portfolio (MBS guarantees). The volume of each loan group (comprising loans with a common set of risk factors) in each Enterprise's sold loan portfolio as of June 1997 was increased proportionally by a factor that resulted in a total of \$10 billion of additional sold loans. The results indicate the effects on risk-based capital of a general expansion of an Enterprise's MBS guarantee business. Alternatively, they can be viewed as the average effect on required capital of sold loans, weighted by each Enterprise's mix of outstanding sold loan business in June 1997. The results, expressed as a percent of the increase in sold loans, are summarized in Table 5.

**Table 5. Incremental Capital for a General Increase in Sold Loans  
(as a percent of additional sold loans)**

| Simulation | Up-Rate Scenario |             | Down-Rate Scenario |             |
|------------|------------------|-------------|--------------------|-------------|
|            | Fannie Mae       | Freddie Mac | Fannie Mae         | Freddie Mac |
| 1          | .12%             | -.09%       | .83%               | .89%        |

In the up-rate scenario, a general increase in sold loans has only a small effect on required capital for either Enterprise. For Freddie Mac, sold loans are, on balance, a small source of strength. That is, income generated over the course of the stress period by sold loans (principally guarantee fees and float) exceeds related expenses

(principally loan losses and administrative expense). The reverse is true for Fannie Mae. In the down-rate scenario, the incremental capital required for these sold loan mixes is near 0.85 percent of the increase in guarantees for both Enterprises. On average, the results for the two scenarios are similar to the existing minimum

capital ratios for sold loans of 0.45 percent.

Table 6 illustrates the effects on specific income and expense categories of the additional sold loans in Simulation 1, and how these effects translate into changes in capital requirements.

**Table 6. Sources and Computation of Incremental Capital for a General Increase in Sold Loans<sup>1</sup> (ten-year cumulative changes as a percent of additional sold loans)**

|  | Up-Rate Scenario |             | Down-Rate Scenario |             |
|--|------------------|-------------|--------------------|-------------|
|  | Fannie Mae       | Freddie Mac | Fannie Mae         | Freddie Mac |
| Credit Losses                            | 1.87             | 1.63        | 1.39               | 1.25        |
| Administrative Expense                   | .40              | .40         | .15                | .15         |
| Tax Paid                                 | -.13             | .07         | -.08               | -.16        |
| <u>Dividends Paid</u>                    | <u>.00</u>       | <u>.01</u>  | <u>.00</u>         | <u>.00</u>  |
| Less:                                    |                  |             |                    |             |
| Guarantee Fees                           | 1.77             | 1.76        | .67                | .68         |
| Float Income                             | .22              | .35         | .06                | -.22        |
| Net Interest Income<br>(excluding float) | -.11             | .16         | -.11               | -.13        |
| Total Change in Capital                  | .26              | -.16        | .84                | .91         |
| Cumulative Discount Factor               | 2.71             | 2.27        | 1.31               | 1.33        |
| Discounted Total                         | .10              | -.07        | .64                | .68         |
| Discounted Total x 1.3                   | .12              | -.09        | .83                | .89         |

<sup>1</sup> Computations based on unrounded data.

*Guarantee fees* and *administrative expense* depend on the volume of loans outstanding. Thus, they are sensitive to the projected liquidation rates (the sum of prepayment, default, and amortization rates) of the additional sold loans. In the down-rate scenario (with a ten-year constant maturity treasury yield of 3.2 percent during the last nine years of the stress period), loans prepay rapidly, while in the up-rate scenario (with all treasury yields at 11.4 percent), loans prepay slowly. As a result, in the up-rate scenario, guarantee fee income and administrative expense are roughly 2 $\frac{2}{3}$  times as great as they are in the down-rate scenario.

*Credit losses* (charge-offs) depend on the credit risk characteristics of the additional sold loans. They are also larger in the up-rate scenario than in the down-rate scenario because loans remain outstanding longer, and therefore, at risk of default. Loss severity rates also are higher in the up-rate scenario because the interest carrying cost on foreclosed real estate is higher. These differences between the two scenarios are moderated by somewhat more favorable house price behavior

and by better average loan quality when interest rates are high. Loan quality is poorer when interest rates are low because the better quality loans are projected to prepay much faster. Because of these offsetting influences, credit losses in the up-rate scenario are only 1 $\frac{1}{3}$  times as great as they are in the down-rate scenario. Freddie Mac's credit losses are about ten percent lower than Fannie Mae's, reflecting a slightly less risky mix of loan characteristics.

*Float income* depends on security remittance cycles, interest rates, and loan liquidation rates. This source of income on the additional sold loans is higher, for both Enterprises, in the scenario with higher interest rates because of lower liquidation rates and higher earnings ratios on positive float balances. The difference is much more pronounced for Freddie Mac because of differences in security remittance cycles. Freddie Mac holds prepayment funds for a longer period than Fannie Mae, earning a market rate of interest during the extra time, while accruing liabilities to investors at the security coupon rate. When interest rates rise,

that provides extra income, but when rates fall, net losses accrue.

*Net interest income* is affected because net cash inflows and outflows associated with the other income and expense categories lead to changes in borrowing or investing. The effects are small in the up-rate scenario because the net flows caused by other factors are small. The effects also are small in the down-rate scenario, even though the net cash flows are much larger, because the interest rates associated with new borrowing or investing are low.

*Taxes* reduce the effects of all income changes by 30 percent as long as an Enterprise is paying taxes or receiving tax refunds. Because both Enterprises, in the decreasing interest rate environment, and Fannie Mae, in the increasing rate environment, exhaust their tax carrybacks mid-way through the stress period, the tax effects vary depending on the timing of income flows during the stress period. Freddie Mac, however, performs well in the up-rate scenario, given its June 1997 risk positions, and pays taxes or receives refunds throughout the stress period.



*Dividends* on common stock can be affected by additional sold loans only through changes in income during the first year of the stress period because the stress test specifies that common stock dividends are paid only during that year. Common stock dividends are little affected in this simulation because income changes during the first year are small and because dividends in the base case simulations for Fannie Mae in both scenarios, and Freddie Mac in the down-rate scenario, are insensitive to income. In those cases, dividends are set at their absolute level in the quarter preceding the stress test because of income declines during the first year. Preferred stock dividends are unaffected in this simulation because the changes in capital are insufficient to affect whether either Enterprise meets its minimum capital requirement during the stress period.

The *total change in capital* is the sum (using the appropriate signs) of the effects measured through all of the above income and expense categories. The sum equals the net decline in capital at the end of the stress period (as a percent of the increase in sold loans). The capital position in the final month of the stress period is the lowest during the stress period for both Enterprises in both scenarios for the June 1997 base case, so it is the basis for the required capital calculations in all of the simulations discussed in this section.

The *cumulative discount factor* is based on after-tax borrowing or investing interest rates. Thus, discount factors are relatively high in the up-rate scenario. Freddie Mac's discount factor is lower than Fannie Mae's in that scenario because taxes reduce Freddie Mac's after-tax interest rates in the second half of the stress period, but do not reduce Fannie Mae's. The *discounted total* shows the effects of the additional sold loans on the amount of capital needed to survive the stress test. This amount, when multiplied by 1.3 to include the additional amount for management and operations risks, shows the effects on required capital of the additional sold loans.

#### b. Loans with Specific Identical Characteristics

Unlike the first simulation, which showed the combined effects of each Enterprise's existing mix of risk factors, the following simulations focus on the effects of changes in specific risk factors. In each of the following cases, the sold portfolio is increased as before, but all of the additional loans are identical. The results show how much required capital would be affected by additional sold loans with specific risk characteristics and guarantee fees or, alternatively, how much loans with such characteristics and fees contribute to required capital. The assumptions about guarantee fees have a significant effect on the results. Guarantee fees are generally the same in most of these simulations in order to focus the results on the incremental capital effects of specific risk factors. In practice, though, the Enterprises typically vary the guarantee fees charged to a loan seller depending on the mix of loans they receive from that seller. Thus, the Enterprises implicitly charge higher fees for riskier loans. It would be misleading to characterize these simulation results, which are based on constant guarantee fees, as indicating the relative capital implications of loans in different risk groups as typically acquired by the Enterprises, without making an appropriate adjustment for typical differences in effective guarantee fees. Making such an adjustment in the model would be difficult, however, because the Enterprises do not generally make explicit differences in guarantee fees for individual loans with differences in risk. The same guarantee fee typically applies to all loans in a pool of loans and may be affected by the mix of loans in the pool.

Also, Enterprise guarantee fees remain constant over the life of the loan, but the risk of the loan generally declines as the loan seasons. A majority of the simulations in this subsection involve new loans. The comparative results of such simulations provide a measure of the relative effects on required capital of different risk factors, but these results do not, by themselves, indicate the expected effects on required capital of the loans over their lifetimes.

Additional simulations show the effects of loan seasoning on required capital.

In these simulations, securities were assumed to have been sold at par with coupons equal to the contract interest rates, less the servicing and guarantee margins. Servicing margins are 30 basis points. For Fannie Mae, the loans were assumed to be securitized under their standard programs with seven days of float on passthrough payments. For Freddie Mac, their "45-day" security rules were assumed in float calculations. These securities have negative three days of float on scheduled principal and interest (payments are made to investors before payments are received from servicers) and an average of 38 days of float on prepayments. (In Simulation 1, both 45-day and 75-day rules were used for Freddie Mac, based on the mix of securities outstanding in June 1997.)

#### (i) Differences in Guarantee Fees

To illustrate the effect on required capital of guarantee fees, two simulations were performed that were identical except for guarantee fees. In Simulations 2 and 3, shown in Table 7, the additional sold loans were all newly originated, fixed-rate mortgages (FRMs) in the West South Central Census Division (Texas, Oklahoma, Louisiana, and Arkansas); with 30-year terms, 7.5 percent contract interest rates, and 80 percent loan-to-value ratios (LTVs). In Simulation 2, guarantee fees were set at 23 basis points, which is roughly the overall average rate for the two Enterprises, but not necessarily for loans with these characteristics. This simulation is used as a reference for comparison in Tables 8, 11, 12, 16, 17, 19, and 20. The average rate was used in most of the simulations involving additional single family loans for convenience and to isolate the differential effects of other risk factors. In Simulation 3, however, the guarantee fee was reduced to 18 basis points to isolate the effects of different guarantee fees. The differences in the results for Simulations 2 and 3 can be used to roughly estimate how the results of other simulations might have been affected by other guarantee fee assumptions.

**Table 7. Incremental Capital for New Sold Loans with Differing Guarantee Fees  
(as a percent of additional sold loans)**

| Simulation | Guarantee Fee | Up-Rate Scenario |             | Down-Rate Scenario |             |
|------------|---------------|------------------|-------------|--------------------|-------------|
|            |               | Fannie Mae       | Freddie Mac | Fannie Mae         | Freddie Mac |
| 2          | 23 b.p.       | 1.05%            | .95%        | 1.54%              | 1.91%       |
| 3          | 18 b.p.       | 1.35%            | 1.19%       | 1.72%              | 2.05%       |

The incremental capital needed for loans in both of these simulations is substantially higher than that needed for loans with the mix of characteristics in Simulation 1. This result occurs mainly because new 30-year FRMs have nearly double the credit losses in the up-rate scenario and 50 percent more in the down-rate scenario. For Freddie Mac, an additional reason is that securities with the 45-day remittance cycle assumed in Simulations 2 and 3 produce substantially less float income in the up-rate scenario and more negative float income in the down-rate scenario than the average guarantee mix in Simulation 1 did. Freddie Mac's capital need in the up-rate scenario is reduced relative to Fannie Mae's because of tax effects in the second half of the stress period.

The effect of lower guarantee fees is to increase required capital in both scenarios. A five basis-point reduction in guarantee fees raises required capital by 14 to 18 basis points in the down-rate scenario. The difference in incremental capital is twice that amount in the up-rate scenario because the loans survive longer, owing to significantly fewer prepayments, and so the change in the fee rate applies to a larger volume of outstanding loans during the stress period.

(ii) Differences in Loan Age, With Slow and Steady House Price Inflation

Seasoned loans (those not recently originated) have different risk characteristics than new loans because loans have different propensities to default and prepay at different ages and

because the houses collateralizing seasoned loans have experienced changes in value. Changes in house value alter the probability of negative borrower equity, a key factor influencing default behavior.

In Table 8, the results of Simulations 4–7, along with Simulation 2, which is repeated here, show the effects of age on risk for loans originated in the West South Central Census Division. Houses in that area of the country generally have experienced price appreciation near the national average in recent years. Average annual appreciation over the eight years ending in the second quarter of 1997 was 3.0 percent. Table 9 shows the cumulative average appreciation for houses collateralizing loans of different ages.

**Table 8. Incremental Capital for Loans of Differing Age with Slow and Steady House Price Inflation (as a percent of additional sold loans)**

| Simulation | Age     | Up-Rate Scenario |             | Down-Rate Scenario |             |
|------------|---------|------------------|-------------|--------------------|-------------|
|            |         | Fannie Mae       | Freddie Mac | Fannie Mae         | Freddie Mac |
| 2          | 0 years | 1.05%            | .95%        | 1.54%              | 1.91%       |
| 4          | 2 years | .76%             | .74%        | 1.38%              | 1.53%       |
| 5          | 4 years | .26%             | .34%        | .83%               | 1.09%       |
| 6          | 6 years | -.29%            | -.07%       | .56%               | .79%        |
| 7          | 8 years | -.64%            | -.37%       | .21%               | .43%        |

All of the simulations reported in Table 8 are identical, except for the age of the sold loans underlying the additional guarantees. Given the steady increase in house prices preceding the starting point of the simulations, loans are less likely to default over the course of the stress period the older they are at

the beginning of the period. Cumulative credit losses for loans made eight years before the start of the stress period are only about 1/5 as great as for new loans in the up-rate scenario, and about 2/5 as great in the down-rate scenario. In addition, loans made more than four years earlier have lower liquidation

rates than new loans, providing a larger stream of guarantee fees. Consequently, guarantees of older loans cause much smaller increases in capital requirements in the down-rate scenario and actually reduce capital required in the up-rate scenario.

**Table 9. Cumulative Average House Price Appreciation Since Origination for Loans in the West South Central Division, 1997 Q2**

| Loan Age | Change in HPI |
|----------|---------------|
| 2 years  | 6.4%          |
| 4 years  | 13.7%         |
| 6 years  | 21.4%         |
| 8 years  | 26.8%         |

(iii) Differences in Past House Price Appreciation

The benefits of loan age in reducing risk can be substantially increased or reversed by differences in house price appreciation. Table 10 shows results for

simulations on four- and eight-year-old loans from different geographic areas. Simulations 8 and 9 are the same as Simulation 5, except the loans in Simulation 8 were made on properties in the Mountain Census Division, where house values rose sharply after the loans

were originated, and loans in Simulation 9 were made in the Pacific Census Division, where house values were stagnant. Similarly, Simulations 10 and 11 are the same as Simulation 7, except for the Census division.

**Table 10. Incremental Capital for Seasoned Loans in Differently Performing Housing Markets (as a percent of additional sold loans)**

| Simulation             | Census Division | Cumulative House Price Appreciation Since Origination | Up-Rate Scenario |             | Down-Rate Scenario |             |
|------------------------|-----------------|---|------------------|-------------|--------------------|-------------|
|                        |                 |   | Fannie Mae       | Freddie Mac | Fannie Mae         | Freddie Mac |
| <u>4-Yr. old loans</u> |                 |   |                  |             |                    |             |
| 5                      | W.S. Central    | 13.7%   | .26%             | .34%        | .83%               | 1.09%       |
| 8                      | Mountain        | 34.5%   | -.38%            | -.21%       | .28%               | .56%        |
| 9                      | Pacific         | 4.3%  | .85%             | .88%        | 1.65%              | 1.73%       |
| <u>8-Yr. old loans</u> |                 |   |                  |             |                    |             |
| 7                      | W.S. Central    | 26.8%   | -.64%            | -.37%       | .21%               | .43%        |
| 10                     | Mountain        | 60.6%   | -.72%            | -.44%       | .05%               | .30%        |
| 11                     | Pacific         | 16.0%   | -.56%            | -.30%       | .32%               | .53%        |

For four-year-old loans, differences in credit losses are substantial and account for almost all differences in results. In both scenarios, credit losses are more than 2½ times as great in the Pacific Census Division as they are in the Mountain Census Division. However, the effects of different previous changes in house prices ultimately diminish. For eight-year old loans, charge-offs are only about ⅓ higher in the Pacific Census

Division, despite increasing disparity in house price appreciation. Furthermore, that smaller proportional increase in charge-offs is applied to a smaller base because charge-offs are much lower for eight-year old loans than for four-year old loans in all three Census divisions.

(iv) Differences in Loan Age and Loan-to-Value Ratio

The higher the original loan-to-value ratio of a loan, the lower the borrower

equity. Thus, the more likely it is to default and less likely it is to prepay. The effects of differences in original LTV, however, generally diminish with age. Table 11 shows the results for different LTV-age combinations for 30-year FRMs in the West South Central Division.

**Table 11. Incremental Capital for Loans with Differing Ages and LTVs  
(as a percent of additional sold loans)**

| Simulation | Age     | LTV | Up-Rate Scenario |             | Down-Rate Scenario |             |
|------------|---------|-----|------------------|-------------|--------------------|-------------|
|            |         |     | Fannie Mae       | Freddie Mac | Fannie Mae         | Freddie Mac |
| 12         | 0 Years | 50% | -1.13%           | -.85%       | -.64%              | -.05%       |
| 2          | 0 Years | 80% | 1.05%            | .95%        | 1.54%              | 1.91%       |
| 13         | 0 Years | 95% | 3.17%            | 2.84%       | 6.04%              | 6.02%       |
| 14         | 4 Years | 50% | -1.08%           | -.78%       | -.52%              | .02%        |
| 5          | 4 Years | 80% | .26%             | .34%        | .83%               | 1.09%       |
| 15         | 4 Years | 95% | 1.33%            | 1.32%       | 2.19%              | 2.20%       |

In these simulations, the 95 percent LTV loans are assumed to be covered by private mortgage insurance with 30 percent coverage, the current Enterprise standard, provided by a double-A rated firm. Even with the insurance coverage, however, high LTV loans are much riskier than low LTV loans. Not only are high LTV loans more likely to default at any time during the stress period, but they are also less likely to prepay, especially in the down-rate scenario. Thus, they are exposed to default risk over a longer amount of time.

For newly originated loans, the results are particularly striking. In the up-rate scenario, credit losses on 95 percent LTV loans are very much higher than they are for 50 percent LTV loans. In the down-rate scenario, the difference is even greater. These differences in performance between high and low LTV

loans are much bigger than would be expected in normal times. But the very poor credit conditions in the stress test environment have a disproportionate effect on the more vulnerable high LTV loans.

For seasoned loans, the effects of LTV are muted. Seasoned loans with 50 percent LTVs reduce required capital less than comparable new loans. Though credit losses are lower than those of newly originated loans, the difference is minor, as credit losses are very low in both cases. More importantly, the older loans amortize faster, reducing guarantee fees significantly. For loans with 95 percent LTVs, the difference in credit losses between seasoned and new loans is substantial. With a 13.7 percent average house price appreciation since origination, these seasoned 95 percent

LTV loans perform only a little bit worse than newly originated 80 percent LTV loans.

(v) Differences in Product Type and LTV Ratio

The simulations shown in Table 12 show the relative effects of three different product types (30-year FRMs, 15-year FRMs, and adjustable-rate mortgages) with low, medium, and high LTVs). All are newly originated loans. To isolate the effects of loan type, the 7.5 percent contract loan rate was retained for the 15-year FRMs and is the initial rate on the adjustable-rate mortgages (ARMs). The ARMs adjust annually to 2.75 percentage points above the one-year constant maturity Treasury yield, with a two percentage point annual adjustment cap and a five percentage point lifetime cap.

**Table 12. Incremental Capital for Differing Product Types and LTV Ratios  
(as a percent of additional sold loans)**

| Simulation | Product Type | LTV | Up-Rate Scenario |             | Down-Rate Scenario |             |
|------------|--------------|-----|------------------|-------------|--------------------|-------------|
|            |              |     | Fannie Mae       | Freddie Mac | Fannie Mae         | Freddie Mac |
| 12         | 30 YR. FRM   | 50% | -1.13%           | -.85%       | -.64%              | -.05%       |
| 2          | 30 YR. FRM   | 80% | 1.05%            | .95%        | 1.54%              | 1.91%       |
| 13         | 30 YR. FRM   | 95% | 3.17%            | 2.84%       | 6.04%              | 6.02%       |
| 16         | 15 YR. FRM   | 50% | -1.08%           | -.76%       | -.68%              | -.12%       |
| 17         | 15 YR. FRM   | 80% | -.84%            | -.58%       | -.37%              | .05%        |
| 18         | 15 YR. FRM   | 95% | -.57%            | -.32%       | .00%               | .38%        |
| 19         | ARM          | 50% | -1.10%           | -.69%       | -.67%              | -.16%       |
| 20         | ARM          | 80% | 1.96%            | 1.89%       | 1.19%              | 1.44%       |
| 21         | ARM          | 95% | 8.94%            | 7.95%       | 8.23%              | 7.09%       |

The intermediate-term (15-year) FRMs have consistently lower credit losses than long-term (30-year) FRMs because the shorter-term loans amortize more quickly, and borrowers choosing those loans tend to have greater financial resources. For 50 percent LTV loans, the difference in credit losses is small, as credit losses are very low for loans of both terms. In the up-rate scenario, the 30-year loans benefit from slower amortization, which results in more guarantee fees. In both the 80 percent and 95 percent LTV categories, the more favorable incremental capital effects of 15-year loans reflect their greater safety. For 95 percent LTV loans, the 15-year loans have sharply lower credit losses, nearly 90 percent below those of 30-year FRMs.

ARM loans are riskier than 30-year FRMs at all LTV levels in the up-rate scenario, with the differences becoming more pronounced as LTV ratios rise. ARM credit losses in the up-rate scenario are only modestly higher than 30-year FRM credit losses for low LTV loans, but rise to more than double those for 30-year FRMs for high LTV loans. Credit losses for high LTV ARMs

accumulate over the course of the stress period to 13.5 percent of the initial loan balances. As the loan interest rates adjust to their lifetime caps, some borrowers have difficulty meeting the elevated payments.

When interest rates decline, ARMs perform much better. They prepay much more slowly than FRMs in this environment and, therefore, produce substantially more guarantee fee income. At low and moderate LTVs, ARMs have more favorable capital effects than FRMs. However, the greater sensitivity of defaults on ARMs with high initial LTVs outweighs the benefits of higher fee income generated by such loans. While credit losses for high LTV ARMs are still much lower in the down-rate scenario than in the up-rate scenario, the discounted values of those losses are larger in the down-rate scenario because the discount rates are so much lower in that scenario. The capital effects depend on the discounted values, so they are nearly as large in the down-rate scenario for high LTV ARMs as they are in the up-rate scenario. Because of the high risk associated with high LTV ARMs, the Enterprises

generally have not purchased ARMs with LTV ratios above 90 percent under their regular underwriting guidelines.

#### (vi) Differences in Multifamily Loans

The Enterprises deal in a large variety of multifamily loan products, and the products differ significantly between the Enterprises. The simulations reported in Table 13 show the incremental effects on required capital of multifamily loans with some relatively common characteristics. The additional sold loans in Simulation 22 are newly originated 15-year balloons with 70 percent LTVs, debt coverage ratios (DCR) of 1.3.<sup>44</sup> The Fannie Mae loans are assumed to provide partial recourse to the seller for losses, while the Freddie Mac loans do not. Accordingly, a higher guarantee fee is assumed for Freddie Mac loans, 75 basis points, than for Fannie Mae loans, 50 basis points. Simulations 23, 24, and 25 differ, respectively, by changing the balloon to five years, changing the LTV to 80 percent and the DCR to 1.2, and changing the loan age to five years.

<sup>44</sup> All of the multifamily loans were originated in the West Census Region with 8.5 percent coupons and servicing margins of 50 basis points.

**Table 13. Incremental Capital for Multifamily Loans with Differing Characteristics (as a percent of Additional Sold Loans)**

|                       |               |     |     | Up-Rate Scenario |             | Down-Rate Scenario |             |
|-----------------------|---------------|-----|-----|------------------|-------------|--------------------|-------------|
| Simulation            | Product Type  | LTV | DCR | Fannie Mae       | Freddie Mac | Fannie Mae         | Freddie Mac |
| <b>New Loans</b>      |               |     |     |                  |             |                    |             |
| 22                    | 15 YR Balloon | 70% | 1.3 | .23              | -.10        | -1.49              | -1.31       |
| 23                    | 15 YR Balloon | 80% | 1.2 | 1.91             | 1.95        | -1.38              | -1.17       |
| 24                    | 5 YR Balloon  | 70% | 1.3 | .24              | .05         | -1.02              | -.65        |
| <b>5-YR Old Loans</b> |               |     |     |                  |             |                    |             |
| 25                    | 15 YR Balloon | 70% | 1.3 | 2.49             | 3.15        | -.61               | .12         |

Unlike single family loans, multifamily loans with a few years of seasoning have substantially higher credit losses during the stress period. Both types of loans generally have low credit losses in the first years after origination, then rise to a peak before declining. However, the peak loss years for multifamily loans come several years after those for single family loans. Thus, the five-year old loans in Simulation 25 experience more bad loss years than comparable new loans (Simulation 22). Credit losses for high LTV, low DCR loans (Simulation 23) are also higher than comparable lower LTV, higher DCR loans because there is a higher probability that the borrower would

have an economic incentive to default during the stress period (no equity and negative cash flow). Five-year balloons have higher losses in the up-rate scenario because some properties would be unable to manage the higher interest rates that would accompany a new loan. In the down-rate scenario, five-year balloons terminate sooner and, thus, provide less guarantee fee income.

Multifamily loan losses are generally less than guarantee fee income in the down-rate scenario. This is especially true for newly originated loans because most of the loans prepay before reaching their peak loss years. Multifamily loans also benefit in the down-rate scenario from lower capitalization rates, which improve their estimated LTVs.

(vii) Differences in Mortgage Insurance on High LTV Loans

By law, conventional loans purchased by the Enterprises with LTVs greater than 80 percent require credit enhancement. Of the three types permitted, private mortgage insurance is by far the most commonly used. As described above, simulations involving additional guarantees for loans with 95 percent LTV ratios assume that the loans carry 30 percent coverage by a AA rated firm. The simulations reported in Table 14 show effects of varying insurance characteristics on single family loans. The guarantee additions in each case are for newly originated, long-term FRMs.

**Table 14. Incremental Capital for 95 Percent LTV Loans with Differing Insurance Characteristics (as a percent of additional sold loans)**

|            |          |               | Up-Rate Scenario |             | Down-Rate Scenario |             |
|------------|----------|---------------|------------------|-------------|--------------------|-------------|
| Simulation | Coverage | Credit Rating | Fannie Mae       | Freddie Mac | Fannie Mae         | Freddie Mac |
| 13         | 30%      | AA            | 3.17%            | 2.84%       | 6.04%              | 6.02%       |
| 26         | 25%      | AA            | 3.72%            | 3.30%       | 7.07%              | 7.00%       |
| 27         | 30%      | AAA           | 2.99%            | 2.69%       | 5.73%              | 5.70%       |
| 28         | 30%      | A             | 3.53%            | 3.12%       | 6.66%              | 6.61%       |

In 1995, both Enterprises raised their coverage requirements on 95 percent LTV loans from 25 percent to 30 percent. Credit losses in Simulation 26,

with lower coverage than in Simulation 13 (but with all other characteristics are the same), are 15 percent higher in the down-rate scenario and 12 percent

higher in the up-rate scenario than they are in Simulation 13. Because the discounted value of those changes is higher in the down-rate scenario, the

required capital is affected more significantly in that scenario. Reducing the credit quality of the coverage (Simulation 28) has much the same effect as reducing the amount of coverage, while improving the credit quality (Simulation 27) has the opposite effect.

(viii) Differences in Mortgage Interest Rates

Loans with low interest rates amortize more quickly and prepay more slowly. The reverse is true for high interest rate loans. Table 15 shows the results of simulations for newly originated, long-

term FRMs with different interest rates. In practice, loans with different interest rates have been originated in different time periods. However, to isolate the effects of different mortgage interest rates, all loans are assumed to be made simultaneously.

**Table 15. Incremental Capital for Sold Loans with Differing Mortgage Interest Rates (as a percent of additional sold loans)**

| Simulation | Mortgage Interest Rate | Up-Rate Scenario |             | Down-Rate Scenario |             |
|------------|------------------------|------------------|-------------|--------------------|-------------|
|            |                        | Fannie Mae       | Freddie Mac | Fannie Mae         | Freddie Mac |
| 29         | 5.00%                  | .57%             | .46%        | -.12%              | .11%        |
| 2          | 7.50%                  | 1.05%            | .95%        | 1.54%              | 1.91%       |
| 30         | 11.75%                 | 1.58%            | 1.50%       | 2.31%              | 2.93%       |

Faster amortization improves loan quality, so credit losses are significantly lower for mortgages with low interest rates. Low interest rate loans also prepay significantly more slowly in the down-rate scenario, increasing guarantee fees. For Freddie Mac, these differences between high and low mortgage interest rates are accentuated by differences in float income. Freddie Mac holds prepayments for an extra month before passing them through to investors. During that month, Freddie

Mac earns a market rate of return while paying investors at the mortgage security coupon rate. Float earnings are roughly the same for both high and low mortgage interest rates, but interest passthrough payments to investors are much lower on low rate mortgages, increasing net float income.

(ix) Differences Between Loans on Owner-Occupied and Investor-Owned Properties

Loans on owner-occupied properties present less credit risk than loans on

investor-owned properties. Simulation 31, presented in Table 16, shows the effects on required capital of adding newly originated, long-term fixed-rate mortgages that are all investor-owned. Required capital for loans on investor-owned properties is substantially higher in all cases because of higher credit losses.

**Table 16. Incremental Capital for Sold Loans with Differing Occupancy Status (as a percent of additional sold loans)**

| Simulation | Tenure                      | Up-Rate Scenario |             | Down-Rate Scenario |             |
|------------|-----------------------------|------------------|-------------|--------------------|-------------|
|            |                             | Fannie Mae       | Freddie Mac | Fannie Mae         | Freddie Mac |
| 2          | Owner-occupied <sup>1</sup> | 1.05%            | .95%        | 1.50%              | 1.91%       |
| 31         | Investor-owned              | 2.06%            | 1.79%       | 2.26%              | 2.52%       |

<sup>1</sup> Assumes the average percentage of investor-owned loans in each Enterprise's existing portfolio, about three percent.

2. Commitments

While commitments to purchase mortgages may result in new mortgage guarantees or new retained mortgages, the risk accepted by the Enterprise at the time of commitment is comparable

to the risk on new mortgage guarantees. The stress test treats mortgages delivered pursuant to commitments as guarantees of mortgages that are originated in the first few months of the stress test at market interest rates.

Hence, no portfolio interest rate risk will be incurred. The mix of other characteristics of the loans reflects the mix of characteristics for existing guaranteed loans of the Enterprise that

were originated during the six months preceding the start of the stress period.

Simulation 32, shown in Table 17, shows the effects on required capital of increasing each Enterprise's commitments outstanding in June 1997 by \$10 billion. The results are,

essentially, an average of the effects on required capital of a mixture of new loans, in which the proportions of loans with particular characteristics (including guarantee fees) match those present in an Enterprise's recently

originated and securitized loans. In the up-rate scenario, the effects are muted relative to those in the down-rate scenario because the model assumes that sellers deliver loans for only 75 percent of the commitment volumes.

**Table 17. Incremental Capital for Additional Commitments  
(as a percent of additional commitments)**

| Simulation | Up-Rate Scenario |             | Down-Rate Scenario |             |
|------------|------------------|-------------|--------------------|-------------|
|            | Fannie Mae       | Freddie Mac | Fannie Mae         | Freddie Mac |
| 32         | .65%             | .65%        | 1.50%              | 1.86%       |

### 3. Assets and Liabilities

The Enterprises' other line of business is purchasing mortgages and mortgage securities for their asset portfolios and funding them with debt. As holders of mortgages, the Enterprises receive interest income, incur administrative expenses, and bear the risk of loss if a borrower defaults. As market interest rates change, the interest rate of a mortgage becomes more or less favorable, and the value of the mortgage will change. The Enterprises hedge this risk by issuing callable long-term debt, which changes in value in a corresponding way. They also enter into interest rate derivative contracts that further reduce the overall sensitivity of their income and net worth to interest rate changes. As a holder of mortgage securities, an Enterprise experiences cash flows, income, and risks similar to those experienced as a holder of whole mortgages except that the credit risk is

borne by the security guarantor (usually the Enterprise itself, acting in its other principal role).

The stress test projects the flows of income and expenses associated with these assets in much the same way as it does for mortgage guarantees. However, principal and interest received by an Enterprise on retained mortgages and mortgage securities is not passed on to investors, and no credit losses are charged on asset holdings of mortgage securities guaranteed by either Enterprise or by the Government National Mortgage Association (Ginnie Mae). In addition, the stress test projects interest expenses associated with debt and cash flows associated with derivatives contracts.

#### a. Assets/Liabilities With Mixed Characteristics Reflecting Enterprise Portfolios

Table 18 shows the additional capital that would be required in both scenarios

by a general increase in each Enterprise's assets and liabilities. It is not possible to isolate the average incremental capital effects of a general increase in an Enterprise's mortgage assets in the same way that Simulation 1 measured those effects for guaranteed mortgages. Critical factors in assessing the risk of asset positions are the characteristics of the debt and equity used to fund them. However, specific debt and equity issues cannot be matched with specific assets. It is possible, however, to obtain a measure of the incremental capital effects of a proportional \$10 billion increase in all of an Enterprise's assets, including non-mortgage assets, and a simultaneous \$10 billion increase in the Enterprise's liabilities and interest rate derivatives.<sup>45</sup>

**Table 18. Incremental Capital for an Equal Proportional Increase in All Assets and Liabilities (as a percent of additional assets)**

| Up-Rate Scenario |             | Down-Rate Scenario |             |
|------------------|-------------|--------------------|-------------|
| Fannie Mae       | Freddie Mac | Fannie Mae         | Freddie Mac |
| 4.38%            | 2.81%       | 2.06%              | .55%        |

These results reflect some differences between the Enterprises in asset

composition, but, mostly, differences in debt structure and derivatives use in

June 1997. In three of the four cases, the incremental effects are close to or less

<sup>45</sup> The process is indirect, using the results of other simulations. The increase in required capital for an equal percentage increase in all of an Enterprise's positions, such that assets increase by \$10 billion, is simply that percentage of the

Enterprise's required capital for the base case simulations for June 1997. This increase includes increases in guarantees and commitments. The effect of these increases can be removed by subtracting the incremental effects of the guarantees

and commitments as calculated in Simulations 1 and 32, after making adjustments for the differences between a \$10 billion change in those factors and a change of the percentage amount used in the first step.



than the 2.50 percent minimum capital ratio for Enterprise assets. For both Enterprises, the incremental required capital effects of sold loans were higher in the down-rate scenario while the effects of asset holdings and liabilities are higher in the up-rate scenario. Thus, the combined risks of both types of activities are more balanced with respect to interest rates than the risks of either type separately.

**b. Retained Loans With Specific Identical Risk Characteristics**

The simulations discussed below show the effect on required capital of an increase in mortgage assets that is funded by debt. A first group of simulations shows how different characteristics of mortgages affect required capital in each scenario. Five-year, fixed-rate notes were used to fund mortgage assets in each of these

simulations. Different funding would not have an appreciable effect on the relative results for mortgages of differing characteristics, as long as the funding was the same for each. In the second group of simulations, mortgage characteristics were held constant, while the funding varied among three alternatives.

The Enterprises have available, and utilize, a much wider range of funding alternatives than those used in these simulations. These alternatives include debt (both callable and non-callable) of different maturities, debt-derivative combinations that create synthetic debt with various maturity and call characteristics, and debt combined with swaptions (options on swaps) or with interest rate caps, floors, or corridors. Other hedging techniques, such as asset swaps, are also used. The proposed risk-

based capital requirements are fully sensitive to all of these alternatives.

In the Simulations presented in Table 19, \$10 billion of retained unsecuritized loans with specific risk characteristics were added to each Enterprise's asset portfolio. The assets were funded with \$10 billion of five-year notes paying 6.5 percent interest, with no call options. The mortgages in Simulation 33 have the same characteristics as those in Simulation 2, except they have not been securitized. They are newly originated 30-year fixed-rate mortgages, with 80 percent LTV ratios and 7.5 percent contract interest rates from the West South Central Census Division. In Simulations 34 through 39, one risk characteristic (mortgage type, LTV, or age) has been changed from Simulation 29 to illustrate the relative effects on required capital of changes in various characteristics.<sup>46</sup>

**Table 19. Incremental Capital for Retained Loans with Differing Characteristics, Funded with Five-Year Debt (as a percent of additional loan assets)**

| Simulation | Distinguishing Characteristic | Up-Rate Scenario |             | Down-Rate Scenario |             |
|------------|-------------------------------|------------------|-------------|--------------------|-------------|
|            |                               | Fannie Mae       | Freddie Mac | Fannie Mae         | Freddie Mac |
| 33         | <sup>1</sup>                  | 7.95%            | 7.54%       | 8.53%              | 7.97%       |
| 34         | 15 Yr. FRM                    | 1.35%            | .40%        | 6.97%              | 6.47%       |
| 35         | ARM                           | -16.54%          | -14.29%     | 7.90%              | 6.83%       |
| 36         | 50% LTV                       | 5.35%            | 4.41%       | 7.89%              | 7.55%       |
| 37         | 95% LTV                       | 10.27%           | 10.36%      | 8.46%              | 7.54%       |
| 38         | 4 Yrs. Old                    | 5.57%            | 4.69%       | 10.39%             | 9.39%       |
| 39         | 8 Yrs. Old                    | 5.68%            | 5.02%       | 5.88%              | 4.81%       |

<sup>1</sup> Newly originated, 30-year FRMs with 80 percent LTV ratios.

As the results make clear, using solely five-year fixed-rate debt to fund mortgages would not be an appropriate funding strategy to guard against the risk of large, sustained changes in interest rates like those incorporated in the stress test. When market interest rates decline, fixed-rate mortgages prepay rapidly, and the five-year debt is outstanding far longer than most of the

mortgages it originally funded. When market yields rise, fixed-rate mortgages prepay slowly, and the debt matures long before most of the mortgages are liquidated.

In the up-rate scenario, ARMs with fixed-rate funding reduce required capital because interest income rises with market yields (until lifetime caps are reached), while funding costs

remain unchanged during the first five years. Differences in the impact on required capital of fixed-rate mortgages of different types in the up-rate scenario primarily reflect differences in credit losses. However, 15-year loans also benefit from faster amortization, making their loan lives correspond more closely to the maturity of the debt used to fund them.

<sup>46</sup> While these results are for additional retained whole loans, the effects on required capital of additional holdings of mortgage security assets, backed by loans with the same characteristics and funded with the same debt, can be closely approximated by subtracting the effects of

additional guarantees of loans with those characteristics. (The comparable loan guarantee simulations are Simulations 2, 17, 20, 12, 13, 5, and 7 respectively.)

In the down-rate scenario, ARMs prepay more slowly than FRMs, but also provide lower interest income. Among fixed-rate types of loans, four-year-old loans prepay more rapidly than new or eight-year-old loans. High-LTV loans, on the other hand, prepay slowly because borrowers lack sufficient equity for refinancing. These differences in

prepayment rates greatly affect the interest rate risk characteristics of the loans, so that if they are funded with the same liabilities, four-year old loans with 80 percent LTVs generate higher capital needs in down-rate scenario than new loans with 95 percent LTVs, despite much lower credit losses.

The proposed capital requirements are very sensitive to differences in funding strategies for mortgage assets because of the magnitude of the interest rate changes in the two scenarios. Table 20 shows the results of three alternative funding choices for newly originated long-term FRMs with 80 percent LTVs like those in Simulation 33.

**Table 20. Incremental Capital for Fixed-Rate Mortgages with Differing Funding (as a percent of additional loan assets)**

| Simulation | Funding            | Up-Rate Scenario |             | Down-Rate Scenario |             |
|------------|--------------------|------------------|-------------|--------------------|-------------|
|            |                    | Fannie Mae       | Freddie Mac | Fannie Mae         | Freddie Mac |
| 40         | Short-Term         | 26.86%           | 29.79%      | -9.59%             | -7.90%      |
| 41         | Long-Term          | -8.42%           | -6.80%      | 30.27%             | 31.02%      |
| 42         | Callable Long-Term | -3.86%           | -2.99%      | -.68%              | -1.27%      |

Funding long-term FRMs with short-term debt (six-month discount notes) provides very substantial benefits when interest rates fall. The debt matures more rapidly than the mortgages, permitting an Enterprise to continue receiving the original yield on the mortgages, while paying much lower interest rates. Short-term funding, though, is extremely costly when interest rates rise because maturing debt must be replaced at much higher rates. A portfolio of long-term fixed-rate mortgages funded with short-term debt, such as those held by Fannie Mae and most thrifts in the late 1970s, would require a capital/asset ratio of well over 20 percent under the proposed rule.

Funding with long-term debt (ten-year notes with semi-annual interest

payments at 6¾ percent) provides large benefits when interest rates rise, but is extremely costly when interest rates fall. Callable long-term debt (ten-year maturity, with a coupon of 7¾ percent, not callable during the first two years) provides benefits in both scenarios.<sup>47</sup> The results for different funding mixes can be approximated by combining the results shown in Table 20 on a weighted average basis. Thus, for example, in June 1997, the incremental capital effects of new fixed-rate mortgages funded with 65 percent callable long-term debt, 19 percent short-term debt, and 16 percent long-term, non-callable debt would be in a range of 1.2 percent to 2.6 percent for both Enterprises in both interest rate scenarios. Less callable debt would be needed to

achieve the same result for seasoned loans.

#### 4. Administrative Costs

During the stress period, administrative costs depend not only on the volume of loans held or guaranteed, but also on the rate of spending in the quarter immediately preceding the start of the stress period. A higher rate of administrative expense before the stress period increases costs and depletes capital during the stress period. In Simulation 43, shown in Table 21, \$10 million in annual administrative expense (\$2.5 million at a quarterly rate) was added to each Enterprise's reported spending in the year preceding the date of the base case simulations (June 1997).

**Table 21. Incremental Capital for Additional Administrative Expenses (per dollar of added annual expense)**

| Simulation | Up-Rate Scenario |             | Down-Rate Scenario |             |
|------------|------------------|-------------|--------------------|-------------|
|            | Fannie Mae       | Freddie Mac | Fannie Mae         | Freddie Mac |
| 43         | \$5.92           | \$4.72      | \$3.53             | \$2.76      |

The results in Table 21 show that if Fannie Mae's annual administrative expense rate had been \$1 higher in the

year preceding the stress period, its capital requirement would have been \$5.92 higher in the up-rate scenario and

\$3.53 higher in the down-rate scenario. The stress test projects the higher expense rate to continue throughout the

<sup>47</sup> The interest rates of long-term debt used in the simulations roughly reflect what the average cost of such instruments would have been in June 1997.

ten years of the stress period, except that the dollar amount of additional expense declines in line with the outstanding loan volume. Thus, in the up-rate scenario, for example, the initial annual \$1 increase in the expense rate leads to an additional \$7.65 of administrative expenses during the stress period. Discounting, taxes, and dividends reduce the incremental required capital to \$5.92, even after the 30 percent management and operations risk supplement. Required capital increases more in the up-rate scenario than the down-rate scenario because administrative expense is tied in the stress test to outstanding loan volumes, which are larger in the up-rate scenario.

The effect of increased administrative expenses on required capital is lower for Freddie Mac in both interest rate scenarios. This is true partly because Freddie Mac's mortgages have slightly shorter lives in both interest rate

scenarios, but more importantly because Fannie Mae has disproportionately larger commitments outstanding at the start of the stress period. As commitments are transformed into loans during the early months of the stress period, Fannie Mae's overall loan balances rise relative to initial balances by more than Freddie Mac's. This effect is less significant in the up-rate scenario because only 75 percent of commitments become loans. However, Freddie Mac's costs in the up-rate scenario are reduced by taxes throughout the stress period, while Fannie Mae's are not. Therefore, Freddie Mac's administrative expense rate has a smaller effect on required capital in both interest rate scenarios.

#### 5. External Economic Conditions

##### a. House Prices

Stress test results are also greatly affected by changes in external

economic conditions. Seasoned mortgages in the base case simulations for June 1997 benefited from modest, but steady average house price appreciation of about three percent per year during the time between origination and the beginning of the stress period. In Simulations 46 and 47, shown in Table 22, the house price index was reduced by one percent and five percent, respectively, in the quarter immediately preceding the stress period (1997 Q2). That is, house price appreciation rates between the first and second quarters of 1997 were assumed to be one percentage point or five percentage points (4 or 20 percentage points at an annual rate) less than they actually were. Subsequent house price appreciation rates are the same as in previous simulations.

**Table 22. Incremental Capital Caused By Lower House Prices  
(dollars in millions)**

| Simulation | Reduction in House Prices | Up-Rate Scenario |             | Down-Rate Scenario |             |
|------------|---------------------------|------------------|-------------|--------------------|-------------|
|            |                           | Fannie Mae       | Freddie Mac | Fannie Mae         | Freddie Mac |
| 44         | 1%                        | \$620            | \$344       | \$890              | \$490       |
| 45         | 5%                        | \$3270           | \$1920      | \$3303             | \$2579      |

When house prices are decreased by one percent, credit losses for each Enterprise increase by four to five percent in the up-rate scenario and by about seven percent in the down-rate scenario. The increases in credit losses when house prices are decreased by five percent are about five times as large as they are for a one percent house price decrease. The increases in incremental capital in both simulations are larger in the down-rate scenario because the decrease in house prices slows prepayment rates in that scenario, owing to higher probabilities of negative equity. Slower prepayment rates increase the volume of mortgages exposed to the risk of default. While loans also prepay more slowly in the up-rate scenario, prepayment rates in the base case simulation for that scenario are already so slow that a similar percentage change has little absolute effect.

The slowing of prepayment rates with lower house prices in the down-rate scenario also produces two benefits that

offset much of the increase in loan losses: guarantee fee income and net interest income increase. The key factor causing the effects on required capital to be larger in the down-rate scenario is that discount rates are lower in that scenario, so the present value of similar additional credit losses is greater.

Differences in the changes in required capital between the Enterprises primarily reflect lower additional credit losses for Freddie Mac. Fannie Mae's losses are higher because its owned or guaranteed loan volume was about 45 percent larger than Freddie Mac's in June 1997 and its credit losses per dollar of loans are 11 to 14 percent higher in the simulations, owing to a somewhat riskier mix of loans.

##### b. Market Interest Rates

The behavior of interest rates in the months before the starting date of the stress test can also have a significant effect on required capital. In the simulations shown in Table 23, all market yields were assumed to be 200

basis points higher (Simulation 46), or lower (Simulation 47) in the month preceding the stress test period (June 1997) than they actually were.<sup>48</sup> The principal means by which this change in market yields affects required capital is through the change it causes in market interest rates during the last nine years of the stress test.<sup>49</sup>

<sup>48</sup>No changes were made to interest rates on asset, liability, or off-balance sheet positions that had been put in place during the month, but they constitute a small share of total positions, and the effects of adjusting interest rates for those positions would have been largely offsetting. Nor were any changes made to Enterprise hedge positions that they might have made had market yields actually changed.

<sup>49</sup>In the circumstances of June 1997 (or any other time since September 1991), the applicable statutory rule for determining the change in the ten-year constant maturity Treasury yield during the stress period is that it increases by 75 percent or decreases by 50 percent from the average over the preceding nine months. If interest rates were 200 basis points higher in June 1997, stress test rates would have risen to a level  $200 \div 9 \times 1.75 = 39$  basis points higher for the last nine years in the up-rate scenario. And, in the down-rate scenario, rates

**Table 23. Incremental Capital Caused by Differing Initial Interest Rate Levels  
(dollars in millions)**

| Simulation | Change in June 1997 Yields | Up-Rate Scenario |             | Down-Rate Scenario |             |
|------------|----------------------------|------------------|-------------|--------------------|-------------|
|            |                            | Fannie Mae       | Freddie Mac | Fannie Mae         | Freddie Mac |
| 46         | +200 b.p.                  | \$1598           | \$642       | -\$1132            | -\$220      |
| 47         | -200 b.p.                  | -\$2105          | -\$842      | \$694              | \$280       |

In Simulation 46, the hypothetical increases in June 1997 yields make the stress test more severe in the up-rate scenario and less severe in the down-rate scenario. Simulation 47 does the reverse. The size of the effects is much greater for Fannie Mae because its asset size was roughly double Freddie Mac's at the time, and because Fannie Mae's interest rate risk was less fully hedged than Freddie Mac's. Although changes in net interest income accounted for nearly all of the change in required capital, differences in prepayment rates in the down-rate scenarios of both simulations affected required capital through changes in other income and expense categories. Lower prepayment rates in Simulation 46 increased credit losses, but also increased guarantee fees. Higher prepayment rates in Simulation 47 decreased credit losses and guarantee fees.

#### c. Sensitivity to Risk Characteristics in Different Economic Environments

The results of the sensitivity analysis discussed above are dependent on the risk structure of the Enterprises and the economic conditions of June 1997. For example, as discussed above, credit losses on seasoned loans vary depending on house price behavior between the time of origination and the start of the stress test. At higher interest rate levels, the consequences of imperfectly matched assets and liabilities would be greater because stress test changes in interest rates would be larger. At lower interest rate levels, the effects would be smaller. Different Enterprise hedging strategies could affect reported sensitivities because they could result in a different pattern of profits and losses during the stress period, which could affect the role of taxes. Changes in common stock dividend payouts could affect the

impact of dividends during the first year of the simulations.

#### C. Implications of the Proposed Rule

The Enterprises perform an important role in the nation's housing finance system. Although the current risk of an Enterprise failure is small, the continued financial health of the Enterprises cannot be taken for granted. Over the past two decades, failures of financial institutions have been commonplace, including more than 2900 banks and thrifts and a number of securities firms. The risks associated with Fannie Mae and Freddie Mac differ in some important ways from those associated with banks, thrifts, and securities firms. However, government sponsored enterprises are not immune to failure. Fannie Mae encountered serious financial difficulty in the early 1980s, recovering in large part because of a fortuitous decline in interest rates, and the Farm Credit System experienced serious problems later in the decade. Because of the Enterprises' key role and important public mission, Congress created OFHEO to ensure their safe and sound operation. The current combined obligations of the Enterprises amount to more than \$1.7 trillion, and unlike banks, thrifts, and securities firms, no Enterprise obligations are backed by an insurance fund that could contribute toward meeting creditor claims.

The risk-based capital rule (in conjunction with OFHEO's other regulatory tools) is intended to reduce the risk of financial failure of an Enterprise. The rule can contribute to that goal by requiring the Enterprises to hold more capital or take less risk than they otherwise would in some or most potential circumstances, particularly those circumstances in which the danger of failure is greatest. In circumstances in which some capital or

risk adjustment is necessary, the rule gives an Enterprise the flexibility to choose whether more capital, less risk, or a combination of the two best suits its business needs.

OFHEO believes that the proposed rule would effectively serve its intended role. By promoting the Enterprises' safety and soundness, the regulation promotes their ability to continue to carry out their public purposes.<sup>50</sup> These include providing stability in the secondary market for residential mortgages and providing access to mortgage credit in central cities, rural areas, and underserved areas.

Capital reduces the risk and costs of failure by absorbing losses. For most firms, debt markets provide strong capital discipline, penalizing a firm that is excessively leveraged with higher borrowing costs. That discipline is largely lacking for the Enterprises because of their government sponsored enterprise status. The lack of normal market discipline makes capital requirements particularly important for the Enterprises.

The minimum capital regulation, currently in place for the Enterprises, provides important protection against failure. It requires the Enterprises to have a minimally acceptable level of capital in relation to their overall size, regardless of their measurable risk. The establishment of the minimum capital standard was accompanied by considerable increases in capital at both Enterprises. Because, however, it is based on simple leverage ratios, it will not be sufficient if an Enterprise chooses to take risky financial positions or if market conditions move adversely and increase the risk of what had been less risky positions. By contrast, the proposed rule is quite sensitive to risk. It would require an Enterprise to increase capital when risk rises, well before the potential adverse

would have decreased to a level  $200 + 9 \times 0.50 = 11$  basis points higher. Similarly, if interest rates were 200 basis points lower in June 1997, stress test rates would have been 39 basis points lower in the

last nine years of the up-rate scenario and would have fallen to a level 11 basis points lower in the last nine years of the down-rate scenario. These

differences are incorporated in Simulations 46 and 47.

<sup>50</sup> 1992 Act, section 1302(2) (12 U.S.C. 4501(2)).

consequences of the rise would be reflected in the Enterprise's financial statements. Each of the two capital rules is an essential complement to the other.

1. Capital Requirements Under the Proposed Rule

Consistent with the purpose of reducing the risk of Enterprise failure,

the proposed rule can be expected to influence how the Enterprises manage their risk and the amount of capital they hold. Table 24 shows actual total capital (amounts available to meet the risk-based capital requirement) and required total capital under the proposed rule for two dates: September 30, 1996 and June

30, 1997.<sup>51</sup> It also shows actual core capital (amounts available to meet the minimum capital requirement) and required core capital on the same dates. The difference between total capital and core capital is that total capital includes general loss reserves, while core capital does not.

**Table 24. Actual Capital and Capital Required Under the Proposed Risk-Based Rule and the Existing Minimum Capital Rule (dollars in billions)**

|  | Fannie Mae           |                        | Freddie Mac          |                        |
|--|----------------------|------------------------|----------------------|------------------------|
| <b>Risk-Based Capital Requirement (Proposed)</b> |                      |                        |                      |                        |
| Date   | Actual Total Capital | Required Total Capital | Actual Total Capital | Required Total Capital |
| 9/30/96  | \$13.05              | \$16.55                | \$7.23               | \$5.66                 |
| 6/30/97  | \$14.05              | \$17.73                | \$8.11               | \$6.83                 |
| <b>Minimum Capital Requirement</b>               |                      |                        |                      |                        |
| Date   | Actual Core Capital  | Required Core Capital  | Actual Core Capital  | Required Core Capital  |
| 9/30/96  | \$12.27              | \$11.12                | \$6.54               | \$6.28                 |
| 6/30/97  | \$13.26              | \$11.94                | \$7.43               | \$6.80                 |

Table 25 shows the surplus or deficit of total capital for both interest rate scenarios. The risk-based capital requirement for an Enterprise is based on the scenario that would result in the greatest deficit or smallest surplus. To meet the requirement, an Enterprise must not have a capital deficit in either scenario. Freddie Mac would have had a risk-based capital surplus of 28 percent on the 1996 date and 19 percent in 1997, while Fannie Mae would have had a deficit on each date of 21 percent.

In contrast, both firms met the existing minimum capital standard on both dates, with surpluses ranging from 4 percent to 11 percent. Thus, the risk-based capital requirement would have been much higher than the minimum capital requirement for Fannie Mae, even after taking account of the differences in the definition of capital under the two standards. For Freddie Mac, however, the minimum capital requirement would have been higher than the risk-based capital requirement.

Thus, the risk-based standard would not have imposed any additional requirement on Freddie Mac on those dates. The primary reason Fannie Mae's risk-based capital requirement would have exceeded its minimum capital requirement, while Freddie Mac's would not, is that Freddie Mac's asset/liability structure was more fully hedged against interest rate risk than Fannie Mae's.

<sup>51</sup> These results include estimated effects on required total capital for three provisions of the proposed rule that require credit ratings: credit losses on non-mortgage investments; on derivative contracts; and on rated mortgage-related securities, such as mortgage revenue bonds. OFHEO assumed

that 50 percent of non-mortgage investments are rated AAA, 35 percent are rated AA, and 15 percent are rated A. The percentages for derivative contracts are 85, 15, and 0, respectively; and those for rated mortgage-related securities are 70, 30, and 0, respectively. The results do not reflect the effects

of master netting agreements, nor haircuts on foreign-denominated contracts. Multifamily credit enhancements, other than those for Fannie Mae's DUS product are not modeled explicitly, but are assumed to reduce loss severities by 15.9 percentage points.

**Table 25. Surplus or Deficit Total Capital of the Enterprises Using the Proposed Rule for September 30, 1996 and June 30, 1997 (dollars in billions)**

| Dates   | Up-Rate Scenario |             | Down-Rate Scenario |             |
|---------|------------------|-------------|--------------------|-------------|
|         | Fannie Mae       | Freddie Mac | Fannie Mae         | Freddie Mac |
| 9/30/96 | -\$3.50          | \$1.61      | -\$3.25            | \$1.57      |
| 6/30/97 | -\$3.68          | \$3.18      | -\$0.95            | \$1.28      |

Risk-based capital requirements in the future may vary significantly, depending not only on the Enterprises' assets and obligations, but also on contemporary economic conditions. Declines in house prices in the years preceding the starting date of the stress test can greatly raise capital requirements under the proposed rule, and rapid house price appreciation during these years can greatly reduce them. Unhedged interest rate exposures would require greater capital when interest rates are higher at the start of the stress period because changes in interest rates during the stress period will be greater. The reverse is true when interest rates are lower. Economic environments entailing greater than usual uncertainty about future interest rates or mortgage defaults will be accompanied by higher costs for hedges, such as callable debt or credit enhancements. In the absence of a risk-based capital standard, an Enterprise might choose to maintain capital and hedges that would be sufficient to meet the proposed standard in low risk environments, but might not do so in high risk environments owing to the higher cost of capital and hedges in such environments.

## 2. Enterprise Adjustments To Meet the Proposed Standard

An Enterprise with capital and risk preferences that are not consistent with the proposed standard could adjust to the standard by either increasing capital or decreasing risk or both. Capital can be increased by reducing share repurchases, adjusting dividends, or issuing new equity shares. Enterprise risk can be reduced by increasing the use of interest rate and credit risk hedges, after risk is taken on, or by reducing the amount of risk taken on.

Financial markets currently provide a wide range of hedges against interest rate risk. These include, among others: callable long-term debt, caps and floors, and swaps and swaptions. Adding interest rate risk hedges may frequently

be cheaper than increasing equity. For example, based on the differences in results of Simulations 40, 41, and 42 shown in Table 20, Fannie Mae could have met the proposed standard in June 1997 by issuing \$22 billion of callable ten-year notes and using the proceeds to pay off \$14 billion of short-term debt and repurchase \$8 billion of ten-year notes.<sup>52</sup> Given the market yields at that time, such a change in debt structure would have cost less than \$200 million on an annual basis, after taxes. However, because this debt restructuring would have provided substantial benefits in terms of reduced risk, the net cost would have been much lower.

Changes in an Enterprise's asset/liability structure to reduce interest rate risk, such as the one described in the above example, may be much cheaper than raising new equity. If the annual cost of equity capital is assumed to be 15 percent, the net cost of raising sufficient equity would have been roughly \$385 million.<sup>53</sup> Other forms of liability restructuring, or changes in the interest rate risk characteristics of the assets, might have resulted in lower costs than those estimated here for hypothetical changes in debt structure. Fannie Mae anticipated the likelihood of such opportunities in its comment on OFHEO's ANPR: " \* \* \* if the [mortgage] portfolio is in a position where its risk-based capital requirement exceeds its actual capital, the practical remedy would be to change the portfolio's asset/liability structure so that this is no longer the case." An alternative way for an Enterprise to reduce its interest rate risk is simply to reduce the size of its asset portfolio.

<sup>52</sup> The interest rates of long-term debt used in the simulations roughly reflect what the average cost of such instruments would have been in June 1997.

<sup>53</sup> In its analysis supporting its affordable housing goal rule, HUD used an estimate for the cost of equity capital of 17 percent, but subsequent increases in price-earnings ratios suggest a smaller number for more recent dates. The cost calculation assumes that the additional equity would have replaced an equal amount of debt.

Given the high profitability of those portfolios in recent years, that currently would not be a likely choice.

Increasingly, credit risk can also be hedged in financial markets. Freddie Mac's 1998 MODERNS transaction effectively transferred a portion of the credit risk on its 1996 mortgage purchases to investors in the new securities.<sup>54</sup> Further development of the credit derivatives market may provide additional opportunities for transferring credit risk in the future. An Enterprise can also reduce its credit risk by requiring or acquiring more credit enhancements. As an example, the Enterprises increased requirements for mortgage insurance on 95 percent LTV loans starting in 1995.

Finally, an Enterprise could adjust to a capital shortage by curtailing the size of its mortgage guarantee business. Such a measure is likely to be taken only as a last resort, as that business is the primary means by which an Enterprise fulfills its fundamental public purposes. As long as that business is profitable, an Enterprise is likely to prefer to restructure its asset/liability positions, obtain more credit risk hedges, or, if necessary, raise additional capital. If the Enterprise is financially safe and sound, raising additional equity capital should not be difficult. Because the proposed rule should help ensure the Enterprise's continued healthy financial condition, the rule would make it less, rather than more, likely that the Enterprise will need to restrict its activities.

## 3. Guarantee Fees

It is unlikely that the proposed rule will have any material effects on the general level of guarantee fees charged by the Enterprises. The stress test results make it particularly unlikely that the rule would have any effects on guarantee fees in economic environments like those of the recent

<sup>54</sup> Investor returns on the securities are dependent on the rate of defaults in a pool of mortgages representing 17.4 percent of Freddie Mac's single family, 30-year FRMs purchased in 1996.

past. Freddie Mac would have met the risk-based standard in 1996 and 1997 by substantial margins, without any changes to its balance sheet or business operations. Thus, the risk-based capital standard would not have given Freddie Mac any cause to raise guarantee fee levels. Fannie Mae would not have been able to, if it wished to maintain its competitive position. In the future, there may be circumstances in which the capital or risk positions of both Enterprises are affected simultaneously by the risk-based standard. The analysis of such cases is more complicated. However, the duopolistic structure of the secondary mortgage market and the generally small impact of the guarantee business on required capital make it unlikely that the standard would affect guarantee fees in those circumstances, either.

Guarantee fees compensate the Enterprises for assuming credit risk on the mortgages they purchase in the secondary market. They may be explicit, as they are for securitized loans, or implicit, as they are for loans purchased for Enterprise portfolios. These fees primarily cover expected credit losses and operating expenses, but include a return to the capital needed to protect against more severe credit losses in adverse environments. The need to provide such a return effectively makes capital a component of cost in the Enterprises' secondary market activities.

In a fully competitive market, a regulation (such as a capital regulation) that raises the marginal costs of all firms in that market would result in higher prices (guarantee fees in this case). However, the secondary mortgage market is not fully competitive.<sup>55</sup> Fannie Mae and Freddie Mac constitute virtually the entire buy side of the secondary market for fixed-rate conforming, conventional mortgages, making that market a duopoly.<sup>56</sup> In a duopoly, the two firms generally exercise market power by charging prices (the guarantee fee) in excess of marginal cost, and thereby recognizing economic profits.

<sup>55</sup> For a fuller discussion of secondary mortgage market structure and behavior, see Benjamin E. Hermalin and Dwight M. Jaffe, "The Privatization of Fannie Mae and Freddie Mac: Implications for Mortgage Industry Structure," in *Studies on Privatizing Fannie Mae and Freddie Mac*, U.S. Department of Housing and Urban Development, May 1996. This paper was jointly commissioned by HUD, the Department of the Treasury, the General Accounting Office, and the Congressional Budget Office.

<sup>56</sup> The "buy side" terminology here is traditional but confusing. The Enterprises are either buying mortgages or selling guarantees. Either way, they are charging implicit or explicit fees for assuming credit risk.

In theory, the guarantee fee charged by Fannie Mae and Freddie Mac may range between the perfectly competitive rate (where the fee equals the firms' marginal cost) and the monopoly rate (where the fee maximizes the two firms' joint profits as if they were operating as a cartel). If the fee at which other firms may enter the market is less than the monopoly fee, then the maximum fee would be that at which entry would take place.

The Enterprises' current guarantee fees reflect the profit-maximizing decisions of both Enterprises. These decisions are affected by the degree of competition between the two firms, the threat of entry by other firms, and activities necessary to maintain or enhance the value of their public charters. The current level of guarantee fees already reflects the maximum guarantee fees that each Enterprise feels it can charge without reducing long-run profits. If this were not the case, Enterprise shareholders likely would object. In such circumstances, a small increase in capital (or any other) cost is unlikely to affect guarantee fees. Only if the cost increase was sufficiently large to raise marginal cost (including an adequate return to attract capital) above the current fee level, would a fee increase reasonably be expected.

The Treasury Department and the Congressional Budget Office estimated in 1996 that the Enterprises collected roughly five basis points (0.05 percent) in fees for their mortgage-backed security guarantees above what they would need to recover costs plus a normal profit margin.<sup>57</sup> After taxes (at an effective rate of 30 percent), that amounts to 3.5 basis points. A risk-based capital standard that raised the capital costs associated with the Enterprises' guarantee business by less than that amount would still allow the Enterprises to earn returns above a normal profit margin.

If a new capital standard required an Enterprise to increase its equity when it increased its guarantee business, its capital cost per dollar of new guarantee business would be the amount of additional capital required times the cost of new equity capital, perhaps 15 percent. The proposed rule, however, provides an alternative to raising equity, which is to reduce some other risk. As shown in the previous section, Fannie Mae could meet an overall higher

capital requirement of \$3.68 billion at an after-tax cost of less than \$200 million in June 1997. The cost per dollar of additional capital requirements was only about 5.4 cents ( $0.20 \div 3.68$ ). An additional dollar of capital requirements associated with new guarantee business could be met in the same way. Based on that cost of capital, if an additional dollar of guarantee business caused required capital under the new standard to be 65 basis points greater than under the existing standard, the additional capital cost would be only as great as the duopoly surplus margin of 3.5 basis points ( $65 \times .054 = 3.5$ ).

In the absence of a risk-based capital standard, regulatory capital costs are based on the existing minimum capital leverage ratio for mortgage-backed security guarantees, which is 0.45 percent (45 basis points). A comparison with the incremental capital required for sold loans under the risk-based capital requirement must take into account that the leverage requirement can be met only with equity (core) capital, while the risk-based requirement can be met with both equity and reserves (total capital). Reserves for losses on mortgage-backed security guarantees average about seven basis points per dollar of guarantees at both Enterprises, so the comparable minimum capital requirement in terms of total capital is 52 basis points. Thus, a risk-based capital standard could potentially raise the incremental amount of total capital required for sold loans to as much as 117 basis points ( $52 + 65$ ) and still allow the Enterprises to earn sufficient profits to continue to attract capital.

Even greater increases would be unlikely to affect guarantee fees in circumstances when the capital and risk decisions of one or both Enterprises are unaffected by the risk-based standard, as was presumably the case for Freddie Mac on the two recent dates for which risk-based capital calculations have been performed. If the risk-based standard were binding (affected capital or risk decisions) for only one of the Enterprises, then, even if its incremental risk-based requirements for sold loans were very much higher than the minimum capital ratio, it would be difficult for that Enterprise to raise guarantee fees independently. Doing so likely would cause it to lose market share and profits to the other Enterprise.

Even if the risk-based standard were binding on both Enterprises, it appears unlikely that the proposed standard would raise the capital required for the Enterprises' mortgage guarantee business to as much as 117 basis points. The results of a simulated increase in

<sup>57</sup> U.S. Department of the Treasury, *The Government Sponsorship of the Federal National Mortgage Association and the Federal Home Loan Mortgage Corporation*, July 11, 1996; The Congressional Budget Office, *Assessing the Public Costs and Benefits of Fannie Mae and Freddie Mac*, May, 1996.

overall MBS guarantee volumes, shown in Table 6, indicate that the incremental capital required in 1997 for the up-rate scenario of the risk-based standard was well below the 52 basis points needed to meet the minimum capital standard. In the down-rate scenario, incremental capital of as much as 89 basis points would have been needed, but that is still substantially below the 117 basis points level that potentially would trigger a rise in guarantee fees.

While the results referred to in Table 5 are informative, an Enterprise evaluating the capital costs associated with its mortgage guarantee business would properly focus on its prospective costs at future dates. To do so, it would want to estimate the likelihood of its being bound by the risk-based standard in the future, and if it thought it would be bound, the relative likelihood of being bound by the up-rate and down-rate scenarios. It would also want to make informed guesses about the other Enterprise's estimations on its own behalf. Finally, it would want to estimate the likelihood of significantly higher incremental capital requirements for sold loans under the risk-based standard.

These incremental requirements will be affected by the pace of house price appreciation in the years preceding the date of capital calculation. The figures in Table 5 reflect annual appreciation of about three percent, lower than long-run historical averages. If an Enterprise anticipated stagnant or declining house prices over an extended period of time, and if it believed both itself and the other Enterprise likely would be bound by the risk-based standard, particularly the down-rate scenario, it might have an incentive to raise guarantee fees. In such a circumstance, its expected losses would also rise, and likely by far more than its capital costs. The higher expected losses would, in that case, be the principal cause of higher fees.

A riskier interest rate environment could also affect projected capital costs. If the cost of interest rate risk hedges rose dramatically, so that it became cheaper to meet shortfalls in required capital by raising new equity than by increasing interest rate hedges, any increase in capital required by an Enterprise's sold loans would be more costly and more likely to lead to a small increase in guarantee fees. However, providing adequate protection in unusually risky economic environments, such as those with much higher interest rate hedging costs or persistent weakness of house prices is a fundamental purpose of the risk-based capital standard.

OFHEO has also considered the possibility that the proposed standard, while not affecting the general level of guarantee fees, could affect the fees charged directly or indirectly on loans made to low income borrowers. Such effects are unlikely and would, in any event, be minimal. Consequently, the risk-based capital standard will not significantly affect the Enterprises' ability to purchase affordable housing loans. These conclusions are based on several considerations. First, the capital surpluses that Freddie Mac would have held in 1996 and 1997 under the rule show that no changes in any Enterprise fees or loan-purchase practices would have been justified in recent economic environments.

Second, with respect to potentially more adverse environments, the capital cost of single family loans meeting the Enterprises' affordable housing goals should not be materially different, on average, from the cost of other loans. The stress test makes no specific distinctions among loans to different income groups. However, the stress test does distinguish single family loans according to LTV class and some Enterprise affordable products are high LTV loans. The simulation results in Section II. B., Sensitivity of Capital Requirements to Risk, show that high LTV single family loans are generally riskier and affect risk-based capital requirements more than other loans. However, the overall LTV distribution of single family loans purchased by Fannie Mae and Freddie Mac for low- and moderate-income borrowers (borrowers with less than area median income) is practically the same as the LTV distribution of all their purchased loans. In fact, only a small percentage of the loans to low- and moderate-income borrowers purchased by the Enterprises are high LTV loans (those with LTV ratios above 90 percent).

Third, while high LTV loans have much higher than average risk, the simulation results overstate the capital implications of those loans. The results of Simulations 13 and 15, in Table 12, show incremental capital required under the risk-based standard for new and four-year-old loans, as of June 1997. For a weighted average of Enterprise loans guaranteed at that time, these incremental requirements were about 170 basis points above the comparable minimum capital ratio in the up-rate scenario, and about 325 basis points above in the down-rate scenario. Those differences in capital required, however, overstate the impact of high LTV loans because they assume only an average level of guarantee fees. As discussed earlier, the Enterprises generally charge

higher fees implicitly on such loans by adjusting the average fees charged to lenders according to the average risk of the loans they deliver. And as shown by the comparison of Simulations 2 and 3, in Table 8, differences in guarantee fees affect incremental capital requirements. The overstatement may be increased by the assumption that the Enterprises have priced these loans based on the incremental capital needed to meet the minimum standard. Both Enterprises use internal capital models that reflect the higher risk of high LTV loans and already may incorporate higher capital costs into the implicit fees charged for these loans.

Fourth, the capital implications of multifamily loans, which predominately benefit low- and moderate-income households, are mixed and serve, in some circumstances, as hedges for other high-risk loans. Simulations 22 to 25 show a wide variety of incremental capital requirements under the risk-based standard for June 1997. On a weighted average basis, accepting credit risk on multifamily loans lowered risk-based requirements in the down-rate scenario and raised them somewhat more than minimum capital requirements in the up-rate scenario. The results in the down-rate scenario are the reverse of the pattern for high LTV single family loans, so that higher costs on high LTV single family loans are substantially offset by lower costs on multifamily loans. In the up-rate scenario, the potential effects of high LTV loans and multifamily loans are similar, but not large.

Finally, even if the proposed rule did require some additional capital against a portion of the Enterprises affordable housing activities, such a requirement would be consistent with the Enterprises' charters and public mission. The Enterprises' charters specifically state that the return on required lending to low- and moderate-income borrowers may be less than the return earned on other activities.

#### 4. Mortgage Interest Rates

The primary effects of the Enterprises' activities on mortgage interest rates occur through their roles as mortgage security guarantors. Mortgage security yields are determined in capital markets, and the interest rates borrowers pay reflect those yields plus the margins retained by the Enterprises, as guarantee fees, and those retained by lenders and servicers. Because of the dominant role of the Enterprises in the market for conforming, single family mortgages, increases in their guarantee fees would raise lenders' costs and translate fairly directly to changes in borrowers' costs.



However, because the proposed rule likely will have no material effect on guarantee fees, it would not have a significant effect on mortgage rates through the Enterprises' roles as mortgage guarantors.

As investors in mortgages and mortgage securities, the Enterprises may also affect mortgage rates indirectly. They now hold roughly an eighth of all conforming, single family mortgages, and massive changes in their purchase volumes could have some effect, at least temporarily, on prices in that market. However, the Enterprises do not dominate the mortgage investment asset market in the same way that they dominate the market for guarantees on conforming loans. Consequently, the effects on mortgage security yields of even substantial changes in their investment in mortgage securities would be small. Furthermore, the proposed rule is unlikely to have a substantial effect on Enterprises' purchases of mortgage assets. Freddie Mac added roughly \$100 billion to its portfolio in the four years preceding the June 1997 simulations and still easily met the requirements of the proposed rule. Thus, it is unlikely that the proposed rule would affect the mortgage interest rates paid by borrowers through the Enterprises' roles as mortgage investors, either.

### III. Issues, Alternatives Considered

#### A. Mortgage Performance

The 1992 Act requires the risk-based capital test to subject the Enterprises to specified adverse credit and interest rate risk conditions to determine the level of capital needed to survive a hypothetical ten-year stress period. The 1992 Act does not specifically refer to mortgage performance, but rather discusses the credit-risk portion of the stress test as including rates of mortgage default and loss severity. As a convenience, OFHEO used the term "mortgage performance" in the ANPR to facilitate discussion of the essential elements of credit risk, mortgage default and loss severity, as well as mortgage prepayment, a key element of interest rate risk. The 1992 Act's requirement to determine a prepayment experience consistent with the stress period is also relevant to credit risk, because loans that are paid off prior to maturity affect default rates by reducing the number of loans that have the potential to default and by increasing the proportion of loans likely to default. Together, default, prepayment, and loss severity define how a portfolio of mortgages will perform in the proposed stress test. That performance is a key element in

determining the ability of an Enterprise to withstand the economic shocks imposed by the stress test.

To determine the level of capital needed to survive the stress test, the proposed regulation uses a monthly cash flow model to project the performance of each Enterprise during the stress period. Underlying the simulation of mortgage and mortgage security cash flows are models that project mortgage performance during the stress period.

This section discusses the issues, alternative approaches and related ANPR comments that were considered by OFHEO in developing models to project mortgage performance under economic conditions specified in the 1992 Act. Section III. A. 1., Statutory Requirements describes relevant statutory requirements. Section III. A. 2., Overview of Mortgage Performance, explains how mortgage performance is measured and projected in the stress test. Next, in section III. A. 3., Statistical Models of Mortgage Performance, through section III. A. 7., Relating Losses to the Benchmark Loss Experience, the issues encountered by OFHEO in developing models of mortgage performance, along with relevant comments received in response to the ANPR, are discussed. Section III. A. 3., Statistical Models of Mortgage Performance, discusses OFHEO's decision to employ statistical models to predict default, prepayment, and severity rates. Section III. A. 4., General Methodological Issues, reviews general methodological issues encountered in making product distinctions and developing loan and property value data for use in estimating the statistical models and in applying those models in the stress test. Section III. A. 5., Default/Prepayment Issues, details the construction of the default and prepayment models, including use of conditional rates of default and prepayment, use of joint models of default and prepayment, and choice of the explanatory variables used in the models. Section III. A. 6., Loss Severity, moves from default and prepayment to issues encountered in modeling loss severity rates. Section III. A. 7., Relating Losses to the Benchmark Loss Experience, discusses issues arising from the statutory direction to reasonably relate stress test losses to the benchmark loss experience.

#### 1. Statutory Requirements

The 1992 Act mandates a stress test based on a regional recession involving the highest rates of default and loss severity experienced during a period of at least two years in an area containing

at least five percent of the total U.S. population.<sup>58</sup> This mandate required identifying a benchmark loss experience, which is the default and severity behavior of mortgage loans, in a place and time meeting statutory requirements, that resulted in the highest loss rate for any such place and time.<sup>59</sup> In this context, default and severity behavior means the frequency, timing, and magnitude of losses on mortgage loans, given the specific characteristics of those loans and the economic circumstances affecting those losses. The 1992 Act requires that default and severity rates in the stress test be reasonably related to this benchmark loss experience. In contrast, the 1992 Act does not prescribe any particular experience for the third key component of mortgage performance, prepayment. Rather, the Act requires that the Director determine prepayment levels, "on the basis of available information, to be most consistent with the stress period."<sup>60</sup>

The 1992 Act requires the Director to take into account appropriate distinctions among mortgage product types and differences in loan seasoning. It also authorizes the Director to also take into account any other factors that the Director deems appropriate.<sup>61</sup> The statute defines the term "seasoning" as "the change over time in the ratio of the unpaid principal balance of a mortgage to the value of the property by which such mortgage loan is secured."<sup>62</sup> The importance of seasoning is that a decline in a property's value can result in negative equity, the factor most predictive of rates of default.

The 1992 Act defines mortgage product type as a classification of one or more mortgage products having similar characteristics with respect to the property securing the loan, the interest rate, the priority of the lien, the term of the mortgage, the owner of the property (owner-occupant vs. investor), the nature of the amortization schedule, and any other characteristics as the Director may determine. Specifically, the 1992 Act requires OFHEO to take into account distinctions between different mortgage types, such as: (1) properties consisting of 1-4 residential units and those containing more than four units;

<sup>58</sup> 1992 Act, section 1361(a)(1) (12 U.S.C. 4611(a)(1)).

<sup>59</sup> See 61 FR 29592, June 11, 1996, in which OFHEO proposed procedures for establishing the benchmark loss experience.

<sup>60</sup> 1992 Act, section 1361(b)(2) (12 U.S.C. 4611(b)(2)).

<sup>61</sup> 1992 Act, section 1361(b)(1) (12 U.S.C. 4611(b)(1)).

<sup>62</sup> 1992 Act, section 1361(d)(1) (12 U.S.C. 4611(d)(1)).

(2) fixed and adjustable interest rates; (3) first and second liens; (4) terms of 1–15 years, terms of 16–30 years and terms of more than 30 years; (5) owner occupants and investors; and (6) fully amortizing loans and loans that are not fully amortizing.

The 1992 Act prescribes two interest rate scenarios, one with rates falling and the other with rates rising.<sup>63</sup> In each scenario, the ten-year constant maturity Treasury yield (CMT) experiences a significant change during the first year of the stress test, and then remains at the new level during the remaining nine years of the stress test. The capital requirement for each Enterprise is based on the scenario with the more adverse impact.<sup>64</sup> The 1992 Act recognizes that interest rates are related to credit risk as well as interest rate risk, specifically requiring that credit losses be adjusted for a correspondingly higher rate of general price inflation if applying the stress test results in an increase of more than 50 percent in the ten-year CMT.<sup>65</sup>

## 2. Overview of Mortgage Performance

The amount of capital needed to survive the stress conditions prescribed by statute is determined by the overall financial performance of the Enterprises' starting books of business, including all assets, liabilities, and off-balance sheet obligations, under the stress conditions. Mortgage performance contributes to the overall financial performance of an Enterprise during the stress period, because various sources of income and expense reflected on an Enterprise's income statement depend directly on mortgage performance. For example, guarantee fee income on securitized loans, net interest income on retained loans and securities, and losses on defaulting loans (offset by the receipt of private mortgage insurance payments and other third-party credit enhancements) all depend on the projected default and prepayment behavior of the underlying mortgage assets.

For purposes of the proposed regulation, mortgage performance is a function of the survival or termination of loans and, ultimately, the associated cash flows. Loan terminations can occur either through default (borrower failure to pay) or through prepayment (early payment in full). Prepayments have a significant impact on credit risk, because they affect the timing and rates of default. Prepayments also affect

Enterprise income, because they cut off the income stream from interest payments or guarantee fees. Defaults likewise cut off the income stream, and, in addition, result directly in credit losses.

To understand how the stress test generates and uses mortgage performance information, the test may be viewed as comprised of three elements—models, stress test specifications, and data inputs. In the context of mortgage performance, the models are sets of equations designed to predict the performance of any group of Enterprise mortgages under any given set of economic circumstances. The model equations themselves are “estimated” based upon OFHEO's historical database of mortgage information to predict the most likely default and severity rates for any given group of mortgages under any given pattern of interest rates and house prices. These models are generic tools that could be used in many different stress tests with different specifications. The specifications actually define the “stress” in the stress test. They include adjustments to reflect statutory requirements, such as the requirement that default and severity rates be “reasonably related” to the benchmark experience or that interest rate increases greater than 50 percent reflect a correspondingly higher rate of inflation. The specifications also include the house price and residential rent paths and the interest rates that will apply during the stress period. The data inputs to the models can change each time the stress test is run. The data inputs include data on the characteristics of loans owned or guaranteed by the Enterprises, starting interest rates, and updated house and residential rent price indexes, which are used to calculate current equity in the loan collateral properties.

The general approach of the stress test to mortgage performance involves three main steps: (1) estimation of statistical models of mortgage performance (default, prepayment, and loan loss severity) using Enterprise data covering a wide range of historical experience; (2) adjustments to the statistical models to assure a reasonable relationship to the benchmark loss experience; and (3) application of the adjusted models to starting Enterprise mortgage portfolios in the stress test. To assist the reader in understanding the more detailed discussion of mortgage performance issues that follows, this section provides a brief summary of some key issues concerning of the statutory requirement to “reasonably” relate the performance

of mortgages in the stress test to the benchmark experience.

Because the benchmark sample contained only newly-originated, fixed-rate, 30-year, owner-occupied, single family loans, the stress test could not simply apply the rates of default and losses in the benchmark loss experience and still take into account differences in mortgage product types, seasoning of mortgages, and other factors the Director considers appropriate, as required by the 1992 Act.<sup>66</sup> Thus, the first issue considered by OFHEO was how to link mortgage performance in the stress test to the benchmark loss experience. The primary question was whether to use a model-based approach to help link the performance of an Enterprise's current loan portfolio to the benchmark loss experience, or to rely upon a less sophisticated, but less risk-sensitive approach. For reasons discussed under section III. A. 3., Statistical Models of Mortgage Performance, OFHEO concluded that the benefits of using a model-based approach exceed any potential shortcomings.

The next key issue was the choice of variables to include in any statistical equations that would be part of a (statistical) model of mortgage performance. OFHEO's choices in this regard were again governed by the need to meet the multiple statutory objectives described above, while also implementing a credit stress test based on the historical benchmark loss experience. The stress test does not project all differences in loan performance that may have been identified in previous research. Rather, the factors used to project mortgage performance are limited to those necessary to: (1) reflect differences in characteristics of loans in implementing the credit risk stress component of the stress test as required by the 1992 Act; and (2) reflect differences in the interest rate environments experienced by the loans in the stress test.

Other factors that relate to or explain differences in mortgage performance are not, in OFHEO's view, appropriate to the proposed regulation. Specifically, the stress test does not attempt to adjust losses by incorporating factors to reflect changes in Enterprise business practices subsequent to the benchmark loan origination and loss experience.<sup>67</sup>

<sup>66</sup> 1992 Act, section 1361 (b)(1) (12 U.S.C. 4611 (b)(1)).

<sup>67</sup> For example, both Enterprises have made changes to their single family underwriting standards and practices since the time the benchmark loans were originated in 1983–84, but no underwriting variable is included. This particular issue is discussed in greater detail below, in the context of comments received in response to OFHEO's ANPR.

<sup>63</sup> 1992 Act, section 1361(a)(2) (12 U.S.C. 4611(a)(2)).

<sup>64</sup> 1992 Act, section 1361(a)(2) (12 U.S.C. 4611(a)(2)).

<sup>65</sup> 1992 Act, section 1361(a)(2)(E) (12 U.S.C. 4611(a)(2)(E)).

OFHEO believes that such adjustments would undermine the purpose and intent of the statutory requirements to implement a credit stress test based on the benchmark loss experience. In addition, although some business practices that contributed to the losses of the past may have been improved over time, a new severe economic environment may expose other unobservable weaknesses. Furthermore, in reasonably relating starting position loan portfolios to the "experience" of the benchmark loans, it is not possible to separate the effects of business practice from other aspects of the benchmark economic environment.

The proposed regulation also does not incorporate economic or demographic variables that are not specifically prescribed for the stress test, such as unemployment or divorce rates. Nor are such variables included in the estimation of the statistical model used in the stress test. If they were to be included, it would be necessary to assume values for these factors in the stress period—values that are consistent with the benchmark experience. Such an approach would substantially increase the number of variables for which assumptions would be required during the stress period, without gaining significant value in predicting credit losses for Enterprise loan portfolios.

### 3. Statistical Models of Mortgage Performance

A threshold issue for OFHEO was whether to develop statistical models of mortgage performance or to use a simpler approach, such as applying a table of historical default, prepayment, and loss severity rates.

#### a. ANPR Comments

Most of the comments related to this issue suggested that the direct application of benchmark rates of default, prepayment and loss severity would be problematic. A number of respondents to the ANPR cautioned that direct application of benchmark default rates, which were experienced during a period of declining interest rates, would not be appropriate for the up-rate scenario of the stress test. Freddie Mac suggested that OFHEO adjust benchmark default rates to the interest rate environment or use a proportional downward adjustment to credit losses. Mortgage Risk Assessment Corporation (MRAC) stated that it is important to model the interaction between expected losses and expected prepayments. America's Community Bankers (ACB) recommended joint modeling of prepayments and defaults as the best

way to capture adjustments to housing values.

Fannie Mae, on the other hand, favored applying benchmark rates of default and loss severity directly. More specifically, Fannie Mae recommended that OFHEO model total loan terminations (defaults plus prepayments) using a commonly applied method of relating total terminations to interest rate movements (sometimes referred to as a "total terminations model"). Fannie Mae recommended that the default portion of total terminations should be based on observed default rates for mortgages from the benchmark experience, with appropriate distinctions based on different LTV ratios, mortgage product, and risk categories. The level of prepayments would be calculated by subtracting those defaults from total terminations. Fannie Mae stated that a statistical model designed to predict defaults and prepayments simultaneously would be difficult to replicate because it would employ computer simulation methods based upon random numbers, known as Monte Carlo simulations. Fannie Mae also expressed concern that the Enterprises would have difficulty managing capital requirements based on econometrically derived relationships, rather than on the certainty of defined historical loss rates.

#### b. OFHEO Response

Based on its analysis of available information, including the ANPR comments and relevant academic literature, OFHEO found that statistical modeling has numerous advantages over alternative approaches, such as applying tables of default, prepayment, and loss severity rates from the benchmark experience.

First, statistical models are able to provide valid outcomes when data inputs occur in different combinations from those observed in the available historical data. This capability is important, because the benchmark loss experience does not include large enough sample sizes for all relevant loan products and risk classes to allow direct application of benchmark loss rates to the Enterprises' starting loan portfolios. Statistical models based on large samples of loans can capture differential mortgage performance across a wide variety of products and still allow the performance of each product to be related to the benchmark experience. OFHEO has access to a rich database, consisting of millions of detailed loan records from the Enterprises, which allows for a statistical model of defaults and

prepayments that can capture the nuances of product distinctions.

Second, statistical models allow the stress test to extrapolate reasonably to out-of-sample events, such as the sustained adverse interest rate scenarios of the stress test.

Third, applying statistical models of mortgage performance provides the ability to impose multiple statutory requirements in a logically consistent manner. For example, the 1992 Act specifies rates of default and losses in the stress test that are reasonably related to the benchmark loss experience. The 1992 Act also provides that the Director take into account the impact of "mortgage seasoning" and a variety of other factors that delineate various mortgage product types (property type, amortization type, amortization terms, ownership type, etc.). Statistical models allow the stress test to address all these statutory provisions when applying the two adverse stress test interest rate scenarios.

OFHEO also found that using statistically derived models of default, prepayment, and loss severity together with a cash flow approach is the most accurate method to describe the financial performance of the Enterprises on a monthly basis over the ten-year stress period. Moreover, use of statistical models in the stress test is consistent with the 1992 Act<sup>68</sup> and the Congressional expectation expressed in the House Report that the risk-based capital standard "will be an economic model that will test the enterprises' financial position under stressful economic situations."<sup>69</sup> The House Report also noted that:

[t]he Department of the Treasury, the Congressional Budget Office, the General Accounting Office, the Office of Management and Budget and HUD have all stated that the proper way to ensure that Fannie Mae and Freddie Mac have adequate capital is to use traditional capital ratios in combination with sophisticated financial models, or risk-based capital stress tests.<sup>70</sup>

Fannie Mae's recommendation to estimate a statistical model of total terminations with default rates fixed at benchmark levels would make it more difficult for the stress test to satisfy the

<sup>68</sup>The 1992 Act directs OFHEO to include in the regulation "specific requirements, definitions, methods, variables, and parameters used under the risk-based capital test." This direction suggests that a statistical model was contemplated. The 1992 Act, section 1361(e)(2) (12 U.S.C. 4611(e)(2)). Further, the Director is required to "provide copies of the statistical model or models" to other government agencies. 1992 Act, section 1361(f) (12 U.S.C. 4611(f)).

<sup>69</sup>H.R. Rep. No. 102-206, at 62 (1991). *See also*, S. Rep. No. 102-282, at 24 (1992).

<sup>70</sup>H.R. Rep. No. 102-206, at 62 (1991).

provisions of the 1992 Act that require OFHEO to consider seasoning and the various loan characteristics described above. OFHEO is also concerned that a model that derives prepayment rates as suggested by Fannie Mae would not be consistent with section 1361(b)(2) of the 1992 Act, which directs that “[c]haracteristics of the stress period other than those specifically set forth in subsection (a), such as prepayment experience . . . , will be those determined by the Director, on the basis of available information, to be most consistent with the stress period.” The consistency of prepayment experience with the stress period is best achieved by modeling both prepayment and default rates, rather than using a statistical model of terminations with embedded default rates that are not statistically determined.

OFHEO also found that the total terminations models to which Fannie Mae refers are applied widely and usefully only in circumstances where credit losses are not an issue (for example, in pricing mortgage-backed securities for investors, where credit risk can be ignored because of agency guarantees), or when the available data do not allow the analyst to distinguish default terminations from voluntary prepayments (for example, in the pool level data available from commercial sources). This is not the case for the stress test.

OFHEO is sensitive to Fannie Mae’s concern that a statistical model of defaults and prepayments would be difficult to replicate. OFHEO does not propose to base any component of the stress test on random number (Monte Carlo) simulations. The model is straightforward and transparent, so that it will be possible for the Enterprises to project default and prepayment patterns in the stress period using their own information about the composition of their business, and recent economic trends.

As for complexity, OFHEO believes that there is no fundamental difference in complexity between computing total termination rates from the models mentioned by Fannie Mae, and computing them from the separate default and prepayment rates generated by the model OFHEO has proposed. Once the statistical model OFHEO proposes has been estimated and calibrated, its application is no more difficult than the application of a table of historical default rates. That is, the model provides a means to “look up” the default or prepayment probabilities for loans with a particular set of characteristics. Further, under the approach proposed by Fannie Mae, the

actual level of default rates applied in the stress period would not actually be fixed, but would vary with changes in the composition of an Enterprise’s loan portfolio and trends in property values that update borrower equity values. Under either approach, determining the potential impact of market conditions or changes in an Enterprise’s portfolio on its capital requirement is straightforward.

#### 4. General Methodological Issues

A number of general issues arose in the context of using statistical models to project mortgage performance in the stress test. These issues required decisions about how to account for product differences, what sources of historical data to use in estimating the statistical models, and what level of data aggregation to use to estimate and project mortgage performance. In addition, OFHEO received a number of comments in response to ANPR questions on property valuation issues. These were also considered in developing and applying statistical models of mortgage performance. Each of these areas is considered in the following sections.

##### a. Product Differences

The 1992 Act requires the stress test to capture both the unique risk characteristics of various loan product and property types and adjust for changing economics (house prices and interest rates) over time. In deciding its approach to modeling default and prepayment rates, OFHEO found it necessary to treat single family and multifamily products separately because of the significant differences in collateral property types and loan terms explained below.

The nature of the collateral property differs substantially between single family and multifamily loans. Nearly all single family property mortgages held by the Enterprises are owner-occupied.<sup>71</sup> In contrast, multifamily collateral produces income from rentals. Multifamily mortgages are commercial loans on housing projects that compete for market share among a very mobile population with short-term rental contracts and relatively low moving costs. The household demographics of apartment renters vary greatly from those of single family homeowners and renters. The dynamics of construction cycles that accentuate market booms and busts are also different for single family and multifamily residences.

<sup>71</sup> Even those that are rentals rely upon the performance of one, or at most four, households.

Single family and multifamily mortgages generally have different loan terms. In particular, to balance the desire of borrowers for flexibility with the needs of investors for stability, multifamily mortgages typically have ten- to fifteen-year balloon terms and initial yield-maintenance periods of seven to ten years. During the yield-maintenance period, borrowers may prepay, but they are subject to a prepayment penalty until the maintenance period expires. Such prepayment disincentives are not used in single family lending. Also, in contrast to single family mortgages, multifamily mortgages tend to be non-recourse, which means that multifamily lenders and guarantors, have recourse only to the collateral, and not to the borrower’s other assets and income.

Because of these differences, OFHEO developed separate mortgage termination models for single family and multifamily mortgages, with all other property and product type differences handled as subsets of these two primary classifications. This approach is consistent with comments from HUD, Freddie Mac, ACB, and Mortgage Bankers Association of America (MBA). However, there are many issues common to both the multifamily and single family models, and the general modeling approach to both models is similar in many respects.

In the ANPR, OFHEO solicited public comment on modeling approaches generally and, more specifically, on how to relate the credit risk of other loan product types to the 30-year fixed-rate mortgages used to identify the benchmark experience. These comments are addressed below in section III. A. 7., Relating Losses to the Benchmark Loss Experience.

##### b. Historical Analysis Data

Another modeling issue faced by OFHEO was whether to use only Enterprise data to estimate statistical models, or to use data from a wider array of sources. A similar issue arose in the context of identifying the benchmark loss experience. After considering ANPR comments, OFHEO found that Enterprise data sets were the most relevant sources currently available for determining a benchmark loss experience, because Enterprise data is the most representative of the experience of loans owned or guaranteed by the Enterprises. Further, using Enterprise data is consistent with the general practice of banking and thrift industry regulators and credit rating agencies, which is to use data on the loss experience of comparable assets

for the relevant industry to determine credit quality and/or capital adequacy.

For the same reasons, OFHEO also used Enterprise data to estimate the statistical models for default and prepayment in the proposed stress test. Using Enterprise data for this purpose provides consistency between the estimates of the benchmark loss experience, the estimation of the statistical models for default and prepayment, and the aggregation of loan level data to create starting position data for the stress test. It will also permit OFHEO to update the statistical models over time, as needed, to capture new performance dynamics and/or new products.

#### c. Aggregation

Another threshold issue for OFHEO was how to aggregate loan level data to reduce the number of data records that must be stored and processed, while preserving sufficient detail to capture differences in loan performance among important risk classes in the stress test.

##### (i) ANPR Comments

MRAC stated that a loan level model would be most appropriate if data were available, but a model that aggregates on the basis of the origination year, loan term, coupon rate and current loan-to-value ratio (CLTV) would be acceptable. Freddie Mac recommended that, if OFHEO were to use a joint default/prepayment model, OFHEO should construct a pool for each origination year, aggregated by mortgage product, property type, occupancy status, and CLTV. Both MRAC and Freddie Mac recommended that OFHEO not only aggregate data according to CLTV, but also use CLTV as an explanatory variable in statistical models of default and prepayment rates.

##### (ii) OFHEO Response

OFHEO proposes to aggregate single family loan level data into loan groups based on the following characteristics: Enterprise, portfolio type (securitized vs. retained), product type, origination year, original LTV, original coupon, and region (Census division). Multifamily loans are aggregated using the same categorical variables as for single family loans, with an additional aggregation class for original debt-coverage-ratio values. Single family loans purchased during the stress period under existing contractual commitments are grouped using all of the characteristics of existing loans plus month of origination (representing the timing of delivery during the stress period). All loan group records include additional fields for measured characteristics, such as the

total unpaid balance (UPB) for loans held in portfolio, UPB-weighted average values for guarantee fees for securitized loans, and original term-to-maturity.

OFHEO chose not to propose CLTV as a criterion for data aggregation. Attempting to aggregate data by CLTV would be problematic because CLTV value changes throughout the stress period. However, CLTV is used to compute important explanatory variables used to predict default, prepayment, and severity rates. These variables rely upon CLTV to incorporate a loan seasoning process that updates property values at the start of the stress test and then throughout the stress period.

#### d. Property Valuation

The 1992 Act requires that OFHEO take into account the impact of the "seasoning" of mortgages on mortgage performance. As that term is used in the statute, it requires accounting for changes in LTV due to changes in housing values and the repayment of loan principal. Accounting for changes in LTVs requires some method of updating property values, in addition to computing scheduled amortization. The first NPR proposed using the House Price Index (HPI), developed by OFHEO, as the basis for updating single family housing values to meet the statutory requirement for loan seasoning, in lieu of the Constant Quality House Price Index published by the Secretary of Commerce.<sup>72</sup> The HPI, which is published quarterly, provides average house price appreciation rates for the nation, the 50 States and the District of Columbia, and the nine Census divisions. It uses repeated observations of housing values on individual single family residential properties. These repeat observations arise where at least two primary mortgages on the same property were purchased by either Freddie Mac or Fannie Mae since January 1975.<sup>73</sup> Index values are published starting with 1980.

In this NPR, OFHEO proposes the method by which loan seasoning will be used to predict credit losses in the stress test, both for single family and multifamily mortgages. For single family mortgages, the OFHEO HPI is supplemented with various measures of the distribution of individual house price growth paths around the average values measured by the index. Three terms—dispersion, volatility, and diffusion—are important concepts for

understanding these measures and how the stress test fulfills the statutory requirement that mortgage loans be seasoned. "Dispersion," refers to the distribution, at any point in time, of the (cumulative) growth rates for values of each house in a group, around the average growth rate for that group. Dispersion results from "volatility" or variability of growth rate paths on individual properties from the average growth rate path for all properties. Volatility, like dispersion, can be measured through statistical relationships. The underlying process by which a model generates individual house price growth paths to yield various levels of volatility and dispersion over time is called "diffusion."

Similar procedures are used to season multifamily loans, except that there is no underlying property value index. Rather, property value is estimated using indexes that first update property cash flows. Still, the concepts of dispersion, volatility, and diffusion apply to multifamily property values, and to the principal measures of borrower equity in models of multifamily mortgage performance.

The ANPR posed several questions related to measurement of house price dispersion and to the statistical validity of the HPI as a price index. Issues raised by these questions will be discussed below.<sup>74</sup> They are: the appropriate level of geographic aggregation for the HPI in the stress test, how to account for the dispersion of house prices around the mean in the loan seasoning process, and whether and how to adjust for statistical biases and revision volatility inherent in the HPI data and estimation methodology.<sup>75</sup>

##### (i) Geographic Aggregation

OFHEO's HPI is estimated at the level of individual States and the nine Census divisions. A national index is also produced as a population-weighted average of the nine Census division indexes. Decisions regarding the level of geographic aggregation at which to estimate and apply house price indexes

<sup>74</sup> The first NPR proposed the HPI as the index OFHEO would use to season loans in the stress test, but did not address how OFHEO would use that index in the stress test. Comments regarding the first NPR will be addressed, together with comments on this NPR, when OFHEO publishes a final Risk-Based Capital regulation.

<sup>75</sup> "Revision volatility" refers to changes in previously estimated index values that occur as a result of the addition to the data of new repeat transaction pairs associated with current transactions. Current transactions can change index values for prior quarters, because every repeat sale of a property provides additional information about house price changes during the time since the prior transaction on that property.

<sup>72</sup> 61 FR 29616, June 11, 1996.

<sup>73</sup> The procedures underlying the estimation of the HPI assume that individual house price growth rates will be distributed around the average growth rate through a log normal diffusion process.

typically involve a tradeoff between the need to identify relatively homogeneous market areas and the need for large enough samples of repeat transactions to assure the accuracy of the indexes. This is, simply put, a trade-off between the advantages and disadvantages of creating indexes for smaller versus larger geographic areas.

At lower levels of geographic aggregation, both property types and the local factors influencing house prices are more likely to be similar, and therefore the average appreciation rate is likely to be more representative of the trend in individual property values. However, lower levels of geographic aggregation result in relatively fewer observations for estimation, resulting in increased sampling error in the estimated house price index.<sup>76</sup> At larger levels of geographic aggregation, the greater number of observations may yield estimates of average price growth with smaller sampling errors, but at the risk of not projecting accurately the appreciation rates of the various submarkets.<sup>77</sup>

#### (a) ANPR Comments

A number of comments were received on the issue of geographic aggregation of house price indexes. All commenters implicitly recognized the tradeoff involved in choosing the level of geographic aggregation. The National Association of Realtors (NAR) recommended using the lowest level of market aggregation possible, while at the same time minimizing the variance of individual house prices in a market area, and urged that the optimum level of aggregation be determined by computational considerations. MRAC recommended that the choice of aggregation level be driven by objective, external criteria, such as minimizing estimation errors, and described its practice of using the lowest level of geographic aggregation in constructing its indexes, while using higher levels of aggregation for computing the variances. Freddie Mac recommended that OFHEO use house price indexes computed at the Census division level to avoid the need to rely on what it called "highly

uncertain individual house-price volatility processes" that would be associated with the use of a national index together with corresponding volatility measures. In addition, when compared to State or local level house price indexes, Census division level indexes would have lower standard errors and thus more reliable predictions.

#### (b) OFHEO's Response

The choice of aggregation level of the HPI for the stress test is, ultimately, a selection of the level that is most appropriate for the seasoning of mortgages when estimating and projecting mortgage performance. Because the stress test cannot determine the value of each house securing every loan, some type of aggregation is needed. The proposed stress test, therefore, combines estimates of average trends in house prices with estimates of the dispersion of individual appreciation rates around the average growth rate within a given geographic area. This approach provides the maximum relevant information about the equity position of borrowers.

After considering the alternatives and the comments, OFHEO believes that using HPI indexes computed at the Census division level combined with estimates of dispersion of individual appreciation rates around the divisional indexes would be appropriate. OFHEO found that available data is not sufficient to generate statistically valid State-level indexes for some of the less populous States. OFHEO has not proposed to use indexes below the State level (at the metropolitan statistical area (MSA) level, for example), because there are too few areas in which statistically valid indexes can be estimated.

OFHEO agrees with Freddie Mac's comment that Census division indexes without volatility measures reflect regional dispersion better than using a national index with such measures. While OFHEO does publish State-level HPI series, these series are not statistically valid for some of the less populated States. Using Census division indexes, in combination with estimates of individual house price volatility and the resulting dispersion in each division, provides a more complete characterization of housing value dynamics both within and across regions.

MRAC's practice of using a larger level of geographic aggregation for volatility estimates than is used for the price index itself is appropriate when price indexes are based on very small aggregation levels, for example, at the MSA level. Using a larger area to

measure volatility helps to diminish the small sample problems of generating price indexes for very localized markets. However, the same is not true when estimating price indexes at the Census division level, because there are no small-sample problems at that level of aggregation. Furthermore, applying national level volatility to division-level price indexes would defeat the purpose of using the division-level indexes. National volatility measures of individual house price growth could be so large that divisional variations in average house price growth become meaningless.

#### (ii) Volatility and Diffusion

Choosing to use Census division level price indexes with dispersion measures opens additional issues. In particular, capturing the dispersion of house price growth rates around an index value requires both a measure of volatility and a particular diffusion process to translate volatility into actual dispersion. Several ANPR commenters addressed these issues in the context of their discussions of geographic aggregation.

#### (a) ANPR Comments

Comments received in response to the ANPR differed on whether and how to estimate the dispersion of individual house-price-appreciation rates around the average rates implied by a house price index. Both MRAC and the Department of Veterans Affairs (VA) recommended that OFHEO use a stochastic (random) diffusion process to allow volatility measures to generate a normal (bell-shaped) distribution of individual house prices around the mean prices implied by index values. MRAC noted that failure to do so would underestimate dispersion, even if a highly disaggregated index were used. MRAC observed that underestimation of dispersion could cause underestimation of default and severity rates. MRAC also stated that the tradeoff between the accuracy of the larger sample size and the greater geographic specificity of a smaller sample is even more important in estimating the variance (volatility) than in constructing the index.

Both Fannie Mae and Freddie Mac, on the other hand, recommended against using a stochastic process to estimate dispersion of house values. Freddie Mac argued that one cannot directly observe the volatility of house-price growth rates, and that attempts to estimate it have thus far failed to achieve adequate consistency. Nor is it necessary to estimate volatility, Freddie Mac argued, because the variation in house price indexes across Census divisions

<sup>76</sup> That is, if only a small number of repeat transactions are available to calculate a price index, there is a greater chance that the resulting index is not representative of price changes in the particular housing market as a whole.

<sup>77</sup> This situation could occur, for example, if two adjacent smaller areas with different rates of appreciation are combined and assigned the same average rate of appreciation through a common price index. Whether this type of aggregation is ultimately a problem depends on how the house price index is to be applied, and whether it is to be applied to individual properties or to loan aggregates.

captures a significant amount of the house price dispersion around a national house price index, as well as the basic shape of the house price distribution for Enterprise loans.

Freddie Mac also questioned OFHEO's assertion in the ANPR that dispersion increases over time. It suggested that models that impose increasing dispersion on house price changes, such as "random walk" models, are inappropriate because long-run market forces keep the appreciation of individual houses moving roughly with the national average, and because the data do not support such models. Freddie Mac asserted that such models systematically overstate dispersion for longer holding periods and could significantly and artificially inflate the capital requirement.

#### (b) OFHEO's Response

OFHEO understands the reason for Freddie Mac's concerns about volatility, but notes that Freddie Mac's comments preceded OFHEO's first publication of the HPI. Based on its experience in estimating the HPI, OFHEO now finds it possible to estimate house-price volatility with adequate reliability, particularly for indexes estimated at the Census division level. Volatility measures are produced as part of the statistical process used to generate the OFHEO HPI. These measures are used to summarize the underlying diffusion process and characteristic dispersion of house price growth paths as a function of time. The volatility measures (parameters) are published in the OFHEO HPI Report. They model dispersion as a function of mortgage age. OFHEO preferred such a stable process to one that relies on stochastic processes that yield different results every time they are used. Because the OFHEO HPI volatility parameters are produced with the HPI itself, they provide results consistent with the HPI, and they are, therefore, OFHEO's choice for capturing house price dispersion in the proposed stress test. However, OFHEO agrees with Freddie Mac's concern that estimates of dispersion for longer holding periods may be unreliable, and has adopted an approach in which estimated dispersion is held at fixed levels after mortgages reach a certain age.<sup>78</sup>

<sup>78</sup> This age varies by Census division, but is approximately 15 years from mortgage origination. The formula for computing the maximum allowable age for each Census division can be found in section 3.5.2.3.2.3., Probability of Negative Equity (PNEQ<sub>q</sub>), of the Regulation Appendix.

#### (iii) Revision Volatility

Revision volatility primarily affects growth rate estimates for the most recent quarters included in the index. This is due to the fact that relatively more additional data is added affecting these quarters than earlier quarters.

##### (a) ANPR Comments

OFHEO received a number of comments in response to the ANPR on whether changes in the index resulting from revision volatility should be reflected in the stress test and, if so, with what frequency. NAR suggested that revisions should be made at the same time OFHEO is required to re-estimate the capital standards. In contrast, MRAC suggested using a "chaining method"<sup>79</sup> that precludes the need for revision to index values for historical periods. The chaining method eliminates revision volatility because it does not revise data of earlier periods as new data become available. Freddie Mac suggested that OFHEO calculate the revisions so as to exploit the greatest possible set of information, but moderate the resulting volatility of the capital requirement by placing limits on the size of the quarterly or annual revisions to the indexes. ACB argued for a reasonable advance notice to the Enterprises prior to any changes in the capital requirement resulting from changes in the indexes to enable them to engage in reasonable business planning.

##### (b) OFHEO's Response

The proposed stress test does not include an adjustment for revision volatility. Since the time the issue of revision volatility was raised in the ANPR, OFHEO has determined that revision volatility is not likely to have a significant impact on risk-based capital. Revision volatility primarily affects growth rate estimates of the most recent quarters, which will be those immediately preceding the start of the stress test. For loans that have been outstanding for several years at the start of the stress test, changes in appreciation rates in the most recent

<sup>79</sup> The chaining method involves the following steps: (1) estimation of a historical reference index using all repeat transactions data available as of a specified date, after which no revisions in previously estimated index numbers will occur; (2) acquisition of new data providing information on the most recent time period, and including additional repeat transactions that pair with transactions in previous periods; (3) application of the most recently updated index series to inflate the first property value for a repeat transaction pair to update this value to the penultimate (next-to-last) time period; and (4) estimation of the index number for the last time period using the pseudo-repeat transactions data created in steps (1)–(3).

quarters will represent a small proportion of the total change in housing values since origination. For loans that have been outstanding only a short time at the start of the stress test, projected changes in house prices and in LTV will be minimal in any case, due to the fact that little time has elapsed since origination, and quarter-by-quarter appreciation rates are generally small. Consequently, OFHEO does not expect revision volatility to affect risk-based capital requirements. OFHEO also proposes not to revise the house price index used to determine the appreciation rates applied in the stress period. Rather, HPI values, as published in the 1996, third quarter, HPI Report, will be the basis for relating stress test economic conditions to the benchmark experience.

OFHEO chose not to propose the chaining method suggested by MRAC because it fails to use all of the available data in estimation. In particular, the chaining method uses information on recent property and mortgage transactions only for calculating appreciation rates in the most recent period, ignoring the information provided by these transactions on appreciation rates in earlier periods.

#### (iv) Statistical Biases

In the ANPR, OFHEO requested comment on whether the HPI should include adjustments for identifiable sources of statistical bias, on how sample selection bias should be addressed,<sup>80</sup> on whether a statistical adjustment should be made to address appraisal bias,<sup>81</sup> and on what additional sources of statistical bias exist and how they might be addressed. In NPR1, OFHEO stated that it would make no

<sup>80</sup> Sample selection bias refers to the possibility that using repeat transactions as the selection criteria, rather than random selection, could result in an index that is biased. Selection bias results when the probability that a property does or does not repeat is correlated with the change in value. For example, bias can result when the period between transactions is correlated with the change in house prices. Because more rapidly appreciating properties turn over within shorter time intervals, they are more likely to appear in the sample used for estimation. In addition, properties that are sold or refinanced are likely to be the ones that have had higher than average appreciation.

<sup>81</sup> Appraisal bias can result from the perceived tendency of appraisers, as agents of primary mortgage lenders, to impart an upward bias to a home value to insure that a home sale is made. Appraisal bias also occurs when the use of appraisals to value property at refinancing may smooth the fluctuations in housing values because appraisals are derived from comparisons with properties that have either been sold or listed for sale within the past several months and may fail to indicate more recent changes in housing value. In fact, listings are only used in case circumstances where actual sales are few and far between, most often in rural areas.

adjustments to the HPI itself, but would discuss in the second NPR whether such adjustments were to be made in the stress test.

(a) ANPR Comments

As a general comment, Freddie Mac cautioned that research on potential sources of bias is relatively new and that attempting to “un-bias” future price index values estimates introduces a high degree of complexity. Consequently, Freddie Mac recommended keeping the house price index simple until research on potential bias is more conclusive. Freddie Mac also suggested that the reliance of the weighted repeat sales technique on the ordinary least squares (OLS) method<sup>82</sup> may result in bias because that methodology does not generally provide robust estimates of central tendencies in the presence of outlier observations, where appreciation is especially large or small. Freddie Mac suggested eliminating outliers or “down-weighting” them, for example, by using a median regression.

(b) OFHEO’s Response

OFHEO agrees with Freddie Mac that attempts to adjust the HPI would be premature and should await more conclusive research. OFHEO also agrees with Freddie Mac’s general observation on the sensitivity of OLS estimates to outliers, but has concluded that adopting another estimation methodology is unwarranted. It should be noted that the weighted-repeat sales (WRS) methodology<sup>83</sup> applied to estimate the OFHEO HPI uses information obtained from a first-stage OLS estimation to develop weights that have the effect of discounting the impact of transactions that occur far apart in time. Because these are the transactions that are presumed under the WRS method to have the largest sampling variability, and therefore those most likely to contribute outliers, the WRS method automatically accounts for the potential impact of outliers. In addition, OFHEO reports median rather than mean appreciation rates, which diminishes any potential impact of outlier data.<sup>84</sup>

<sup>82</sup> Ordinary least squares is the most commonly used statistical technique for simultaneously analyzing the relationship of many explanatory variables to one special variable of interest (called the “dependent” variable).

<sup>83</sup> This methodology, which is explained in the first NPR, uses pairs of transactions (i.e., repeat sales) involving the same homes to estimate home price appreciation.

<sup>84</sup> The WRS methodology used to generate the OFHEO HPI actually computes median growth rates, directly. These rates need to be adjusted to compute mean growth rates. In NPR1, these were referred to as geometric and arithmetic means, respectively.

(v) Sample Selection Bias

Repeat-sales and repeat-transaction price indexes do not include property value information from all mortgage transactions. Issues of potential bias in the measured house price appreciation rates arise because the sample of properties on which repeated transactions are available may not be fully representative of all properties in a given market area.

(a) ANPR Comments

A number of comments were received on sample selection bias in generating a house price index. Freddie Mac noted that sample selection bias results from using only properties that have been sold or refinanced. The selection of these properties is not random and is correlated positively with price appreciation. That is, properties with lower rates of appreciation will have fewer sales and refinancings, and thus provide relatively fewer observations for calculation of the HPI. Although Freddie Mac recommended that this issue be addressed by using a WRS index, which provides retrospective information by pairing two transactions on the same property at different time periods, it noted that some sample selection bias is present in the near term.

NAR suggested that sample selection bias results from the movement of an individual property from government mortgage insurance programs (Federal Housing Administration (FHA) VA) into the conforming conventional market, and vice versa, because the lower property values captured in the government insurance and guaranty programs might not be matched in the WRS series. If price appreciation in a market area is distributed unevenly with respect to selling price (i.e., lower priced homes appreciate slower or faster than do higher priced homes), the absence of a match at the lower end may introduce a bias in the level of price appreciation for the market under evaluation. NAR suggested that using FHA data, to the extent it is available, to construct the weighted repeat sales transactions, would adjust for the low-end sample selection bias. NAR also suggested that OFHEO investigate using different criteria with respect to time between repeat transactions entering the Enterprise loan history file to determine if the end of sample bias is significant, and to possibly suggest ways of correcting for it. NAR suggested that one way of correcting for any such bias would be to restrict the repeat sales in the sample to three-, five-, and seven-

year matches and to evaluate the level of bias that results.

ACB suggested that the effect of sample selection bias resulting from the tendency to have greater turnover in that part of the housing stock in which price appreciation has been stronger could be determined by a separate analysis of the relationship between a foreclosure property index and the overall price index. MRAC suggested that some bias might result from properties leaving the sample because they have appreciated enough that the size of subsequent mortgages on those properties is above the conforming loan limit. MRAC then suggested that indexes built on Enterprise data be compared to other more broadly constructed indexes, such as those estimated by MRAC, that include all properties that initially meet the conforming limit. MRAC also suggested that the incidence of default and expected losses would be underestimated if the impact of junior liens were not taken into account.

(b) OFHEO’s Response

OFHEO believes that no adjustments are necessary to correct for potential sample selection bias. Low-end sample selection bias due to the exclusion of FHA loans should not have a significant impact on the HPI. FHA loans do not represent the entire lower end of housing markets. There is ample representation of lower valued loans and properties in the data used to estimate the HPI, in part because the Enterprises promote affordable lending and are subject to HUD affordable lending regulations. Furthermore, although FHA eligibility requirements have historically been less restrictive than conventional lending requirements, current trends in conventional lending are toward more flexible standards, including lower down-payment requirements.

Although OFHEO agrees with MRAC that the conforming loan limit may itself produce some bias in repeat transactions index values, this bias is not significant in the HPI. Bias resulting from the conforming loan limit would occur in high-cost housing markets where there are significant numbers of homes with values near the conforming loan limit, and where appreciation rates are greater than the national average. As home values and loan amounts increase in these areas, new loans may no longer be eligible for purchase by the Enterprises, and the property appreciation cannot be captured in the HPI. However, such bias would occur only in very isolated instances. First, the conforming loan limit is substantially



above the average home price in nearly all areas of the country. The loan limit would only create a significant issue for the stress test if OFHEO were to use State, rather than Census division, indexes. The potential in particular States with high-cost metropolitan areas for sample selection bias resulting from the conforming loan limit becomes less relevant when the HPI is estimated at the Census division level. Second, the loan limit is updated annually by a factor representing national house price appreciation.<sup>85</sup> Third, borrowers may obtain two mortgages on a property in order to take advantage of the interest rate advantages of having a first mortgage under the conforming limit. In that situation, repeat transactions are captured by the HPI even if the total amount of mortgages on a property exceeds the conforming loan limit. All of these factors suggest that the conforming loan limit is not a significant source of bias in the OFHEO HPI.

#### (vi) Appraisal Bias

Because interest rates have generally fallen since the early 1980's, most of the mortgage transactions used in estimating the HPI are refinancings, rather than loans for home purchase. This fact raises the question of the consistency between actual prices recorded on purchase-money mortgages and appraisals used for refinance mortgages.

#### (a) ANPR Comments

Several comments on appraisal bias were received. Freddie Mac recommended against using a statistical adjustment to the HPI to address the impact of appraisal bias, asserting that it is far from clear whether indexes based solely on purchase prices, versus those based on a combination of purchase prices and appraisal values, better represent true house-price appreciation rates. Freddie Mac asserted that the common notion that purchase price is the "true" price is a misconception, since the purchase price is but one of a distribution of potential prices for any given house at any time. In light of the current uncertainty over the extent of the bias, Freddie Mac believes that it would be premature for OFHEO to attempt to develop a model to correct for it.

MRAC suggested that eliminating transactions in which an appraised value is used for either "sale amount" in the matched pairs would be desirable, but may not be practical.

<sup>85</sup> The conforming loan limit is administered by the Federal Housing Finance Board.

MRAC cited its own research to suggest that appraisal bias causes the yearly price appreciation measured by transaction-based indexes to be one percentage point too high. ACB suggested that construction of house price indexes with and without refinance transactions would permit an assessment of about whether appraisal bias is a significant phenomenon.

#### (b) OFHEO's Response

OFHEO agrees with Freddie Mac's recommendation that adjustments in the HPI for potential appraisal bias not be made. Issues of statistical bias merit further research and analysis, but at the present time OFHEO is aware of no better alternative index to use in the stress test. Also, measuring HPI only on actual purchase prices would compromise the statistical reliability of the indexes over time, because the majority of property values used in generating the various HPI indexes come from refinancing transactions, using appraisal values.

In response to MRAC's comment on appraisal bias in appreciation rates, it should be noted that the mere existence of identifiable differences due to use of appraisals does not outweigh the overall benefit of using the HPI in the stress test. Further, it is unlikely that any appraisal bias that may exist in the HPI would have a meaningful effect on risk-based capital because of the way in which the HPI is used in the stress test. The mortgage performance models in the stress test rely upon statistical equations that relate explanatory variables developed using the historical HPI to actual, historical mortgage performance. The same historical HPI series is used to season (update LTVs of) existing loans to the start of the stress period. Using the same HPI series to estimate the statistical model and to run the stress test eliminates the effect of any appraisal bias in the HPI on default and prepayment rates in the stress test.<sup>86</sup>

#### (vii) Multifamily Loans

For multifamily loans, OFHEO does not propose to use the HPI or any other repeat-sales or repeat-transaction index to update property values. There is not enough data available for OFHEO to develop its own price index, and the only known price indexes blend many

commercial property types, have small numbers of observations, and are national in scope. To overcome these data problems, OFHEO proposes to use an earnings-based method for updating property values.

Multifamily loans are commercial loans for which property value depends upon the stream of earnings generated by the property. For these loans, OFHEO proposes to base the property value on earnings multiplied by a price-to-earnings capitalization factor. The capitalization factor summarizes the present value of a stream of expected future earnings for a given property, using current interest rates at each month of the stress test to discount the expected earnings stream. Earnings are a function of net operating income at loan origination, rental inflation, and the change in vacancy rates since loan origination. The proposed stress test updates the price-to-earnings capitalization factors as a function of changes in interest rates, holding property-specific characteristics constant. In this way, the stress test updates property values and seasons multifamily loans in the proposed stress test.

In choosing the actual rent growth and vacancy indexes used to update property earnings over time, OFHEO used government data where available. Government data were available for all statistical analysis, and for seasoning loans to the start of the stress test. In particular, the model performs the statistical analysis and the seasoning of existing loans to the start of the stress test using the rental cost component of the Bureau of Labor Statistics Consumer Price Index (CPI) to create a geographic specific rent index. Vacancy rates are not needed for pre-stress period seasoning, but are used in estimating the statistical model. The series used is the rental property vacancy series published by the Bureau of the Census (Census Vacancy Series).<sup>87</sup> Because Enterprise purchases of multifamily loans are heavily concentrated in MSAs, MSA indexes are used, where available, to update property values.

Government data are not available for the entire stress period itself. As explained later in the discussion under section III. A.7., Relating Losses to the Benchmark Loss Experience, the stress

<sup>86</sup> Appraisal bias could, theoretically, affect the rates generated by the stress test if the method of computing the HPI were changed in some way to account for appraisal bias or if appraisal bias were found to be significantly different in more recent data than in the historical data used to estimate the models. OFHEO does not believe the change in the amount of appraisal bias in the HPI, if any, is significant.

<sup>87</sup> The CPI and Census Vacancy Series are both based on single and multifamily rental properties. OFHEO believes that the inclusion of single family rental properties in the samples used to calculate vacancy rate and rent growth rate series is not a serious concern for the stress test. These series capture the cyclical dynamics of multifamily rental markets, and are useful for updating property values before and during the stress period.

test links stress period losses to the benchmark experience in part by specifying benchmark rates of property value appreciation. However, CPI rental cost data is not available for the benchmark time and place, and Census Vacancy Series rates are only available for the benchmark experience starting in 1986. To deal with this absence of government data, OFHEO created a rent index consistent with the CPI data, but based upon apartment data available from the Institute for Real Estate Management (IREM). To fill in benchmark experience vacancy rates for 1984–1985, OFHEO also used IREM vacancy data to estimate the Census Vacancy Series. The estimated government series are consistent with the data used to estimate the mortgage performance models and season the loans prior to and during the stress period itself.

Volatility estimates for rental rate inflation and vacancy rates are used to calculate the dispersion of multifamily property values, in much the same way volatility measures for the HPI series are used to measure dispersion of property values for single family loans.

## 5. Default/Prepayment Issues

### a. Use of Conditional Default and Prepayment Rates

A threshold issue for OFHEO was whether to construct statistical models of conditional rates of loan defaults and prepayments or to adopt a less detailed approach, such as calculating only cumulative rates and distributing them in fixed percentages across the ten years of the stress test. A conditional rate of default or prepayment refers to the volume of loans that default or prepay during any period, expressed as a percentage of the total volume of loans surviving at the start of that period. The term “surviving loans” means those from the group that have not previously prepaid or defaulted. A cumulative rate of default or prepayment is the total percentage of a group of loans that default or prepay during the entire period being studied (such as the ten-year stress period). A group of loans studied over a ten-year period would have a single cumulative default rate, but would have ten annual conditional default rates.

#### (i) ANPR Comments

The ANPR asked whether default rates should be expressed in terms of conditional failure rates, cumulative default rates, or in some other manner. In response, MRAC stated that “[d]efault rates are best measured by cumulative life-of-loan rates with conditional rates

for each time period determined by estimating ‘seasoning curves’ similar to the Standard Default Assumption of the Public Securities Association (PSA)<sup>88</sup>.” ACB’s comments, which emphasized the importance of modeling the shrinking population of loans exposed to the credit risk in the declining rate scenario, assumed that a conditional rate approach should be used. Similarly, a preference for conditional rates of default and prepayment is also implicit in NAR’s assertion that the principal merit of using a joint default/prepayment model is that it is capable of using all available information to determine whether a mortgage survives from one year to the next.

Freddie Mac and Fannie Mae, however, recommended using cumulative default rates to simplify the analysis. Freddie Mac was concerned that conditional prepayment rates would lead to absurdly high default rates in an up-rate stress test. In the up-rate scenario, prepayment rates would be low, more loans would be outstanding, and default rates conditioned on the number of loans outstanding would result in more defaults. Freddie Mac recommended using actual cumulative default rates from the worst region, which, implicitly, would include the same prepayment effect as that which occurred during the benchmark period.

#### (ii) OFHEO Response

OFHEO proposes to apply statistical models of conditional rates of default and prepayment for both single family and multifamily mortgages in the stress test. The advantages of this approach are numerous. The proposed approach automatically accounts for the impact of defaults on the number of loans remaining active and subject to the risk of prepayment, and vice versa. This feature is essential to develop a reasonable representation of Enterprise mortgage cash flows across the different economic scenarios envisioned by the stress test. It also avoids potential numerical anomalies that might arise when total or annual defaults during the stress test are fixed, such as years in

<sup>88</sup> PSA has subsequently changed its name to the Bond Market Association. The PSA Standard Default Assumption is to allow monthly conditional rates to increase from zero to some peak rate over the first 30 months of mortgage life, to hold that peak rate constant for another 30 months, and then to allow monthly rates to decline for an additional 60 months. The final rate reached at the end of 120 months is held constant throughout the remaining life of the loans (Public Securities Association, *Standard Formulas for the Analysis of Mortgage-Backed Securities and Other Related Securities*. New York: Public Securities Association, update No.7, June 29, 1993, at SF-14.).

which total defaults would exceed total surviving loans due to high prepayment levels in the declining-rate scenario of the stress test. Also, the periodic nature of mortgage payments, scheduled amortization, and the coupon adjustments on adjustable rate loans, all of which affect mortgage performance, require a model that reflects a discrete time period for each default or prepayment event.

OFHEO believes that a statistical model of conditional defaults and prepayments is more accurate and more sensitive to stress test economic factors, and to the Enterprises’ starting books of business, than are simpler methods that might be developed. Each quarter the test is applied, a statistical model can account for changes in economic conditions (such as the level and shape of the Treasury yield curve or recent trends in house prices) and the composition of an Enterprise’s business since the last time the test was performed. That is, the rates of default and prepayment applied when the stress test is run are adjusted to reflect current circumstances. Such adjustments are particularly important because mortgage prepayment and default rates are highly time-dependent, characteristically increasing during the first years following origination, peaking sometime between the fourth and seventh years, and declining over the remaining years. However, this time-characteristic pattern is itself affected by economic conditions.

Another advantage of modeling conditional default and prepayment rates is the support this approach provides for the proper treatment of loss severity. Loss severity is affected significantly by factors that affect the timing and amount of defaults in the stress test. Loss of loan principal balance, the single largest cost element in determining loss severity, is dependent upon house price declines, which are dependent upon economic conditions leading up to the date of default. Funding costs are also affected by the changing interest rates in the stress test, as explained in later discussions under section III. A. 6., Loss Severity. For all of these reasons, using conditional default and prepayment rates during each month of the stress period greatly improves the sensitivity of the stress test to risk factors.

The proposed approach is, overall, responsive to concerns raised in the ANPR comments, although OFHEO has proposed models of conditional rates of default and prepayment, rather than accept the recommendation of several commenters to use cumulative rates. NAR and ACB recommended use of

conditional rates. As ACB recognized, the stress test must account for the shrinking population of loans exposed to credit risk in the declining rate scenario. Only through the application of conditional default and prepayment rates is it possible to account for this shrinking population under the alternative interest rate scenarios of the stress test.

MRAC recommended measuring cumulative life-of-loan rates with conditional rates for each time period determined by estimating "seasoning curves" similar to the Standard Default Assumption of the Public Securities Association to determine conditional rates. OFHEO proposes a model with much the same features suggested by MRAC. This model uses mortgage age in the statistical default equations to provide a baseline default rate time-series analogous to the PSA assumption. (See note 41, *infra*.) That baseline is scaled, or multiplied upward, in the same way that PSA recommends using its baseline curve, when the stress test adjusts or "calibrates" its statistical default equations to relate them to the benchmark experience. (See section III. A. 7., *Relating Losses to the Benchmark Loss Experience*.)

OFHEO's approach is also responsive to the recommendations of Fannie Mae and Freddie Mac to keep the models simple. OFHEO proposes to minimize the number of explanatory variables and to create as much consistency as possible across different mortgage types while still capturing differential credit risk by mortgage type. The models are also "simple" in that the mortgage performance equations used in the stress test can be used by the Enterprises—without any modifications—to replicate the stress test. Further, OFHEO believes that using cumulative default rates would not achieve significant simplification. Freddie Mac's comments recognized that default and prepayment rates are not uniform among loans with different characteristics. To deal with these important differences, Freddie Mac suggested developing a system of multiples and LTV categories that would be applied to historical cumulative default rates. However, this approach requires a matrix of rates that becomes, in practice, more complicated to estimate than a statistical model of conditional default rates. Therefore, developing a statistical model, based upon well-recognized techniques that are widely used in the mortgage industry, was, in OFHEO's view, a preferable approach.

#### b. Identifying Events for Default and Prepayment

A practical issue for modeling default and prepayment rates is how to identify a default or prepayment event in the historical Enterprise data.

##### (i) ANPR Comments

A number of ANPR commenters, including MBA and Freddie Mac, suggested defining default events only in terms of foreclosures, because many delinquencies are cured and do not generate significant losses. In contrast, the VA suggested modeling the timing of cash flows associated with all delinquencies, including loans that are reinstated and do not terminate.

Only Freddie Mac addressed the subject of curtailments as a form of prepayment. Curtailments are partial prepayments, made in addition to regularly scheduled mortgage payments. Freddie Mac did not suggest that they be tracked as mortgage events, but only that some consideration of them be given in the calculation of current LTV ratios to account for the resulting improvements in borrower equity positions. Freddie Mac cited a study on Ginnie Mae curtailment speeds,<sup>89</sup> and suggested that Enterprise loan pools might have higher rates of curtailment than found in the study, because of better borrower equity and liquidity positions.

##### (ii) OFHEO Response

OFHEO agrees with MBA and Freddie Mac that the stress test should not consider all delinquencies to be defaults. Only delinquencies that result in termination of the loan are treated as defaults in the stress test. Historically, these events predominantly have been foreclosures, although today these events also include pre-foreclosure sales, where delinquent borrowers sell their properties before foreclosure and share the losses with the Enterprise and/or mortgage insurer.<sup>90</sup> OFHEO found that the more detailed modeling of delinquencies suggested by the VA would make the model more complex and would not have a significant impact on risk-based capital. The impact would be minimal, because in the time and place of the benchmark loss experience, few, if any, alternatives to foreclosure

<sup>89</sup> Peter Chinloy, "Elective Mortgage Prepayment: Termination and Curtailment," *Journal of the American Real Estate and Urban Economics Association* 21 (3, Fall 1993), 313–332.

<sup>90</sup> A less important default termination event is the transfer of the property deed, in lieu of foreclosure. This is a foreclosure-like event in that it results in the Enterprise taking title to the property and having to manage and sell it, just as is the case with foreclosed properties.

were utilized by the Enterprises and the benchmark rates would, therefore, not change. Also, even if modest improvements to the stress test were possible by modeling delinquency events, at this time there are insufficient data to support an analysis of delinquency resolutions and costs.

Mortgage default and prepayment events result from a borrower's decision to terminate the mortgage, either by prepaying or defaulting, resulting in an observed last-paid installment, after which no further payments are forthcoming. In the case of (full) mortgage prepayment, the borrower terminates the loan by repaying the remaining principal and any outstanding interest. The models identify prepayment events in the Enterprise data by the existence of a last-paid installment date and a change in the loan status from active to prepay. Loan defaults are identified as any loan that has terminated without an indication that it has been prepaid or paid off at maturity.

In the proposed stress test, curtailments made prior to the beginning of the stress period are accounted for in the starting loan balances reported to OFHEO from the Enterprises. OFHEO does not, however, propose giving further consideration for potential curtailments in the stress period itself. OFHEO has found no evidence that curtailments have a significant impact on current LTVs of Enterprise loans on a portfolio-wide basis.<sup>91</sup>

#### c. Use of Joint Default/Prepayment Models

A key issue raised in the ANPR was whether to use a joint prepayment and

<sup>91</sup> The Chinloy study cited by Freddie Mac, which used a limited data set, found that curtailments in the study period (January 1988–May 1989) amounted to a very small rate (0.42 percent per year) on the outstanding loan balances of the Ginnie Mae security pools. *Ibid.*, p. 326. More recent work by Fu, Lacour-Little, and Vandell, on conventional mortgage curtailment rates, also shows that curtailments amount to a small percentage of portfolio balances. Qiang Fu, Michael Lacour-Little, and Kerry Vandell, "Retiring Early: An Empirical Analysis of the Mortgage Curtailment Decision," unpublished manuscript, University of Wisconsin—Madison, December 1997. These authors observed 25,566 mortgages for a 21-month period. These included a mixture of conforming and jumbo loans, and included loans originated from 1967 to 1995. During a 21-month observation period, these authors found that over 86 percent of the loans surveyed made no curtailments, and only 0.64 percent of the loans made curtailments in excess of one percent of the original loan balance. *Ibid.*, Table 3, p. 22. The largest curtailments were made on older loans (close to 20 years old), where loan balances and default rates will be small to begin with. Thus, any effect of these curtailments on credit losses would be insignificant for risk-based capital determination.

default model or some simpler assumptions about default and prepayment rates in the stress test. In the ANPR, OFHEO also asked whether prepayments during the stress test should affect the volume or timing of defaults.

(i) ANPR Comments

Several commenters supported the use of a joint model of defaults and prepayments. MRAC stated that the "absolute merits" of the approach are "obvious." NAR asserted that the principal merit of using a joint model of conditional default and prepayment probabilities is its ability to use all the available information to determine whether a mortgage survives from one year to the next or is lost from the portfolio through prepayment or default. HUD cited the need to model defaults and prepayments together as simultaneous decisions based on the underlying property equity.

The Enterprises opposed a joint default and prepayment model. However, Fannie Mae, although not recommending joint modeling, noted the interrelationship between defaults and prepayments. Fannie Mae favored the use of a statistical model that would determine only total terminations (prepayments plus defaults) in each of the two stress test interest rate scenarios. Fannie Mae suggested that total defaults in both scenarios be set at the levels that occurred in the benchmark loss experience. Prepayments would be calculated by subtracting total defaults from total terminations. Fannie Mae made no specific recommendation about how conditional default rates might be determined or how total defaults and prepayments should be distributed through the stress period. Fannie Mae opined that the methodology it recommended would be consistent with the 1992 Act and would provide a workable framework for capturing the relationship between defaults and prepayments. Fannie Mae also viewed this approach as consistent with industry practice and asserted that it would be easier for the company to manage to a capital standard based upon such an approach than it would be to manage to one based upon a joint statistical model.

By contrast, Freddie Mac, while preferring a simpler approach to default modeling, asserted that a joint statistical model of default and prepayment rates would be preferable to total termination models in the stress test context because: (1) unlike the total terminations models, the joint model ensures that defaults and prepayments

"add up" to the total mortgage terminations; (2) total termination models focus on interest rate movements under the assumption that default is a small part of terminations under normal conditions, (an assumption Freddie Mac found unwarranted in a stress test environment); and, (3) standard termination models capture small effects such as seasonal variation, which would unnecessarily complicate the stress test.

Freddie Mac also favored an empirically based statistical model of mortgage performance over a stochastic simulation model like those used in mortgage-backed security pricing. Freddie Mac stated that stochastic models are not typically used by the industry for default and prepayment modeling because borrower housing objectives are too complex and heterogeneous to be described adequately with a single set of rules simple enough to solve analytically.

Although Freddie Mac favored the use of a joint statistical model over these other approaches, Freddie Mac did not recommend that OFHEO use one in the stress test, asserting that OFHEO would have difficulty using the data from the benchmark experience to estimate the model. Freddie Mac also cited the need to model prepayments during the stress period as a function of current coupons and interest rates. Freddie Mac instead recommended estimating a statistical equation for prepayments based on historical data from a distressed region to factor prepayments into the stress test. Freddie Mac asserted that this approach would allow implementation of the two interest-rate scenarios while tying prepayment rates to the benchmark experience. Freddie Mac also recommended using cumulative default rates from the benchmark experience as the stress test default rates.

Freddie Mac raised other issues about joint models, claiming that they are not ideal because: (1) they are complex; (2) they require assumptions about both house price drift (average appreciation) and volatility (variation in individual appreciation rates around the average rate); (3) they require assumptions as to what constitutes negative equity; and (4) they require other factors, such as loss of employment to be modeled.

(ii) OFHEO's Response

OFHEO proposes to use joint statistical models in the stress test for both single family and multifamily loans, agreeing with recommendations of many commenters. Also, OFHEO found that total termination models,

such as those recommended by Fannie Mae, were not adequate for the purposes of the proposed regulation. (See earlier discussion under section III.A.5.a., Use of Conditional Default and Prepayment Rates.) As explained in the ANPR, prepayments have a major impact on cumulative and conditional rates of default, because every loan that prepays is one less loan that could later default. However, high levels of prepayment, which occur when interest rates decline, can also result in increased conditional default rates in periods that follow. This phenomenon, referred to as "adverse selection" or "burnout," occurs because loans that do not prepay when interest rates decline are often lower quality loans that do not qualify for refinancing. Using a joint default/prepayment model allows the stress test to reflect the impact of prepayments (and, therefore, of interest rate changes) upon defaults.

The joint modeling approach is based on well-known and accepted statistical methods that are widely applied in the mortgage performance research. Researchers have found multivariate statistical models to be necessary for this research, because the borrower's options to default or prepay are interrelated. OFHEO believes that simpler approaches (models or tabulations) that fail to account for this complexity would not provide reasonable and appropriate projections of mortgage performance during the stress period.

OFHEO addressed Freddie Mac's concern about the difficulty of retaining a reasonable relationship to the benchmark loss experience in a joint model by: (1) replicating certain benchmark economic factors—specifically, house prices, rent growth rates and rental vacancy rates—in the stress test; and (2) adjusting the underlying default and severity equations used in the stress test to allow them to replicate exactly the benchmark experience. Modeling the effects of differences in starting coupons and interest rates from the benchmark loss experience was possible, because OFHEO's database allowed the models to be estimated based upon a broad and representative sample of historical mortgage performance data. The statistical equations therefore yield reasonable estimates that can be used to project mortgage prepayment under many different circumstances, including stress test interest rate scenarios.

Regarding the issue of model complexity, in OFHEO's view, the proposed models strike the appropriate balance between accuracy and simplicity. The stress test uses an approach based on well-known and

accepted statistical methods that are applied and accepted widely in academic research and in industry practice. Further, OFHEO has developed specifications for the default and prepayment models that avoid unnecessary complexity. The prepayment model suggested by Freddie Mac—using Freddie Mac projections from a statistical equation with ad hoc adjustments based on mortgage coupon rates—is at least as complex, but far less accurate.

As to house price appreciation and volatility, any model of mortgage performance includes, explicitly or implicitly, assumptions about these factors. OFHEO believes that the proposed stress test includes a reasonable and appropriate methodology for updating house prices throughout the stress period. (See section III.A.4.d., Property Valuation.)

OFHEO does not agree with Freddie Mac that the need to use assumptions about negative equity to estimate a joint model is a reason not to use a joint model. Any statistical model of mortgage default requires certain assumptions about how to measure negative equity in order to predict defaults. Although expected equity values cannot be assigned to individual borrowers to determine a precise LTV for each loan, using probabilities of negative equity provides substantial information about the negative equity position of individual borrowers. The probability of negative equity is a function of the current loan balance and the probability that individual house prices are below that balance. It is especially valuable when modeling the default potential from groups of loans, as is the case in the proposed stress test. By applying estimates of house price drift and volatility obtained from independent estimates based on the OFHEO House Price Index, the distributions of individual housing values relative to the value at mortgage origination are determined. This approach eliminates the measurement difficulties associated with calculating individual borrower equity at the loan level.

The concern that developing a statistical model for the stress test would require modeling the effects of unemployment on prepayment rates does not raise an issue, because OFHEO does not propose to use unemployment as an explanatory variable in the stress test. In general, OFHEO has limited the explanatory variables in the stress test to those that define different loan characteristics or product types are required to meet statutory requirements. As explained above in section III.A.2.,

Overview of Mortgage Performance, OFHEO has avoided variables, such as unemployment, that require assumptions about stress period economic conditions that are not specified in the 1992 Act. (See section III.A.5.e., Choice of Explanatory Variables for Default and Prepayment).

d. Choice of a Statistical Method for a Joint Model of Default and Prepayment

(i) ANPR Comments

The ANPR sought comment on the appropriate statistical method to use for a joint model of default and prepayment. None of the ANPR comments provided an express recommendation of a model, but NAR supported a multivariate model and suggested that the proportional hazard model developed by John Quigley and Robert Van Order in 1992 would provide a good starting point. Other commenters, such as Freddie Mac and ACB, emphasized that any joint model must be robust and able to yield reasonable results under many different scenarios.

(ii) OFHEO Response

OFHEO agrees with the NAR comment that proportional hazard models provide a good starting point. These models measure conditional rates of default and prepayment. The stress test utilizes a similar approach, the logit model, which is more appropriate for large data sets. OFHEO also agrees with Freddie Mac and ACB that a joint model should be robust and able to yield reasonable results under many different scenarios. As explained more fully in the Technical Supplement, OFHEO has evaluated its proposed models to ensure that they yield reasonable results under many different scenarios, use widely accepted techniques, and are otherwise appropriate for OFHEO's purposes.

OFHEO is proposing statistical models for single family mortgages that were estimated using multinomial logit specifications for quarterly conditional probabilities of default and prepayment. The multifamily model was estimated similarly, although it is based upon annual, rather than quarterly, conditional probabilities of default and prepayment, as described more fully in the discussion of the multifamily default/prepayment issues, below. There are several advantages to using the multinomial logit specification. First, it guarantees that the estimated and projected probabilities of default and prepayment always lie between 0 and 100 percent. Second, one can estimate weights for the impact of specific explanatory variables on the

probabilities of default and prepayment separately. Third, it is possible to specify different lists of explanatory variables for each type of event. Fourth, the model automatically accounts for the impact of differences in the estimated probability of default on prepayment and vice versa. Finally, estimation routines for multinomial logit models are readily available in a large number of commercially available statistical software packages.

e. Choice of Explanatory Variables for Default and Prepayment

In the ANPR, OFHEO requested comment on the appropriate explanatory variables to use in statistical models of default and prepayment. OFHEO asked specifically about how to account for the effects of house prices, interest rates, and other economic factors, and whether to include measures of mortgage age and mortgage value as explanatory variables. OFHEO also asked about empirical and theoretical approaches to estimation of multifamily credit risk, and several respondents addressed the issue of explanatory variables in responding to that question.<sup>92</sup> Because there are some differences between the explanatory variables for single family and multifamily models, the comments on explanatory variables are discussed separately for the two models. Some comments related to specific explanatory variables are discussed below in connection with the discussion of the particular variable.

(i) Comments on Explanatory Variables for Single Family Modeling

Freddie Mac suggested that using mortgage product, property type, occupancy status and current LTV as explanatory variables would explain a significant portion of the differences in default rates without venturing into more complex relationships that might prove unreliable for purposes of the stress test. Freddie Mac recommended caution in the consideration of mortgage age as an explanatory variable, noting that while age may be a valuable proxy for unmeasurable determinants of default, it should not take on such importance that mortgage age patterns dominate the capital requirements. In contrast, Freddie Mac did recommend that OFHEO include a measure of the mortgage premium value (reflected by the difference between the interest rate on a given mortgage and the current market interest rate for a similar loan) in

<sup>92</sup> No commenters provided suggestions on how to actually model multifamily mortgage defaults and prepayments.

its modeling efforts, as an adjunct to borrower equity. Freddie Mac cited its own research showing that borrower default choices do respond to differences between the mortgage coupon rates and current market rates of interest.

World Savings stated that OFHEO should be cautious about including unemployment rates as an explanatory variable in any statistical model of mortgage performance, because the statutory stress test takes a regional experience and uses it to imply a national recession. World Savings reasoned that, in a regional recession, homeowners who lose their jobs might find employment elsewhere but retain their homes. They may rent their homes until such time as house prices again rise enough to permit them to sell their properties without incurring a loss. However, in a national recession, such opportunities would not be available and the dynamics of default could be much different.

MRAC recommended using the following variables: current LTV, length of residence, mortgage term and type, loan purpose, occupancy status, primary home status, relocation loan status, consumer credit information, and mortgage premium value. Recognizing that length of residence is not always available to researchers, MRAC suggested that mortgage age could be used instead. The MBA recommended including measures of borrower equity, mortgage premium value, and product type differences in a statistical model. Standard and Poor's asserted that mortgage age is a very important explanatory factor, noting that 80 percent of all defaults occur by the seventh year of a mortgage pool.

The VA asserted that borrower equity is the most important determinant of default and prepayment rates and recommended that OFHEO think of explanatory variables in two categories: those that indicate the borrower's ability to pay, and those that indicate the borrower's ability to sell the property. The former category could include such things as job loss, divorce, necessary relocation, and hazard loss (e.g., uninsured fire or water damage to the home). The latter category could include the borrower's equity position and ability to complete a property sale quickly. The VA also mentioned that its own statistical model of default and prepayment rates includes regional unemployment, house sale activity measures, and a house-purchase-affordability index.

NAR recommended that OFHEO include a factor for mortgage age, but not for the mortgage premium value.

While NAR accepted the theoretical justification for including mortgage value in a statistical model, it did not find its influence on defaults to be statistically significant in its own modeling efforts. NAR also mentioned a factor not discussed by other commenters—the relative size of each loan. NAR commented that the influence of house price appreciation on default depends on whether the loan has a high or low balance, and that OFHEO should carefully analyze this issue in the context of Enterprise experience. In addition to these comments, NAR also provided, without further explanation, a list of all the variables it believes should be included in a statistical model of default and prepayments. Listed were: origination LTV, ratio of the mortgage coupon rate to the current market rate for home mortgages, current LTV, loan size, presence of credit enhancement (e.g., private mortgage insurance), house price dispersion, transaction costs, the burden on household cash flow of servicing the mortgage, origination year of the mortgage, policy year (age) of the mortgage, mortgage premium value (for prepayment only), region of the country, unemployment rate, inflation, regional household mobility rate, mortgage product characteristics, and net borrower equity in the home.

#### (ii) Comments on Explanatory Variables for Multifamily Modeling

OFHEO received fewer responses to its ANPR questions on approaches to multifamily modeling than it did to questions related to single family mortgage performance modeling. The import of these comments was to direct OFHEO to look at property cash flows as the primary influence on defaults. Freddie Mac emphasized that cash flow after mortgage debt service, as measured by the debt coverage ratio (DCR) is important, as are property equity and balloon terms. It also mentioned the need to measure multifamily market conditions directly, rather than relying upon single family house price appreciation to update explanatory variables over time. Freddie Mac further indicated that OFHEO needs to take into account significant factors that affected multifamily default rates during the 1980s, such as tax law changes, but should not include in the stress test the effect of any speculative political factors, such as potential legislative actions.

Standard and Poor's also suggested that DCR should be the focal point for multifamily mortgage default risk, but added that the quality of the real estate securing mortgages is also considered in

the S&P credit analysis. ACB recommended accounting for the changing cash flow position of the mortgaged property (i.e., using the DCR), rather than relying solely on net income, and including factors for tax laws and depreciation allowances. It also commented that, while data is not available to consider these additional variables, the underlying determinants of multifamily defaults are factors that lead to problems in tenant rental payments: unemployment, reduced hours of work, and reduced income. HUD suggested considering the corporate bankruptcy literature when deciding how to model multifamily defaults. This literature emphasizes changes in the cash flow position of multifamily properties. HUD also commented that OFHEO should treat balloon payoffs differently than normal, early prepayments.

#### (iii) General Approach

Models of mortgage performance are models of borrower behavior—of individual borrowers' decisions whether to continue making monthly mortgage payments, to prepay, or to default. Each month, every borrower must choose among these three options. Because mortgage performance models are an attempt to predict how borrowers will choose to exercise these options, financial options theory provides the most widely accepted conceptual framework to link these borrower choices to differences in the underlying loan characteristics and economic conditions.<sup>93</sup>

In the options theory framework, the most important variables are borrower equity and interest rates. When equity is

<sup>93</sup>This conceptual framework is the basis for nearly all mortgage performance research. It applies to all of the mortgage performance models referenced in the ANPR (*See* 60 FR 7470-7471, Feb. 8, 1995, footnotes 11 and 13). Other references can be found in the Technical Supplement to this regulation. Financial options theory treats a mortgage like a bond issued by the borrower with embedded financial options to default or prepay, which borrowers will exercise when it is in their financial interest to do. From the lender or mortgage investor's perspective, this conceptual framework is sometimes referred to as "contingent claim analysis." The mortgage investor, as bondholder, has a claim to a cash flow (mortgage payments), the value of which is contingent upon the value of the options to the borrower and the actions of the borrower with respect to the mortgage property (e.g., property maintenance). The choice to pay off (prepay) a mortgage is likened to a "call" option, where the borrower effectively buys back the mortgage from the lender at the book (face) value. The choice to default is seen as a "put" option, where the borrower sells the mortgage back to the lender at the current market value of the collateral property. The choice of an options-based model is consistent with the apparent underlying assumption of the preponderance of ANPR comments, which generally relate to how to account for factors that affect the exercise of these options.

negative, that is, the property value is less than the outstanding mortgage balance, the default (put) option is said to be "in the money." That term is used to mean that, theoretically, the borrower might find it financially advantageous to default in order to eliminate the negative equity position in the mortgage.<sup>94</sup> When equity is negative, maintaining the mortgage through regular monthly payments leaves the borrower paying more for the property than it is worth. Under such conditions, default becomes an economically rational option for many borrowers, particularly those who may be undergoing other financial stresses, such as unemployment, divorce, health problems, etc.

In an options-based model, interest rate changes create positive or negative value in the mortgage itself. This value is referred to in the ANPR as "mortgage value." It is also sometimes referred to as the mortgage premium value. That is, the current mortgage has a "premium" or positive value to the borrower—it is worth holding on to—if the coupon interest rate is below current market rates. That mortgage value is reduced if current market rates are below the coupon rate. If a borrower is in a position of negative property equity due to declines in local house prices, but has a below market rate mortgage, the mortgage premium value reduces incentives to default. On the other hand, an above market rate mortgage could, in theory, increase the incentive to default for the same borrower.

The mortgage premium value is inversely related to the value of the prepayment (call) option. When current market rates are below mortgage coupon, the call option is "in the money," and its value is high. When the mortgage rate is below market, the call option is "out of the money," and its value is low. Borrower equity also plays a part in prepayment determination; generally, it must be a certain positive amount before lenders will offer refinance opportunities. It must also meet a positive threshold before a property can be sold without the borrower incurring out-of-pocket expenses. However, as long as minimum equity thresholds are met, the higher the mortgage coupon rate is above the market rate, the greater is the incentive for a borrower to exercise the

<sup>94</sup> Negative equity is only one factor that influences the borrower's decision. Borrowers are usually personally liable on the note, which means that default could have numerous negative consequences beyond losing the property in foreclosure. For this reason, the model recognizes that negative equity does not cause a default, but simply makes it more likely.

prepayment option by paying off the existing mortgage from the lender with the proceeds of a new loan.<sup>95</sup>

Although property equity and interest rates are the predominant variables of relevance in an options approach to mortgage termination modeling, many other factors affect borrower decisions to exercise a default or prepayment option.<sup>96</sup> For single family mortgages, some of these factors are: (1) the potential for lender deficiency judgments, which reduce borrowers' ability to force lenders to absorb the negative property equity through defaulting; (2) borrowers' desire to maintain access to credit at preferential rates, which will also make them more hesitant to default; (3) moving costs, which reduce the value of the default option; (4) forced mobility due to job loss (or relocation) or family disruption, causing default or prepayment when it would not otherwise be financially advantageous to terminate the mortgage; (5) expected future mobility, which reduces tendencies to prepay in the present when that option is otherwise "in the money"; and (6) the up-front expenses involved in prepayment, which require that interest rates fall by a certain amount before it is really advantageous to prepay. For multifamily mortgages, the additional factors that affect the borrower's decision to exercise an option to default or prepay are: (1) property cash flow and the ability to service the mortgage; (2) the value of depreciation write-offs in reducing tax burdens; (3) prepayment penalties, which reduce the value of refinancing in the early years of a loan; and (4) balloon terms, which generally require a loan to be refinanced at maturity. Balloon term considerations are more important for multifamily than for single family mortgages because balloons are the predominant instrument type in the conventional, multifamily mortgage market.

In choosing which variables to include in estimating the statistical models used in the stress test, OFHEO considered financial options theory, ANPR comments, data availability, the

<sup>95</sup> It is also possible that borrowers exercise the prepayment option with personal equity, liquidating other assets to pay off the mortgage even if property equity is negative. Borrowers may also turn to alternate lenders, who offer loans with LTVs higher than those usually purchased by the Enterprises, for refinancing opportunities when borrowers have little or no positive property equity.

<sup>96</sup> Empirical studies have shown that mortgage borrowers are not "ruthless" in their exercise of these options. First, just being "in the money" at a point in time does not mean that an optimal "strike price" has been reached, where the option value is maximized. Second, there are many other factors that affect both option value and whether borrowers will default or prepay their mortgages.

need for simplicity in model design, and the need to meet multiple statutory objectives while implementing a credit stress test based on the benchmark loss experience. In selecting explanatory variables to use in running the stress test, OFHEO considered whether they were necessary to reflect the differences in loan characteristics and interest rate environments as required by the 1992 Act. Some variables were used to estimate the statistical models, but they did not meet the criteria for inclusion in the stress test itself.<sup>97</sup> They are represented by simplifying assumptions in the stress test so that their values do not vary across loans or time. All variables used to estimate the models and any other variables suggested by commenters are discussed below. The variables common to both single family and multifamily analysis are discussed first, followed by a discussion of variables unique to each.

#### (iv) Common Single and Multifamily Variables

##### (a) Measures of Borrower Equity

The actual variable used in the proposed stress test to capture borrower equity positions is the probability of negative equity—the probability that the value of a mortgage will be larger than the value of the property securing it, so that the default (put) option is "in the money." Calculation of this explanatory variable uses the measures of property value described in section III. A. 4. d., Property Valuation, along with original loan amortization schedules.<sup>98</sup> Measuring the probability of negative equity is appropriate because the actual appreciation rates of individual properties are unknown and because such a measure gives the best representation of the percentage of loans in any given pool or portfolio that are at risk of default. The probability of negative equity is also included in prepayment equations, because negative equity may prevent prepayment by making it difficult to refinance. This variable, therefore, has opposite effects on default and prepayment rates. Increases in the probability of negative equity mean that fewer loans in the pool qualify for refinancing, which decreases prepayment rates. At the same time, borrowers who are forced to relocate or

<sup>97</sup> Any variable that is included as an explanatory variable in the stress test is also used to estimate the model.

<sup>98</sup> In the estimation of single family default and prepayment equations, and in the stress test simulation of default and prepayment rates, balloon loans are amortized over their original rather than amortization terms. In the final rule OFHEO intends to substitute amortization term for original term in the calculations for balloon loans.

who experience a loss of income may have difficulty prepaying, making the default option a more likely borrower strategy.

For multifamily loans, the stress test uses a variable capturing the joint probability of negative equity and negative cash flow to predict default. As highlighted by the ANPR commenters, cash flow may be more important than equity for multifamily default. Although negative equity is a necessary condition for the default option to be "in the money," it is not a sufficient condition for default. Default will maximize wealth only if cash flows are also negative. When the equity is negative, but cash flows are positive, default is not rational because the borrower would give up positive income. Because both negative equity and negative cash flow are required for default to occur, the primary variable proposed to explain multifamily default is the joint probability that a property has both negative equity and negative cash flow.

Additional consideration is given to the equity position of borrowers with balloon loans when those loans mature. At the balloon maturity point, when borrowers must pay off and find new financing, weak property financials can lead to even higher default rates than might occur earlier in the life of the loans. The multifamily model, therefore, gives additional weight to the joint probability variable in the balloon maturity year to reflect the increased risk that a borrower will not qualify for a new mortgage.<sup>99</sup>

Multifamily balloon loan payoff is also a function of the financial characteristics of the underlying property, because loans must meet equity and cash flow standards before new financing can be secured. To capture the impact of equity and cash flow on the ability of a borrower to refinance a multifamily loan at the balloon point, the stress test uses a variable that measures the joint probabilities that both property equity and cash flow are at sufficiently high levels to qualify for refinancing.

#### (b) Mortgage Premium Value

OFHEO posed a question in the ANPR about use of the mortgage value (mortgage premium value)—the financial value of an above or below market rate mortgage coupon—as an

<sup>99</sup> OFHEO does not propose a similar treatment of single family balloon mortgages at this time, because they are not substantial portions of single family loan portfolios of the Enterprises, their balloon point refinance qualification standards are not as stringent as those for multifamily loans, and the Enterprises readily help single family borrowers to refinance balloon mortgages.

explanatory variable in default equations. The mortgage premium value is a measure of the value of the prepayment option to the borrower, that is, the value of prepayment before accounting the transaction costs of prepayment. It is, therefore, an important variable used by all the models to explain prepayment behavior. At issue is whether this factor should also be used to help explain default behavior.

ANPR commenters had differing views on this issue. Those suggesting that it should be used were Freddie Mac and VA. Two other commenters, NAR and ACB, were supportive in theory, but were not confident that a statistically valid relationship to default rates could be found, at least for single family mortgages. MRAC included the difference between the mortgage coupon rate and current market interest rates (a proxy for mortgage premium value) in its list of explanatory variables for a default/prepayment model. This is a proxy for the mortgage premium value.

As explained earlier, options theory suggests that increases in the value of the prepayment option (resulting from lower interest rates) should increase both prepayment and default rates because the current mortgage becomes expensive compared to alternatives. Prepayments increase because refinancing becomes attractive. Default rates increase for borrowers who already have negative property equity because some such borrowers relieve themselves of both the negative property equity and the expensive mortgage by defaulting and then renting, or by taking out a new mortgage to purchase another property. Conversely, increases in market interest rates increase the value of holding on to an existing mortgage, and thus may decrease default rates as well as prepayments.

While recognizing that there is a theoretical basis to include a mortgage premium value variable in the default equations, OFHEO proposes, nevertheless, to limit its use to prepayment equations. The influence of interest rate changes on mortgage defaults is captured adequately in single family default equations by a "burnout" variable, which measures the instances when borrowers have not taken advantage of previous refinancing opportunities. This variable is explained in a later discussion under section III.A.5.e., Choice of Explanatory Variables for Default and Prepayment. A burnout variable is not included in the multifamily equations, because prepayments are severely limited by prepayment restrictions.

For prepayment equations, the actual variable used to capture the prepayment option value is a relative spread variable: the difference between the current mortgage coupon rate and the current market interest rate, as a percentage of the current mortgage coupon rate. This variable has been shown to provide an approximation of the mortgage premium value.<sup>100</sup>

For multifamily mortgages, this relative spread variable is not included in the default equations, because the interest rate effect on default rates is reflected adequately in the joint probability variable. Declines in interest rates increase the present value of after-debt income stream generated by the property, and thus its market value, all else equal. Consequently, multifamily property values generally rise when interest rates fall.<sup>101</sup> Thus, a relative spread variable is not included for multifamily defaults.

#### (c) Mortgage Age

OFHEO proposes to include mortgage age as an explanatory variable in its single family and multifamily models, as recommended in the ANPR comments. OFHEO found that conditional probabilities of default and prepayment of Enterprise loans exhibit characteristic age profiles that increase during the first years following origination, peak sometime between the fourth and seventh years, and decline thereafter.

Because the benchmark loss experience was based entirely upon newly originated loans, an adjustment is necessary to account for the fact that at any point in time Enterprise single family portfolios consist of loans with varying ages. Adding mortgage age as an explanatory variable provides such an adjustment by allowing conditional default and prepayment probabilities to vary during the stress period in ways that historical profiles indicate are appropriate for loans of each age. Although Freddie Mac raised a concern that mortgage age might have too large an effect in the stress test, OFHEO research indicates that this is not the case. Although mortgage age is an important variable in the models, it does not diminish the impact of other, more

<sup>100</sup> This approximation of the mortgage premium value was introduced by Y. Deng, J. M. Quigley, and R. Van Order, (1996) "Mortgage Default And Low Downpayment Loans: The Costs Of Public Subsidy," *Journal of Regional Science and Urban Economics* 26(3-4), 263-285.

<sup>101</sup> While market interest rates do have some effect on prices of single family homes, the effect is not as direct as it is for multifamily and other investment properties.



direct risk factors included in the stress test.<sup>102</sup>

(v) Additional Explanatory Variables Used in the Single Family Model

The following discussion addresses additional explanatory variables that are used only in the single family model. A list of additional explanatory variables for the multifamily model is provided after this discussion of single family variables. The variables discussed below help to complete or modify the basic option valuation for single family mortgages. The original LTV ratio helps to account for differences in default and prepayment rates due to borrower financial status. Occupancy status accounts for differences between single family owner-occupiers and investor-owners. Product-type factors adjust for differences that might be due to the unique risk characteristics of those products and the borrowers who use them. The yield curve slope accounts for different incentives to refinance between fixed-and adjustable-rate products. Some of the variables discussed below are used in statistical estimation of the models, but are represented by simplifying assumptions in the stress test.

(a) Original LTV Ratio

Original LTV ratio is used in the stress test as a proxy for a number of factors related to the financial status of single family borrowers that are recognized widely as influencing the propensity of borrowers to default. Among these factors, which were mentioned by ANPR comments, are borrower income, net worth, and debt burdens. Information about these factors is not available for most of the loans in OFHEO's database. A variable that is available as a proxy for relative financial status of borrowers is the original LTV ratio.<sup>103</sup> Both Freddie Mac and NAR recommended use of this variable. By making low down payments, high LTV borrowers signal that they are more likely to have few economic resources to finance the transaction costs of prepayment, or to endure spells of

<sup>102</sup> Mortgage age combines with the constant term in the statistical default and prepayment equations to create what can be called "baseline" rates of default and prepayment: the time series of rates that would occur if all other influences were absent. Once variables representing those other influences are added to the equations, the actual patterns of default and prepayment rates can vary greatly from the baseline paths.

<sup>103</sup> Although credit scores could be a good indicator of the financial status of borrowers, as discussed below under section III. A. 5. e. vi. F., Credit Scores, their usefulness for developing and implementing a default/prepayment model in the stress test is limited because credit scoring is a fairly recent development in the mortgage industry.

unemployment or other "trigger" events that might cause them to exercise their option to default. Also, high LTV borrowers demonstrate a willingness to "leverage" the financing of the home purchase, which may mean that they are more likely to exercise their default option when it is in the money. For these reasons, OFHEO found that original LTV is an important risk characteristic of mortgages, which OFHEO proposes to use both in estimating the single family model and in running the stress test.

(b) Occupancy Status

Historically, single family loans to owners who live in the collateral property have exhibited different performance than similar loans made to investors who rent the property. Difference in occupancy status is one of the loan characteristics that the 1992 Act specifically requires that OFHEO take into account in the stress test. It is also a distinction often made by the mortgage industry, because of a clear difference in the risks of borrower default or prepayment. Owner occupants are less likely than investors to exercise the default option because of the direct benefits occupants receive from the consumption of housing services. Also, owner occupants are more likely to prepay for non-financial reasons, such as residential mobility, than are investors.

The statistical equations used in the stress test were estimated with an investor loan indicator variable that captures the differential default and prepayment risk of these mortgages. However, to capture the differential risk of investor loans in the proposed stress test, OFHEO makes a simplifying assumption that investor loans are spread equally across all loan groups, according to their percentage in the overall Enterprise book of business, rather than creating separate loan groups for investor mortgages. For example, if investor loans are four percent of all loans for a particular Enterprise in a particular starting quarter for the stress test, then four percent of the loans in each aggregated loan group are presumed to be investor loans for purposes of running the stress test. The statistically derived investor-loan weighting factor (statistical coefficient) in each default and prepayment equation is then applied to the four percent figure to arrive at the differential investor loan risk for every loan group. Because investor loans are a small percentage of Enterprise single family portfolios and are heavily concentrated in the 70 to 80 percent LTV category, OFHEO's simplifying

approach has no significant impact on loss rates.<sup>104</sup> The exact algorithms used in the proposed stress test to capture investor loan risk are detailed in section 3.5.2.3.2.5., Occupancy Status (OS), of the Regulation Appendix.

(c) Product Type

The 1992 Act expressly requires OFHEO to take differences in mortgage product type into account. In addition, because the benchmark loss experience was identified using the 30-year fixed-rate mortgage, it is necessary to reasonably relate the default experience of other types of mortgage products to the benchmark. Most commenters suggested some type of multiplier approach for other single family mortgage types that would measure the risk of these products in proportion to the risk of the benchmark loan type. OFHEO's proposed approach is broadly consistent with the thrust of these comments. Because comments received by OFHEO focused particularly on relating various mortgage product types to the benchmark experience, these comments are discussed later under section III.A.7.b., Relating Other Single Family Products to the Benchmark. This section discusses the way in which mortgage product type differences are handled in the single family mortgage performance model.

The stress test uses two primary sets of statistically estimated single family default/prepayment equations, one for fixed-rate and one for adjustable-rate mortgages. A third set of equations, which may be thought of as modified fixed-rate equations, is used to project the performance of less prevalent single family mortgage types relative to the performance of 30-year FRMs. This final set of equations includes as explanatory variables unique product-type indicators for 15-year fixed-rate mortgages, 20-year fixed-rate mortgages, balloon mortgages, FHA/VA-insured mortgages, and second liens. Description of these specific product-type variables and their derivations are included in section 3.5.2.3.2.8., Product Type Adjustment Factors of the Regulation Appendix and section IV.B.5.j., Product Type Indicators, of the Technical Supplement. Product type indicators allow estimation of multiplier-like effects using all available historical data, and they assure that measured differences in product-type

<sup>104</sup> Loans on owner-occupied properties in the Enterprise portfolios also have a central LTV range of 70-80 percent. Thus, attributing some investor loans to higher LTV categories and some to lower categories, by assuming they have the same overall LTV distribution as do owner-occupied loans, has offsetting effects on predicted credit risk.

risk are consistent with the stress test environment. All products with variable payments over time are included as adjustable-rate mortgages. Other non-standard mortgage types, such as reverse mortgages and bi-weekly mortgages, are included with their fixed-rate counterparts with similar mortgage contract terms (length of mortgage in years).

As explained in section III.A.7.b., Relating Other Single Family Products to the Benchmark, some commenters were justifiably concerned that applying several product type multiples to a single loan would have an inappropriate compounding effect on default rates. OFHEO addressed these concerns in two ways. First, the multipliers were estimated in a multivariate statistical analysis within the default and prepayment probability equations, rather than applying fixed multipliers to estimated default rates for 30-year fixed-rate loans. This approach provides adjustment factors that are most consistent with broad historical experience and with the other risk factors in the model. By controlling for other explanatory variables, only the residual effects of the differences in product type are captured by these product-type adjustment-factor multipliers, which limits the size of their effects. Second, the models include all other explanatory variables as categorical variables (indicators of value-range categories), instead of as continuous measures of variable values. Using categorical variables helps control for unreasonable compounding risks, by preventing the combination of low house-price growth and sustained adverse interest-rate movements in the stress test to cause default rates to rise to unrealistic levels. For example, the stress test gives the same default weight to all probability of negative equity values above 35 percent, which effectively caps the influence of this variable in the stress test.<sup>105</sup>

#### (d) Yield Curve Slope

The slope of the Treasury yield curve is included as an explanatory variable in the prepayment equations. Both the choice between ARM and FRM loans and the timing of refinancing are influenced by expectations about future interest rates and differences in short-term and long-term borrowing rates

<sup>105</sup> The number of loans in the historic sample used to estimate the statistical model of default and prepayment rates gets very small as the value of the probability of negative equity rises much above 35 percent. OFHEO therefore does not believe that there is valid information on default risk that could be gained by allowing for categories of probability of negative equity above, for example, 50 percent.

associated with the slope of the Treasury yield curve. The slope of the Treasury yield curve is measured in the proposed stress test by the ratio of the ten-year CMT to the one-year CMT. A high value for the slope of the yield curve indicates that short-term rates are low relative to long-term rates. A high value, therefore, reduces the likelihood that ARM borrowers will refinance into fixed-rate mortgages, and increases the likelihood that fixed-rate borrowers will refinance into ARMs to take advantage of the more attractive interest rates.

#### (e) Burnout

For single family mortgages, the proposed stress test uses the variable burnout to capture the effect of the inability of borrowers to refinance their mortgages due to equity or other credit constraints. Burnout is the adverse selection that occurs when borrowers retain their mortgages during periods when there are clear financial benefits to refinancing. In this context, adverse selection is reflected in the lower average credit quality of mortgages remaining in a pool after a significant refinancing opportunity, compared to the overall quality of the mortgages in the original, larger pool. Adverse selection occurs because borrowers and properties with higher credit quality refinance in higher proportions than do those with lower credit quality. The remaining mortgages, therefore, will experience higher conditional default rates. Accounting for this change in the underlying quality of a mortgage pool is preferable to using only a prepayment-option-value variable in predicting defaults, principally because its effect continues unchanged over time. The burnout variable in the stress test indicates whether, over the previous eight quarters of mortgage life, there have been at least two quarters with significant refinance opportunities, as defined by a two percentage point difference between the mortgage coupon rate and the market interest rate on fixed-rate mortgages.

For similar reasons, burnout is also included as an explanatory variable in single family prepayment equations, although its effect is in the opposite direction to that in the default equations. As discussed in the ANPR, burnout suggests that prepayment rates will be less responsive to interest rate changes after a pool of mortgages has already undergone a significant period of refinance opportunities.

#### (vi) Single Family Variables Not Used in Running the Stress Test

Addressed below are several variables suggested by ANPR commenters that

either are not used in the single family default/prepayment model, or were included in the statistical estimations but are represented by fixed or constant values when the stress test is run. In general, to estimate the model, OFHEO used variables that had significant independent effects on default and prepayment rates. However, OFHEO does not propose to use all of these variables in running the stress test. Some variables are not used in the stress test because they would diminish the role of the benchmark loss experience in determining stress test credit risk. Others were not needed to reflect statutory requirements to distinguish among loan types and characteristics, or between the effects of the up-rate and down-rate scenarios. Allowing such variables to vary in value in running the stress test would create credit-risk dimensions that are unnecessary and not contemplated by the statute.

#### (a) Relative Loan Size

Relative loan size<sup>106</sup> is the ratio of the original loan amount to the average-sized loan purchased by the Enterprises in the same State and in the same origination year. This variable was included when estimating the statistical model to isolate differences in the performance of loans of above and below average size, but is not used in the stress test.

As suggested by NAR, OFHEO explored the different default propensities of loans with high and low balances using Enterprise data. OFHEO's use of a relative loan size variable in the statistical estimations of the single family model demonstrated that relatively larger loans tend to have higher prepayment speeds, but differences in default rates by loan size were small and inconsistent. OFHEO interprets the faster prepayment speeds of relatively large loans as reflective of the higher dollar value of the prepayment option on these loans. Households with relatively large loans may also have higher overall debt burdens and be more responsive to opportunities to refinance debt so as to lower payment burdens.

The stress test does not use relative loan size as a variable, because it is not needed to reflect statutorily required distinctions, and including it as a variable would have necessitated a sevenfold increase in the number of loan group records in the stress test. OFHEO believed that the benefit

<sup>106</sup> Relative loan size should be distinguished from the actual original and current dollar balances of the loans, which are included elsewhere in the stress test.

derived did not justify the additional complication of the stress test that would result. As a result, all loans are put into the "average" size category for this variable when running the stress test.<sup>107</sup>

#### (b) Season of the Year

The season (quarter) of the calendar year was included when estimating the statistical model to account for the potential impact of weather, school schedules, and seasonal employment patterns on residential mobility and default and prepayment. In order to avoid seasonal variation in the quarterly risk-based capital requirements when the model is applied in the proposed stress test, an average of the season of the year effects is used. Because of the actual statistical technique used to estimate the equations, this average effect is obtained by excluding the season-of-year variable from the stress test default and prepayment equation.<sup>108</sup>

Use of seasonal variation was mentioned by Freddie Mac as a weakness of the termination models used by investment banks to value mortgage backed security pools. OFHEO agrees with Freddie Mac that such seasonal variation would complicate the stress test, by creating quarterly volatility in loss rates, with no particular safety and soundness benefit.

#### (c) Origination Year

Freddie Mac and NAR recommended including origination year as a variable. This approach would capture differences in the performance of specific mortgage origination cohorts due to excluded factors such as regional income growth and unemployment, or changes in mortgage underwriting standards over time. OFHEO considered using this variable but found that origination year is not an inherent risk factor, is not needed to reflect the types of distinction required by the 1992 Act, and is incompatible with the requirement to relate stress test losses to the benchmark loss experience. The last point is most important. The benchmark loss experience captures loans with the worst origination year and the worst credit risk profile. Assigning to loans originated in a given year a unique underlying credit profile, which may be

different from the benchmark credit profile, would remove an important element of the link between stress test losses and the benchmark loss experience. In addition, varying inherent credit risk by loan origination year would require speculative assumptions about loan quality for more recent origination years for which no credit-risk track record has yet been established.

By not including origination year as an explanatory variable, the statistical equations capture average origination-year profiles of default and prepayment. As discussed later under in section III.A.7., Relating Losses to the Benchmark Loss Experience, these profiles are adjusted further to reasonably relate starting loan portfolios to the benchmark loss experience. If the stress test were to allow for origination year differences when estimating the statistical equations, it would be necessary to assign the benchmark origination year effect to all loans in the stress test to preserve a reasonable relation to the benchmark loss experience. This approach would complicate the stress test without changing the results that are obtained using the proposed approach.

#### (d) Unemployment

Unemployment rates were listed by some commenters as a possible explanatory variable. For numerous reasons, OFHEO does not propose to include unemployment as a variable either in running the stress test or in estimating the statistical model. OFHEO does not propose to include unemployment rates as an explanatory variable in the stress test, primarily because it is not a loan characteristic, but a macro-economic variable, and it is not one of the economic variables specified in the 1992 Act. In any event, the effect of economic-condition variables not specified in the statute, such as unemployment, are captured in the stress test by relating the stress test to the actual benchmark loss experience, because the appropriate values are inherent in that experience. Thus, reasonably relating the stress test to the benchmark loss experience, as described in the next section, captures the strenuous economic conditions required by the 1992 Act without adding more economic variables. Minimizing the number of variables used to define economic conditions is responsive to the comments of both Fannie Mae and Freddie Mac, who argued against unnecessary complexity.

#### (e) Purchase vs. Refinance Loans

MRAC suggested that OFHEO take loan purpose into account. OFHEO considered whether this distinction should be included as a variable, but has proposed a stress test that does not distinguish between loans made for the purpose of purchasing and loans made for the purpose of refinancing property. OFHEO has found insufficient basis to distinguish between the risks of loans for purchases and loans for refinancing. Furthermore, OFHEO prefers not to create capital incentives based on loan purpose, except as required by statute (e.g., the occupancy status distinction).

#### (f) Credit Scores

OFHEO does not propose to follow the recommendation of MRAC to use mortgage borrower credit quality considerations as explanatory variables. OFHEO is aware that the mortgage industry is moving toward risk-based loan pricing based, in part, on mortgage credit scores that rely heavily on borrower credit ratings.<sup>109</sup> OFHEO is studying the use of credit scores by the Enterprises, and the potential for impact on stress test credit losses, but does not believe that it is appropriate to consider these in the stress test or to use them to estimate the models. First, it would be difficult, if not impossible, to reasonably relate credit risk differences based upon credit scores to the benchmark loss experience, because credit-scoring data are not available for benchmark era loans.<sup>110</sup> Second, the proposed stress test is designed to reasonably relate starting the performance of mortgage portfolios to the benchmark loss experience based upon loan characteristic differences referenced in the 1992 Act, which do not include measures of borrower creditworthiness.<sup>111</sup>

<sup>109</sup> The most widely used measure of borrower creditworthiness is a composite score developed by Fair Isaac Corporation, commonly referred to as a "FICO score."

<sup>110</sup> Archives at the credit repositories only go back to the late 1980s, and, even there, records are not complete.

<sup>111</sup> The fact that OFHEO does not consider differences of credit risk by credit scores in the proposed stress test does not limit the ability of the Enterprises to make use of credit scores. The Enterprises may further stratify the risk classifications used by OFHEO in the proposed stress test, for purposes of internal capital allocation and guarantee pricing. For example, after determining the required regulatory capital for a particular product class the Enterprises may, if they choose, allocate the required capital among purchases of that product according to borrower credit scores, for internal purposes. Thus, the dimensions on which the Enterprises choose to develop risk-based guarantee pricing are not limited by stress test risk classifications.

<sup>107</sup> This value is part of the fixed-factor terms reported in section 3.5.2.3.3., Combining Explanatory Variables and Weights of the Regulation Appendix for each default and prepayment equation. Relative loan size is discussed in section B.5.1., Relative Loan Size of the Technical Supplement.

<sup>108</sup> Seasonal variation is discussed in section B.5.g., Season of the Year, of the Technical Supplement.

## (vii) Additional Multifamily Explanatory Variables

Understanding the choice of explanatory variables for the multifamily default/prepayment model requires understanding the way in which default and prepayment equations are organized. The stress test uses two default equations, to distinguish between different multifamily lending programs, and five prepayment equations, to distinguish between different product types. The multifamily model allows these various default and prepayment equations to interact with each other to provide appropriate default and prepayment rate projections for all multifamily loans, throughout the stress period.

One of the two default equations is for purchases of newly originated loans (cash purchases),<sup>112</sup> and the other is for negotiated swaps of seasoned loan pools for mortgaged-backed securities (negotiated purchases). This separation allows the stress test to account for differences in loan quality across the two programs. The Enterprises may take lower quality loans and properties in their negotiated purchase programs than in the cash purchase programs, but require significant credit enhancements from the seller/servicers to compensate.

The five prepayment equations used to accommodate product-type and product life-cycle differences allow the proposed stress test to account for the effects of loan characteristics, such as yield-maintenance provisions,<sup>113</sup> adjustable interest rates, and balloon terms. It is more important to capture the unique features of balloon mortgages in the multifamily business than it is in the single family business because balloons make up the majority of multifamily portfolios. The five prepayment equations are for: (1) All fixed-rate loans in the yield-maintenance period; (2) fully-amortizing fixed-rate loans after yield maintenance requirements; (3) fixed-rate balloon loans after the expiration of yield-maintenance requirements (but prior to maturity); (4) all ARM loans (prior to maturity for balloon ARMs); and (5) all balloon loans (with fixed or adjustable interest rates) at and after the maturity year.

<sup>112</sup> Cash-purchase programs may involve delivery of loans for cash or for mortgaged backed securities. They are called "cash" programs because they involve the purchase of individual loans under published underwriting guidelines and pricing.

<sup>113</sup> A yield maintenance provision permits prepayment, but requires the borrower to pay penalties to compensate the lender or investor for lost interest until the yield maintenance period expires.

To see how these prepayment equations work together, note, for example, that fixed-rate balloon loans have three relevant time periods: first is "in-yield maintenance," the time when the yield maintenance terms apply; second is "post yield maintenance," the period after the yield maintenance term expires and prior to loan maturity; and third is "post-balloon," the period starting when the loan is due in full.<sup>114</sup> For loans that extend to and beyond the balloon point,<sup>115</sup> OFHEO proposes a separate prepayment equation, which is referred to as a "payoff" equation because it is no longer possible to "prepay" loans on or after the balloon date.

## (a) Explanatory Variables in the Two Multifamily Default Equations

The two multifamily default equations are similar except in two respects. First, the equation for cash purchases makes adjustments for loans purchased in original multifamily programs to distinguish them from more recent programs. Second, the negotiated purchase loan equation has an adjustment factor for loan programs that obligate the seller to repurchase loans when they are delinquent for 90 days. These distinctions will be discussed in the context of each explanatory variable.

## (1) Joint Probability of Negative Equity and Negative Cash Flow

As with single family loans, one of the most important factors affecting multifamily loan default is borrower equity. When the value of the property is less than the value of the mortgage, the borrower, by defaulting, can effectively "sell" or "put" a mortgage back to a lender at the value of the underlying property. However, as recognized by the ANPR commenters, there is a second consideration for commercial properties (including multifamily properties)—cash flow from the property. Even though equity is zero or negative, the borrower does not have an economic incentive to default as long as cash flows are positive.

The stress test includes a default option valuation variable that allows for consideration of the cash flow position of the property, while also considering the borrower's equity position. A value for this variable, referred to as the joint probability of negative equity and negative cash flow, is calculated for each loan in each observation period. It

<sup>114</sup> Balloon loans with adjustable interest rates (rather than fixed coupon rates) do not have yield maintenance terms, so they only have two relevant periods—pre- and post-balloon.

<sup>115</sup> After the balloon maturity date, the Enterprises may permit loan extension.

measures the potential value of "putting" the mortgage to the lender and investor through default, given that both equity and cash flow are important.<sup>116</sup>

As shown in section D. 4. a. i., Joint Probability of Negative Equity and Negative Cash Flow, of the Technical Supplement, the joint probability of negative equity and negative cash flow for a project is the probability of having both LTV greater than 1.00 and DCR less than 1.00. The proposed stress test uses loan amortization schedules, rental inflation, vacancy rates, and interest rates to update LTV and DCR, which are then used to update the joint probability variable values.

## (2) Original Versus Current Loan-Purchase Programs

OFHEO faced the issue of what, if any, adjustment should be made in the model to distinguish between loans purchased under original cash-purchase programs (purchased pre-1988 for Fannie Mae and pre-1992 for Freddie Mac) and current programs. As noted by Freddie Mac, the Enterprises computed both DCR and LTV differently for loans purchased under original programs than they compute those ratios today for current purchase programs. OFHEO recognizes that in the 1980s it was a common appraisal practice to adjust actual rents (and therefore net operating income) upward by an estimate of annual inflation and to use optimistic vacancy rate assumptions. This practice resulted in an overstatement of actual DCR and LTV values at the time of loan origination. Current practice does not allow for such inflation adjustments of projected rents, and factors minimum levels of anticipated vacancies into property valuation, even if the property is fully rented at the time of loan origination.

In addition to the overstatement of net income, original multifamily cash-purchase programs at the Enterprises had other significant weaknesses perhaps because the Enterprises only began purchasing conventional multifamily loans in 1983 and did not have experience with the differences from single family lending. Even controlling for the overstatement of rents and for changes in tax laws in 1986 that depressed real estate values, these weaknesses led to extraordinarily high loss rates. OFHEO views these large losses, to a large extent, as nonrecurring startup costs attributable

<sup>116</sup> The equity and cash flow positions of a property are positively correlated. The joint probability of negative equity and negative cash flow variable used in the proposed stress test captures this relationship.

to inefficiencies involved in learning a new business. For these reasons, OFHEO believes that the Enterprises' multifamily lending programs in the early and mid-1980s are so different from the current programs that it would be inappropriate to consider those early loans to be the same type of mortgage product as the multifamily loans that are made today.

The stress test accounts for the difference in the older loan programs and the newer programs in two ways. First, the stress test adjusts the origination DCRs and LTVs of original cash purchase loans to remove the estimated annual inflation factors and restate those ratios as they would be calculated by the Enterprises in their current program purchases.<sup>117</sup> Second, the stress test includes a variable in the default equation that distinguishes between original and current cash purchase programs. This variable results in higher levels of default on original cash purchase loans than on newer loans.

A significant consideration in OFHEO's proposal to distinguish the original cash purchase loans from loans purchased under current programs was that failing to make that distinction would create a relatively more severe (and far less) loss experience for multifamily loans than the benchmark loss experience creates for single family loans.<sup>118</sup> In OFHEO's view, imposition of such extreme levels of default upon the Enterprises' multifamily loans would be contrary to the intent of the 1992 Act that rates of default and severity be "reasonably related" to the benchmark loss experience. It is also possible that basing stress test losses on average default rates of original cash-purchase loans would result in an implied marginal capital requirement so high as to create an inappropriate disincentive to engage in new multifamily lending.

### (3) Depreciation Write-offs and Tax Law Changes

In the absence of a price index for multifamily properties, the stress test captures most of the changes in property value by updating DCR and LTV according to changes in rents, vacancies, and interest rates. However, changes in

<sup>117</sup> OFHEO found that loans acquired in negotiated swap arrangements in the early and mid 1980s were highly seasoned and had low default rates. They therefore did not appear to include the inflation factor evident in cash purchases. Therefore, OFHEO does not adjust DCRs and LTVs for loans in negotiated purchase pools.

<sup>118</sup> The relationship of multifamily default rates to the benchmark experience is discussed later in section III. A. 7. c., Relating Multifamily Mortgage Performance to the Benchmark.

DCR and LTV that are due to other factors are not captured in these procedures. The most important missing factor is the tax benefit afforded to owners of investment real estate through depreciation write-offs. ACB commented that depreciation allowances have important effects on property cash flows. OFHEO recognizes this fact and that the allowances also have important effects on capital gains at the time of property sale. The tax value of depreciation write-offs significantly influences the return from multifamily property investments and, consequently, the default risk of multifamily mortgages.

OFHEO agrees with Freddie Mac that tax law changes affecting multifamily default rates during the 1980's should be taken into account, but that OFHEO should not speculate on the effect of potential legislative or other governmental actions during the stress period. The proposed stress test incorporates an index that measures the value of depreciation write-offs for a new investor. It measures changes in quality due to changes in write-offs and allows OFHEO to reflect the effects of such changes on mortgage defaults historically. The actual index value used in the stress test is an approximation of expected values throughout the stress period.<sup>119</sup> It is calculated based on depreciation rules and tax rates as they existed in 1997, with no adjustments for movements in interest rates since that time, or for the interest-rate shocks that will occur in the stress test. The tax rules governing depreciation allowances have the largest impact on the value of this variable. These rules changed significantly in 1986, but have not changed significantly since. Because the historical database included many loans originated before the tax rule change, OFHEO allowed the value of this explanatory variable to vary for purposes of estimating the statistical equations for multifamily mortgage default. However, due to the

<sup>119</sup> The stress test does not capture actual depreciation allowances for borrowers. Enterprise databases do not include the year of property purchase. Therefore, the exact depreciation rules affecting cash flows and investment value to existing owners are unknown. Even on newly constructed projects, the Enterprises generally do not purchase the mortgage until target occupancy rates are met, which may be some time after origination. For these reasons, it would be extremely difficult to determine the actual value of depreciation write-offs to current owners. Although the value to current owners affects the owner's cash flow, the value to potential purchasers (which would be based upon current appreciation rules) affects property value and the owner's equity in the property. Therefore, this explanatory variable for depreciation write-offs helps to reflect more accurately the true LTV of the mortgage.

subsequent stability in those rules, OFHEO proposes to hold the value of this variable constant throughout the stress test. If the applicable tax rules change in the future, or if OFHEO believes that there are other reasons for either changing the specified value for the stress test or allowing its value to change throughout the stress test, OFHEO will initiate a new rule making process. However, as recommended by Freddie Mac in its ANPR comments, OFHEO will not speculate about tax law changes that might occur during the stress period. Due to data restrictions, the depreciation-allowance is only included in the cash-purchase default equation.<sup>120</sup>

### (4) Loan Programs with Seller/Servicer Repurchase Features

Some Enterprise multifamily loan programs require seller/servicer repurchases of loans that become 90-days delinquent. For these programs a 90-day delinquency event is effectively a default, while for all other loans, default means a property loss event (short sale, note sale, third-party sale or foreclosure). To account for this difference when estimating the statistical model, OFHEO applied, as an explanatory variable, the ratio of 90-day delinquencies to full defaults. This treatment is important because the rate of 90-day delinquency events is always higher than the default rate for property loss events, and the loss severity for 90-day delinquencies is lower. By including this ratio, and thus including loans with the 90-day delinquency terminations, OFHEO was able to estimate a negotiated-purchase default equation based on a much larger data set than would have been possible otherwise.

### (5) Balloon and ARM Payment Shock Risk

Following HUD's suggestion, OFHEO analyzed defaults of Enterprise balloon loans at the balloon point. As a result, OFHEO proposes to give additional weight to the joint probability of negative equity and negative cash flow variable for balloon loans that survive to the year of balloon maturity. This extra weighting takes into account the increased risk that mortgages with weak financials will default as the balloon point approaches. Also, interest rate movements may create payment shock (change in the periodic mortgage payment) in the post-balloon period, which affects the probability of default. The stress test accounts for the effect of

<sup>120</sup> See section D. 4. a. ii., Construction of the JPt Variable of the Technical Supplement for details.

this shock directly through adjustments to effective DCR in the post-balloon period. These adjustments then affect the joint probability of negative equity and negative cash flow, reflecting the fact that the decision to default or payoff is no longer a function of the original mortgage coupon rate, but of the prevailing market rates at the time of balloon expiration. In sum, the stress test reflects that the value of the default ("put") option, as measured through the joint probability variable, becomes more significant for default rates in the post-balloon period because there is increased pressure on the borrower to either default or refinance the property.

ARMs also experience payment shock because of changes in market interest rates. ARM payment shock occurs periodically during the term of the loan, and ARMs continue to amortize after the payment shock, according to the original contract term. The ARM prepayment equation in the stress test accounts for these periodic changes in interest rates. In contrast, the payment shock for a fixed-rate balloon loan does not occur until the balloon point. Some loans in Enterprise portfolios are ARMs with a balloon maturity. These loans have payment shock every year and also at maturity. The proposed stress test models the annual changes in their DCRs resulting from changes in mortgage coupon rates and then adds an additional balloon shock through the additional weight given to the joint probability variable in the post-balloon period.

#### (6) Loan Size

The stress test does not include a variable for loan size. S&P explained that it bifurcates commercial loan pools into two parts to calculate credit loss potential—the largest loan, and all other loans in the pool. S&P assumes 100 percent risk of default on the largest loan and average risk of default on the other loans. This approach is designed to recognize the uneven dollar credit loss risk inherent in pools that contain loans that are large relative to the total size of the pool. Credit risk for the pool is then estimated by S&P to be the sum of estimated credit risk on each part. S&P did not specifically recommend that OFHEO adopt this approach in the stress test.

OFHEO agrees that S&P's methodology is appropriate for analyzing differential impact of large and small loans on potential credit losses in mortgage security pools. However, no one multifamily loan default could have a significant impact on total losses or capital for either Enterprise. For that reason, OFHEO

decided not to propose any measure of loan size as an explanatory variable in the multifamily default/prepayment model.

#### (b) Explanatory Variables in the Five Multifamily Prepayment Equations

As explained above, the multifamily model uses five loan prepayment equations to identify unique product type and life-cycle characteristics. This approach is consistent with Freddie Mac's and MRAC's comments on accounting for mortgage product types and terms in the default and prepayment models. There are some differences in explanatory variables across these five equations, which are discussed below.

##### (1) Prepayment Option Value

As discussed earlier, OFHEO proposes to use the relative interest rate spread to measure the prepayment option value (mortgage premium value) for prepayments. The relative spread is the ratio of the difference between the coupon rate and the current market interest rate to the coupon rate. To account for the asymmetry of effects from increases and decreases in interest rates, the spread is split into two variables.<sup>121</sup> One is active if current market interest rates are above the mortgage coupon rate, and the other is active if current market rates are below the mortgage coupon rate. Decreased interest rates increase refinancing speeds. Increased interest rates decrease both normal refinancings and cash-out refinancings. Cash-out refinancings are refinancings in excess of the outstanding indebtedness. They are used to achieve a desired debt-to-equity ratio in the property as explained below in the discussion of current LTV. Relative spread variables appear in all prepayment equations except for the balloon and post-balloon payoff equations. At balloon maturity, all spreads become irrelevant, because borrowers are contractually obligated to pay off or refinance the property.

For the ARM prepayment equation, the relative spread variable is calculated by comparing the coupon rate to the current market rate on fixed-rate loans, rather than to the market rate for ARMs. This approach accounts for any incentive to refinance into a fixed-rate loan. Because there are no yield-maintenance terms or special incentives to refinance ARM loans when interest rates fall, the stress test includes one spread variable that captures both

<sup>121</sup> Such explicit bifurcation is not required for the single family prepayment equations because the categorical nature of the spread variable used there allows for asymmetric effects.

increases and decreases in interest rates. In addition, the stress test does not distinguish between life-cycle periods for ARMs; just one prepayment equation is estimated.

##### (2) Current LTV

Another important issue in modeling multifamily loans is the propensity of investors in multifamily properties to refinance mortgages over time to increase their debt (leverage) ratios, and thus increase returns on invested equity.<sup>122</sup> To capture the borrowers' ability to qualify for a new loan and the incentive to adjust debt-to-equity ratio, the proposed stress test includes current LTV as an additional explanatory variable. If the current LTV falls, investors have more incentive to prepay and are more likely to find a lender willing to refinance the property.

##### (3) Prepayment Option Value in the Yield-Maintenance Period

During the yield-maintenance period, borrowers may prepay, but they must continue to provide the contractual yield until the yield-maintenance period expires. Thus, a prepayment in the yield-maintenance period can be expensive, particularly in the early years of a mortgage. The more years to go in the yield-maintenance period, the greater the fee.<sup>123</sup> To capture the declining financial cost of prepayment throughout the yield-maintenance period, OFHEO proposes a variable measuring years remaining until the end of the yield-maintenance period. This variable appears in the prepayment equation for fixed-rate loans in the yield-maintenance period.<sup>124</sup>

##### (4) Prepayment Option Value in the Pre-Balloon Period

During the pre-balloon period, borrowers are uncertain about the level of market interest rates at the future balloon point. Hence, borrowers may be willing to pay in order to lock into a favorable interest rate, rather than take

<sup>122</sup> See Jesse M. Abraham and H. Scott Theobald, "Commercial Mortgage Prepayments," in Frank Fabozzi and David Jacob, *The Handbook of Commercial Mortgage-Backed Securities*, New Hope, PA: Frank J. Fabozzi Associates, 55-74 (1997).

<sup>123</sup> Because this effect runs counter to the effect of the call option value, OFHEO researched the possibility of a joint effect of the years-to-go and the rate drop variables. The fixed effects of the years-to-go variable proved to be a better predictor of actual, historical prepayments during yield maintenance periods.

<sup>124</sup> For loans with true prepayment prohibitions, or "lock-outs," the variable is set equal to the maximum number of lockout years throughout the lockout period. See section 3.5.4.3, Procedures, of the proposed Appendix to 12 CFR part 1750, subpart B for details.

their chances with possible adverse interest rate movements. This risk aversity with respect to interest rate movements prior to the time of balloon maturity gives rise to an additional financial value from early prepayment. OFHEO proposes two explanatory variables to capture the effect of risk aversity on prepayment rates in the pre-balloon period. They measure the additional effects of the primary prepayment option variable—relative spread—when it is in the money (market interest rates are lower than the mortgage coupon rate).

The first variable provides an additional effect for interest rate drops in the year immediately prior to the balloon year, and the second provides for a separate, additional effect for interest rate drops in the second year prior to the balloon year. These two variables allow for increased incentives to refinance if the prepayment option is in the money in the period leading up to balloon expiration. They capture the risk aversity of borrowers with respect to future interest rate changes as balloon maturity approaches.

#### (5) Balloon and Post-Balloon Payoffs

HUD commented that OFHEO should model the value of the refinancing option at the balloon point on balloon mortgages because the lender often has a contractual obligation to refinance at the borrower's option. OFHEO agrees that payoffs at the balloon point are different from prepayments before the maturity date, but has found that the lender generally does not have an unconditional contractual obligation to provide new funding if the borrower requests it. Payoff of the balloon loan (generally by new borrowing to refinance the property) is contractually required at term. If the borrower is successful at finding new financing at that point, the event that appears in Enterprise records is a payoff of the original loan and not a prepayment. Despite the contractual requirement of balloon payoff, not all loans terminate at the balloon point.<sup>125</sup> Generally, balloon loans are extended beyond the maturity date because, although the property has weak financials, lenders are unwilling to initiate foreclosure on loans that have been making payments at the original coupon rate. To capture the ability of multifamily borrowers to obtain new

loans at balloon expiration, and, therefore, to pay off the original mortgage, the model includes a variable similar to the joint probability variable used in the default equations—the joint probability that current DCR and LTV values are sufficient to qualify for a new mortgage. This is the only variable used in the pay-off equation for balloon mortgages, and it is based on minimum qualification criteria for multifamily mortgages,  $LTV \leq 0.80$  and  $DCR \geq 1.20$ .

#### (6) Effect of Fixed-Rate Loan Interest Rates on ARM Prepayments

A final variable included in the ARM prepayment equation is the market rate on fixed-rate loans. This variable accounts for incentives to refinance ARM loans into fixed-rate loans to avoid future uncertainty regarding interest rate movements. If the FRM rate is high, borrowers expect interest rates to drop in the future and are likely to delay prepayment of ARMs. Likewise, when interest rates are low—regardless of the spread between FRM and ARM rates—there is an incentive to refinance into a fixed-rate product to avoid potential increases in future interest rates.

#### 6. Loss Severity

Loss severity is the net cost to an Enterprise of a loan default. The three major cost categories are loss of loan principal, transaction costs at both foreclosure and disposition, and asset funding costs throughout the process. The net cost is determined by crediting against these costs the revenues associated with the defaulted loan. The major revenues are proceeds from the property sale and from mortgage insurance or other forms of credit enhancement.

In determining how to model loss severity in the stress test, OFHEO considered the following issues:

1. what general approach to take in modeling loss severity,
2. whether the stress test should model individual cost and revenue elements of loss severity or model severity as one single measure,
3. what explanatory variables should be included explicitly in modeling loss severity, and
4. an appropriate house price index for real estate owned (REO) properties.<sup>126</sup>

#### a. General Approach to Modeling Loss Severity

In the ANPR, OFHEO discussed four general approaches to estimating the separate effects of explanatory variables

on loss severity. One approach is to use a multivariate statistical model to estimate the separate effects of explanatory variables on total loss severity rates. A second approach is to use statistical models relating the individual elements of loss severity to explanatory variables. A third approach would set fixed parameters for the elements of loss severity (foreclosure costs, carrying costs, and sales prices), while allowing final loss severity rates to vary based on other factors such as the presence of private mortgage insurance. A fourth, relatively simple approach would be to assume that all defaulted loans face a fixed and equal level of loss severity.

#### (i) ANPR Comments

ACB and MRAC encouraged OFHEO to use a multivariate statistical model of loss severity. ACB, apparently assuming the stress test would include a statistical model of defaults, stated that “[i]t is not a rational allocation of resources to develop a sophisticated model of mortgage defaults and then to apply a rule-of-thumb percentage to the unpaid principal balances.” S&P described its use of data from the Great Depression as the basis for stress tests it uses to rate single-family mortgage pools. Freddie Mac recommended that OFHEO use average loss severity rates from the benchmark loss experience, adjust them to account for the stress test interest rate environment, and apply additional adjustments for various property types.

#### (ii) OFHEO's Response

OFHEO believes that a statistical model is the best approach to take into account loan seasoning and the dynamic nature of economic changes in the stress period. OFHEO agrees with ACB that it would be inappropriate to develop a sophisticated default model and then to apply a rule-of-thumb percentage to the UPB to determine loss severity. At the same time, OFHEO recognizes that developing statistical models of each loss element is unnecessarily complex. Based on its analysis of the available information, OFHEO proposes a two-part model for single family loss severity: a statistical equation for loss of loan principal and fixed parameters for the other cost elements. Specifically, the statistical model developed by OFHEO estimates loss of loan principal as a function of loan seasoning—updating the original LTV using HPI growth rates and loan amortization. For multifamily loss severity, OFHEO proposes to use only fixed cost element values. The rationale for this is explained below under section III. A.7., Relating Losses to the Benchmark Loss Experience.

<sup>125</sup> See Elmer and Haidorfer, “Prepayments of Multifamily Mortgage-Backed Securities,” *The Journal of Fixed Income*, March 1997, 50–63 (pointing out that not all loans terminate at balloon point); Abraham and Theobald, op. cit. (referring to this phenomenon as extension risk). OFHEO confirms the existence of post-balloon loans in Enterprise portfolios.

<sup>126</sup> REO properties are properties acquired as a result of foreclosure or similar action.

The approach outlined by S&P would not be appropriate for OFHEO's stress test because it does not adjust for loan seasoning or provide for a reasonable relationship to the benchmark as required by the 1992 Act. However, consistent with the S&P approach, the stress test does provide for a greater than average drop in house prices for foreclosed properties. As discussed below, under section III. A.6. b., Elements of Loss Severity Modeled, the stress test uses a statistical equation to model the expected decline in values on foreclosed properties, which will be greater than the decline in property value associated with HPI assumptions used in the stress test. In addition, as discussed later under section III. A.7., Relating Losses to the Benchmark Loss Experience, the stress test adds an extra loss factor to relate stress test property value loss to the actual experience of the four-State benchmark.

OFHEO agrees that Freddie Mac's recommended approach is simpler than using a statistical model. However, an empirically based statistical model is more versatile and flexible, allowing the stress test to reflect loss severity rates appropriate for each Enterprise's mix of loans and the stress test interest rate environment. OFHEO proposes a hybrid approach that retains the simplicity of fixed cost factors for most severity elements, while developing a more sensitive measure of property value, the element most affected by pre-stress test loan seasoning.

OFHEO does not propose at this time to take property type differences into account in stress test loss severity rates, as suggested by Freddie Mac. Although OFHEO finds higher loss severity rates for investor-owned properties, accounting for this effect would increase significantly the number of loan group records used for starting books of business in the stress test. Given the small percentage of Enterprise portfolios that investor-owned loans comprise, OFHEO felt that the added complexity was not justified by the benefits of calculating severity rates for owner-occupied and investor-owned single family loans separately. Therefore, OFHEO does not propose to apply risk multiples for investor-owned properties in determining loss severities. Rather, the single set of cost elements used in the stress test are determined by Enterprise experience with all single family property types combined.

#### b. Elements of Loss Severity Modeled

In addition to asking whether OFHEO should use a statistical model of loss severity, the ANPR asked whether the stress test should model loss severity as

a single value or model the various cost and revenue elements of severity separately.

All ANPR commenters favored, at varying levels, an element-by-element analysis. The VA recommended that the stress test model the amount and timing of both the cost and the revenue elements of loss severity to provide more accurate estimates of Enterprise cash flows. HUD recommended that the loss severity model include certain individual cost elements, all of which would be valued separately by the proposed severity module. NAR stated that "the modeling of loan loss severity should only include those factors that are independent of incidence of default" and emphasized the importance of modeling time in default separately. In contrast, Freddie Mac stated that defaults and severity are products of the same underlying characteristics and economic factors. Freddie Mac suggested that stress test severity calculations differentiate loans by original LTV and coupon class and by product type distinctions. In addition, Freddie Mac favored using the rate of loss of principal balance from the benchmark loss experience.

ACB supported using a sophisticated model of loss severity, which would, presumably, require breaking down severity into its constituent parts for analysis and modeling. MRAC suggested separate analysis of the elements of loss severity, including the estimated sale proceeds, holding time, monthly holding costs, and costs of sale.

OFHEO agrees with the commenters that the stress test should model individual cost and revenue elements separately, rather than model them together as a single cost category. Such an approach allows the stress test to model the interrelationship of those elements that significantly effect loss severity. Accordingly, OFHEO proposes to model elements in three principal groupings: (1) loss of loan principal balance, (2) transaction costs (e.g., expenses related to foreclosure, and property holding and disposition expenses), and (3) funding costs on non-earning assets. OFHEO believes that measuring elements in these groupings is necessary to accommodate differences in the timing of various elements of loss severity and differences in the pre-stress test seasoning of loans. Each cost or revenue factor is applied at one of the following three points in time (each in terms of months from date-of-default): time of loan repurchase (for loans in security pools) or bad-debt write off (for retained loans); time of foreclosure completion; and time of foreclosed property disposition.

In addition, consistent with Freddie Mac's comment, OFHEO's proposed loss severity calculations differentiate by LTV and coupon class. They also include product distinctions where those distinctions involve FHA/VA insurance, interest rates and amortization terms. The amount of the loss of loan principal balance is sensitive to loan amortization. Because 15-year mortgages amortize relatively early and more quickly, their predicted losses are much less than those on otherwise comparable 30-year mortgages.

#### (i) Loss of Principal Balance

A critical element of loss severity is loss of loan principal balance, i.e., the difference between the outstanding principal balance on the loan at the time of default and the sale price of the foreclosed property. This loss occurs because of general declines in local housing values, the depreciation of the individual property, and/or discounts required to sell properties with "foreclosure" labels. To calculate this loss, the stress test uses a statistical model of the historical relationship between actual loss of principal balance on loans that have defaulted and the loss of principal balance predicted solely by calculating amortization on the loan and updating the property values with the HPI. Sale proceeds are then calculated as UPB minus the estimated loss of principal balance. Proceeds vary with differences in house-price appreciation and loan terms.

#### (ii) Transaction Costs

The stress test includes two transaction cost elements in loss severity calculations: foreclosure/legal expenses, and property holding and disposition costs.<sup>127</sup> Property holding and disposition costs are combined in the proposed stress test because they are both expensed at the time of property disposition. OFHEO proposes to use averages of these cost elements—in percent of outstanding principal balance—from all Enterprise experience with foreclosure and REO properties.

OFHEO did not follow Freddie Mac's recommendation to use all cost elements directly from the benchmark loss experience for transaction costs, because the stress test is national in scope. Therefore, it is appropriate to have a national blend of institutional factors such as foreclosure costs, property management fees, and sales

<sup>127</sup> Legal expenses are dominated by foreclosure costs, but they also include costs associated with gaining releases from borrower bankruptcy stays and property evictions.



expenses, rather than the four-State blend from the benchmark experience.

### (iii) Funding Costs

Funding costs are considered an element of loss severity because the Enterprises must fund non-earning assets: first the defaulted loans, and then the REO properties. In its ANPR comments, Freddie Mac suggested that funding costs should be measured at the mortgage interest rate for the period from date of default to foreclosure completion. OFHEO agrees that the stress test should model funding costs. However, Freddie Mac's recommended approach ignores funding costs during the REO time period and would provide inaccurate measures of funding costs during the delinquency/default period. In the down-rate scenario of the stress test, using the mortgage coupon rate for funding costs would overstate funding costs, while in the up-rate scenario it would understate funding costs.

With one exception, the stress test measures asset funding costs through present-value discounting techniques, rather than computing explicit interest charges. Therefore, all severity elements are discounted by a cost-of-funds rate to produce the present value of each element in the month of default, regardless of when it may occur after that date. Cash flow discounting provides a consistent method of accounting for all timing issues involving cash flows from mortgage default to property disposition.

The one exception to the rule of calculating funding costs through present-value discounting techniques is the explicit cost of covering interest passed through to investors in securitized loans (mortgage-backed securities). These passthroughs occur for the first four months of loan delinquency, during which time the stress test uses the passthrough rate (the interest rate paid to holders of the securities) to calculate the asset funding cost. After the fourth month, when the loans have been repurchased from security pools and placed in Enterprise retained portfolios, the stress test treats these defaults identically to defaults in retained portfolios.

### (iv) Factors Not Modeled

ANPR commenters suggested several explanatory factors that are not included in the proposed single family loss severity model. These include distinctions based on State foreclosure laws, household liquidity, and the

presence of private mortgage insurance.<sup>128</sup>

### (a) State Foreclosure Law Differences

Freddie Mac suggested that OFHEO not make State-level distinctions in loss severity calculations, explaining that attributing "differences in loss rates by states would approach undue intrusion and inappropriate micromanagement of the Enterprises." In contrast, NAR recommended that OFHEO make State distinctions.

Although foreclosure time-frames and costs may vary based on State law and practice, OFHEO agrees with Freddie Mac that it would be inappropriate to model State-level differences. First, these differences do not represent loan characteristics, and, therefore, under OFHEO's approach to selecting variables to apply in the stress test, they are not appropriate. Second, if OFHEO were to allow for State-level differences in credit costs, the stress test would, essentially, be establishing State-specific capital requirements based upon nuances of State law. OFHEO would need to monitor developments in the many different State laws over time to adjust the parameters of the stress test. Third, the fact that the stress test uses loan data aggregated at the Census division level means that much of the variability in foreclosure costs observed at the State level disappears.

### (b) Independence of Loss Severity Rates From Default Rates

Freddie Mac commented that default and loss severity are products of the same underlying factors, most particularly original LTV and property value appreciation over the life of the mortgage. NAR recommended that the loss severity model "only include those factors that are independent of the incidence of default." OFHEO agrees with Freddie Mac on this point, because OFHEO's research indicates that loan seasoning has an important impact upon severity rates that is independent of its impact on defaults. The use of loan seasoning in the stress test reflects differences in loss severity across loans. This approach is also consistent with NAR's comment, because estimating the impact of seasoning on loss severity independently from its impact on defaults avoids duplicating seasoning's effect on credit losses.

### (c) Household Liquidity

NAR stated that liquidity of the household under stress is an important

factor in the loss severity equation. OFHEO notes that for the single family loss severity analysis, the stress test considers housing-related liquidity of a household through loan seasoning. That is, updating the LTV provides some indication of the ability of borrowers to sell or borrow against their properties in order to provide liquidity. However, the stress test does not account directly for non-housing wealth or liquidity of borrowers. It is unclear how these factors could be measured or estimated accurately.

### (d) Private Mortgage Insurance

NAR also commented that the presence of private mortgage insurance is a variable that can influence the time to foreclosure and therefore, presumably, holding costs. OFHEO, however, has found insufficient evidence that the presence of mortgage insurance has any meaningful impact on foreclosure time. Both Enterprises submit their own foreclosure time guidelines to seller/servicers, which are independent of the presence of mortgage insurance. Accordingly, the presence of private mortgage insurance is not included as a variable in the loss severity equations.

This issue is distinct from the question of how OFHEO should account for private mortgage insurance proceeds in the loss severity calculations. Several commenters noted that the loss severity calculation should deduct mortgage insurance proceeds from losses on loans covered by such insurance. OFHEO agrees that the loss severity calculation should account for mortgage insurance proceeds. This issue is discussed extensively in section III.C., Mortgage Credit Enhancements.

### c. REO House Price Index

In the ANPR, OFHEO asked what price index would be appropriate for REO properties. The question arose because defaulted loans generally have lower house-price appreciation rates than the market average, which is captured by HPI growth over time. After considering the ANPR comments and OFHEO's own research, OFHEO proposes an equation to relate actual declines in value for REO properties to changes in the HPI. This approach, which is described in section 3.5.3.3.3.1, Calculate Proceeds from Property Sale, of the Regulation Appendix, provides the information needed to predict accurately the loss of loan principal balance in loss severity calculations, but avoids the added complexity of creating a separate index.

All five commenters that addressed this issue recognized that, without

<sup>128</sup> Although private mortgage insurance is not an explanatory variable, proceeds from such insurance are accounted for in the severity calculation.

adjustment, the HPI would not provide an adequate measure of REO price changes. However, none recommended creation of a separate REO index. Four commenters (MRAC, ACB, VA, and Freddie Mac) recommended modifying the general price index. MRAC suggested that a general HPI be used in conjunction with analysis of variances of prices to determine whether foreclosure prices have experienced slower appreciation or greater depreciation than the market average. ACB suggested that, rather than developing an REO price index, OFHEO study the "left tail" of the distribution of house prices in general. The term "left tail" refers to those houses with the smallest appreciation rates. S&P provided to OFHEO the rates of property value loss for foreclosures during the Great Depression.

The proposed approach incorporates a statistical model based upon an analysis like that suggested by MRAC and ACB. The model predicts how far into the left tail each REO property value can be expected to be, relative to the outstanding mortgage balance, throughout the stress period. OFHEO's proposed approach essentially follows the specific recommendations of MRAC and ACB for modification of the HPI.

The VA suggested using a general house price index, re-weighted to capture the regional distribution of REO properties. OFHEO agrees that regional differences in REO appreciation rates should be captured. The proposed regulation therefore incorporates Census division differences in historical HPI values and historical measures of the dispersion of house values around levels suggested by the HPI. *See* section III.A.4.d., Property Valuation.

NAR did not recommend a specific approach, but cautioned that an REO price index might not be meaningful for Enterprise loans, because the Enterprises tend to sell REO properties quickly, thus limiting exposure to undue loss of value. For that reason, NAR recommended that any analysis of REO property values be based solely on Enterprise data. OFHEO also concurs with NAR that an REO price index built on non-Enterprise data might be of limited usefulness for Enterprise loans. Given the richness and volume of the Enterprise data, and consistent with all other parts of the stress test, OFHEO has based the model of REO property values on Enterprise data. However, rather than developing a separate price index for REO properties, the proposed stress test models REO property value as a function of the path of the HPI. In addition, OFHEO proposes to adjust the resulting rate of loss of principal

balance rate to reflect the fact that REO property values in the benchmark loss experience were lower in relation to the HPI than the REO property values in other Enterprise experience.

#### d. Multifamily Loss Severity

With respect to loss severity, the stress test uses the same cost elements for multifamily loans as for single family loans. However, there is no loan seasoning, nor is statistical analysis used to determine loss of loan principal balance. All cost and revenue elements of multifamily loss severity rates are averages from Enterprise experience.

#### 7. Relating Losses to the Benchmark Loss Experience

The 1992 Act specifies that the stress test should apply rates of default and loss severity that are "reasonably related" to the highest rates experienced by the Enterprises for a period of at least two years in any contiguous areas having at least five percent of the nation's population (the benchmark loss experience).<sup>129</sup> The stress test satisfies this reasonable relationship requirement in the context of two severe interest rate environments that are quite different from the interest rate environment of the benchmark loss experience. At the same time, the stress test also accounts for appropriate distinctions in credit risk across loan types and characteristics. OFHEO believes that the multivariate mortgage performance models developed by OFHEO are the best means of specifying loss rates for the wide variety of loans held by the Enterprises under the different interest rate scenarios specified in the statute. However, for reasons explained below, the models are adjusted to produce loss rates that are reasonably related to the losses experienced on the 30-year fixed-rate, single family mortgages in the benchmark time and place.

Both Fannie Mae and Freddie Mac provided comments on how to implement a statistical model of mortgage performance that would be reasonably related to the benchmark loss experience. As discussed earlier, neither Fannie Mae nor Freddie Mac recommended a joint, multivariate statistical model of conditional default and prepayment rates. However, both discussed how other models could be used in the stress test and commented that a reasonable relation to the benchmark loss experience could be achieved by estimating those models solely on data from the benchmark loss

experience.<sup>130</sup> They noted that the advantage of limiting the statistical sample in that way is to allow the resulting equations to capture benchmark economic conditions without having explicit explanatory variables for economic conditions in the stress test.

The suggestion from Fannie Mae and Freddie Mac that the mortgage performance models be estimated solely with data from the benchmark loss experience, although appealing conceptually, turned out to be impractical. The benchmark loans comprise too small and homogeneous a set of loans to estimate models for all the Enterprises' current loans. Using a much larger sample of historical loan performance experience was important when estimating the statistical models, because it provided a wide variety of economic circumstances and mortgage experience upon which to base estimation of the model parameters. Like current Enterprise loan portfolios, the samples used to estimate the statistical equations include mortgages originated over many years and geographic locations, and having distributions across other factors of mortgage performance—such as age, coupon type or amortization terms—that differ from those of the benchmark loans.

The "reasonable relationship" requirement of the 1992 Act means that the adverse credit stress of the benchmark loss experience should be reflected in the stress test mortgage losses. However, when the mortgage performance models are applied unadjusted to a pool of loans with the same characteristics as the benchmark loans, using interest rate and house-price appreciation paths equivalent to those of the benchmark time and place, the resulting default and severity rates are slightly lower than the actual rates for the benchmark loss experience. This result should be expected, because the mortgage performance models are estimated from data on a broad range of historical experience, rather than just data from the benchmark loss experience. The benchmark loss experience was from the time and place with the worst mortgage losses for the Enterprises. Therefore it is reasonable to expect it to have default and severity rates somewhat higher than would be predicted based solely upon the explanatory variables used in the stress test. For this reason, the stress test

<sup>129</sup> 1992 Act, section 1361(a)(1) (12 U.S.C. 4611(a)(1)).

<sup>130</sup> Fannie Mae recommended estimation of a statistical model of total terminations and Freddie Mac recommended estimation of a statistical model of prepayments only.

includes adjustments to the models to reflect more fully the additional stress of the benchmark experience.

OFHEO proposes to relate losses projected by the statistical equations to the benchmark loss experience in two ways. First, benchmark house-price growth rates and multifamily (rental) market economic conditions that coincide with the time and place of the benchmark loss experience are applied to loans in the starting portfolio during the stress test period. Second, the default and severity rates predicted by statistical equations are increased, or "calibrated," to the benchmark loss experience rates, so that if newly originated loans with similar characteristics to those comprising the benchmark sample were subjected to the same economic circumstances as occurred in the benchmark loss experience, the statistical model of mortgage performance would project ten-year cumulative default and average severity rates equal to the rates actually observed for the benchmark sample.<sup>131</sup> Under this approach, default and loss severity rates differ from the benchmark rates only to the extent interest rates, property values, and loan characteristics are different from the benchmark sample, or to the extent adjustments are necessary to account for other statutory requirements.<sup>132</sup> Because of the addition of this benchmark "calibration" factor to default and loss severity equations, loss rates for all loans are slightly higher than would otherwise be projected.

Although the principles for reasonably relating stress test losses to the benchmark loss experience are the same for single family and multifamily loans, the methods of reasonably relating losses to the benchmark differ and are discussed separately below.

#### a. Single Family Calibration

For single family loans, calibration constants are added to default and loss severity rates.<sup>133</sup> These constants are set

<sup>131</sup> Loans comprising the benchmark sample were 30-year fixed-rate loans.

<sup>132</sup> Differences in interest rates, property values, and loan characteristics can have very significant effects, however. The average mortgage credit loss rate for the two Enterprises in the benchmark sample was 9.4 percent. In the up-rate scenario of the stress test for June 1997, the average loss rate was 1.8 percent, while in the down-rate scenario it was 1.4 percent. The loss rate for the benchmark sample does not take account of mortgage insurance and other credit enhancements. Losses on benchmark loans after accounting for these receipts would have been seven percent.

<sup>133</sup> The calibration constant used in the single family default rate equations is in addition to the particular product-type multiplier factors discussed earlier. The product-type multipliers relate other products to the benchmark 30-year fixed-rate loans, while the calibration constant relates all loans to the severe benchmark loss experience.

forth in sections 3.5.2.3.2.9 and 3.5.3.3.3 of the Regulation Appendix. Their development is described in section IV.B.8., Consistency with the Historical Benchmark Experience, of the Technical Supplement.

The calibration constants were computed in three steps. First, all benchmark loans were assigned the same historical house-price experience—the ten-year sequence of appreciation rates from the OFHEO HPI for the West South Central Census Division, commencing in 1984, first quarter.<sup>134</sup> Second, using the statistical equations estimated on a broader historical loan sample, OFHEO projected the ten-year experience of loans comprising the benchmark sample, computing the ten-year cumulative default rate and ten-year average loss severity rate. These rates were measured in the same manner for the benchmark in NPR1.<sup>135</sup> Third, these cumulative rates were compared to the actual cumulative default and prepayment rates computed for the benchmark in NPR1, and adjustment constants were calculated that, when applied in the models, would yield the equivalent default and loss severity rates.

The adjustment constant for loss severity rates is not applied to the entire loss severity rate, but rather to the loss of loan principal balance element of the loss severity rate. The constant is computed by subtracting the loss of loan principal balance that was predicted by the single family loss severity model from the loss of loan principal balance that occurred on defaulted loans in the benchmark loss experience. The second element of severity cost, transaction costs, was not adjusted to reflect benchmark conditions. OFHEO found it more appropriate in a national stress test to use a national blend of the institutional factors such as foreclosure

<sup>134</sup> The West South Central Census Division does not exactly match the four-State benchmark region, but its use here to represent benchmark economics is consistent with OFHEO's proposal to aggregate data based on Census divisions and to apply historical Census division-level house price growth rates to season loans at the beginning of the stress test. What is most important is that the price series used to calibrate the statistical equations is the same series that will be used in the stress test itself. The actual ten-year house-price experience of the West South Central Division and the four-State benchmark area, 1984–1993, are very similar.

<sup>135</sup> The ten-year cumulative default rate was computed as the sum of original UPBs for defaulted loans, divided by the sum of original UPBs for all loans in the sample. The average severity rate was calculated in similar fashion. Following the method used to identify the benchmark experience, the calibration procedure computes ten-year default and severity rates for each Enterprise separately, and then the two Enterprise-specific rates are averaged.

costs, property management fees, and property sales expenses that comprise this element. The third element of loss severity cost, asset funding costs, enters the stress test as an imputed interest cost. As described in more detail in section 3.5.3 of the Regulation Appendix, this element is related to the benchmark loss experience through the use of foreclosure and property disposition event timing from the benchmark loss experience. The timing of these events determines the periods over which funding costs are calculated.

#### b. Relating Other Single Family Products to the Benchmark

In the ANPR, OFHEO asked how to relate other types of mortgages to the benchmark, which was developed based on single family, 30-year, fixed-rate mortgages. The commenters' consensus was that some type of multiplier approach to alternative single family mortgages should be used, except for ARMs. These comments are discussed below.

##### (i) ANPR Comments

NAR suggested that OFHEO develop statistical models of default for fixed- and adjustable-rate mortgages and relate the performance of other mortgage types to them. NAR also pointed out, however, that this type of relationship might be difficult to establish for new mortgage types for which there is insufficient historical experience. NAR suggested applying the benchmark default experience to these loans rather than measuring the difference in risk from the benchmark experience. VA addressed the same concern, suggesting that multipliers should be based on historical periods in which the other mortgage types had significant shares of the market. Specifically, VA suggested that measures of performance from those periods of other single family mortgage types relative to the 30-year, fixed-rate product could be used to impute the necessary performance differences from the benchmark loss experience to use in the stress test. Freddie Mac stated that any default-rate multipliers should be based on a broader range of Enterprise historical experience than the benchmark time and place.

Freddie Mac, although recommending that OFHEO use simple multipliers, also raised a concern that loans receiving multiple multiplier factors could end up with unreasonably high stress test default rates. It cited, as an example, a balloon loan on an investor-owned condominium. If the stress test were to apply default-rate multipliers for each of these three mortgage type categories

(condominium, investor-owned, and balloon), the combined risk factor premium could be unreasonably high. To remedy this problem, Freddie Mac recommended that the stress test incorporate limits on the interaction of risk factors.

MRAC suggested that, if sufficient data were available, OFHEO might either create historical tables of default rates by various loan characteristics, in order to establish product-type multipliers, or use some type of regression analysis to discern performance differences among mortgage types. The MBA suggested that multipliers are the best approach because they are currently used by the Enterprises and therefore would provide a simple way for them to implement the risk-based capital standards.

OTS cautioned that multipliers might not be appropriate for ARMs or for multifamily loans, because the credit loss experience of these loans may not correlate well with that of fixed-rate, single family loans. OTS recommended that OFHEO consider using separate benchmarks for different types of loans. ACB, however, commented that there is no statutory requirement to incorporate the worst experience for each mortgage type into the stress test, and that a multiplier analysis for single family loan types would be sufficient.

Consistent with its recommendation that OFHEO not develop a statistical model of conditional default rates, Fannie Mae suggested that multipliers be applied to (cumulative) loss rates, rather than to conditional default rates.

#### (ii) OFHEO's Response

The stress test approach of adding product type adjustment factors as explanatory variables in a single family default equation is consistent with the multiplier approach recommended by commenters. However, the stress test approach does not have the shortcomings about which some commenters cautioned. It relies upon a broader historical experience than the benchmark sample alone to gauge the relative risk of other mortgage types, and it controls for the multiple multipliers problem outlined by Freddie Mac. The multiple multipliers problem is avoided because product type adjustment factors are estimated as part of the statistical default equation. The equation computes the marginal impact of each product type after controlling for all other explanatory variables. Using simple multipliers with limits on the amount of adjustment, as recommended by Freddie Mac, would either be too imprecise to reflect the relative risk of the loans that fall into multiple product

type categories, or else would become as complex as a statistical model in order to account for all of the conceivable combinations of product types.

OFHEO agrees with the OTS comment that a multiplier approach is not appropriate for ARMs. Equations for single family default and prepayment rates in the stress test are, therefore, estimated separately for ARMs. This is appropriate because the adjustable payment features of these loans create unique incentives to either default or prepay that are not found in other mortgage types. The ARM default equation does, however, receive the same benchmark calibration constant used in the other two single family default equations. The use of this constant reasonably relates ARMs to the added stress of the benchmark loss experience in a manner consistent with how other single family product types are related to the benchmark loss experience.

#### c. Relating Multifamily Mortgage Performance to the Benchmark

In the ANPR, OFHEO requested comment on how the stress test multifamily mortgage performance should be related to the single family benchmark. Respondents to the ANPR mentioned the need to capture the different underwriting variables and economic factors that would influence multifamily performance directly. They warned against applying multipliers to single family losses to generate multifamily losses. These concerns were raised by OTS, MBA, Fannie Mae, and Freddie Mac. In addition, OTS and Fannie Mae suggested that OFHEO may need to explore options other than relating stress test credit losses on multifamily loans to the single family benchmark.

OFHEO agrees with the commenters' concerns about using a simple multiplier approach for multifamily loans, and proposes instead a separate statistical model of multifamily mortgage performance based on multifamily market conditions, property financial characteristics (DCR and LTV), and loan terms—whether fully amortizing or balloon, or having fixed or adjustable interest rates. The statistical model allows the application of OFHEO's first principle, outlined above in section III. A. 5. e., Choice of Explanatory Variables for Default and Prepayment, for relating stress test losses to the benchmark: using economic conditions of the benchmark experience in the stress test. OFHEO believes that multifamily rent and vacancy indexes from the benchmark time and place provide the best means

to relate starting multifamily loan portfolios to the benchmark loss experience. These indexes account for the economic decline that occurred in the benchmark region in the economic factors that affect multifamily mortgage credit risk. Therefore, the stress test creates a reasonable relationship to the benchmark loss experience by using vacancy rates from and percent changes in rents from the benchmark loss experience to update property financials (DCR and LTV) throughout the stress period.

Because of the small number (13) of multifamily loans purchased by the Enterprises in the benchmark region during 1983 and 1984, it is not possible to compute calibration adjustments like those in the single family default and severity equations. Instead, OFHEO proposes to treat all defaults as full foreclosure events and apply loss severity rates without consideration of loan seasoning. The effect of this approach is to create higher credit losses than if the stress test were to account for multifamily defaults that are resolved without foreclosure and adjust severity rates to account for the age of loans.

Methodologically, treating all multifamily defaults as foreclosure events is consistent with OFHEO's proposed approach to single family credit loss generation in the stress test. However, OFHEO is aware that use of various default resolution strategies other than foreclosure (loss mitigation) played an important role in controlling multifamily default losses in the severe environment of the late 1980s and early 1990s. Therefore, accounting for loss mitigation in the stress test would tend to decrease losses for any given economic conditions. Treating all defaults as foreclosures for calibration purposes, rather than allowing for loss mitigation efforts, results in an increase in loss severity—before application of any credit enhancements—of 6.5 percent per defaulting loan.<sup>136</sup>

There is an exception to the rule of treating all defaults as foreclosure events for Enterprise loan programs that require the seller/servicer to repurchase loans that become 90-days delinquent. For loans in these programs, the recorded "default" event at the Enterprises is the point at which a loan becomes 90 days delinquent, rather than a foreclosure-like event where the Enterprise obtains title to the collateral property.

<sup>136</sup> The 6.5 percent figure is arrived at by multiplying the 13 percent of defaults resolved with alternatives to foreclosure by a 50 percent loss rate reduction factor.

The stress test loss severity rate for these loans is 39 percent.<sup>137</sup> The 39 percent loss severity rate reflects experience of the Enterprises during the stressful conditions of the early 1990s, including approximately 50 percent cures (or modifications) and 50 percent foreclosures on 90-day delinquencies. OFHEO research indicates that this is a reasonable approximation for the stress test.

#### 8. Inflation Adjustment

The 1992 Act specifies that, to the extent that the ten-year CMT increases by more than 50 percent over its average for the nine months preceding the starting date of the stress test, credit losses must be adjusted "to reflect a correspondingly higher rate of general price inflation."<sup>138</sup> In the stress test, mortgage credit losses are not related to rates of general price inflation, but most are related to rates of house price inflation.<sup>139</sup> Implementing this provision of the statute requires consideration of the relationship between interest rates, general inflation rates, and house price inflation rates.

These relationships are complex. Over recent decades, changes in broad inflation measures generally have preceded changes in interest rates in the same direction. And changes in interest rates have been accompanied by changes in house price inflation rates in the opposite direction. Thus, over short and intermediate periods of time, interest rates and house price inflation rates have often moved divergently. For example, consider the three five-year periods beginning in 1975. From the beginning of 1975 to the end of 1979, the ten-year CMT averaged about 8 percent, while house prices rose at an 11 percent annual rate. In the following five-year period, from 1980 to 1984, interest rates were 50 percent higher (12 percent), while house price inflation fell to 4 percent. Then in the third five-year period, 1985 to 1989, interest rates declined to 9 percent, while house price gains accelerated to 7 percent.<sup>140</sup> Over longer periods of time, however, these changes have tended to reverse themselves. For periods of ten years or

more, higher (lower) than average interest rate levels have generally been associated with higher (lower) than average rates of general inflation and house price inflation.

In unusual environments, such as those represented by the economic conditions of the stress test, average past relationships between interest rates, general inflation rates, and house price inflation rates may not prevail. The nature or cause of the projected mortgage credit stresses in the stress test are not specified in the statute. They could involve problems particular to housing markets, such that house price behavior deviates persistently from general inflation patterns. Or they could be focused on non-house-price factors, such as unemployment, relocation, or divorce rates.

Except to the extent that the ten-year CMT rises in the up-rate scenario by more than 50 percent, the stress test does not project any differences in house price changes or other sources of credit stress in the two interest rate scenarios. And, aside from the inflation adjustment, the specific pattern of house price changes used in both scenarios is not designed to be consistent with any particular pattern of interest rates. It was chosen to replicate (and encapsulate in one variable) the overall level of credit stress in the benchmark loss experience.

In order to implement the statutory requirement, the stress test projects that cumulative increases in house prices, a component of general inflation, are higher in the up-rate scenario by an amount that reflects, percentage point for percentage point, any positive difference between the ten-year CMT and the level corresponding to a 50 percent increase. Thus, for example, if the ten-year CMT starts at 6 percent and increases by 75 percent to 10.5 percent, the increase in excess of 50 percent is 1.5 percentage points. The cumulative change in house prices during the up-rate scenario would equal the cumulative change during the down-rate scenario plus an upward adjustment. The adjustment is the amount needed to reflect what the cumulative increase would be if the house price inflation rate were 1.5 percent higher, on average, throughout the part of the stress period in which the ten-year CMT exceeds 9 percent.<sup>141</sup>

<sup>141</sup> The stress test would calculate the cumulative adjustment factor in this case to be 1.015<sup>9</sup>/<sub>100</sub>, so final house price levels in the up-rate scenario would be 14.6 percent higher than they would be in the down-rate scenario. In this formula, 9% represents the number of years the ten-year CMT exceeds 9 percent by the full 1.5 percentage points plus two months to reflect the period in which the ten-year CMT exceeds 9 percent by a smaller amount. If the

In recognition of the likely short- and intermediate-term divergence between interest rates and house price behavior, the stress test concentrates all of the adjustment in the final five years of the stress period. Thus, house prices are identical in the two stress test interest rate scenarios during the first five years, but increase much more rapidly in the last five years of the up-rate scenario than they do in the down-rate scenario.

Several respondents to OFHEO's ANPR commented on this issue. VA opposed any adjustment, arguing that while the long-term behavior of house price inflation and general inflation is consistent, the short-term relationship is weak, and the relationship between interest rates and house prices "is even more tenuous." VA further agrees that specific economic conditions can disrupt any general relationships, and that an adjustment would be inconsistent with the approach of private rating agencies. OFHEO believes, however, that some adjustment is required by the statutory language.

HUD argued that adjusting the rate of increase in house prices throughout the stress period on a one-to-one basis with general price inflation would deny the role of changes in real interest rates over time. HUD suggested that OFHEO consider current trends and long-run relationships between real interest rates and house prices. NAR suggested that a one-to-one relationship is appropriate for long-term assumptions, and ACB commented similarly. OFHEO believes that its approach, which uses a one-to-one relationship for the cumulative change but concentrates the change in the last five years of the stress period, is not inconsistent with any of these recommendations.

Freddie Mac recommended that house price inflation should vary with interest rates in a one-to-one relationship, not only with respect to increases in the ten-year CMT exceeding 50 percent, but also with respect to all interest rate changes. House price inflation rates would be based on rates current at the start of the stress period and rise or fall by amounts equal to the change in the ten-year CMT in both scenarios. Such an approach could result in more severe credit losses in the down-rate scenario and very few credit losses in the up-rate scenario. OFHEO believes that the stress test should reflect the possibility that substantial credit losses would occur in either scenario. The recommended

ten-year CMT increases 75 percent over the base month, a 50 percent increase will be achieved by month eight. The full increase will be achieved by month 12. For the purposes of this calculation, the result is the same as it would be if the extra 25 percent lasted for nine years and two months.

<sup>137</sup> This rate is discounted by 12 months to reflect the average time from the default date (30 days after last paid installment date) to final resolution.

<sup>138</sup> 1992 Act, section 1361(a)(2)(E) (12 U.S.C. 4611(a)(2)(E)).

<sup>139</sup> Multifamily credit losses are related to rent growth rates. The same adjustment described here for house price inflation rates is also made to rent inflation rates.

<sup>140</sup> General inflation rates (based on the CPI) followed a still different pattern. They averaged 8 percent per year during the first five-year period, 7 percent in the second, and 3 percent in the third five-year period.

approach also would not have any obvious relationship to the benchmark loss experience. Applying the approach at the time the benchmark loans were originated would result in much stronger house price growth than actually occurred in the benchmark area.

Freddie Mac further argued that a stress test that incorporated a ten-year CMT that exceeded the rate of house price appreciation by more than 6.5 percentage points over a ten-year period would be inconsistent with national historical experience and, therefore, inappropriate. However, national historical experience is not an appropriate criterion for the stress test's key source of mortgage credit stress. Credit losses in the stress test are required to exceed national historical experience. They are based on the worst regional, not national, experience.<sup>142</sup> More importantly, as discussed above, house price projections in the stress test are not designed to correspond to any particular interest rate level. Rather, they are simply a means of incorporating an overall credit stress level that is comparable to the benchmark loss experience and which may reflect stresses from a variety of non-house price sources not explicitly included in the mortgage performance model.

#### B. Interest Rates

The 1992 Act specifies the level of the constant maturity Treasury yield (CMT) for ten-year securities during the last nine years of the stress period.<sup>143</sup> However, only general guidance is provided for the levels of yields on Treasury securities with different maturities. Also, yields on other financial instruments are not explicitly mentioned. The behavior of yields on financial instruments other than ten-year Treasury securities will have potentially substantial and pervasive effects on the Enterprises during the stress period. Those yields will determine the cost of new debt issued and earnings on new investments, as well as the interest rates paid or earned on assets, liabilities, or derivatives contracts that are tied to market yield indexes. They will also have a significant effect on the volumes of mortgage prepayments and defaults. The magnitude of the effects on an Enterprise during the stress period will

depend greatly on the Enterprise's funding strategies at the start of the stress period.

#### 1. Yields on Treasury Securities

##### a. Statutory Requirements

The 1992 Act describes two interest rate scenarios (one rising and one falling) based on movements in the ten-year CMT. In the rising or up-rate scenario, the ten-year CMT increases during the first year of the stress test period and then remains constant at the greater of: (1) 600 basis points above the average yield during the preceding nine months; or (2) 160 percent of the average yield during the preceding three years. However, in no case may the yield increase to more than 175 percent of the average yield over the preceding nine months. In the falling or down-rate scenario, the ten-year CMT decreases during the first year of the stress period and then remains constant at the lesser of: (1) 600 basis points below the average yield during the preceding nine months; or (2) 60 percent of the average yield during the preceding three years. However, in no case may the yield decrease to less than 50 percent of the average yield over the preceding nine months.

The 1992 Act does not specify the shape of the yield curve during the stress period. Rather, it simply requires that the levels of other Treasury yields "change relative to the 10-year Constant Maturity Treasury (CMT) yield in patterns and for durations that are reasonably related to historical experience and are judged reasonable by the Director."<sup>144</sup> The statute also does not specify the manner in which the ten-year CMT moves during the first year of the stress period to reach the level required for the remainder of the period.

In its comments to OFHEO's ANPR, ACB suggested that OFHEO consider using stochastic projections of all interest rates, if OFHEO determined that stochastic projections were consistent with statutory requirements. ACB noted that the process could be constrained to insure that the ten-year CMT reached its required level during the final nine years of the stress period on an average basis. OFHEO has determined that such an approach would not be compatible with the 1992 Act. That statute clearly specifies that the ten-year CMT will be constant during the final nine years of the stress period. Furthermore, as Fannie Mae commented, using a stochastic model for determining interest rates would create unnecessary

uncertainty about what amount of capital would actually be required for a given set of risk positions. A stochastic model also would add unnecessary complexity to the regulation. Accordingly, OFHEO proposes that all interest rates during the stress period be fully determined by past data on interest rates.

##### b. Yields of Other Treasury Maturities During the Final Nine Years

###### (i) Constant or Varying Yields

OFHEO considered whether the Treasury yield curve should be constant over the final nine years of the stress period or whether it should change in some specific manner. OFHEO proposes to use a constant yield curve. While yields are extremely unlikely to remain constant or even roughly so over a period as long as nine years, there are no serious disadvantages to using such an approach in the stress test, and there are compelling advantages.

A constant yield curve is a straightforward approach that is consistent with the statutory specification of a constant ten-year CMT. The purpose of the interest rate component of the stress test is to assess an Enterprise's ability to withstand a prolonged shift to a much higher or much lower interest rate environment. No specific pattern of yield changes can fully capture the range of possible future adverse changes. Based on historical experience, one would expect all interest rates to fluctuate over a broad range during a period as long as nine years. Different underlying macroeconomic circumstances would be associated with different evolutions of the entire yield curve, including the ten-year CMT. Tying the stress test to one specific set of macroeconomic circumstances would tend to limit its general usefulness. The real-life danger the Enterprises face of much higher or much lower interest rates during the next decade is not focused on any particular portion of that ten-year period. Designing a stress test with any specific pattern of interest rate changes after the first year of the stress period would imply a belief that Enterprise risk exposures in some future years would be a matter of greater public concern than in other years. While an argument could be made that near-term risk exposures would create losses with a higher present value, that concern should be balanced by a recognition that the risk of a very different interest rate environment is greater for distant years than for the near-term.

A stress test with interest rates that are especially high or low in particular

<sup>142</sup> The average ten-year CMT exceeded average house price growth in the West South Central Division during the 1980s by 9.5 percentage points. For the benchmark loss experience, the difference was 8.5 percentage points.

<sup>143</sup> 1992 Act, section 1361(a)(2) (12 U.S.C. 4611(a)(2)).

<sup>144</sup> 1992 Act, section 1361(a)(2)(D) (12 U.S.C. 4611(a)(2)(D)).

future years would encourage Enterprise hedging strategies to focus on those specific years. Risks in other years, when stress test projections were more moderate, might receive relative neglect. The Enterprise would thus be providing more protection against more adverse, but less likely, interest rates in some years at the expense of less protection against less adverse, but more likely, interest rates in other years. Such an incentive would provide less general protection and thereby increase the risk of failure.

In their ANPR comments, Fannie Mae and VA suggested specific fixed yield curves, consistent with OFHEO's proposal in this regard. Freddie Mac recommended a considerably more complex approach that would generally result in relatively more adverse short-term interest rates in the early part of the final nine years of the stress period and less adverse short-term interest rates later. OFHEO believes its proposal is much simpler and will provide better general protection against Enterprise failure for the reasons discussed above.

Freddie Mac argued that a fixed yield curve would be unreasonable for two reasons. First, Freddie Mac stated that a fixed curve would be inconsistent with the statutory requirements that changes in yields on Treasury securities with maturities other than ten-years "will change relative to the 10-year constant maturity Treasury yield in patterns and for durations that are reasonably related to historical experience." It is clear from the legislative history that Congress did not intend to prohibit constant yield curves, per se, but rather wanted to prohibit unusual yield curves lasting for a longer time than could be reasonably related to historical experience. The language of the statute follows the original Senate-passed bill, except that

"reasonably related to" in the quoted phrase was substituted for "within the range of," and a specific restriction on unusual yield curves was removed. The Senate Committee, in explaining its understanding of the yield curve provision, actually recommended that the yield curve be fixed during at least the final five years of the stress period.<sup>145</sup>

Second, Freddie Mac argued that a constant yield curve "would be of little value in measuring the ability of an Enterprise to absorb losses in relation to its risks" because interest rate volatility would disappear and the prices of options would approach zero. Market estimates of interest rate volatility, however, play no important role in the stress test OFHEO is proposing. The Enterprises are not projected to buy or sell any options, as this is a "no new business" stress test. While option value does affect decisions about option exercise, and those decisions are an important element of the stress test, the interest rate movements in the stress test are quite large. In such circumstances, Enterprise decisions about option exercise will generally be relatively insensitive to precise measures of option value. Homeowners' decisions to exercise their options to prepay their mortgages are also based on past homeowner responses to large changes in interest rates and not on specific measures of volatility. Stress test projections relating to the exercise of options implicitly assume that expectations about volatility are within normal ranges, despite the lack of change in interest rates. The proposed approach is an efficient simplification that does not distort Enterprise risks in any meaningful way.

<sup>145</sup> S. Rep. No. 102-282, at 22 (1992).

(ii) Choice of Fixed Yield Curve Shapes

OFHEO proposes that all Treasury yields for key maturities (three-and six-month; one-, three-, five-, and 20-year) in the final nine years of the up-rate scenario be equal to the ten-year CMT. In the final nine years of the down-rate scenario, OFHEO proposes that all key Treasury yields have the same ratio to the ten-year CMT that they had, on average, during the nine-year period from May 1986 through April 1995. The proposed yield curves for both interest rate scenarios correspond to historical experience.

OFHEO based its selection of yield curves on an examination of historical data on Treasury yields. Data are available starting in December 1958. OFHEO focused on the relationship between a short-term (six-month) yield and the ten-year yield.<sup>146</sup> From 1959 through 1996, the average yield curve slope, measured by the ratio of the six-month CMT to the ten-year CMT, was 0.88, a moderate upward slope. However, when calculated on a monthly basis, this slope has varied considerably through time (See Table 26, Frequency Distribution of Yield Curve Slopes, 1959—1996). Monthly slopes have been as low as 0.48 (September and October 1992) and as high as 1.29 (March 1980). In more than half of the months, yield curves were roughly flat or downward sloping (slopes above 0.95) or were steeply upward sloping (slopes below 0.75).

<sup>146</sup> In the following discussion, yields of six-month Treasury bills are expressed on a bond-equivalent basis. The six-month maturity has the advantage that the timing of its payments are consistent with the interest rate payment cycle of Treasury notes and bonds, ensuring comparability of yields across maturities.

**Table 26. Frequency Distribution of Yield Curve Slopes, 1959 - 1996**

| Ratio of 6-Month CMT to Ten-Year CMT | Number of Months |
|--------------------------------------|------------------|
| 1.25 - 1.35                          | 2                |
| 1.15 - 1.25                          | 21               |
| 1.05 - 1.15                          | 41               |
| 0.95 - 1.05                          | 77               |
| 0.85 - 0.95                          | 89               |
| 0.75 - 0.85                          | 111              |
| 0.65 - 0.75                          | 80               |
| 0.55 - 0.65                          | 21               |
| 0.45 - 0.55                          | 14               |

Of particular relevance are the average slopes over periods of 108 months (nine years) and their relationship to previous increases or decreases in yields. Ratios of the average six-month Treasury CMT to the average ten-year CMT for periods of 108 months ranged from 0.77 (for periods ending from January 1994 through April 1996) to 0.99 (for periods ending from September 1981 through June 1982). OFHEO must project yields curves for a nine-year period in which the ten-year CMT has increased by 75 percent, and decreased by 50 percent, from its average in the nine months ending one year before the beginning of the nine-year period.<sup>147</sup> Accordingly, OFHEO sought to determine whether historical data suggest any relationship between changes in average ten-year CMT and yield curve slopes for relevant time periods.

At no time during the past 40 years have ten-year CMTs changed as greatly as required in the stress test. The largest comparable increase was 56.3 percent from the nine-month average of 6.04 percent during November 1971 to July 1972 to the nine-year average of 9.44 percent during August 1973 to July 1982. The ratio of six-month to ten-year yields during the later period was 0.98. The largest comparable decrease was 38.9 percent from the nine-month average of 12.74 percent during February to October 1984 to the nine-year average of 7.78 percent during November 1985 to October 1994. That

<sup>147</sup> In high yield environments, the changes in interest rates would be somewhat smaller, but past and recent data suggest that the changes will generally be of this magnitude.

change was associated with a slope of 0.77 during the nine-year period.

The pattern of relatively flat yield curve slopes after interest rate increases and steep yield curve slopes after interest rate decreases is consistent with the data. In all nine-year periods in which the average ten-year CMT was above its average during the relevant earlier nine-month period, the yield curve slope was greater than 0.87. In all nine-year periods in which the average ten-year CMT was below its average during the relevant earlier nine-month period, the yield curve slope was less than 0.87. Furthermore, the greater the increase in the ten-year CMT, the flatter the yield curve slope tended to be, and the greater the decrease in the ten-year CMT, the steeper the yield curve slope tended to be. Results of an ordinary least squares regression imply that a sustained 75 percent increase in the ten-year CMT would likely result in a CMT yield curve slope of 1.00, while a sustained 50 percent decline provides an expected slope of 0.77.<sup>148</sup>

<sup>148</sup> An ordinary least squares regression describes the results quantitatively. The dependent variable ( $Y_t$ ) is the ratio of the average six-month CMT to the average ten-year CMT during the nine years ending in month  $t$ . The independent variable ( $X_t$ ) is defined as the ratio of the average ten-year CMT in the nine years ending in month  $t$  to the nine-month average of the ten-year CMT from month  $t-128$  to month  $t-120$ . The regression results are:  $Y_t = 0.86 + 0.19 X_t$ .

Although this regression is based on monthly data over a 38-year period, it is a small data set for investigating this issue. The yield data start in December 1958, but each observation needs 128 months prior data, so the first observation used in the regression is August 1969. That leaves 326 observations through September 1996, but because of the lags, each observation is very similar to the one preceding it. There are really only four fully

If the macroeconomic circumstances associated with a future shift in yields were to differ from those that engendered interest rate changes in recent decades, different results might easily occur. Nevertheless, the historical experience of the past four decades, as indicated both by the actual yield curve slopes in the episodes when the ten-year CMT changed most greatly and by the more general results, suggests an essentially flat yield curve in the up-rate scenario, and a curve with a relatively steep upward slope in the down-rate scenario.

Although the highest yield curve slope was 0.99, OFHEO chose a more straightforward yield curve slope of 1.00 for the up-rate scenario. The largest historical interest rate increase resulted in an almost flat yield curve, and that increase was still well below the increase of the up-rate scenario of the stress test. In addition to the six-month yields, OFHEO also proposes that all other key Treasury yields be equal to the ten-year CMT in the up-rate scenario. When the six-month CMT equals the ten-year CMT, setting all the other key

separate dependent variable observations. In these circumstances, the coefficient estimates are unbiased, but the usual regression statistics are not meaningful. In an alternative regression, the data were reorganized as follows. The 326 observations were rank-ordered by the independent variable and divided into quartiles. Using average values of the two variables from each quartile, the regression was rerun with the resulting four observations. The results are:  $Y_t = 0.86 + 0.20 X_t$ .

Differences in parameter estimates from the full sample regression were small, less than 0.01, and the standard error of the coefficient of  $X_t$  was 0.022. Even though the observations for these regressions were limited, to the extent the data do exist, they support OFHEO's yield curve proposal.



Treasury yields equal to the same levels is straightforward and appropriate. In the down-rate scenario, however, setting the six-month and the ten-year yields does not directly suggest appropriate rates for instruments with other maturities. OFHEO proposes in this scenario that slopes of key CMTs to the ten-year CMT be based on a specific historical experience in a straightforward way that incorporates long-term relationships between yields of instruments with different maturities. The slope of the average six-month CMT to the average ten-year CMT during the nine-year period ending in April 1995 closely approximates the yield curve slope suggested by the regression equation.

Several commenters responded to a question in OFHEO's ANPR about the Treasury yield curve. Consistent with OFHEO's proposal, Fannie Mae recommended that OFHEO focus its approach to projecting yield curves on the ratio of the six-month Treasury yield to the ten-year Treasury yield. However, Fannie Mae recommended that the ratio of the six-month CMT to the ten-year CMT be set at a long-run historical average in both interest rate scenarios. Such an approach would not be consistent with actual experience that large sustained interest rate increases are accompanied by relatively flat yield curves and that large, sustained interest rate decreases are accompanied by relatively steep yield curves.

The Department of Veterans Affairs recommended a yield curve formula that would depend heavily on the shape of the yield curve at the start of the stress test. OFHEO considered such an approach, but found no evidence in historical data that the yield curve shape at the start of a ten-year period is related to the average shape over the final nine years of that period.

Freddie Mac suggested an approach based on an assumption that the statutory changes in interest rates represent a "regime shift." As market participants adjust to the new regime, Freddie Mac argued, average yield curve relationships should return. OFHEO believes it is more appropriate to base projections of yield curve relationships on what has actually occurred in the past with the most similar changes in ten-year CMT levels.

NAR recommended that OFHEO take into account Treasury refunding behavior during the stress period. In order to keep the stress test as general as possible, OFHEO chose not to make any specific projections about Treasury debt issuance during the stress period.

#### c. Yields of Treasury Securities During the First Year

OFHEO proposes that during the first year of the stress period, the yields on Treasury securities of all maturities adjust linearly from their levels in the month preceding the stress period to their levels during the final nine years of the stress period. In comments to OFHEO's ANPR, Fannie Mae stated that movements of the six-month and ten-year CMTs should be consistent during an adjustment period of one to two years. OFHEO agrees and believes its proposal will result in sufficiently consistent movement.

Freddie Mac suggested an approach under which, before the end of the first year, the yield curve might invert in the up-rate scenario and become very steeply upward sloping in the down-rate scenario. As previously discussed, OFHEO believes this approach is unnecessarily complex.

#### 2. Yields of Non-Treasury Instruments

##### a. In General

Payments during the stress period associated with many Enterprise assets, liabilities, and derivatives contracts and the performance of mortgages, especially prepayment behavior, are dependent on future levels of yields on non-Treasury instruments and levels of non-Treasury interest rate indexes. OFHEO proposes to project these yield levels using econometric models relating non-Treasury interest rate series to yields on Treasury securities of comparable maturity.

The econometric specifications were based on two primary criteria. First, whenever possible, the non-Treasury interest rate series were modeled using the relative (rather than absolute) spread over comparable CMTs. Second, the specifications balanced the desire for simplicity with the need to account for the time-series properties inherent in the data.

Autoregressive integrated moving average (ARIMA) models were used to model the behavior of the non-Treasury interest rate series.<sup>149</sup> The models

<sup>149</sup> An ARIMA ( $p,d,q$ ) model implies  $p$  autoregressive terms,  $d$  differences of the original series, and  $q$  moving average terms. Generally speaking, differencing is undertaken to render a series "mean-stationary," which is a requirement for statistical analysis of autoregressive models. For example, observations from a random walk include the cumulative effect of all past shocks (random disturbances) and/or trends. Differencing can net out the effect of persistent movements and make a series stationary. Autoregressive terms also represent the persistence of past shocks, but where the effect of the shock diminished over time. Moving average terms represent the effects of shocks that disappear completely after some finite number of periods.

capture the average historical relationships between specific CMTs and non-Treasury interest rates. OFHEO believes this approach is consistent with recommendations of all commenters to a question on this issue in OFHEO's ANPR.

##### b. Yields on Enterprise Debt

OFHEO proposes that yields on Enterprise debt be projected in the same manner as yields on other non-Treasury instruments, except that a 50 basis point premium is added after the first year of the stress period. After one year of stress test conditions, the Enterprises might appear strong based on accounting measures of earnings and net worth. However, market values of the Enterprises' assets, liabilities, and derivatives contracts would fully reflect the effects of the interest rate shock and some of the credit quality deterioration of the stress test. Investors would be aware of these changes in market value and adjust their evaluations of the Enterprises' financial health accordingly. Because the Enterprises' ability to withstand further interest rate and credit shocks likely would be low, the Enterprises in the final nine years of the stress period would likely not meet their risk-based capital requirement and would, therefore, be subject to dividend restrictions. Such events might strengthen investor concerns about the Enterprises' financial health.

As government sponsored enterprises, the Enterprises likely would suffer much smaller debt market penalties than fully private firms in the same circumstances. However, the historical experiences of Fannie Mae and the Farm Credit System during periods of financial stress strongly suggest that borrowing costs would include some risk premium during economic conditions such as those in the stress test. As illustrated by data reported in the General Accounting Office's 1990 report on government sponsored enterprises, Fannie Mae's short-term

In some situations the original series may also exhibit non-stationarity in the variance, requiring other normalizing transformations (e.g., taking logarithms). Also, visual examination of the data series and residual analysis based on appropriate statistical criteria (e.g., Ljung-Box Q-statistics) were used to guide the model selection process.

In some cases, a constant term has been included. This has the effect of preserving the historical average relative spread between the index and the corresponding Treasury rate when projecting future values. This is only done when there is some evidence that this historical difference is statistically significant. While differencing is necessary in many models to achieve stationarity in the mean, the use of relative spreads over Treasury rates of comparable maturities generally appears to make the original relative rate series variance stationary.

borrowing costs during 1980 through 1982 were generally about 80 basis points in excess of yields on comparable maturity Treasury debt, rising at one point to 200 basis points above Treasury yields. Spreads receded after sharp declines in interest rates greatly improved Fannie Mae's condition to a more normal range centered roughly at 20 basis points. Spreads were high again in the late 1980s for both Fannie Mae and the Farm Credit System, ranging from 40 to 100 basis points over a two-year period during the Farm Credit System's time of greatest financial difficulty.<sup>150</sup>

In stress test simulations based on the quarter ending in June 1997, the Enterprises' borrowing costs, including the 50 basis point premium, are 78 basis points above comparable Treasury yields in the up-rate scenario and 56 basis points above in the down-rate scenario after the first year of the stress period. Such spreads are appropriate because it is essential that the Enterprise be adequately prepared for widening debt yield spreads in periods of financial stress.

In its comments to OFHEO's ANPR, ACB pointed to Fannie Mae's difficulties in 1980 to 1982 as a possible basis for assessing likely borrowing spreads in the stress period. ACB also suggested that OFHEO might consider projecting the Treasury Department's use of its statutory authority to lend money to the Enterprises in stressful circumstances. OFHEO believes the stress test should assess the Enterprises' abilities to withstand the stress test without borrowing from the Treasury Department.

Freddie Mac commented that OFHEO should assume that the market's perception of an implicit government guarantee on Enterprise debt protects the Enterprises against any increased risk premium in borrowing spreads. OFHEO disagrees and believes the historical evidence is inconsistent with that view. OFHEO does agree that financial weakness of the Enterprises during the stress period should not be expected to have the same effect on borrowing costs that it would for firms that are not government sponsored enterprises. Nonetheless, some increase in risk premiums is appropriate. As the Enterprises' offering prospectuses clearly state, Enterprise obligations are not backed by the full faith and credit of the Federal government. OFHEO also agrees that attempting to calculate

appropriate borrowing spreads at different times during the stress test, based on specific measures of Enterprise stress, would unnecessarily complicate the test. Accordingly, OFHEO proposes a constant risk premium during the final nine years of the stress period.

### C. Mortgage Credit Enhancements

#### 1. Background

The Enterprises use mortgage credit enhancements to reduce their credit risk exposure. For single family loans with LTV ratios in excess of 80 percent, the Enterprises must use certain statutorily enumerated credit enhancements. The Charter Acts prohibit the purchase of conventional single family mortgages with LTV ratios in excess of 80 percent unless: (1) the seller retains a participation interest of 10 percent or more; (2) the seller agrees to repurchase or replace the mortgage upon default (seller recourse); or (3) the amount of the mortgage in excess of 80 percent is insured or guaranteed.<sup>151</sup> Multifamily mortgages are not subject to such a requirement, but may also be credit enhanced.

The Enterprises currently use several different types of credit enhancements: (1) Private mortgage insurance on individual loans, which usually covers a percentage of the gross loss, or "claim amount,"<sup>152</sup> (2) seller recourse agreements, which require the seller/servicer to repurchase loans in the event of default, either for all loan defaults (unlimited recourse) or for all defaults up to a specified amount (limited recourse); (3) indemnification, which requires the seller/servicer to reimburse the Enterprises for losses (either unlimited or limited) on defaulted loans after final resolution by the Enterprise; (4) pool insurance, which covers losses on a pool of loans up to a specified percentage of the aggregate unpaid principal balance (UPB), usually after private mortgage insurance has been applied; (5) spread accounts maintained by the Enterprise or a custodian to offset losses, funded by part of the spread between the interest rate on the loans in a pool and the coupon passed through to the investor; (6) collateral pledge agreements under which the Enterprise obtains a perfected interest in securities held in an account (usually Treasury securities or mortgage-backed

securities), to offset losses on a pool of loans when a seller/servicer hits certain financial triggers or when the loans are high risk; and (7) cash accounts funded by the seller/servicer that are available to offset losses.

#### 2. Modeling Approach

The stress test calculates the loss coverage provided by credit enhancements in one of two ways, depending on the credit enhancement type. Private mortgage insurance, unlimited recourse, unlimited indemnification, and risk-sharing agreements provide coverage for a percentage of the loss incurred. The dollar value of these credit enhancements is not known at the beginning of the stress period because it depends on the size of the loss that occurs in the future. What is known is the percentage of the loss that will be covered. Therefore, these credit enhancement types are referred to herein as "percent-denominated" enhancements. The other credit enhancement types are referred to as "dollar-denominated" enhancements, because the total coverage provided can be expressed in dollar amounts without knowing the size of the losses in advance.

The stress test applies the loss coverage provided by credit enhancements to the loan groups into which individual loans have been aggregated for modeling efficiency. (See section II. A., Summary of the Stress Test, for a description of the characteristics that are the basis for aggregation.) The loss coverage is a weighted average of the credit enhancements applicable to any loans in the group. In situations where a loan group is covered by both percent-denominated enhancements and dollar-denominated enhancements, the two different types of credit enhancements are applied sequentially. First, the loss severity of a loan group is reduced by an amount that is determined by the percentage coverage of the applicable percent-denominated credit enhancements. Then, the dollar coverage available from dollar-denominated credit enhancements is applied to the remaining losses on the loan group until all of the available dollar coverage for that loan group is used up. This approach permits percent-denominated credit enhancements (such as private mortgage insurance) to be applied before dollar-denominated credit enhancements (such as pool insurance) are applied, capturing the benefits of multi-layered credit enhancements.

<sup>151</sup> See sections 305(a)(2) and (4)(C) of the Federal Home Loan Mortgage Corporation Act (12 U.S.C. 1454(a)(2) and (4)(C)) and sections 302(b) and (5)(C) of the Federal National Mortgage Association Charter Act (12 U.S.C. 1717(b)(2) and (4)(C)).

<sup>152</sup> The claim amount includes the defaulted principal balance, unpaid interest, and associated expenses. It does not reflect subsequent proceeds from the sale of REO.

<sup>150</sup> U.S. General Accounting Office (1990), *Government Sponsored Enterprises: The Government's Exposure to Risk*, Washington, DC: U.S. General Accounting Office, (GAO/GGD-90-97) 87-88.

Some dollar-denominated enhancements provide coverage in a dollar amount that is fixed and known at the time the agreement is executed. These include pool insurance, limited recourse, limited indemnification, and cash accounts. Other dollar-denominated enhancements provide coverage in a dollar amount that is subject to variation during the term of the agreement. These include spread

accounts and collateral pledge agreements. Changes in these balances due to reasons other than loss coverage are not modeled. Rather, balances are treated as cash<sup>153</sup> and drawn upon after dollar losses are determined, until the total amount is exhausted.

Some credit enhancements, namely private mortgage insurance, recourse, pool insurance, and indemnification, are subject to the institutional credit risk

of the provider, i.e. the risk that the counterparty providing the credit enhancement will default on its obligation. Where institutional credit risk is present, the stress test applies a discount factor, or "haircut," based on the credit rating of the counterparty.

The haircuts that have been adopted by OFHEO are set forth by rating category in Table 27:

**Table 27. Rating and Cumulative Haircut**

| Month | AAA | AA  | A   | < = BBB |
|-------|-----|-----|-----|---------|
| 12    | 1%  | 2%  | 4%  | 8%      |
| 24    | 2%  | 4%  | 8%  | 16%     |
| 36    | 3%  | 6%  | 12% | 24%     |
| 48    | 4%  | 8%  | 16% | 32%     |
| 60    | 5%  | 10% | 20% | 40%     |
| 72    | 6%  | 12% | 24% | 48%     |
| 84    | 7%  | 14% | 28% | 56%     |
| 96    | 8%  | 16% | 32% | 64%     |
| 108   | 9%  | 18% | 36% | 72%     |
| 120   | 10% | 20% | 40% | 80%     |

The haircuts reflect the probability that some counterparties will be unable to meet their obligations during the stress period. Haircuts become progressively larger as the counterparty rating decreases, with parties rated BBB or lower and unrated parties receiving the most severe haircut. The haircut for each rating category is cumulative rather than additive. It increases for each month of the stress period, beginning in the first month of the stress test and increasing by equal amounts (i.e., linearly), until the full amount of the discount is reached in the 120th month. Table 27 reflects the size of the haircut at the end of each 12-month period during the stress period. Rating downgrades are not modeled. Instead, deterioration in the financial condition of counterparties due to the stressful environment is reflected in the linear increase of the haircuts.

<sup>153</sup> Although dollar balances for these types may in reality vary during the stress period, the stress test uses the balance stated at the beginning of the stress period.

### 3. Comments and Alternatives Considered

In the ANPR, OFHEO requested comments on how to calculate the loss coverage provided by credit enhancements and on what assumptions to make about the scope of coverage and the failure of counterparties during the stress period. These and other issues, relevant comments received, and OFHEO's rationales for the selected approaches are discussed below.

#### a. Modeling Approach

ANPR commenters suggested a variety of modeling approaches. MICA stated that the capital requirements for the Enterprises should be consistent with capital requirements for banks and thrifts and reflect the underlying product risk associated with each class of mortgage-related assets. MICA recommended that OFHEO assign relative "capital relief" values to "the

<sup>154</sup> OFHEO interprets "three allowable credit enhancements" as a reference to the three types of credit enhancement mentioned in the Charter Act

three allowable credit enhancements"<sup>154</sup> based on the quantity and quality of the credit enhancement. MICA further recommended that OFHEO consider mortgage insurance provided by a company with at least a AA claims-paying rating and providing at least the minimum coverage required by the Enterprises' charters as the "benchmark credit enhancement." The benchmark credit enhancement should receive the "maximum amount of capital relief," and other forms of credit enhancement should receive values relative to this benchmark, based on the quality and quantity (i.e. the amount of the loss it covers) of the enhancement. (See section III.C.3.c., Discounting for Counterparty Risk for a discussion of MICA's comments related to the quality of the credit enhancement.) MICA views this approach as consistent with risk-based requirements for banks and thrifts, which require uninsured high-LTV

exception to the prohibition on purchasing loans with LTVs in excess of 80 percent.

loans held in portfolio to have twice as much capital as high-LTV loans that are privately insured.

Freddie Mac suggested a two-step process similar to the process it uses in its internal models for pricing transactions. Freddie Mac first estimates the value of the credit enhancement by estimating the proportion of default losses that would be covered, and then discounts the estimated value to reflect the institutional credit risk of the provider, if any. Although Freddie Mac's credit enhancement valuation process occurs at the transaction level for pools of mortgages, Freddie Mac suggested that such a transaction-level approach might not be well suited for OFHEO's stress test. Rather, it recommended aggregating credit enhancements into categories before applying the two-step process. Freddie Mac further recommended that private mortgage insurance be modeled in connection with the modeling of loss severities. Other types of credit enhancements, Freddie Mac suggested, could be converted to "collateral-equivalent" amounts and, after discounting for applicable institutional credit risk, aggregated into a large collateral-equivalent pool and used to offset stress test losses dollar for dollar. Freddie Mac made specific recommendations for collateral-equivalent conversions: collateral pledge agreements and spread accounts should be included on a dollar-for-dollar basis and future inflows to spread accounts should be estimated based on the weighted average life (WAL) of the pool;<sup>155</sup> pool insurance should be included to the policy limit, i.e. the percentage limitation multiplied by the original UPB; and recourse and indemnification agreements should be treated as if 100 percent of the losses from mortgage defaults in the applicable pools were covered until such time as the seller/servicer failed.

The approach adopted by OFHEO is similar in many respects to the approach suggested by Freddie Mac. Like Freddie Mac's approach, it estimates the probable coverage of credit enhancements and discounts for counterparty risk where it is present. The value of private mortgage insurance and other forms of credit enhancements that cover a percentage of loss is estimated in connection with loss severities, as suggested by Freddie Mac. The approach adopted by OFHEO differs from the approach suggested by Freddie Mac in some of the details of

how credit enhancement coverage is estimated and how discounts for counterparty risk are calculated. These differences are discussed further below.

#### b. Aggregation

A threshold issue for OFHEO was whether to track and model each credit enhancement with the loan or pool to which it relates or to use some level of aggregation for credit enhancements to increase modeling efficiency. Tracking and modeling each individual credit enhancement agreement with the particular loan or pool to which it is related would yield the most precise estimate of the value and behavior of credit enhancements, but would make the model very complex. Aggregating credit enhancements for efficiency in modeling, on the other hand, gives rise to "cross support," which overestimates the amount of credit enhancements that would actually be used to offset losses. "Cross support" means that credit enhancements provided on a particular loan or pool are available to offset losses on another loan or pool, when in practice they would be available only to offset losses on the particular loan or pool for which they were provided and would be partially unused if losses were lower than the amount of the coverage. However, in a model that aggregates credit enhancements and applies them to loan groups, the unused portion of a credit enhancement is available to cover losses in the same loan group. The greater the aggregation of credit enhancements in the stress test, the more cross support occurs, and the more the estimated value of the credit enhancements is overstated. Aggregation up to a very high level can introduce an unacceptable level of cross support.

OFHEO considered converting each credit enhancement type to a dollar-equivalent amount, aggregating these amounts across all credit enhancement types into a single pool of collateral-equivalent dollars, and applying them dollar for dollar against stress test losses. While this approach is simpler and would have required less intensive tracking, it would permit an unacceptable level of cross-support by credit enhancements of different types and for different loan groups. Just as importantly, this approach would not have produced accurate results for the coverage associated with percent-denominated credit enhancements, such as private mortgage insurance. The dollar amount of coverage of these credit enhancements cannot be calculated until losses are determined. These losses can only be calculated during the course of the stress period;

they are not known at the beginning of the stress period.

The approach adopted by OFHEO strikes a balance between the benefits of simplicity and efficiency and the benefits of precision while imposing minimal regulatory burden. By estimating the coverage provided by each type of credit enhancement on the basis of loan groups, tracking credit enhancements for each loan group can be accomplished efficiently. The large number of loan groups used by the stress test minimizes cross support between different types of credit enhancements, loans, and time periods.

#### c. Discounting for Counterparty Risk

Another issue faced by OFHEO was whether and how to take into account the risk that the counterparty's ability to perform on the credit enhancement agreement would be affected by the conditions of the stress test.

OFHEO received a number of suggestions on the treatment of counterparty risk in response to the ANPR. Freddie Mac, MICA, and ACB recommended incorporating an assumption that some of the counterparties would fail during the stress period and suggested that OFHEO look to private rating agencies for guidance. ACB suggested that the OFHEO analysis of the actual coverage provided by mortgage insurance during the stress period could be "piggybacked" on S&P's analysis. ACB further stated that OFHEO could make reasonable adjustments to align the worst-case scenario in S&P's stress test with that in the OFHEO analysis, and that it would not be necessary to extend the analysis beyond private mortgage insurers.

As noted earlier, MICA recommended a matrix for determining "capital relief" for credit enhancements relative to a benchmark credit enhancement. One dimension of the recommended matrix is the credit rating of the counterparty, reflecting an assumption that the values assigned to various credit enhancements should reflect a differentiation on the basis of the provider's claims-paying rating. However, MICA's recommendation that OFHEO give "maximum capital relief" (at least 50 percent of the normal capital charge) to a AA-rated insurer providing at least the minimum coverage required by the Enterprises' charters appears to be equivalent to a recommendation that AA-rated counterparties not be discounted at all.<sup>156</sup> MICA asserted that

<sup>155</sup> This could be done by multiplying the WAL by the average yearly spread going into the spread account and then by the UPB.

<sup>156</sup> The risk-based capital requirements for banks and thrifts are not determined by a statutorily prescribed stress test but by establishing a standard

this recommendation is supported by the historical default experience for corporate bonds in the 1970–89 period, particularly the 0.9 percent default rate for AA-rated bonds.<sup>157</sup> From this MICA concluded that 99.1 percent of mortgage insurance would be available to the Enterprises during the stress period.

Freddie Mac recommended that evaluation of counterparty risk be based on the probable length of time an institution would continue meeting its loss-paying obligations in the stress period, which would be determined by the institution's rating at the beginning of the stress period. This method, Freddie Mac asserted, is similar to one used by Moody's. Specifically, AAA-rated companies would be assumed to cover all obligations for the entire ten-year stress period. AA-rated companies would be assumed to cover all obligations for seven years and none thereafter, A-rated companies for five years, and companies rated BBB and lower, only three years. Freddie Mac also recommended that institutions that are required to post collateral under a collateral pledge agreement be ranked with AAA-rated institutions. For recourse and indemnification agreements, Freddie Mac suggested that OFHEO could assume the agreement would last until the institution failed, a time determined by the institution's rating. It noted, however, that a similar effect could be achieved by adjusting the loss severities based on institution ratings, where the adjustment to loss severity would be lower for a higher institutional rating. However, Freddie Mac cautioned that if this approach were used, the difference between the present-value cost of losses occurring at the end of the stress period and losses occurring at the beginning of the stress period would have to be taken into account. That is, an institution that honors its recourse agreement for the first five years of the ten-year stress period would pay out much more than half of the present value of the losses.

Only one commenter suggested that credit enhancements having counterparty credit risk not be discounted for the risk. The MBA expressed concern about the burden it would place on the Enterprises to

capital charge for all assets that is expressed as a fixed percentage of the face amount of the asset. Capital relief for particular assets is achieved by risk weighting them at less than 100 percent of the face amount. Risk-based capital regulations for banks and thrifts risk-weight mortgage loans at 50 percent of the UPB. In a stress test regulation, the most favorable capital treatment is achieved by giving full credit for the credit enhancement without any discount.

<sup>157</sup> "Approach to Rating Residential Mortgage Securities," Moody's Investor Service, April 1990.

determine the financial strength of third parties and suggested that credit enhancements need not and should not be discounted for credit risk of the counterparty. The reasons cited were three. First, the Enterprises generally accept credit enhancements only from well-capitalized companies. Moreover, the Enterprises are in a good position to evaluate the counterparty's financial strength,<sup>158</sup> and the seller/servicer agreement often provides added protection from default on repurchase or indemnification obligations. Second, an assessment of counterparty credit risk is reflected in guarantee fees, which can be adjusted with each commitment. And third, mortgage insurers are nationally rated by recognized organizations that routinely adjust ratings based on changes in financial status. As a result, trends in their financial health can be monitored easily. The MBA urged OFHEO to ground its assumptions and conclusions in historical experience and "real world" conditions, which, in its view, argue for not discounting credit enhancements for counterparty risk.

OFHEO believes that some counterparty failure would be likely under the stressful conditions imposed by the stress test and that discounting for counterparty credit risk is necessary to avoid overstating the effect of credit enhancements in covering losses. The statutorily required benchmark stress period is considerably more severe than the national historical experience of corporate bonds cited by MICA. Also, as noted by Anthony Yezer, Professor of Economics at George Washington University, the failure of private mortgage insurers was important in the collapse of the thrifts in the 1930s.

Although the stress test reflects assumptions about the claims-paying abilities of counterparties during the stress period that are similar to Freddie Mac's, OFHEO did not adopt Freddie Mac's assumption that counterparties would pay 100 percent of their obligations as long as they paid at all. In OFHEO's judgment, this assumption is inconsistent with the pattern of counterparty defaults on obligations that one would expect during a stressful period and inconsistent with the pattern of defaults observed in the past. For example, Moody's study of corporate bond defaults<sup>159</sup> showed that cumulative defaults in each of the

<sup>158</sup> This results, MBA noted, from close relationships between the Enterprises and seller/servicers based on frequent marketing contacts, Enterprise auditing activities, and lender reporting obligations.

<sup>159</sup> "Historical Default Rates of Corporate Bond Issuers, 1920–1997," Moody's Investors Service, February 1998.

various ratings categories increased gradually over time. Also, it is likely that the primary market and credit enhancement counterparties would be affected by the stress test conditions relatively early in the stress period. Freddie Mac's approach would not capture this early impact. If mortgage losses were to occur during the first half of the stress period, the importance of reductions in credit enhancements due to counterparty risk would be understated because, as noted by Freddie Mac, mortgage losses occurring during the first half of the stress period constitute much more than half of the present value of total losses. Therefore, credit enhancements offsetting those losses would be more valuable. A more realistic assumption is that the rate of counterparty defaults would increase gradually during the stress period.

OFHEO did not adopt Freddie Mac's recommendation to treat seller/servicers who are required to post collateral when certain financial triggers are met<sup>160</sup> the same as AAA-rated institutions. Freddie Mac contends that the existence of these agreements would provide coverage equivalent to a AAA-rated credit enhancement. However, whether collateral would actually be posted when required is an additional source of counterparty risk and whether that collateral would provide coverage equivalent to a AAA-rated credit enhancement is difficult to evaluate in a regulatory context. Such an evaluation would require OFHEO either to develop the capacity to rate each seller/servicer with a collateral pledge agreement and the impact of the agreement on the seller/servicer's rating, or to require the Enterprises to obtain public ratings for such seller/servicers that take these agreements into account. In light of the small impact that this degree of precision is likely to have on the capital requirement, OFHEO believes that developing such a rating capacity is not an appropriate use of regulatory resources, and that requiring the Enterprises to obtain public ratings would impose an undue regulatory burden. Consequently, the proposed stress test does not model the value of collateral pledge agreements. Instead, it only models coverage provided by collateral that is already available in an Enterprise or third-party account.

This treatment is consistent with the treatment of such agreements under OFHEO's minimum capital regulation. Collateral is not recognized for purposes

<sup>160</sup> Seller/servicer agreements may include such a requirement when there is a decline in the institution's rating or a decline in its capital levels below a specified amount.

of satisfying the minimum capital standard unless it is actually held and legally available to absorb losses. Also, to be consistent with the minimum capital restrictions on the forms of collateral that are acceptable, the proposed stress test will give credit for the coverage provided by collateral only if it is among the following types: cash on deposit; securities issued or guaranteed by the central governments of the OECD-based group of countries,<sup>161</sup> United States Government agencies, or United States Government-sponsored agencies, and securities issued by multilateral lending institutions or regional development banks.

In determining the size and timing of the discounts (haircuts) to the value of the credit enhancements, OFHEO considered Moody's study of corporate bond default rates and methodologies used by S&P and Duff & Phelps (D&P). Moody's analysis of corporate bond issuers from 1920 to 1997<sup>162</sup> showed cumulative default rates over various

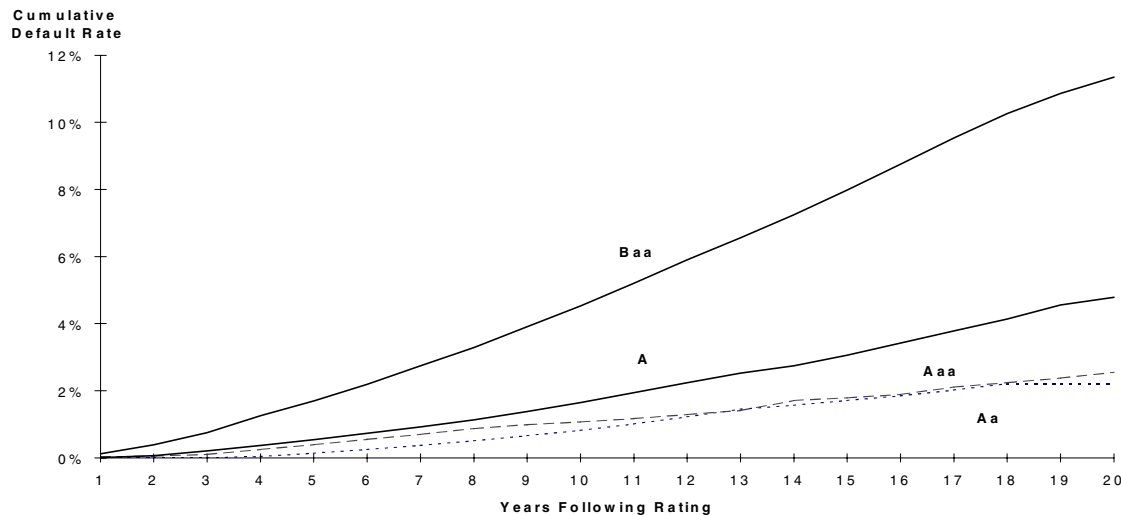
time horizons for each rating category. The average ten-year cumulative default rate over the entire period was 1.17 percent for Aaa issuers, 3.32 percent for Aa issuers, 3.87 percent for A issuers, 8.08 percent for Baa issuers. These data suggest that the ten-year cumulative default rate roughly doubles for each one-level drop in rating category. Defaults for Aa issuers were higher relative to those for Aaa and A issuers than this doubling relationship would suggest. However, Aa issuers from the mid-1970s forward had ten-year cumulative default rates that were much lower relative to issuers in other rating categories.

The Moody's approach and the approach recommended by Freddie Mac is a survival approach in which it is assumed that an institution meets 100 percent of its obligations for as long as it survives, and relative risk is expressed as the number of years an institution survives. The approach used by S&P and D&P<sup>163</sup> is a haircut approach in which it is assumed that institutions

will meet some, but not all, of their obligations, and the haircut is the percent of obligations they will fail to meet. Specifically, S&P discounts the claims-paying ability of mortgage insurers in a AA stress level environment by 20 percent for AA-minus-rated mortgage insurers, 50 percent for A-rated mortgage insurers, and 60 percent for A-minus-rated mortgage insurers. D&P discounts mortgage insurers in a AAA stress level environment by 35 percent for AA-rated reinsurers, 70 percent for A-rated reinsurers, and 100 percent for BBB-rated reinsurers. For S&P, the haircuts apply in full from the second year of the stress period. Also, the haircut is related to the stress level of the environment, and an insurer with a rating equal to or greater than the stress level is not discounted.

Moody's corporate bond study shows that the cumulative default curves for companies with ratings of BBB and above were essentially linear.

**Figure 2. Cumulative Default for Corporate Bonds by Rating Category**



OFHEO's approach to applying haircuts is similar to S&P's and D&P's, but differs in three ways. First, the stress test does not apply the full amount of the haircut immediately but applies a haircut that increases each month until reaching the full amount in the 120th month. This reflects the general industry view that defaults increase

gradually in a stress scenario. Further, as illustrated by the graph in Figure 2, the linear growth specification of the stress test is a reasonable one in light of actual historical patterns of default. Second, the stress test haircuts are in no case as low as zero and in no case as high as 100 percent. This reflects historical default patterns, which

suggest that counterparties or issuers in each rating category would pay at least some claims, and no rating category would be immune from any claims-paying defaults. With respect to the absence of a rating category with zero defaults, Moody's data show that, in a difficult but far from severe environment, 3.2 percent of issuers

<sup>161</sup> The OECD-based group of countries comprises all full members of the Organization for Economic Cooperation and Development and countries that have concluded special lending arrangements with the International Monetary Fund (IMF) associated with the IMF's General Arrangements to Borrow,

but excludes any country that has rescheduled its external sovereign debt within the previous five years.

<sup>162</sup> "Historical Default Rates of Corporate Bond Issuers, 1920-1997," Moody's Investors Service, February 1998.

<sup>163</sup> "S&P's Structured Finance Criteria," Standard & Poor's Corporation, 1988; "Evaluation of Mortgage Insurance Companies," Duff & Phelps, November, 1994.

rated Aaa at the beginning of 1983 defaulted within 10 years. Third, the stress test haircuts are not tied to the stress level. While OFHEO's NPR 1 showed credit stress at roughly a AA+ level, the stress test as a whole does not translate to any particular level because OFHEO's methodology as required by the 1992 Act differs in several key respects from that used by rating agencies.

Although OFHEO considered developing a probabilistic survival function for counterparties that would provide an estimate of failure in each year of the stress period, such a methodology would be difficult to specify, implement, and replicate, especially if recovery rates on bankrupt counterparties were modeled. OFHEO concluded that, short of a probabilistic function, imposing a linearly increasing haircut on all counterparty credit enhancement proceeds through the entire stress period would be the most representative of all the other options of how the rate of counterparty defaults would increase during the ten-year stress period.

The size of the haircuts proposed for the stress test, ten percent for AAA-rated companies, 20 percent for AA-rated companies, 40 percent for A-rated companies, and 80 percent for BBB-rated companies, are far more severe than recent default experience but less severe than Depression-era experience. They are about six to ten times the severity of average ten-year cumulative defaults during 1920–1997 in the Moody's analysis. The haircuts double for each drop in rating category, consistent with the Moody's bond default analysis. Some default occurs among AAA-rated companies, while BBB-rated company defaults are not 100 percent.

OFHEO's approach is transparent, easily replicated, and consistent with industry practice. It draws on the best aspects of S&P's approach to modeling mortgage insurer performance, and Moody's corporate bond study in applying company defaults over time. It also recognizes that, while the impact of the stress test environment on Enterprise losses might not be large in the first two years of the stress period, the primary mortgage market (i.e., the seller/servicer counterparties) likely would feel the impact of a stressful environment almost immediately.

#### d. Unrated Seller/Servicers

OFHEO considered whether unrated seller/servicers should be treated the same as other unrated counterparties or whether they should be treated

differently because of their close relationships with the Enterprises.

Both Freddie Mac and MBA argued that even though seller/servicers are typically unrated, the close relationship between the Enterprise and its seller/servicers enables the Enterprise to monitor their financial strength. Freddie Mac stated that the seller/servicer agreement provides added protection against default on recourse and indemnification obligations because it gives Freddie Mac the right to the servicing of all Freddie Mac loans then serviced by the institution in the event of default on these obligations. Freddie Mac asserted that the value of the servicing is likely to cover a substantial portion of the defaults covered by a seller/servicer recourse agreement.<sup>164</sup> For these reasons, Freddie Mac considers all sellers/servicers to be at least BBB for purposes of evaluating institutional credit risk and urged OFHEO to consider the added layers of protection provided by the servicing rights.

The stress test treats unrated seller/servicers, like other unrated counterparties, the same as it treats BBB counterparties, which is consistent with the thrust of Freddie Mac's ANPR comments. Although OFHEO does not explicitly price the added layer of protection provided by mortgage servicing rights in its stress test, this added layer of protection was considered as a factor in deciding that unrated counterparties should be treated as BBB. OFHEO believes that any imprecision resulting from assigning unrated seller/servicers to the BBB or lower rating group would have a small impact on the resulting capital requirement. Seller/servicer recourse represents a small percentage of the credit enhancements used by the Enterprises. In addition, the Enterprises' largest customers tend to have public ratings.

Although the Enterprises assign internal ratings to seller/servicers, OFHEO did not use these ratings for three reasons. First, these ratings and the methodology for developing the rating are proprietary information and not publicly available. Therefore, they cannot be included in the regulation or used by third parties to evaluate the risk-based capital requirement. Second, each of the Enterprises has developed its own unique rating system. These rating systems may result in different ratings of the same parties. One of the

<sup>164</sup> Freddie Mac estimates that these servicing rights are normally worth about 25 basis points of income per year, and can be sold to another servicer for 100 to 150 basis points.

underlying requirements of this regulation is the development of a capital requirement that is applied uniformly to both Enterprises. This requirement cannot be met if different rating systems are applied to each Enterprise. Finally, using such ratings without independent validation by OFHEO would compromise the independence of the regulatory process.

#### e. Fluctuations in Value

The dollar value of some credit enhancements, such as spread accounts and securities deposited in an account under collateral pledge agreements, fluctuate over time, for reasons other than withdrawals to cover losses. Spread accounts are funded by a portion of each loan payment and hence increase in value as loan payments are made. Securities deposited in an account under collateral pledge agreements,<sup>165</sup> which are marked to market periodically, fluctuate in value due to movements in interest rates during periods that fall in between the marks to market. In addition, posting requirements of collateral pledge agreements can cause additional collateral to be deposited to the account.

The stress test does not model these fluctuations. Rather, it uses the dollar value of spread accounts, cash accounts, and collateral posted under collateral pledge agreements on the first day of the stress period and draws on this dollar amount throughout the stress period to cover losses. Modeling fluctuations in the value of collateral posted under collateral pledge agreements would have added a level of complexity that is not justified by the incremental precision that would be gained. Similarly, the stress test does not model the accumulation of interest in the spread account according to the terms of the spread account agreement because this would have introduced a level of complexity that is not justified by the probable impact on the ultimate capital requirement.

Freddie Mac suggested that OFHEO estimate future inflows by multiplying the weighted average life (WAL) of the mortgage pools by the average yearly spread going into the spread account and then by the UPB. However, such an approach would also have made the stress test excessively complex. Loans covered by a spread account agreement may be in different loan groups in the stress test, and determining the WAL of

<sup>165</sup> As stated earlier, the stress test recognized the coverage provided by collateral pledge agreements only if collateral has actually been posted and resides in an account as of the beginning of the stress period. Otherwise, collateral pledge agreements are not modeled in the stress test.

all the loans covered by each spread account would require tracking each spread account loan and processing spread account characteristics at the transaction level.

OFHEO will continue to monitor the relative volume of spread accounts and collateral pledge agreements and consider whether an amendment to the regulation is needed if it should appear that the impact on the capital requirement might be significant.

#### f. Credit Enhancement on High LTV Loans

Certain credit enhancement types used by the Enterprises are not mentioned in the Charter Acts' exceptions to the prohibition on purchasing single family loans with LTVs in excess of 80 percent, namely spread accounts, collateral pledge agreements, cash accounts, pool insurance, and indemnification. This fact raised the issue of whether the stress test should take them into account when they are intended to satisfy the statutory requirement for credit enhancement on loans with LTVs in excess of 80 percent. In its comment letter, Freddie Mac argued that an expansion of the list of recognized credit enhancements to include collateral pledge agreements, spread accounts, and indemnification would be consistent with the intent of Congress in giving the OFHEO Director discretion to make reasonable assumptions about factors that would affect the severities of loss on mortgage defaults, including "the value of mortgage insurance [and] the value of various forms of credit enhancements such as recourse agreements, collateral, and spread accounts."<sup>166</sup> MICA, on the other hand, argued that only the three types mentioned in the statutory exceptions should be considered.

Although OFHEO recognizes that some types of credit enhancements not expressly referenced in the Charter Acts may provide equal or superior loss protection, OFHEO does not believe that they satisfy the statutory requirement for credit enhancements for single family loans with LTVs in excess of 80 percent. OFHEO does not concur with Freddie Mac that the legislative history of the 1992 Act gives OFHEO the latitude to expand the list of statutorily authorized credit enhancements for single family loans with LTVs in excess of 80 percent. OFHEO believes that taking into account credit enhancements not expressly referenced in the Charter Acts when they are used to satisfy the statutory credit enhancement

requirement for single family loans with LTVs in excess of 80 percent would undermine OFHEO's efforts to ensure that the Enterprises operate within the Charter Acts.

#### g. Scope of Coverage

The ANPR asked for comments on how the regulation should address the scope of coverage provided by credit enhancements. Freddie Mac, the only commenter on this question, stated that all credit enhancements except private mortgage insurance can be assumed to cover all loss elements, including loss of property value, lost interest, real estate commissions, attorney fees, taxes, and preservation costs, where as private mortgage insurance sometimes excludes certain expenses after the property becomes REO.

Based on an analysis of available information, OFHEO proposes to make credit enhancements coverage available for all types of losses associated with stress test defaults. The benchmark data reveal that loss severities before credit enhancements were applied for single family loans in the benchmark time and place were consistently in the 50 percent to 60 percent range. At the same time, private mortgage insurance coverage typically ranged from 12 percent to 30 percent coverage of the gross claim amount. Since the severities far exceed the coverage of private mortgage insurance, the stress test assumes that the private mortgage insurance would be used up covering expenses that the mortgage insurance typically covers, and that the REO-related expenses would be reflected in the uncovered losses.

#### h. Termination of Private Mortgage Insurance

Modeling private mortgage insurance required a determination of how to treat the potential for termination of mortgage insurance while the loan is outstanding. Termination occurs either because the borrower exercises an option to cancel the insurance when the equity in the loan reaches a predetermined threshold, or because cancellation is automatic under the provisions of the recently enacted Homeowners Protection Act of 1998.<sup>167</sup> For loans originated before the July 1999 effective date of the Homeowners Protection Act, termination resulting from the borrower's exercise of the right to cancel the insurance when sufficient equity in the loan is attained presents a difficult issue, because data on this phenomenon are scarce, and there is an insufficient

basis on which to draw firm conclusions. OFHEO considered three options: (1) assume that borrowers do not exercise this right when they are eligible; (2) assume all borrowers exercise this option when they become eligible; or (3) assume some percentage of borrowers, less than 100 percent, exercise this option when they become eligible.

After considering these options, OFHEO concluded that the first option was the preferred option because it is the option likely to produce the least distortion. The second option would understate the amount of credit enhancement available and the third would require an assumption based on very sparse data. Although assuming that insurance is not terminated may be a source of some imprecision, the impact of such imprecision is not likely to be significant in determining capital needed under the stress test. The loans most likely to default are those loans with high current LTV ratios, which will not be eligible for termination of private mortgage insurance because of the high LTVs. Conversely, those loans with low enough current LTV ratios to be eligible for termination are much less likely to need the coverage, and whether it is unused or is assumed to be terminated will make little difference. The largest potential for error is with loans with high original LTV ratios that have aged prior to the stress test just to a point where coverage can be terminated. OFHEO will monitor this issue and consider proposing an amendment to the regulation if another option appears to be more appropriate.

The Homeowners Protection Act provides that mortgage insurance will terminate automatically when the loan balance is scheduled to reach 78 percent of the original value of the property securing the loan, provided payments on the loans are current. For loans that do not meet the LTV test and for high-risk loans with original principal balances that do not exceed the conforming loan limit, mortgage insurance will terminate when the loans reach the mid-point of their amortization periods if payments are current. The Enterprises will publish guidelines to describe high-risk loans. OFHEO proposes to apply the provisions of the Act by eliminating mortgage insurance coverage in calculating loss severities for loans that reach 78 percent of their original value during the stress period or at the midpoint of their amortization periods for "high risk" loans, as defined by the Enterprises.

<sup>166</sup> H.R. Rep. No. 102-206, at 67 (1991).

<sup>167</sup> Pub. L. No. 105-216, 112 Stat. 897-910 (12 U.S.C. 4901-4910).



#### D. Liabilities and Derivatives

The Enterprises issue a variety of debt instruments that comprise their liability portfolios. To understand the types of liabilities issued by the Enterprises it is useful to group the liabilities into categories based on similar characteristics related to the instrument's coupon type, optionality, or other structuring features. The liabilities issued by the Enterprises are primarily one of three coupon types: fixed-rate, floating-rate, or zero-coupon. The Enterprises use these different types of coupons to manage both their exposure to interest rate risk and their cost of funding. The optionality of a financial instrument refers to whether that instrument contains an embedded option—in the case of the Enterprises liabilities, generally a call option. The embedded call option gives the Enterprises the opportunity to pay off (call) the debt, at a time prior to its contractual maturity. The Enterprises issue a mix of callable and non-callable (bullet) debt in order to manage their exposure to the prepayment risk inherent in their retained mortgage and mortgage security portfolios.

The Enterprises also issue liabilities that have unique structuring features, such as complex principal, coupon, or optionality characteristics. An example of a complex liability is a Euro discount note. To the extent that these notes are issued in foreign currencies, the Enterprises are exposed to foreign exchange risk, which is offset with hedging transactions at the time the discount notes are issued. An example of a liability with complex coupon characteristics is an inverse floater. For example, this instrument may pay a fixed rate of interest for a given period of time and then revert to an interest payment based on the formula 12 percent less six month LIBOR. In this case, the Enterprises incur higher interest costs as LIBOR decreases. In most situations, the complex risk characteristics of these liabilities are hedged at the time of issuance, leaving the Enterprise with synthetic "plain vanilla" liabilities, which have the coupon and option features of a more typical Enterprise liability. These liabilities generally are used by the Enterprises to obtain funds at a lower net cost than could be obtained by issuing simpler forms of debt.

In addition to the types of liabilities discussed above, the Enterprises also provide investment vehicles, termed Guaranteed Investment Contracts (GICs), to various institutions that have specific cash flow requirements or need flexibility in making cash withdrawals.

They comprise a very small percentage of the Enterprises' liabilities. GICs can pay or accrue interest. Their principal balances can increase, decrease or remain the same.

The Enterprises, like most large financial institutions, use derivatives to help manage the interest rate risk of their assets and liabilities. The term "derivatives" covers a broad range of instruments, the value of which is based on or linked to (i.e., "derived" from) another instrument or a financial market such as stocks, interest rates or currencies. A common derivative is an interest rate swap, which derives its value from the changes in value of interest rates paid on various types of debt instruments. Derivatives can be used to hedge the unusual or complex risk characteristics of individual debt instruments, such as the complex structured liabilities described above. They also can be used to rebalance the interest rate risk of an entire portfolio. In short, derivatives, like most financial instruments, can either add or reduce various types of risk. The risk-based capital regulation, therefore, must account for derivatives in order to reflect accurately the risk profile of the Enterprises.

In developing an approach for modeling the cash flows of the Enterprises' liabilities and derivatives, OFHEO had to address four issues discussed below: (1) should liabilities and derivatives be modeled at the instrument level or should they be aggregated in some manner; (2) how should instruments linked to foreign currencies or unusual risk factors be modeled; (3) how should callable debt and cancellable derivatives be modeled; and (4) how should the stress test account for the risk of derivative counterparty defaults?

##### 1. Modeling Methodology

The first issue for OFHEO was whether to model liability and derivative cash flows at the instrument level or to aggregate individual instruments with similar terms and risk characteristics and model the aggregated cash flows based upon average maturities, coupons, options, and other features. In response to an ANPR question about how OFHEO should simulate gains and losses on derivative activities, Freddie Mac suggested that the underlying instruments should be modeled. Likewise, Freddie Mac's discussion of liabilities in its comments assumes that most liability instruments will be modeled individually. The only other comment was ACB's suggestion regarding accounting for the risk of counterparty default. ACB's

recommendation that the stress test "haircut" (meaning reduce by a percentage) derivative positions when they were "in the money" (meaning the derivatives have a net positive value to the Enterprises) would require modeling cash flows of derivatives individually.

The issue of modeling liabilities and derivatives on an aggregated versus instrument level usually requires a trade-off between accuracy, model complexity, and information system resources. In most cases, the model for generating cash flows uses the same types of information for an individual instrument as it would for a group of similar instruments. For this reason, OFHEO's information system resources are capable of processing the large number of individual liabilities and derivatives in a reasonable amount of time. Therefore, OFHEO proposes to model the cash flows of all existing types of liabilities and derivatives individually, except certain instruments that have terms or risk characteristics based on a foreign currency, which are discussed below as a separate issue.

As with most other liabilities, the stress test will model GICs individually. However, given the variety of their terms and purposes, it was necessary to simplify the cash flow model for these instruments. The stress test models each GIC as if it pays out its specified interest on the starting balance amount over the entire stress period, unless the GIC includes an explicit maturity date. In the latter case, the stress test pays interest only until the maturity date, at which point it pays out the total principal.

##### 2. Foreign Currency Linked or Unusual Instruments

The second liabilities-related issue arises because, from time to time, the Enterprises issue foreign currency-denominated debt and structured notes that are linked to a foreign currency. As discussed above, the Enterprises currently hedge all foreign currency-linked securities with derivatives or other financial instruments, resulting in synthetic securities denominated in U.S. dollars. Freddie Mac, the only ANPR commenter to address this issue, recommends modeling foreign currency-linked transactions differently from other instruments, explaining that "hedge cash flows or the netted cash flows need to be calculated \* \* \*."

OFHEO agrees that currency-linked securities and the associated hedging instruments are different from other types of liabilities and derivatives of the Enterprises in that the cash flows of the individual instruments are linked to changes in currency values. OFHEO also

recognizes that, in current practice, the Enterprises issue a limited volume of currency-linked instruments and transfer all currency risk to third parties by hedging instruments. Further, with the exception of debt linked to foreign currency, the Enterprises have not issued liability instruments that were linked to indices or values (such as commodities or stock prices) that are not projected in the stress test.<sup>168</sup>

OFHEO concurs with Freddie Mac's comments that where all the currency risk is hedged, by swapping the foreign currency payments into dollars, the stress test could calculate the cash flows by creating a single synthetic liability, denominated in dollars and paying the net amount due under the related transactions. The stress test, therefore, applies that approach to instruments that are fully hedged. However, in the event that OFHEO finds that the foreign currency risk on any liability or derivative instrument has not been transferred fully to a third party, the stress test models the cash flow on such instruments as follows.

The stress test creates significant losses in unhedged currency positions in both the up-rate and down-rate scenarios. In the up-rate scenario, the stress test applies an exchange rate that increases the value of the foreign currency against the dollar by the same percentage that interest rates increase. For example, if the ten-year CMT shifts up by 50 percent, then the foreign currency value is shifted up by 50 percent against the dollar for the up-rate scenario.<sup>169</sup> The effect in this example would be that the Enterprise would be paying 50 percent more dollars due to the unhedged exchange rate shift.

A different adjustment is applied in the down-rate scenario. In that case, the stress test decreases the exchange rate of the dollar proportionately with the decline in the ten-year CMT, creating a decrease in the value of the dollar similar to that in the up-rate scenario. Thus, a downward shift in the ten-year CMT of 50 percent would be associated with a shift down of 50 percent in the exchange rate of the dollar. The effect in this example is that the Enterprise would be paying twice as many dollars due to the unhedged exchange rate shift.

This approach is simple, conservative and reasonable. The stress test recognizes that there can be substantial risk associated with unhedged positions in foreign currencies or other indexes or values to which instruments can be linked, but that it would be impractical for OFHEO to develop indexes for foreign currencies and all other values to which liabilities or derivatives could be linked. The exchange rate in the up-rate scenario is not based upon a model or an economic prediction, but does reflect a recognition that there have been occasions in the past where the dollar has declined in value as CMT rates have been increasing. Likewise, the dollar has also declined at times when CMT rates have decreased. Therefore, it is appropriate in a stress test to assume that the dollar moves in an unfavorable direction in both scenarios, to avoid creating a windfall to the Enterprises and to ensure significant financial stress in both scenarios. Moreover, OFHEO does not anticipate at this time that the Enterprises will be issuing foreign currency or unusual debt derivatives without using appropriate and complete hedges. If the Enterprises do alter their current businesses to enter into such debt, OFHEO will consider at that time whether a different treatment for the instruments involved is appropriate.

### 3. Call and Cancellation Options

An Enterprise will retire an outstanding issue of callable debt in order to issue new debt at favorable rates. For similar reasons an Enterprise may cancel a swap. For example, an Enterprise can cancel a pay-fixed/receive-floating swap—which, together with discount notes, creates a synthetic fixed-rate liability—in order to enter into a new swap that lowers the effective cost of the synthetic liability. OFHEO recognizes that, in general, an Enterprise will exercise its option when the net interest cost savings on a replacement security or contract, exceeds some threshold.

OFHEO received several comments to the ANPR that emphasized the importance of modeling the exercise of the call option. OFHEO concurs with these comments and, accordingly, treats callable debt in a manner that takes into consideration the exercise of the call option. OFHEO considered developing a financial model to value call and cancellation options and determine when they would be exercised in the stress test. However, the added precision of such a valuation model, as opposed to a simpler approach, would not have a significant effect on the capital requirement because the severe

nature of the interest rate shocks included in the stress test result in either all eligible debt being called in a short period of time or no debt being called over the entire period. In addition, a valuation model would add a considerable amount of complexity to the cash flow model. Therefore, OFHEO sought to develop an alternative approach for decisions to exercise call and cancellation options that would provide a reasonable approximation of the Enterprises' procedures for exercising such options without increasing the complexity of the model.

OFHEO proposes to use, as a proxy for this threshold option value, the spread between the coupon rate of an outstanding actual or synthetic debt security and the Enterprise cost of funds for a new replacement security (the call-spread). Thus, in the stress test, the call option is exercised and the debt retired when the cost of the new debt plus the call-spread is less than the cost of the existing debt instrument. This methodology is often used as a simplified approach in modeling applications and was suggested by Freddie Mac in its comments to the ANPR. No other commenter suggested a specific approach.

To calculate an appropriate call spread, OFHEO received data from the Enterprises on the threshold value of call options on debt, in terms of a call-spread, over a range of reasonable times to maturity and valuation model parameter settings. After reviewing this information, OFHEO proposes to use a call-spread in the stress test of 50 basis points over the cost of issuing new bullet debt with the same time to maturity as the callable debt. This call-spread provides a reasonable debt call rule, without adding a considerable amount of complexity to the model.

### 4. Counterparty Risk

The ANPR sought comment about how, if at all, OFHEO should incorporate the effect of derivative counterparty defaults into the stress test. The Enterprises frequently enter into derivative contracts that, combined with various types of debt instruments (including structured notes), create synthetic liabilities at lower cost than actual debt with the same characteristics. Other derivative contracts are used as macro hedges against portfolio level risks. However, all swaps expose an Enterprise to counterparty credit risk, which is the risk that the counterparty may default on its contractual obligation at a time when the derivative contract has a positive market value to the Enterprise.

<sup>168</sup> However, wherever the terms "foreign currency" or "currency" are used, they should be read to include any unit or value, except those interest rate indices that are included in the stress test, in which debt or derivatives may be denominated or to which such instruments may be linked.

<sup>169</sup> Shifting the value of the other currency up 50 percent has effect of decreasing the value of the dollar against that currency by 1/3. In other words, one could buy the same amount of dollars with only 2/3 the amount of other currency.

Currently, the Enterprises limit their exposure to counterparties by entering into swap transactions only with counterparties rated investment grade and by requiring all counterparties to execute collateral pledge agreements. These pledge agreements require any counterparty currently rated or subsequently downgraded to a less than a AAA credit rating to post collateral to the extent that net losses on its contracts<sup>170</sup> with an Enterprise exceed threshold levels. The threshold levels vary based on the counterparty's rating. The Enterprises do not require AAA-rated counterparties to post collateral, but if any counterparty is downgraded, the collateral pledge agreements subjects it to the more stringent collateral requirements of its new lower rating. Freddie Mac, in its comments, describes additional measures it uses to mitigate counterparty risk, which include using contracts with close-out and netting arrangements that allow Freddie Mac to offset losses on one contract with a particular party against gains on another contract. Freddie Mac also described its practice of requiring guarantees from well-capitalized parent companies and of periodically marking each contract to market at full replacement value.

In commenting on the ANPR, Freddie Mac stated that its management of credit risk on derivatives is such that the stress

test should specify no losses due to counterparty default. Freddie Mac suggested that any losses would be covered adequately by the 30 percent add-on that the 1992 Act requires for management and operations risk and by the minimum capital standard. ACB, commenting generally on the subject of counterparty risk, stated that where collateral is provided, the risk of counterparty failure is remote. ACB suggested that, at most, a straightforward "haircut" on "in the money" derivative positions should be applied.

After consideration of these comments, OFHEO determined that reducing the haircuts for derivative counterparty risk by 80 percent from haircuts on other types of third party credit risk would provide appropriate recognition for Enterprise collateral agreements. However, OFHEO did not agree with Freddie Mac that the stress test should apply no haircuts. There always remains the possibility that counterparties could default on their obligations due to a sudden calamity that could prevent collateral from being posted. Also, collateral values can decline over time or collateral may be subject to competing claims. Sudden business bankruptcies and decline or impairment of collateral value would be even more likely than usual under the harsh economic circumstances of the

stress test. Accordingly, and for the same reasons that similar haircuts are applied to mortgage credit enhancements and non-mortgage investments, OFHEO proposes to specify losses in the stress test due to failure of derivative counterparties.

OFHEO proposes to take into account the amount of loss due to derivative counterparty default as follows. As illustrated in Table 29, the stress test applies haircuts that increase linearly (by equal amounts) each month to the net payments from derivatives with a given counterparty over the term of the contracts with that counterparty. That is, if the Enterprise's net swap position across all contracts with a particular counterparty imply cash payment to the Enterprise during a given month, that cash payment is reduced ("haircut") by an amount determined by the public credit rating of the counterparty and period in which the payment is owed. The calculation is performed for each counterparty and for each month in which a counterparty has swap agreements with the Enterprise. The cash flows for all derivatives with each counterparty are netted, except swaps that exchange into U.S. dollars any currency in which Enterprise debt may be denominated. Haircuts are applied separately to these derivatives, as explained below.

**Table 28. Haircuts To Income From Derivatives**

| Month | AAA  | AA   | A    | BBB   |
|-------|------|------|------|-------|
| 12    | .2%  | .4%  | .8%  | 1.6%  |
| 24    | .4%  | .8%  | 1.6% | 3.2%  |
| 36    | .6%  | 1.2% | 2.4% | 4.8%  |
| 48    | .8%  | 1.6% | 3.2% | 6.4%  |
| 60    | 1.0% | 2.0% | 4.0% | 8.0%  |
| 72    | 1.2% | 2.4% | 4.8% | 9.6%  |
| 84    | 1.4% | 2.8% | 5.6% | 11.2% |
| 96    | 1.6% | 3.2% | 6.4% | 12.8% |
| 108   | 1.8% | 3.6% | 7.2% | 14.4% |
| 120   | 2.0% | 4.0% | 8.0% | 16.0% |

<sup>170</sup> These losses are calculated on a mark-to-market basis, because most derivatives involve

features, such as payment streams and options, the

values of which fluctuate with changes in the yield curve.

The haircuts reflect the probability that some counterparties will be unable to meet their obligations during the stress period. Haircuts become progressively larger as the counterparty rating decreases, with parties rated BBB or lower and unrated parties receiving the most severe haircut. The haircut for each rating category is cumulative rather than additive. It increases linearly for each month of the stress period, beginning in the first month of the stress test until the full amount of the discount is reached in the 120th month. Table 29 reflects the size of the haircut at the end of each 12 month period during the stress test. Rating downgrades are not modeled. Instead, deterioration in the financial condition of counterparties due to the stressful environment is reflected in the linear increase of the haircuts.

The proposed approach recognizes that both Enterprises utilize netting and close out arrangements such as those described by Freddie Mac in its comments. If OFHEO determines that not all derivatives with a particular counterparty are covered by a single arrangement, the derivatives' cash flows will not all be netted together. Instead, the stress test will group the derivatives by netting agreement and apply haircuts separately to the net cash flow for the derivatives covered by each agreement. For derivatives covered by no netting agreement, the haircut would be applied on an instrument by instrument basis to any derivatives that are "in the money." In the event that any derivatives contracts do not include standard Enterprise collateral agreements, the haircut percentages imposed will be those in Table 27 in section III.C., Mortgage Credit Enhancements.

As mentioned above, the stress test will apply haircuts separately to swap agreements that exchange into U.S. dollars any other currency in which Enterprise debt may be denominated. Because these agreements entail the Enterprise receiving payment denominated in other currencies, which the stress test does not model, the stress test cannot net them against more usual interest rate swaps. Neither can the stress test net these agreements against each other, since they use variety of currencies. Therefore, the stress test applies haircuts to each individual contract. Because the collateral agreements and investment ratings do not differ for the counterparties to these agreements, the stress test applies the same counterparty haircut percentages to them as it does for interest rate swaps. However, the haircut is applied to the 'pay' side of these contracts rather than to the 'receive' side. The effect will

be a loss on each swap transaction equal to the haircut amount. This approach recognizes that the Enterprises use these swap agreements only to match a debt position for which the swap agreement is a hedge.

#### *E. Non-Mortgage Investments*

In addition to mortgage investments, the Enterprises hold non-mortgage investments<sup>171</sup> that include Treasury securities, federal funds, time deposits, Eurodollar deposits, asset-backed securities<sup>172</sup> (ABS), corporate securities, and state and municipal bonds.<sup>173</sup> As of December 31, 1997, non-mortgage investments at Fannie Mae constituted about \$66.8 billion (17 percent of on-balance sheet assets) and \$13.8 billion (7.0 percent) at Freddie Mac.

OFHEO considered several issues related to how the stress test should model the cash flows associated with the Enterprises' non-mortgage investments. The first issue concerns whether the stress test should model cash flows from such investments at the instrument level or at an aggregated level. Such aggregation entails grouping individual instruments with similar terms and risk characteristics and modeling the group as a single instrument. The proposed stress test models the cash flows of all non-mortgage investments on an instrument-by-instrument basis. Evaluating whether to model non-mortgage investments on an instrument versus an aggregated level represents a trade-off between accuracy, model complexity, and information system resources. Instrument level modeling provides greater accuracy than modeling aggregated investments because aggregating instruments may result in losing information. On the other hand, instrument level modeling may result in added complexity and require additional information system resources. Neither of these concerns

poses a significant constraint in the case of modeling the Enterprises non-mortgage investments. Accordingly, OFHEO believes that modeling cash flows from non-mortgage investments is practicable and appropriate. With respect to complexity, the model for generating cash flows uses the same types of information for an individual instrument as it would for a synthetic instrument representing a group of actual instruments. With respect to information resources, OFHEO systems are capable of processing the large number of individual investments in a reasonable amount of time.

The second issue concerns whether there should be any simplifying assumptions in modeling the cash flows associated with non-mortgage investments. OFHEO has decided to include the following three simplifying assumptions which will facilitate this modeling, without having a significant effect on the risk-based capital requirement. First, for investments with common characteristics, the stress test specifies one payment frequency for those instruments. Second, the stress test standardizes prepayment speeds for ABS, i.e., how fast principal (both scheduled principal and prepayments) is returned. Third, the stress test will not apply different ABS prepayment speeds in different interest rate environments, because ABS typically pay off quickly and therefore are not significantly affected by interest rates. In addition, the effect of specifying different prepayment speeds on the risk-based capital requirement would not be significant, and would add unreasonable additional complexity to the stress test.

OFHEO next considered whether the proposed stress test should, with respect to non-mortgage investments, model their credit risk, i.e., the risk that there will be a default on an instrument. OFHEO has determined that it is appropriate to model such credit risk because some issuers would be unable to meet their obligations during the stress period. The proposed stress test ties the credit quality of non-mortgage investments to the credit rating specified by one or more nationally recognized public rating organizations, such as S&P or Moody's. While public offerings usually have a single rating, they occasionally have split ratings. In the case of split ratings, the stress test will use the lowest rating.

The stress test first generates cash flows for a given instrument and then reduces those cash flows by a specified percentage (i.e., "haircut") based on the public rating organization. The percentage haircut increases as the

<sup>171</sup> Both OFHEO and HUD are authorized to regulate the Enterprises' non-mortgage investment activities. OFHEO has specific authority to ensure that the Enterprises are adequately capitalized and operating safely (1992 Act, section 1313 (12 U.S.C. 4513)), and HUD has general regulatory authority over the Enterprises to ensure that the purposes of the 1992 Act are accomplished (1992 Act, section 1321 (12 U.S.C. 4541)). While HUD's current regulations do not contain specific provisions about the Enterprises' non-mortgage investments, HUD issued an advance notice of proposed rulemaking (ANPR) seeking comment about the need for it to regulate such investments. (62 FR 68060, December 30, 1997)

<sup>172</sup> ABS are similar to MBS but are backed by nonmortgage assets, such as receivables on car loans and credit cards.

<sup>173</sup> Although they are generally tax-exempt, for purposes of the stress test, mortgage revenue bonds (MRBs) are not included in the category State and municipal bonds. MRBs are discussed in the section titled "other housing assets."

rating decreases so that a highly-rated instrument will have a lower haircut than a lower rated instrument. In the absence of a rating, the stress test would

apply the lowest rating category. The haircuts increase linearly (i.e., in equal increments) during each month of the stress period. Table 29 illustrates the

ending haircuts in the 120th month for each rating category. Refer to section III. C., Mortgage Credit Enhancements for the discussion of the proposed haircuts.

**Table 29. Rating and Stress Period Ending Haircuts**

| Rating Category  | AAA | AA  | A   | BBB |
|--|-----|-----|-----|-----|
| All counterparties and securities except derivative counterparties | 10% | 20% | 40% | 80% |

An instrument that is unrated or has a rating that is below investment grade will receive the most severe haircut. This reflects OFHEO's determination that it is appropriate for the stress test to reflect high credit losses for non-mortgage investments that are more risky than the instruments that are now included in the Enterprises' current holdings. The Enterprises' non-mortgage investments are currently of high quality,<sup>174</sup> but the Enterprises are not statutorily or otherwise legally required to invest solely in high quality instruments. It is possible that an Enterprise might change its investment practices to include non-mortgage investments with lower credit quality.

#### F. Other Housing Assets

Other housing assets are a small category of Enterprise assets that need to be modeled differently than retained whole loans and mortgage-backed securities are modeled. They are primarily mortgage revenue bonds (MRBs). They also include certain Real Estate Mortgage Investment Conduits (REMIC) securities issued by private entities and some interests in partnerships and joint ventures. These assets have cash flow characteristics that vary from investment to investment, and the data required to model cash flows precisely is not readily available. The impact of how these assets are modeled on the stress test results will be modest.

##### 1. Mortgage Revenue Bonds

Mortgage revenue bonds are issued by state and local housing authorities to raise funds for single family and multifamily mortgage lending programs. Both single and multifamily mortgage revenue bonds are secured by mortgage loans, reserve funds, and other credit enhancements. Government subsidies to

some multifamily projects also provide implicit credit support. Most MRBs are tax exempt. The Enterprises are permitted to hold up to two percent of their assets in tax exempt securities.

OFHEO considered whether to model MRB cash flows on individually or on an aggregated basis. The stress test models MRB cash flows bond-by-bond. Although one modeling approach is to group securities and use weighted average interest rates and terms to calculate future cash flows, OFHEO determined that calculating cash flows individually is simpler. Available computer hardware and software allow the calculation of cash flows on many individual securities in almost the same amount of time it takes to calculate a single cash flow using average rates and maturities for a group. In addition, any decrease in precision that might be introduced through pooling is avoided.

OFHEO next considered whether to calculate interest and principal payments for the MRBs based on each security's actual structure or to use a proxy for calculating bond payments. Interest on MRBs is paid at the bond rate on the principal amount of the bond, but MRBs have different schedules for principal repayment. In some MRBs, the issuer may use principal repayments from mortgages associated with one MRB transaction to retire bonds from another transaction. In many transactions, issuers have substantial discretion to retire bonds early. There is no single source of information on MRB structures, nor is the information readily available from multiple sources.

OFHEO determined that the modeling approach used to calculate cash flows on Ginnie Mae securities would provide a reasonable proxy for cash flows on mortgage revenue bonds. Specifically, the bonds are modeled as passthrough securities, with the underlying mortgage collateral bearing a coupon 75 basis points higher than the bond coupon. Although MRB payments are not passthroughs of mortgage loan

payments, the MRB payments are related to the mortgage payments. MRB payments and Ginnie Mae security payments would be affected similarly by loan terminations and by economic conditions. Further, borrowers benefiting from MRB programs are similar to borrowers for the FHA and VA loans that collateralize Ginnie Mae securities, and the loan characteristics are similar. Therefore, the stress test calculates cash flows for MRBs essentially the same way that it calculates cash flows for Ginnie Mae securities. It amortizes the bond principal using loan termination rates for FHA and VA loans that have the maturity of the MRB and coupons equal to the MRB coupon plus a spread.

OFHEO considered whether to design a modeling approach specifically for multifamily MRBs or to model cash flows for single family and multifamily MRBs the same way. The stress test models cash flows for multifamily MRBs as though they were single family Ginnie Mae securities, just as it does for single family MRBs.

Modeling multifamily MRB cash flows according to the structures of the securities is hampered by the same data problems that affect modeling single family MRB cash flows. Therefore, the stress test needs to use a proxy. The choice of proxy is limited. Information on Government-insured multifamily loans is not readily available. Enterprise multifamily MBSs are not an acceptable proxy for multifamily MRBs, because the Enterprises' multifamily loans differ from the loans that collateralize multifamily MRBs, and multifamily MBSs pay differently from multifamily MRBs. Because multifamily MRBs are a very small percentage of each Enterprise's assets and their impact on risk-based capital is minimal, OFHEO determined that single family Ginnie Mae securities would be used as a proxy for multifamily MRBs.

The stress test addresses the credit risk associated with MRBs by applying the haircuts that are tied to the public

<sup>174</sup> For instance, in response to HUD's ANPR, Fannie Mae commented that "Nearly two-thirds of the [liquid investment] portfolio is rated AAA (or the equivalent), and nearly all (98 percent) of the portfolio is rated at least A (or the equivalent)."

credit ratings of the bonds. The haircuts will be in the same amount and will be applied in the same way as haircuts for credit enhancements and non-mortgage investments. Currently, a sizeable majority of the MRBs held by the Enterprises are rated AA and above.

## 2. Private Label REMICs

The Enterprises own a small amount of REMIC securities that are issued by private sector entities. For most of these securities, the information that would be necessary to calculate cash flows for the REMIC collateral and thus for the REMIC securities is not readily available.

As with mortgage revenue bonds, OFHEO considered whether to model the cash flows of the REMIC securities or to model cash flows using a proxy. The stress test uses a proxy. The stress test models cash flows for private REMIC securities using the same modeling approach as it uses for MRBs. The stress test amortizes the principal of the REMIC securities using the appropriate termination rates for the coupons and maturities.

Data that is needed to project precise cash flows is not readily available. The costs of developing the data and reverse engineering the REMIC securities are not warranted by any incremental refinement that might result. Most of the REMIC securities held by the Enterprises are rated AAA. The credit risk of the private issue REMICs will be taken into account by applying the same haircuts as those used for MRBs.

## 3. Interests in Partnerships and Joint Ventures

OFHEO decided not to model gains or losses on interests in partnerships or joint ventures, a category that totals less than \$200 million, or less than 0.03 percent of Enterprise assets. These assets carry little credit risk but generate tax losses that benefit the Enterprises. OFHEO has determined that projecting cash flows and tax benefits of these assets would create significant additional complexity in the stress test, without having any material impact upon the risk-based capital requirements. Accordingly, the stress test treats these assets as though they remain on the balance sheet with no run-off and no associated income. In the future, if these investments become a larger proportion of either Enterprise's book of business, OFHEO will reconsider how they are modeled in the stress test.

## G. Commitments

The 1992 Act specifies that during the stress period the Enterprises will

purchase no additional mortgages nor issue any MBS, except that—

[a]ny contractual commitments of the enterprise to purchase mortgages or issue securities will be fulfilled. The characteristics of resulting mortgage purchases, securities issued, and other financing will be consistent with the contractual terms of such commitments, recent experience, and the economic characteristics of the stress period.<sup>175</sup>

The term “contractual commitments” generally refers to binding agreements that the Enterprises enter into with seller/servicers to purchase mortgages or to swap mortgages for MBS. The term also refers to agreements to sell such securities to investors. The total of outstanding purchase or swap commitments at both Enterprises at any point in time is generally in the tens of billions of dollars. The following discussion describes the issues faced by OFHEO in determining the appropriate volume and characteristics of mortgages delivered under commitments.

### 1. Definition of the Term “Commitment”

The proposed risk-based capital regulation incorporates, by reference, the definition of “commitment” from OFHEO's minimum capital regulation. OFHEO defines “commitment” in the minimum capital regulation as follows:

Commitment means any contractual, legally binding agreement that obligates an Enterprise to purchase or to securitize mortgages.<sup>176</sup>

This definition includes “mandatory” and “optional” commitments. Mandatory commitments bind the seller to deliver, and the Enterprise to accept, a certain volume of mortgages. Optional commitments are delivery contracts that commit the Enterprises to purchase or swap a specified volume of loans, but do not commit the seller to deliver any loans. The definition includes commitments that do not specify fixed prices or volume, but otherwise legally bind an Enterprise.

<sup>175</sup> 1992 Act, section 1361(a)(3)(A) (12 U.S.C. 4611(a)(3)(A)). The 1992 Act does provide for later amendment of the rule to address new business during the stress period, but not until after this regulation is final. The 1992 Act requires that, within one year after this regulation is issued, the Director of the Congressional Budget Office and the Comptroller General of the United States shall each submit to the Congress a study of the advisability and appropriate form of any new business assumptions to be incorporated in the stress test. Section 1361(a)(3)(C) (12 U.S.C. 4611(a)(3)(C)). Subparagraph 1361(a)(3)(B) (12 U.S.C. 4611(a)(3)(B)) authorizes the Director to consider these studies and make certain new business assumptions. However, that subparagraph does not become effective until four years after this regulation is issued.

<sup>176</sup> 12 CFR 1750.2; See 61 FR 35610, July 8, 1996 (explanation of definition).

Freddie Mac, the only ANPR commenter to address the definition of commitments, recommended that contractual commitments be defined to include only agreements that legally bind the Enterprises to purchase mortgages. According to Freddie Mac, “[u]nder fundamental contract law, an agreement is only binding if all of its key terms are included and agreed upon.” Freddie Mac further stated that price and volume are two key terms and that only commitments containing this information are legally binding contracts for the Enterprises. This comment suggests that OFHEO should not model commitment contracts that do not contain price and volume information (e.g., master commitments for cash purchases).

OFHEO has found no reason to adopt a different definition for purposes of computing risk-based capital from that used for computing minimum capital. In both cases, the term should mean any legally binding agreement that obligates an Enterprise to purchase or securitize mortgages. OFHEO does not believe it necessary or appropriate to restrict the definition of the term “commitment” by reference to price, volume, and fees, because agreements may be legally binding even when they lack specificity on all terms.<sup>177</sup> It would add unnecessary complexity to attempt to reflect the myriad details of diverse State contract laws in the regulatory definition. Moreover, to do so would be inadvisable in light of Congress' specific concerns regarding the need for capital to support commitments and other off-balance-sheet obligations. For example, in discussing the need for the capital requirements of the 1992 Act, Congress expressed the concern that the risk in off-balance-sheet obligations had not been captured under prior capital standards:

The capital provisions of the GSEs' charter Acts limit their debt to 15 times their capital unless HUD sets a higher ratio \* \* \* This is unsatisfactory because no capital need be held against the GSEs' \$750 billion of off balance sheet guarantees \* \* \*<sup>178</sup>

Recognizing this concern, it would be inappropriate for OFHEO to promulgate a narrow definition that could exempt certain legally binding commitments from the risk-based capital requirement.

Freddie Mac also recommended a definition of commitments that excludes all optional commitments, including those containing price and volume

<sup>177</sup> See Restatement (Second) of Contracts § 204 (1981).

<sup>178</sup> S. Rep. No. 102-282, at 11 (1992) (referring to the existing capital standard, which the 1992 Act repealed).

information. Specifically, Freddie Mac suggested the following definition:

Contractual commitment means an obligation of an Enterprise that legally binds the Enterprise to issue securities or purchase mortgages and *legally binds a third party* to purchase securities or deliver mortgages, and that sets forth all terms of the transactions including price, volume, and fees.

(emphasis added).

The phrase "legally binds a third party" would define a commitment to include only an agreement that binds the counterparty to deliver mortgages or to purchase securities, thus excluding optional commitment contracts.

OFHEO disagrees with this comment and includes optional commitments in the stress test definition. The 1992 Act is clear on this issue, because it refers to "commitments of the *enterprise* to purchase \* \* \* or issue" (emphasis added) but includes no requirement that the commitment bind others to deliver mortgages. Optional commitments obligate the Enterprise to purchase and are optional only for the seller. Therefore, optional commitments fall squarely within the statutory definition.

## 2. Retained vs. Securitized Mortgages

The proposed regulation specifies that all loans delivered under commitments are packaged into securities (securitized) and sold. This specification avoids requiring OFHEO to predict business decisions by the Enterprises that are highly judgmental and impossible to predict accurately. OFHEO recognizes that in practice the Enterprises make day-to-day decisions to sell or retain loans. However, the simple rule proposed by OFHEO avoids the complexity of attempting to model such business decisions.

ACB commented that "[a]ny loans not presold by the GSEs should be assumed to be retained in portfolio and carry both the credit and IRR [interest rate risk] exposure." OFHEO disagrees with ACB's suggestion, because it would add undue complexity to the stress test. At no time are the Enterprises obligated by the terms of a commitment to retain mortgages in portfolio. Furthermore, retaining these mortgages in portfolio in the stress test would require OFHEO to predict how the Enterprises would finance and hedge the interest rate risk associated with the purchases. These predictions would increase greatly the complexity of the stress test and introduce assumptions about future Enterprise management, which OFHEO, as a general rule, has found inappropriate in a "no new business" stress test.

For these reasons, OFHEO determined that proposing that all loans delivered under commitments will be securitized and sold is a reasonable, straightforward approach.

## 3. Modeling Delivery Percentages

The stress test will provide that, in the down-rate scenario, 100 percent of all loans that the Enterprises are obligated to accept will be delivered and, in the up-rate scenario, 75 percent of those loans will be delivered. As explained below, OFHEO considered the relevant comments on this issue and found the proposed rule to be a reasonable and practical method of estimating the volume of new mortgages that will be delivered in the stress test.

In determining the appropriate percentage, OFHEO looked first to the 1992 Act, which provides that commitments will be "fulfilled." In contractual parlance this term means that the parties will fulfill their contractual obligations under these instruments. Therefore, OFHEO decided to propose a simple rule, based upon estimates of the delivery volumes that would be likely to occur if both parties fulfill those obligations.

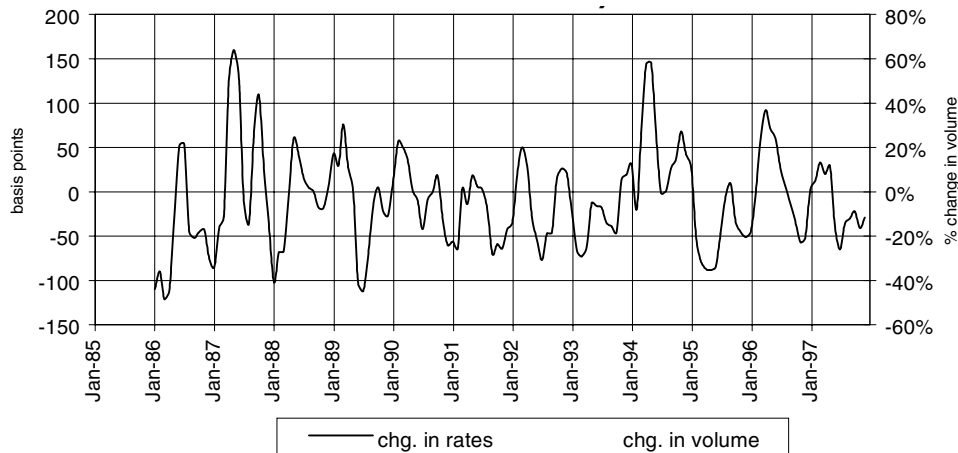
Not all mortgages that the Enterprises are obligated to accept under commitments are actually delivered. Optional commitments obligate the Enterprise to purchase up to a specified dollar amount of mortgages, but do not obligate sellers to deliver any mortgages. They can be fulfilled by both parties even though fewer than all the loans specified in the commitment are delivered. Under a mandatory commitment, the Enterprise is also obligated to purchase a specified dollar value of loans, but the seller fulfills the contract either by delivering the specified volume of loans or by paying a "pair-off" fee specified in the commitment agreement. These fees are a form of liquidated damages that, under the terms of mandatory commitments, are payable by sellers who fail to deliver the full amount of mortgages specified in the commitments. Therefore, under either type of commitment, less than all the stated mortgage volume may be delivered.

As mentioned above, the proposed regulation specifies that, in the down-rate scenario of the stress test, 100 percent of loans the Enterprises are obligated to buy or securitize will be delivered under all types of commitments. In the up-rate scenario, 75 percent of those loans will be delivered. This specification reflects the fact that when interest rates decline

significantly, the volume of new purchase mortgages and mortgage refinancings generally increases. Therefore, in the down-rate scenario, lenders should have plenty of mortgage volume to meet or fill all commitments. In contrast, when interest rates rise significantly, the demand for mortgages tends to fall. Therefore, in the up-rate scenario, sellers would find it difficult to generate enough mortgages to meet outstanding commitments. Because the proposed regulation provides that all loan deliveries will be made in the first three to six months of the stress period (see section III.G.4., Delivery Timing below), those deliveries are particularly sensitive to short-term changes in interest rates. Thus, the steeply rising rates in the first few months of the up-rate scenario have a significant impact upon delivery percentages. It would be inappropriate, however, to assume that loan deliveries would decline more than 25 percent, given that many of the commitments are mandatory and that existing home purchase contracts will require financing. Lenders will also have a certain volume of outstanding loan commitments with locked rates, most of which would close.

Figure 3 below shows that, during the most recent increase in rates of any significance (the first half of 1994), a three month increase in interest rates of 150 basis points led to a drop in market origination volume of roughly 30 percent. Also, during the 12-year period shown, market volumes never decreased over any three-month period by more than 25 to 30 percent. Because the stress test will include rate changes of 150 basis points or less in the first quarter, the data led OFHEO to conclude that a 75 percent delivery rate would be a reasonable specification for the up-rate scenario of the stress test.

The proposed regulation does not credit the Enterprises with income from "pair-off fees" in the up-rate environment for two reasons. First, there is no usable data on the payment of these fees or on the percentage of deliveries under commitments. Therefore, attempting to model these fees would require estimating, with no supporting data, the percentages of loans to be delivered under mandatory, as opposed to optional, commitments. Second, the fees are not always charged by the Enterprises. Therefore, including the fees would require OFHEO to speculate how frequently or under what circumstances the Enterprises would impose them.

**Figure 3. Change in Rates vs. Change in Volumes (over 3 months)**

In its ANPR comments regarding delivery percentages, Freddie Mac recommended that OFHEO develop an econometric model of delivery percentages for commitments. This model would be based on recent prepayment experience of each Enterprise and the prepayment rates produced by OFHEO's default/prepayment model. The model that Freddie Mac recommended would compute commitment delivery percentages as follows:

1. OFHEO would determine a means of estimating the extent to which sellers would fulfill mortgage purchase commitments by (a) delivering mortgages or (b) paying a pair-off fee without delivering the mortgages.

2. Then, OFHEO would determine a stress period delivery percentage under all commitments to reflect the effect of stress period conditions. Specifically, Freddie Mac suggested that a good approximation of this effect would be the ratio of the sum of the prepayment rate and the purchase-growth rate (rate

of increase or decrease in the volume of loans purchased by the Enterprises) during the relevant portion of the stress period to the sum of the prepayment rate and the purchase growth rate during a recent period immediately prior to the stress period. This ratio would be multiplied by a "baseline" delivery percentage, which is the normal delivery percentage during times of little interest rate fluctuation. Under this approach, the stress test delivery percentage would be expressed as follows:

$$\text{Delivery \%} = \frac{(\text{ppmt. rates during stress pd.}) + \text{growth rate during stress pd.} \times \text{base-line delivery \%}}{\text{recent ppmt. rates} + \text{recent growth rate}}$$

The stress period growth rate would be zero until such time as OFHEO included new business assumptions in the stress test, and the stress period delivery percentage would not be allowed to exceed 100 percent.

Freddie Mac bases its approach on two assumptions. First, the volume of outstanding commitments at the beginning of the stress period (i.e., the then current volume of outstanding commitments) is assumed to be related to the volume of mortgage purchases that the Enterprises and sellers anticipated at the time they entered into the commitments. Second, the sellers' actual rate of deliveries during the stress period under outstanding commitments is assumed to be closely related to actual mortgage purchase activity during the relevant portion of the stress period.

OFHEO agrees with these assumptions and used them to

determine appropriate stress test delivery percentages. OFHEO also agrees that an econometric approach such as that proposed by Freddie Mac might provide a relatively sophisticated representation of what would actually occur under stress test conditions. However, there are insufficient data to construct such a model of commitments at this time. Historical data available to OFHEO do not reveal what percentages of commitments have been delivered. The Enterprises have provided descriptions of commitment types and made statements about their general business practices and the length of and delivery patterns of commitments. However, OFHEO has found available data are inadequate to associate actual mortgage purchases with commitments. Therefore, neither of the two steps in the Freddie Mac proposal currently is possible. There is no source of data to determine a reasonable estimate of pair-

off fee payments or to determine a historical baseline delivery percentage.

ACB's ANPR comments suggested that a historically based dropout factor be applied to account for failure to "make/take delivery by counterparties." The lack of historical data regarding actual delivery percentages under commitments limits the accuracy with which such a factor or factors can be calculated. However, OFHEO proposes an approach consistent with the ACB comment. The stress test specifies fixed delivery percentages for commitments in the down-rate and the up-rate scenarios. These percentages are based on historical information, displayed in Figure 3, about mortgage volume in the entire mortgage market during periods when rates have risen and fallen sharply. This information demonstrates that declining interest rates are generally accompanied by or followed shortly by increases in the volume of



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the one-year CMT, along with the average margin for ARM loans originated within the past six months, to determine mortgage rates on newly delivered ARMs.

In its ANPR comments, Freddie Mac recommended two methods of modeling loan mix. Freddie Mac recommended that the loan mix of mortgages delivered under commitments could be the same as the loan mix of the Enterprises' outstanding portfolios. Alternatively, Freddie Mac suggested that OFHEO look to historical experience and base the stress period mix on the mix during past up-rate and down-rate environments. Freddie Mac further commented that the mix of mortgages delivered under outstanding commitments should not be modeled based on recent mortgage deliveries. Its rationale was that the capital requirement associated with commitments could vary dramatically because of one-time special purpose transactions. Freddie Mac cited, as an example, the distorting effects created by an Enterprise purchase of a large Cost Of Funds Index (COFI) ARM portfolio representing 30 percent of a quarter's purchases.

OFHEO did not adopt Freddie Mac's first suggestion because OFHEO believed that the mix of loans in an Enterprise's overall portfolio has only a limited relationship to the loans that will be delivered under current commitments. An Enterprise's portfolio at any given time contains loans obtained over many years during periods when economic conditions may have been quite different from the conditions that will exist at the start of the stress test. Current commitments, by contrast, are more likely to reflect Enterprise management's efforts to adjust the mix in its portfolio than they are to reflect the current mix in the portfolio. For these reasons, OFHEO found the current mix of loans at the Enterprises to be an unsatisfactory proxy for the mix of loans to be delivered under current commitments.

Using a two-quarter (versus a one-quarter) period to compute the loan mix addresses Freddie Mac's concern over distortions created by occasional special purpose purchases. However, if large special purpose purchases of unusual mortgages occur frequently, it is appropriate that the stress test reflect some higher-than-usual risk by projecting continuing purchases of such mortgages.

OFHEO also examined Freddie Mac's suggested alternative methodology— basing the loan mix on the "mix that prevailed" during prior up-rate and down-rate scenarios. Given the lack of historical data regarding deliveries

under commitments, there is no direct evidence of what the experience of those deliveries has been. At best, information might be inferred from data regarding total deliveries, either at the Enterprises or in the market as a whole. However, OFHEO's research has found that, although long term increases in interest rates produce more ARMs and long term decreases produce more FRMs, short term changes in interest rates have little discernable effect on the ratio of ARMs to FRMs that are delivered to the Enterprises.

For these reasons, OFHEO concluded that a more detailed and complex model based upon historical patterns of loan deliveries would be unlikely to improve the stress test's accuracy or sensitivity to risk or yield a significantly different result. OFHEO is confident that the proposed approach reflects a reasonable delivery mix for the stress test and that any fine-tuning that might result from a more complex model would have only an incremental effect. Also, because the proposed regulation specifies that these new loans will not be held in portfolio, they create little interest rate risk for the Enterprises. For all these reasons, OFHEO does not propose the type of detailed model of loan mix contemplated in Freddie Mac's comments.

ACB also commented on loan mix, explaining that the mix of commitments should be "as of the actual reporting date, subject to adjustment for any demonstrable 'window dressing' practices by the GSEs." ACB assumed that data were available to determine what loan mix was specified under outstanding commitments at any point in time. As explained above, those data are not available. OFHEO interpreted "window dressing," to mean attempts that an Enterprise might make to alter temporarily the loan mix in its commitments just prior to the beginning of a particular quarter. OFHEO believes that the proposed approach, which looks to the mix of loans actually delivered over the last two quarters, addresses ACB's concern that an Enterprise might engage in "window dressing."

#### 6. "No New Business" Rule

World Savings commented in response to the ANPR that the stress test model should reflect ongoing business, not a wind down scenario. The comment stated that the assumption of no new business except for fulfillment of contractual commitments is "fundamentally flawed," because it assumes the Enterprises will be prescient about the magnitude of the financial stress. World Savings

commented that this assumption causes the test to underestimate the Enterprises' need for capital, because it causes their portfolios to shrink unrealistically. By contrast, a comment by Professor Yezer of George Washington University advocated placing limits on the size of the Enterprises' portfolios in the stress test. He concluded that "one needs a model of [Enterprise] response to stress that makes sense in terms of modern financial theory of investment, not passive reaction to adverse changes as contemplated in the proposed rule."

Both of these comments suggest an alternative approach to new business that cannot be addressed at this time because the approach in the regulation is mandated by section 1361(a)(3) of the 1992 Act.<sup>180</sup> That section requires that the initial risk-based capital regulation assume that the Enterprises take on no new business other than deliveries under existing commitments. After the issuance of the regulation, the 1992 Act requires studies by the Congressional Budget Office and the Comptroller General of the United States of the advisability and appropriate form of any new business assumptions to be incorporated in the regulation. Only after completion of those studies and their submission to the Congress may the Director, after considering them, propose amendments to the regulation that would incorporate new business assumptions during the stress period.<sup>181</sup>

#### H. New Debt and Investment Rules

During the stress period, an Enterprise invests and borrows, as needed, based on net cash flows. The stress test projects cash inflows and outflows for each month of the stress period. To the extent cash inflows exceed cash outflows in any month, the stress test must specify how an Enterprise employs the excess funds. Conversely, to the extent that cash outflows exceed cash inflows in any month, the stress test must specify how an Enterprise obtains the funds to cover the cash deficit.

The 1992 Act provides no specific guidance for new debt issuance or new investments during the stress test. OFHEO sought new debt and new investment rules that would alter as little as possible the credit and interest rate exposures of an Enterprise generated by its initial asset, liability, and derivative positions.

The proposed approach provides that all new debts and investments are short-

<sup>180</sup> 1992 Act, section 1361(a)(3) (12 U.S.C. 4611(a)(3)).

<sup>181</sup> 1992 Act, section 1361(a)(3)(B)-(D) (12 U.S.C. 4611(a)(3)(B)-(D)).

term instruments. More specifically, OFHEO proposes that the Enterprises fund all monthly net cash outflows during the stress test by issuing six-month discount notes. OFHEO also proposes that excess funds will be invested at the six-month Treasury bill rate in instruments that mature one month later.

#### 1. Rationale for New Debt and New Investment Rules

The purpose of a "no new business" stress test is to subject an Enterprise's business at the beginning of the stress period to adverse conditions, without introducing during the stress period any business responses to deteriorating business conditions that would tend to increase or decrease risk. Consistent with this purpose, the proposed new debt and investment rules are designed to project the effects during the stress period of specific stressful circumstances on the Enterprises, given the risks embodied in their business positions at the start of the stress test, while minimizing the introduction of any new risks.

Accordingly, the stress test uses simple rules for the issuance of debt or the investment of liquidity. OFHEO intentionally does not propose to predict what asset-liability management decisions an Enterprise might make, predictions that would be difficult in any event.<sup>182</sup>

The hazards of predicting the response of financial institutions to stressful conditions are well illustrated by the behavior of the thrifts during their financial crisis in the 1980s. While some institutions sought to limit or reduce their risks in that difficult environment, others made choices that greatly increased risk, in effect gambling that a fortunate turn of events would be their best chance of financial salvation. These choices largely determined the fate of the institutions. Similarly, incorporating activities that project the Enterprises's responses to the duration or severity of economic conditions during the early part of the stress period, while these conditions are deteriorating rapidly, could profoundly affect the Enterprises' financial performance in the stress period.

For these reasons, the stress test makes no provision for an Enterprise to rebalance its portfolio as its asset and liability positions evolve during the

stress test. The Enterprises are exposed to interest rate risk principally because changes in interest rates cause changes in the market (and economic) values of their long-term, fixed-rate assets and liabilities, and of their derivative contracts. These changes in value are reflected in subsequent accounting statements of earnings and net worth.

If an Enterprise's asset, liability, and derivatives positions are well matched, the effects will be minimal. But if, for example, an Enterprise were to fund long-term, fixed-rate mortgages with short-term debt, then an increase in market yields would cause the value of the mortgages to fall, but the value of the short-term debt would be little changed. In subsequent periods, interest income on the mortgages would be unaffected, but interest expenses would be higher because new debt would need to be issued at the new higher interest rate. Earnings and equity would suffer. Conversely, a fall in market yields would increase the value of the mortgages, and that higher value would be reflected in subsequent earnings and equity gains. If an Enterprise were to fund short-term assets with long-term, fixed-rate debt, its debt would change in value, but its assets would not, producing the opposite effect.

If changes in interest rates continue over a period of time, then a decision to issue long-term debt or purchase long-term assets in the middle of the stress period would create a new source of changes in value over the remainder of the period. The effects of the change in interest rates on future earnings and equity would then reflect the changes in value of both the original positions and the new long-term debt or assets.

In the proposed stress test, interest rates change substantially and continuously during the first year of the stress period and then are constant in the last nine years. If an Enterprise were projected to issue long-term debt or purchase long-term assets during the first year, the new investments would change in value during the remainder of the year and affect subsequent earnings and equity. Such an approach would distort the stress test's evaluation of starting risk positions.

The proposed rule avoids these problems by making all new debt and investment short-term instruments. Investments are made in Treasury bills to avoid introducing credit risk; new debts are in the form of discount notes. Maturities of six-months were chosen as a representative short term.<sup>183</sup>

<sup>183</sup> Recurring patterns in cash flows can cause an Enterprise to hold substantial volumes of new six-month investments at the same time that it has

#### 2. Analysis of ANPR Comments

In the ANPR, OFHEO posed several questions related to new debt and investments during the stress period. HUD and ACB recommended in their comments that OFHEO develop an econometric model of Enterprise funding decisions. OFHEO believes, however, that it would be inappropriate to build such a model. The factors that would have to be incorporated into such a model would require OFHEO to make complex judgments about the decisions an Enterprise's management might make in response to future economic conditions. HUD's comment that "OFHEO may be able to base modeling of GSE liability management \* \* \* on presumptions concerning how GSEs would formulate and exercise broad financial management objectives during a winddown" would require similar judgments. ACB also commented that "excess cash balances should be assumed to be deployed to minimize remaining interest rate risk exposure since the costs of such a hedging strategy are zero." OFHEO determined that this approach could change the risk profile of an Enterprise during the course of stress period and is, therefore, inappropriate for the stress test.

Freddie Mac also addressed the question of new debt in the stress test. Freddie Mac proposed that OFHEO assume the Enterprises would generally adhere to their respective asset and liability management principles in a stress test environment. More specifically, the Enterprises would rebalance their portfolios of assets and liabilities during the stress period, in an attempt to maintain a specific relationship between the net effective maturity and net callability of assets and liabilities. Freddie Mac further suggested that OFHEO should use a simple rule that includes this concept for the issuance of new debt in the stress test. As a possible rule, Freddie Mac offered the following example: 30 percent short-term and 70 percent long-term debt in the up-rate scenario and 70 percent short-term and 30 percent long-term debt in the down-rate scenario. The intent of the stress test is, however, to test the ability of an Enterprise's initial asset and liability mix to survive stressful conditions. Therefore, OFHEO preferred an approach that did not

substantial volumes of new six-month debt outstanding. This creates an unnecessary balance sheet expansion. A more realistic solution would be to assume that maturities of new debts and investments were spread across a variety of terms less than one year. OFHEO proposes to approximate that result by assuming that any outstanding new six-month investments are redeemed at par at the end of each month.

<sup>182</sup> In a stress test that incorporates new business, the context would be different. Should OFHEO choose to incorporate new business in a later regulation, a different approach to asset-liability management during the stress period could be appropriate. See 1992 Act, section 1361(a)(3)(C) (12 U.S.C. 4611(a)(3)(C)).

actively alter the consequences of the interest rate risk exposure inherent in the Enterprises' business at the beginning of the stress period.

At HUD's suggestion in its comments on the ANPR, OFHEO reviewed the role of new debt in the wind down scenarios described in HUD's 1987 *Report to Congress on FNMA*, issued on September 27, 1989. Although OFHEO agrees with HUD that there is a close connection between investing cash, hedging activities, and liabilities, OFHEO believes that the purpose of the "no new business" stress test is to project the results of existing risk positions in stressful environments. This approach differs significantly from HUD's 1987 wind down scenarios, which were designed to project Fannie Mae's performance during an intentional wind down of Fannie Mae's mortgage portfolio in preparation for a hypothetical privatization of that Enterprise.

#### *I. Operating Expenses*

Operating expenses include non-interest costs, such as those related to an Enterprise's salaries and benefits, professional services, property, and equipment. The operating expenses of each Enterprise comprise a relatively small portion of their overall expenses. For instance, in 1997, Freddie Mac's interest-related expenses were \$10.6 billion, while its operating expenses were \$495 million. Similarly, Fannie Mae's interest-related expenses were \$22.4 billion, while its operating expenses were \$636 million that year.

The 1992 Act is silent on how operating expenses should be treated in the stress test. Nevertheless, the legislative history states that the Director should exercise discretion about variables such as the Enterprises' operating expenses, provided that they are "reasonable and to the extent possible based on historical data."<sup>184</sup> In addition, the stress test's treatment of operating expenses is guided by the 1992 Act's "no new business" requirement.<sup>185</sup> That provision requires OFHEO to project the income and expenses associated with the existing business positions of the Enterprises over a ten-year period. The purpose of the "no new business" requirement is for the stress test to capture the risks of an Enterprise's existing assets, liabilities, and off-balance sheet obligations as of the beginning of the stress period. It is not intended to represent any combination of events

that might occur in the actual course of an Enterprise's business activities.

In the proposed regulation, operating expenses decline during the stress period in direct proportion to the decline in the volume of each Enterprise's total mortgage portfolio (i.e., the sum of the outstanding principal balance of its retained and sold mortgage portfolios). The stress test first projects how an Enterprise's mortgage portfolio decreases during the stress period on a monthly basis. After determining the percent of these assets that remain at the end of any month during the ten-year stress period, OFHEO simulates the reduced operating expenses in each month by multiplying this percent by one-third of the amount of the Enterprise's operating expenses in the quarter immediately preceding the start of the stress test. This computation is used to determine the Enterprises' operating expenses for each month of the stress period. As described in more detail in this section below, under this approach, the expense reduction pattern for the up-rate scenario will differ from the down-rate scenario, and the pattern within each scenario will vary depending on changes in the characteristics of an Enterprise's total mortgage portfolio.

In the ANPR, OFHEO raised several questions about how the stress test should model operating expenses. These issues are considered below.

OFHEO first considered whether there should be any reduction in operating expenses during the stress period. The stress test should include such a reduction because many of the Enterprises' operating expenses are tied to the size of their mortgage portfolios. Both commenters on this issue, Freddie Mac and ACB, supported this view.

OFHEO next considered whether there should be a variable or straightline reduction in operating expenses. OFHEO determined that a variable reduction pattern would be more appropriate. The underlying characteristics of mortgages held or guaranteed by an Enterprise or the interest rate conditions of the stress period would substantially affect the rate of reduction in outstanding mortgage balances. Because a large portion of expenses are directly tied to outstanding loan balances, a variable reduction based on those balance patterns will better correspond with the cost reductions that would occur under the stress test scenarios.

Notwithstanding this general approach, OFHEO notes that expenses in some categories are not closely tied to current loan balances. These expenses might be expected to change at

different rates from loan balances in a stressful no-new-business environment. As Freddie Mac commented in response to the ANPR, a large portion of its operating expenses are associated with either new business or long-term research and development, including product and systems development, and so might be reduced more dramatically under a no-new-business assumption. Conversely, Freddie Mac stated that some other operating costs that are associated with ongoing costs of managing the mortgage portfolio are relatively fixed, i.e., they are independent of the size of the portfolio. On balance, tying expenses to loan balances will produce a reasonable approximation of an Enterprise's costs in the stress test scenarios.

The proposed approach to modeling operating expenses differs from the recommendations made by ACB and Freddie Mac. Rather than a variable approach, these commenters favored a model applying a straightline reduction in operating expenses. Freddie Mac commented that a straightline approximation is sufficient, because the resulting capital requirement should depend primarily on the present value of the operating expenses and not on the exact timing of those expenses. However, OFHEO believes it is appropriate to adopt an approach that more precisely takes timing into consideration, because the timing of expenses affects an Enterprise's performance during the stress test and the resulting risk-based capital requirement. Furthermore, a straightline approach still requires a basis on which to determine the rate of expense reduction. The proposed approach simultaneously takes timing into account and determines the overall rate of reduction.

The next issue concerned whether the model should reflect decisions that might be made by an Enterprise if it was intentionally winding down its business. On that issue, HUD recommended two alternative approaches: either that OFHEO model the behavior of an Enterprise on issues such as liability management, dividend policy, and operational management as if it were aware that a wind down is in effect, or that OFHEO proceed in a "more formalistic fashion," i.e., without regard to whether they did or did not know. OFHEO analyzed this issue, not only within the context of operating expenses, but also as it relates to the underlying concepts of the stress test and many of its components. OFHEO determined that it would be inconsistent with the 1992 Act and the overall purposes of the stress test for the

<sup>184</sup> H.R. Rep. No. 102-206, at 65 (1991).

<sup>185</sup> 1992 Act, section 1361(a)(3)(A) (12 U.S.C. 4611(a)(3)(A)).

model to attempt to reflect decisions that would be made by an Enterprise that was intentionally winding down its operations. Instead, the stress test applies the alternative approach discussed by HUD in which an Enterprise would not know that a wind down was in effect. As discussed earlier, this approach is appropriate because the stress test is intended to capture the actual risks of an Enterprise's existing business as of the beginning of the stress period rather than events that might occur during the actual course of its business.

OFHEO next considered whether it is appropriate to treat categories of operating expenses differently. OFHEO has determined that disaggregating the operating expenses into several categories would add needless complexity without providing any significant corresponding benefit to ensuring an Enterprise's capital adequacy. While some expense categories might reasonably be assumed to decline faster than the mortgage portfolio, some others might decline more slowly, and some might be expected to increase. OFHEO agrees with ACB and Freddie Mac that since operating expenses constitute a relatively small portion of an Enterprise's overall costs, they should not be subject to complicated modeling. Accordingly, OFHEO proposes to consider operating expenses in a single category rather than disaggregating them into distinct categories.

Finally, OFHEO considered whether the operating expenses of each Enterprise should be modeled in the same manner. Freddie Mac recommended that instead of distinguishing between the Enterprises, the stress test should reduce operating expenses of each Enterprise in the same manner. Freddie Mac stated that any attempt to make fine distinctions between how each Enterprise might actually manage its operating expenses during the stress period could lead to extensive analysis that ought to have little affect on the overall capital requirement but, could increase the danger of different capital treatment for each Enterprise based on differences in accounting treatment of expenses.

OFHEO agrees with Freddie Mac's recommendation not to distinguish between the Enterprises with respect to modeling operating expenses. A fundamental concept of the risk-based capital requirement is that the stress test establish a single set of rules that apply equally to both Enterprises. It would be inappropriate to establish a different stress test for each Enterprise. As a result, differences in operating expenses

during the stress test between the Enterprises will reflect only differences in initial expense levels and mortgage portfolio composition, not any projected behavioral differences.

### *J. Dividends and Other Capital Distributions*

#### 1. Introduction

The definition of a "capital distribution" in the 1992 Act includes the payment of common stock dividends, preferred stock dividends, and the repurchase or retirement of shares of stock.<sup>186</sup> In recent years, both Enterprises have consistently paid significant amounts of dividends and have repurchased significant amounts of common stock.

The 1992 Act directs OFHEO to consider dividends in the stress test. When an Enterprise makes a capital distribution and the amount of that distribution, however, are not specified in the 1992 Act. The only requirement is that dividends should be consistent with the stress test environment.<sup>187</sup> Because capital distributions decrease equity, the more distributions an Enterprise makes during the stress test period (or during a real-life stressful environment), the more likely that an Enterprise will fail to meet its risk-based capital requirement.

#### 2. Statutory Provisions

The 1992 Act and the Charter Acts determine the authority of the Enterprises to make capital distributions.<sup>188</sup> Under these statutes, an Enterprise may make a capital distribution without restriction when the Enterprise would remain adequately capitalized following the distribution.<sup>189</sup> In all other

circumstances, a capital distribution is prohibited outright or requires the approval from the Director of OFHEO.

Prior approval by the Director is required when an Enterprise is undercapitalized or if a capital distribution would cause the Enterprise to be undercapitalized.<sup>190</sup> The legislative history of this requirement makes clear that, while approval in these circumstances can be granted, such approval "should be the exception and not the rule."<sup>191</sup> The Director's prior approval also is required when an Enterprise is significantly undercapitalized; however, the 1992 Act places conditions on the granting of such approval. In those circumstances, the Director may only approve a distribution if the Director determines that it will: (1) Enhance the Enterprise's ability to meet its capital requirements, (2) contribute to the Enterprise's long term safety and soundness, or (3) is otherwise in the public interest.<sup>192</sup> No approval may be granted for a distribution that would cause the Enterprise to be significantly undercapitalized or critically undercapitalized.<sup>193</sup>

This statutory structure draws a clear distinction between an Enterprise that fails to meet its risk-based requirement and one that fails to meet its minimum capital requirement. When an Enterprise fails to meet the risk-based capital requirement, the Director has full discretion to grant or deny approval for a capital distribution. However, when an Enterprise fails to meet the minimum capital requirement, the Director's discretion is limited. Moreover, the Director is prohibited from approving a distribution that would cause the Enterprise to fail to meet the minimum capital requirement.

#### 3. Proposed Approach

The proposed regulation provides that during the stress period:

- When paid, dividends are paid at rates consistent with historical experience;
- Dividends are paid on common stock when the Enterprise meets the risk-based capital requirement and the minimum capital requirement;
- Dividends are paid on preferred stock when the Enterprise meets the minimum capital requirement; and
- No dividends are paid when the Enterprise does not meet or would not

<sup>186</sup> 1992 Act, section 1303(2)(A) (12 U.S.C. 4502)(A)). The notable exception is the repurchase of shares for employee stock ownership programs under section 401 of the Internal Revenue Service Code of 1986.

<sup>187</sup> 1992 Act, section 1361(b)(2) (12 U.S.C. 4611(b)(2)). "Characteristics of the stress period other than those specifically set forth in subsection (a), such as prepayment experience and dividend policies, will be those determined by the Director, on the basis of available information, to be most consistent with the stress period."

<sup>188</sup> Fannie Mae's Charter Act and Freddie Mac's Corporation Act collectively are referred to as the "Charter Acts."

<sup>189</sup> In general, an Enterprise is considered "adequately capitalized" when it meets both the risk-based and minimum capital levels. It is "undercapitalized" when it does not meet the risk-based capital level, but does meet the minimum capital level. It is "significantly undercapitalized" when it does not meet either the risk-based capital level or the minimum capital level, but does meet the critical capital level. See section 1364 of the 1992 Act (12 U.S.C. 4614), and section 303(c)(1) of the Charter Act and section 303(b)(1) of the Corporation Act.

<sup>190</sup> Section 303(c)(2) of the Charter Act and section 303(b)(2) of the Corporation Act.

<sup>191</sup> S. Rep. No. 102-282, at 24 (1992).

<sup>192</sup> 1992 Act, section 1366(a)(2) (12 U.S.C. 4616(a)(2)).

<sup>193</sup> 1992 Act, sections 1365(a)(2); 1366(a)(2)(A) (12 U.S.C. 4615(a)(2); 4616(a)(2)(A)).

after payment of the dividend meet the minimum capital requirement.

In making this proposal, OFHEO emphasizes that there are significant differences between establishing a dividend payment policy for the risk-based capital requirement and acting on a dividend approval request from an Enterprise that is no longer adequately capitalized. Accordingly, provisions of the stress test which provide for the payment of dividends by an undercapitalized Enterprise in some circumstances and not others should not be interpreted as an indication of how OFHEO will act on any specific dividend approval request. In practice, OFHEO will evaluate any request for approval of a dividend payment on the basis of a case-by-case analysis of all the relevant facts and circumstances.

#### a. Preferred Stock

Under the proposed regulation, dividends are paid on preferred stock during the stress period when the Enterprise meets its estimated minimum capital requirement. Preferred stock dividends are based on the coupon rates of the issues outstanding. The coupon rates for any issue of variable rate preferred stock is calculated using projections of the appropriate index rate.

To determine whether the Enterprise meets the minimum capital requirement, the stress test computes the minimum capital level each month by applying the appropriate leverage ratios to all assets (2.50 percent) and off-balance sheet obligations (0.45 percent). OFHEO notes that interest rate and other off-balance sheet contracts also affect the minimum capital number.<sup>194</sup> However, incorporating these features in the calculation would require OFHEO to compute the credit equivalent amount of interest rate and foreign exchange contracts, which would add unnecessary complexity but provide little corresponding benefit. Accordingly, for purposes of determining dividend payouts in the stress test, OFHEO believes that the approach described above provides a reasonable approximation of the minimum capital calculation.

As noted above, preferred stock dividends are paid in some circumstances in which common stock dividends are not paid. The stress test includes this distinction based on the recognition that when a corporation issues preferred stock, it is making a higher level of commitment to those investors than when it issues common stock. Preferred stockholders have a first

claim on distributions. Therefore, failure to pay dividends on both classes of stock likely would have greater repercussions on an Enterprise's funding costs and ability to attract new equity capital than would a failure to pay common stock dividends while preferred stock dividends were maintained. Accordingly, when an Enterprise is classified as undercapitalized, the stress test pays preferred stock dividends, but not common stock dividends.

#### b. Common Stock

Under the proposed regulation, dividends are paid on common stock during the first four quarters of the stress period. The stress test specifies that common stock dividends cease after that, reflecting the strong likelihood that an Enterprise would not meet the risk-based capital requirement during the final nine years of the stress period. The rate at which dividends are paid is based on the trend in the Enterprise's earnings. If earnings are positive and increasing, dividends are paid based at the same dividend payout ratio as the average payout ratio of the four quarters preceding the stress test. Otherwise, dividends are paid based at the preceding quarter's dollar amount of dividends per share. Dividends would be cut off before the end of the first year if an Enterprise failed to meet its estimated minimum capital requirement.

OFHEO believes this rule is based on a reasonable representation of when an Enterprise will no longer be adequately capitalized. The conditions of the stress test are sufficiently stressful to assure that the Enterprise would be undercapitalized by the end of the first year of the stress period. By that time, an Enterprise's portfolio would have been subjected to very large interest rate increases or decreases. If, at that point, it was subjected to those same large increases, i.e., a total of up to 1200 basis points over two years, it is reasonable to assume that the Enterprise would be undercapitalized. The Enterprise would have to withstand more severe credit losses because the hypothetical stress tests would also compound declines in house prices associated with the actual stress test. Estimating with greater accuracy whether an Enterprise would meet its risk-based capital requirement at any time during the stress period is inherently difficult. This would require simulating a series of hypothetical ten-year stress tests, the last of which would involve generating cash flows extending ten years beyond the end of the actual stress period. This would add great technical complexity to the stress test

without providing any meaningful benefit.

#### c. Other Types of Capital Distributions

The proposed regulation does not provide for any other types of capital distributions, such as repurchases of common stock, or redemption of preferred stock. Although the Enterprises have both repurchased a significant number of shares of their own common stock in the past several years, the stock buybacks were irregular events based on the current share price, expected return on potential investments, and the profitability of each Enterprise. The Enterprises have made no firm commitment to investors to continue share repurchases. Furthermore, OFHEO believes that the stress test environment would not be conducive to share repurchases.

#### 4. Analysis of ANPR Comments

In response to questions in the ANPR, Freddie Mac emphasized that any assumptions that OFHEO makes regarding dividend payments must be consistent with the 1992 Act, particularly the provisions related to how capital classifications affect dividend payments. With regard to preferred stock dividends, Freddie Mac recommended that OFHEO assume that an Enterprise pays dividends on such stock so long as it satisfies its minimum capital requirement and discontinues preferred dividends thereafter. With regard to common stock dividends, Freddie Mac recommended that OFHEO assume that an Enterprise pays a constant dividend payout ratio on common stock until earnings become negative, at which time common stock dividends would be discontinued.

The proposed regulation, which ties dividend payouts to capital classifications, is consistent with the 1992 Act and is generally consistent with Freddie Mac's recommendations. More specifically, OFHEO agrees with Freddie Mac's recommended approach for paying preferred stock dividends until an Enterprise's capital falls below the minimum level. OFHEO believes this treatment of preferred stock dividends properly reflects the high level of commitment of the Enterprises to investors in their preferred stock.

In addition, eliminating common stock dividends after an Enterprise becomes undercapitalized is roughly equivalent to Freddie Mac's recommendation to cut off common stock dividends when an Enterprise's earnings turn negative. However, while Freddie Mac would reduce dividends proportionately if earnings decline, the proposed regulation provides for the

<sup>194</sup> 12 CFR 1750.4.

payment of a constant dollar amount. OFHEO believes the payout rule in the stress test appropriately reflects the current dividend payout history of the Enterprises. Both Enterprises have made fairly strong commitments to investors regarding dividend payouts, and have been slow to lower their dividend payments in the face of declines in earnings.

ACB recommended that dividends be suspended immediately in the stress test, since the Enterprises are assumed to be in a wind down and shareholders would be strictly residual claimants. ACB's recommendation to suspend all dividends immediately is not consistent with the apparent intent of the 1992 Act, which specifically mentions dividend policies and directs OFHEO to consider dividend policies that would be "most consistent with the stress period."<sup>195</sup> As discussed above, OFHEO believes that the proposed capital distribution rule is consistent with the stress test period. Furthermore, the stress test would fail to incorporate a likely source of capital depletion that would affect an Enterprise in a real-life stressful environment if all capital distributions were eliminated during the entire stress test period.

ACB's comment that shareholders would be strictly residual claimants, which implies that the stress test is a liquidation situation, is not consistent with the concepts underlying the stress test. A wind down or "no new business" stress test is not the equivalent of a liquidation. Rather, it is a test of how much capital an Enterprise would need to survive.

#### K. Other Off-Balance Sheet Guarantees

In addition to guaranteeing mortgage-backed securities they issue as part of their mainline business, the Enterprises occasionally guarantee other securities. Such guarantees are referred to as "other off-balance sheet (OBS) guarantees." Examples of other OBS guarantees include guarantees of tax-exempt multifamily housing bonds issued by state and local government agencies, Enterprise-issued whole loan REMIC securities to security, and private label (non-GSE-or GNMA-issued) REMIC securities. In general, an Enterprise's guarantee is protected by other credit enhancements, including reserve funds, insurance arrangements, and/or subordinated security tranches.

For the following reasons it is not now feasible to simulate the detailed financial impact on an Enterprise of other OBS guarantees over the 120

months of the stress period. First, the mortgage collateral for such securities is often dissimilar from the Enterprise's mortgages on which the stress test's mortgage performance models are based. Second, current data on the status of the underlying collateral is difficult to obtain. Third, the structures of the securities and the nature of credit enhancements vary, requiring the individual modeling of each guaranteed security, which would, at this time, require an inordinate amount of resources.

The stress test utilizes a proxy for the detailed modeling of the impact of other OBS guarantees on the amount of starting capital that an Enterprise would need to just maintain positive capital during the stress period. The proxy treatment consists of multiplying the outstanding balance of all other guarantees at the beginning of the stress period by .0045, and adding the result to the amount of starting capital calculated for all other aspects of an Enterprise's operations. The multiple .0045 corresponds to the minimum capital requirement associated with these other OBS guarantees.

#### L. Calculation of the Risk-Based Capital Requirement

##### 1. Proposed Approach to Calculating Capital

The 1992 Act requires an Enterprise to meet the risk-based capital requirement. To determine this requirement, the statute establishes a two-step process. The first step is to determine the amount of capital that an Enterprise needs to just maintain positive capital during a ten-year period of economic stress. The second step is to increase that amount of capital by another 30 percent to capture management and operations risk.

OFHEO proposes to use a present value approach to calculate the capital that an Enterprise needs to just maintain positive capital during the stress test. Once the stress test has projected the capital of an Enterprise at the end of every month in the stress period, the capital calculation process discounts the monthly capital balances back to the start date of the stress period. The Enterprise's starting capital is then adjusted by subtracting the lowest of the discounted capital balances to account for the smallest capital excess or largest deficit (subtracting a negative number in the case of a deficit). The discount factor used to discount a monthly capital balance is based on after-tax borrowing or investing yields (as appropriate) for that month and all previous months during the stress period.

After the stress test ascertains the amount of capital necessary to just maintain positive capital during the stress test, it then multiplies that amount by 1.3 to arrive at the risk-based capital requirement.

##### 2. Justification for Using a Present Value Approach

The 1992 Act requires OFHEO to determine the amount of capital that is sufficient for an Enterprise to just maintain positive capital during the ten-year stress period. However, when an Enterprise has more (or less) capital than it needs to just maintain positive capital, the law does not specify the procedure for calculating how much capital it would need to just maintain positive capital.

In analyzing the best method to calculate capital during the ten-year stress period, OFHEO considered two approaches: (a) the present value approach, described above, and (b) an "iterative approach" in which the stress test would be run multiple times with hypothetical adjustments made to each Enterprise's balance sheet prior to each run. The present value approach more efficiently produces results comparable to the iterative approach. Both approaches recognize that a dollar today is worth significantly more than a dollar ten years from now, because the dollar can be invested so as to return more in a later year.

Under the iterative approach, the capital calculation process begins by running the stress test on the basis of an Enterprise's actual assets, liabilities, net worth, and off-balance sheet items as of a given date. The first stress test run would be used to identify the lowest capital balance that the Enterprise has during the stress period. Then, based on that result, adjustments would be made to the starting capital and the assets and/or liabilities on the Enterprise's balance sheet. The goal of these adjustments is to construct a starting position book of business that, when subject to the stress test, will result in the Enterprise just maintaining positive capital during the stress test. If a run results in the Enterprise's capital reaching a minimum point greater than zero, OFHEO would reduce the starting capital in order to move the minimum point down toward zero in the next run. If a run resulted in the Enterprise's capital reaching a minimum point less than zero, then OFHEO would increase the starting capital in order to move the minimum point up toward zero in the next run. If the second run did not achieve the desired result, successive runs would be made following further

<sup>195</sup> 1992 Act, section 1361(b)(2) (12 U.S.C. 4611(b)(2)).

adjustments to the starting position balances.

OFHEO is proposing the present value approach rather than the iterative one based on the following considerations. The present value approach is comparatively simple and easy. It will not require explicit changes to an Enterprise's actual assets, liabilities, net worth, and off-balance sheet items as they exist at the start of the stress test, and it achieves results comparable to the iterative approach. It achieves these results because the discount factors used in the present value calculations, which calculate the surplus or deficit of starting capital, are consistent with the effects during the stress period of the balance sheet adjustments required by the iterative approach. The discount factors reflect the yields on additional debt or investments offsetting necessary changes in starting capital. For example, consider a scenario in which an Enterprise holds more starting capital than necessary to maintain positive capital throughout the stress period. Balance sheet adjustments made for the final iteration would likely involve substituting for the surplus starting capital an equal amount of debt. Discounting the appropriate monthly capital balance during the stress period, using stress period yields, results in a comparable amount.

Based on these considerations, the present value approach would be a more appropriate methodology for carrying out the purposes of the statute. The iterative approach would add needless complexity and require OFHEO to make changes to the balance sheets of the Enterprises. Each iterative run, would be based on hypothetical representations of the Enterprise's position. The present value approach eliminates the need for these artificial adjustments and the unwarranted complexity that the iterative approach's adjustment process would entail.

Under the present value approach, it is necessary to determine the appropriate monthly discount rates. In determining the monthly rates, OFHEO sought a set of discount rates that would reflect the time value of money to an Enterprise during the stress period. Accordingly, the discount rates applied in the stress test are computed as an after-tax rate. Such an after-tax rate reflects the fact that any borrowing necessary to fund an Enterprise's business activities would be deductible for income tax purposes. Conversely, any additional earnings would be subject to income taxes.

These discount rates are intended to reflect the fact that interest rates will differ dramatically between the rising

and falling rate scenarios and at given times in each scenario. When an Enterprise is borrowing new funds during the stress period, the marginal effect that a change in its cash position in one month will have on its equity in a subsequent month will be reflected by its after-tax cost of borrowing during the intervening period. Alternatively, if the Enterprise is a net investor in a given month, the marginal effect is reflected by its after-tax earnings on new investments in Treasury bills.

This discounting procedure will reasonably relate changes in capital to changes in an Enterprise's risk position. For example, if an Enterprise were to take an incremental risk position that resulted in an incremental loss during the first month of the stress period, that loss would compound during the stress period at the Enterprise's after-tax borrowing or investment rate. If an Enterprise is borrowing, this one month's incremental additional loss would require additional borrowings during the balance of the stress period. These additional borrowings would create additional interest payments for which further borrowing would be required. If the Enterprise is investing, the loss would leave smaller amounts to be invested, which would earn less interest. After applying the discount factors, the change in each future month's capital would equal the initial loss. Thus, the change in the estimated amount of the first month's incremental capital needed to just maintain positive capital during the stress test would also equal that initial loss. More generally, if a new asset were to generate a stream of losses over the course of the stress period, the amount of starting capital needed would rise by the present value of this stream of losses.

#### IV. Technical Supplement

##### A. Purpose and Scope

This technical supplement provides detail on the specification and estimation of statistical (econometric) models for mortgage performance, and how those statistical models are applied in the proposed risk-based-capital stress test. The supplement focus is on technical aspects of the statistical modeling. This focus includes: theoretical considerations, sources and uses of historical data, functional forms for statistical models, development of explanatory variables for the statistical analyses, results of statistical model estimations, and application of the resulting statistical equations to predict mortgage performance in the stress test. Each of the following parts of this supplement covers these elements for its

respective part of mortgage performance. The topic areas covered here are:

- Single Family Default/Prepayment,
- Single Family Loss Severity,
- Multifamily Default/Prepayment,
- Multifamily Loss Severity, and
- Property Valuation.

An additional, and important component of this Supplement is the description of how the statistical models of mortgage performance are reasonably related to the benchmark loss experience (BLE) identified in NPR1. The first way in which OFHEO reasonably relates the mortgage performance component of the stress test to the BLE is through application of housing market conditions that represent the conditions of that experience. Those conditions include house price growth rates, rent growth rates, and rental vacancy rates. The next part of this supplement, Property Valuation, details how OFHEO developed these variables for use in the stress test. How these variables are actually used in the stress test is covered in the section 3.5, Mortgage Performance, of the Regulation Appendix, although some general information is provided here.

The second way in which mortgage performance in general, and credit losses in particular, are related to the BLE is through calibration mechanisms that adjust statistically derived equations to match the actual loss rates of the BLE. These adjustments are required because the statistical equations are estimated over a wide range of data, of which the benchmark experience is only a small part. To reasonably relate mortgage losses to the BLE, the stress test imposes housing market conditions from the time and place of the BLE. In addition, the stress test adjusts defaults and severities by factors that cause the test to replicate critical aspects of the BLE when the statistical models are applied to benchmark loans. The methods of deriving these calibration adjustment factors are described in the Single Family Default/Prepayment and Single Family Loss Severity parts of this Supplement.

##### B. Single Family Default/Prepayment

###### 1. Introduction

To develop the stress test model of single family default and prepayment rates, OFHEO analyzed the historical experience of Enterprise single family loans from 1979 through 1995. This experience is defined by an econometric model in which probabilities of default and prepayment in each time period are



determined jointly using a multinomial logit specification. The theoretical foundation used for choosing variables to use in the model is financial options theory. This is the predominant theory used in mortgage performance research. It suggests that borrowers make choices regarding maintaining or terminating mortgages based upon the relative financial value of those choices. In this context, each borrower has the choice, in each time period, to make the payment and maintain the mortgage, pay off the mortgage in full (a prepayment), or stop making payments and default.

Owing to the large amount of data available to estimate this model, OFHEO chose techniques that captured the essence of individual borrower choice, consistent with efficient use of computer resources. These techniques start with estimating separate sets of default and prepayment equations for fixed-rate mortgages (FRMs) and for adjustable-rate mortgages (ARMs).<sup>196</sup> A third set of equations was estimated to project the performance of less-prevalent single family loan types relative to the dominant 30-year fixed-rate mortgages. The second method of capturing borrower choice characteristics while limiting computer resources was to use random samples of fixed-rate loan products, rather than attempting to estimate the model on all loans ever purchased by the Enterprises. The third method was to use quarters rather than months as the observation time period. This time period is important because each loan enters the analysis in the form of an event history: every time period for which the loan was active provides an observation for the statistical analysis. Using quarters reduces the number of observations used in the statistical analysis without losing any essential detail regarding borrower choices. The last method of maintaining the quality of individual loan analysis while limiting computer resources was to use a weighted regression scheme, so that all loans do not need to enter the analysis individually. All loans with the same characteristics are treated as one loan, with the actual number of loans with those characteristics used as a weighting factor.

The equations that result from the statistical analysis were adjusted or calibrated to the BLE before use in the stress test. The calibration procedure adjusts the default equations so that if the actual benchmark loans (as defined in NPR1) were input into the equations,

<sup>196</sup> In this model, ARMs include all mortgages that have variable payment features.

with benchmark house price growth rates and interest rates, the resulting 10-year cumulative default rate would identically match that of the BLE (14.9 percent).

The remainder of this supplementary material is organized as follows: Section 2 provides a summary of the conceptual framework underlying the estimation of the statistical model of single family mortgage default and prepayment. Section 3 describes the loan level data used in the empirical analysis. Section 4 outlines the general approach to the statistical analysis of default and prepayment events, based on the application of the multinomial logit model. Section 5 defines the explanatory variables used in that analysis. The empirical results are presented in section 6, which is followed in section 7 by a discussion of the application of the estimated default and prepayment equations in the stress test. Section 8 ends this supplementary material by describing how the estimated model is used in the stress test to produce results consistent with the BLE.

## 2. Conceptual Framework

Financial options theory is the most widely accepted theoretical framework for the analysis of residential mortgage default and prepayment. This framework hypothesizes that mortgage borrowers will exercise embedded call (prepayment) or put (default) options when either of these alternatives becomes financially optimal. The financial options theory assumes that an individual mortgage borrower can increase his lifetime wealth by defaulting on a mortgage when the market value of the mortgage exceeds the market value of the house, implying a direct empirical link between changes in housing values, borrower equity, and the decision to default. Likewise, the option to refinance the mortgage when market rates fall below the current rate on the mortgage provides a means for borrowers to increase their wealth by prepaying, and links observed prepayment behavior to changes in interest rates.<sup>197</sup>

<sup>197</sup> There may also be secondary effects of borrower equity on prepayment, and of interest rates on default. For example, attempts by borrowers to prepay their mortgages may be frustrated due to declining house prices and failure to qualify for refinancing. On the other hand, borrowers in a negative equity position may be reluctant to default if they have current mortgage coupon rates that are less than the prevailing market rate of interest. In this second case, the asset value of the low interest rate mortgage would be foregone if the put option is exercised and the borrower defaults. However, the empirical significance of mortgage value for default is

Previous empirical studies on mortgage terminations have provided empirical support for the options theory, as various approximations to the financial values of the options have been found to be strongly associated with observed default and prepayment outcomes.<sup>198</sup> However, some of the same studies also indicate that borrowers do not behave in the "ruthless" manner suggested by the pure options theory. These empirical studies vary in the degree to which the full implications of the theory are incorporated, mainly due to limitations on the available data and the ability to measure or impute options values to individual borrowers.

The measurement of borrower equity has been addressed in essentially two ways in the academic literature. One approach employs stochastic simulations to impute aggregate distributions of properties with positive or negative equity, while simultaneously accounting for the impact of default and prepayment events on these distributions. This is the approach used by Foster and Van Order (1984, 1985). Another approach, adopted in recent work by Deng, Quigley, and Van Order (1996) and Deng (1997), has been to combine mathematical assumptions about the diffusion of housing values with loan-level data to assign "ex ante" probabilities of negative equity to individual properties.<sup>199</sup> Both approaches are generally consistent with the assumptions of the option theory, and they differ mainly in their application to aggregate versus loan-level data.

In recent years, a consensus seems to have emerged among practitioners that the option values, to the degree that they can be measured, remain important for predicting default and prepayment,

questionable given the inability of borrowers to trade on this asset, other than by selling the property and taking back a mortgage at a rate between the original note rate and the current market rate. This option is precluded by the "due-on-sale" provisions of most residential mortgage contracts. The extent to which this option is used informally is unknown.

<sup>198</sup> Examples of empirical models based on the options framework include: Dunn and McConnell (1981), Foster and Van Order (1984, 1985), Buser and Hendershott (1984), Brennan and Schwartz (1985), Kau, Keenan, Muller, and Epperson (1985, 1990), and Hendershott and Van Order (1987).

<sup>199</sup> Probabilities assigned in this way are "ex ante" because they depend only on information about individual mortgages available at origination and subsequent changes in the mean (drift) and variance (volatility) of house price appreciation rates. No information on the incidence of default or prepayment among other loans is used to adjust the projected distribution of housing values used to assign probabilities of negative or positive equity to loans that remain active.

but provide only necessary, rather than sufficient, conditions. For example, in the case of mortgage default, negative equity alone may not be sufficient to induce a borrower to default, but given some other "trigger event," such as job loss or marital disruption, the decision to default would then depend on whether equity was positive or negative. In the case of prepayment, borrowers who would otherwise appear to have a financial incentive to refinance (prepay) to obtain a lower interest rate, may not wish to incur the associated transactions costs given their expected time horizons for occupying the home.

While the option theory succeeds as a general framework, empirical models of mortgage default and prepayment must be flexible enough to account for variation in mortgage performance that may not appear to be fully consistent with optimal behavior, such as borrowers defaulting when house prices are increasing or prepaying when interest rates are increasing. The empirical model must account for limitations on the information available to compute the exact values of embedded options for individual borrowers. In addition, a wide variety of loan characteristics must also be accounted for, which has led to the widespread application of what are generally referred to as "options-based" empirical models, such as those cited above. The models applied in the stress test are typical of those that use the options-based approach.

### 3. Data

OFHEO obtained loan-level information on previous Enterprise single family mortgage originations and used these data to estimate models of mortgage performance. The data included information on the origination characteristics of mortgages, information on last-paid installment dates, and loan status outcomes from the Enterprise loan-tracking systems. This information allowed OFHEO to reconstruct "event histories" of the period-by-period performance of individual loans, from the date of origination to either the point where the loan terminated or the end of the sample period. OFHEO combined loan-level information from both Enterprises to develop its own data files for statistical analysis. Standardized or "normalized" data files were constructed to assure similar content and structure across Enterprises.<sup>200</sup>

<sup>200</sup> The process of data normalization involved confirming the consistency of mortgage product types and loan characteristics and defining standardized data fields.

The options theory views mortgage default and prepayment events in terms of decisions by individual borrowers to terminate their loans. This view has implications for the way mortgage outcomes and their associated probabilities are specified in the statistical analysis. Default and prepayment are specified to occur in the month following the date of the last-paid-installment. After mortgage prepayment, the Enterprises are likely to update the loan status almost immediately. By contrast, due to the varying length of the mortgage foreclosure process, the Enterprises may not classify defaulting loans as defaults until some months after the last-paid-installment date. However, in the model, the default event is nevertheless considered to have occurred at the point the borrower ceases payment on the loan.<sup>201</sup> The event history used for that loan ends at that point in time. The data used in the statistical analysis included mortgage originations for the period from January 1979 to December 1993, with mortgage performance measured through December 1995. Therefore, these data provided a minimum of two years of loan experience for the most recent origination cohorts.<sup>202</sup>

Ideally, models would be estimated using contemporaneous values of factors predictive of default and prepayment during each period a loan is outstanding. Although this type of "panel" data does not exist for historical Enterprise loan records, it was possible to reconstruct historical data on key determinants of default and prepayment, such as house prices and

<sup>201</sup> At the time that data bases were constructed for this analysis, information was not available from Freddie Mac on last-paid-installment dates. Therefore, OFHEO used the "closing date" for Freddie Mac's defaulted loans. This is the date of disposition of a foreclosed property. The last-paid-installment date was used for Fannie Mae defaults.

<sup>202</sup> Note that for some loans the last-paid-installment will occur prior to the end of the sample, with no corresponding change in loan status from active to defaulted. These "censored" events were treated in the same manner as loans that remained active through the end of the sample period. That is, they are viewed as active up to and including the last quarter in the sample period. Note that these censored default events do not occur in sufficient numbers to have a material impact on the statistical estimates. One reason is that during those time periods and places in which the incidence of default was greatest, such as, for example, in the historical benchmark experience, foreclosure and changes in loan status occurred within several months of the last payment by the borrower. In addition, relatively complete loan histories are available for those loan origination cohorts among which the majority of default events occurred on Enterprise loans. While more recent cohorts with shorter event histories have greater potential for censoring of default events, the impact of censoring on the statistical estimates is negligible because default rates have been so low in recent years.

interest rates, and add this information to the individual loan event histories. Using these histories, OFHEO was able to estimate dynamic models for default and prepayment. The models are "dynamic" in the sense that OFHEO can estimate and simulate mortgage performance in response to actual or hypothetical (e.g., stress test) changes in economic circumstances over time.

### 4. Specification of the Statistical Model

The proposed regulation employs a monthly cash flow model of Enterprise performance over a ten-year stress period. The simulation of mortgage cash flows requires conditional rates of default and prepayment to be applied to outstanding mortgage balances during each month of the stress test. The purpose of the models described in this technical supplement is to provide a means of generating the required termination rates in a manner that is reasonable for Enterprise loans under the circumstances of the stress period.

Conditional rates of default and prepayment vary depending on a variety of factors, both random and systematic, some of which are fixed at origination and others that vary over time. Characteristics of loans and borrowers at origination can affect the level and timing of mortgage default and prepayment throughout the life of the loan. For example, conditional default and prepayment rates exhibit characteristic age-profiles that increase during the first years following origination, peak sometime between the fourth and seventh years, and decline gradually over the remaining years.<sup>203</sup> Default and prepayment rates also vary systematically in response to economic circumstances and other factors over time, such as changes in house prices and interest rates that affect the value to the borrower of embedded options.

Like other time-or age-dependent processes, mortgage terminations are highly amenable to analysis using statistical survival-time models specified in terms of conditional probabilities of prepayment and default. Default and prepayment are "competing risks," which means that the occurrence of one type of event precludes the chance to observe when the other event might have occurred, and vice versa. In such a case it is necessary to account for the joint mathematical and statistical dependence of the conditional probabilities of default and prepayment on each other. Failure to account for the competing-risks nature of the events can lead to projections of total termination

<sup>203</sup> See discussion in Schwartz and Torous, at 379 (1989).

rates (default plus prepayment) that are mathematically inconsistent and that would preclude their application in the type of actuarial calculations of cash flows required for the stress test.

As outlined above, mortgage default and prepayment result in an observed last-paid-installment, after which no further payments are forthcoming. Thus, for loans outstanding at the beginning of each time period, three mutually exclusive outcomes are possible in the model: (1) the borrower defaults; (2) the borrower prepays the loan in full; or (3) the borrower makes the scheduled loan

payment, and the loan remains active and part of the event history sample for the next time period. For the purposes of the statistical analysis, each of these outcomes is interpreted as an "event." This approach implies that each loan contributes potentially many observations to the event history sample, depending on how long it remains active before experiencing one of the terminal events or reaching the end of the sample period.

a. Multinomial Logit Models

OFHEO has estimated multinomial logit models for quarterly conditional probabilities of default and prepayment.<sup>204</sup> Several empirical studies have applied some form of the logit or similar qualitative response models to analyze mortgage prepayment and default behavior.<sup>205</sup> The corresponding mathematical expressions for the conditional probabilities of default ( $\pi_D(t)$ ), prepayment ( $\pi_P(t)$ ), or remaining active ( $\pi_A(t)$ ) over the time interval from  $t$  to  $t + 1$  are given by:

$$\pi_D(t) = \frac{e^{\alpha_D + X_D(t)\beta_D}}{1 + e^{\alpha_D + X_D(t)\beta_D} + e^{\alpha_P + X_P(t)\beta_P}} \quad (Eq. 1)$$

$$\pi_P(t) = \frac{e^{\alpha_P + X_P(t)\beta_P}}{1 + e^{\alpha_D + X_D(t)\beta_D} + e^{\alpha_P + X_P(t)\beta_P}} \quad (Eq. 2)$$

$$\pi_A(t) = \frac{1}{1 + e^{\alpha_D + X_D(t)\beta_D} + e^{\alpha_P + X_P(t)\beta_P}} \quad (Eq. 3)$$

Constant terms  $\alpha_D$  and  $\alpha_P$ , and coefficient vectors  $\beta_D$  and  $\beta_P$ , are the unknown parameters that must be estimated.  $X_D(t)$  is a vector of mostly time dependent explanatory variables that are assumed to influence directly the conditional probability of defaulting

(versus remaining active), and  $X_P(t)$  is a vector of mostly time dependent explanatory variables assumed to influence directly the conditional probability of prepaying (versus remaining active).<sup>206</sup> The probability of remaining active ( $\pi_A(t)$ ) is equal to 1

minus the other two probabilities, so that the three probabilities sum to 1.

The probabilities and coefficient vectors have a convenient interpretation when expressed in terms of odds ratios:

$$\ln \left[ \frac{\pi_D(t)}{\pi_A(t)} \right] = \alpha_D + X_D(t)\beta_D \quad (Eq. 4)$$

$$\ln \left[ \frac{\pi_P(t)}{\pi_A(t)} \right] = \alpha_P + X_P(t)\beta_P \quad (Eq. 5)$$

These expressions imply that the percentage impact of a one-unit change

in an element of  $X_D(t)$  on the relative probability or odds of defaulting versus remaining active is given by the corresponding element of the coefficient vector,  $\beta_D$ . A similar result holds for prepayment. Note also, that while

changes in variables that affect the probability of prepayment affect the absolute level of the probability of default, and vice versa, such changes affect the probability of remaining active in a symmetric manner, so that the "odds" of defaulting versus remaining active are not affected.<sup>207</sup>

<sup>204</sup> The decision to model default and prepayment as quarterly events was consistent with the application of quarterly house price indexes in computing the underlying distributions of borrower equity. The resulting quarterly default and prepayment probabilities were converted to monthly factors for input to the monthly cash flow calculations required for application in the stress test.

<sup>205</sup> Examples of previous applications of the logit model are Campbell and Dietrich (1983), Zorn and Lea (1989), and Cunningham and Capone (1990).

<sup>206</sup> Some elements of  $X_D(t)$  and  $X_P(t)$  are constant over the life of the loan and are not functions of  $t$ .

<sup>207</sup> The multinomial logit model is widely applied in the analysis of consumer choice among discrete alternatives, where this feature has been called the

#### b. Estimation of Multinomial Logit Coefficients

The multinomial logit specification given by equations (1)–(3) is a purely mathematical representation of the underlying probabilities. How the unknown parameter coefficients of the logit model are estimated statistically depends on whether the model is applied to individual or aggregate data. Under some circumstances, the two approaches are mathematically equivalent. However, in some situations, the use of aggregate data may

entail considerable loss of information.<sup>208</sup>

If only aggregate data were used, the proportions of loans defaulting, prepaying, and remaining active would be used to estimate the unknown coefficients  $\alpha_D$ ,  $\alpha_p$ ,  $\beta_D$ , and  $\beta_p$  directly by replacing the probabilities in equations (4) and (5) with the corresponding observed sample proportions and applying ordinary least squares. In this case the explanatory variables  $X_D(t)$  and  $X_p(t)$  correspond to the characteristics of the groups or classes of loans used in tabulating the observed sample proportions.

When loan-level data are available, it is possible to use equations (1)–(3) as an exact mathematical representation of the probabilities of individual loan events. In this case, estimation of unknown coefficients is achieved by the method of maximum likelihood. This approach chooses the values of  $\alpha_D$ ,  $\beta_D$ ,  $\alpha_p$ , and  $\beta_p$  that maximize the joint likelihood or probability of the entire event-history sample having actually occurred. For example, the joint sample likelihood is the product of the probabilities of each of the independent loan event observations:

$$\text{Sample Likelihood (Joint Probability)} = \prod_{i=1}^N P_i \quad (\text{Eq. 6})$$

where for each observation  $i = 1, 2, \dots, N$ ,  $P_i$  is the estimated probability that the event that is actually observed would have occurred. These probabilities are obtained by substituting the appropriate expression from equations (1)–(3) for  $P_i$  in equation (6). The solution is found by varying the values of the elements of  $\alpha_D$ ,  $\beta_D$ ,  $\alpha_p$ , and  $\beta_p$  until the joint probability reaches its maximum value. The final values of  $\alpha_D$ ,  $\beta_D$ ,  $\alpha_p$ , and  $\beta_p$  are the maximum likelihood estimates. Numerous statistical software packages exist for this purpose.

The approach adopted by OFHEO is based on loan-level data, which has the significant advantage of preserving as much detail as possible on individual loan circumstances. This approach results in a flexible description of loan behavior, which can be used to project mortgage performance under the abnormal scenarios of the proposed regulation.

#### 5. Explanatory Variables for Default and Prepayment

OFHEO estimated three separate sets of multinomial logit probability equations. The primary default and prepayment equations are for single family, 30-year FRMs. These loans comprise about 80 percent of all single family loans in the historical data obtained from the Enterprises. A second set of equations was estimated solely on data for ARMs. All loan types with any

potential payment adjustments throughout the life of the loan were included as ARMs for purposes of the statistical estimation. A third set of default and prepayment equations was estimated to project the performance of less-prevalent single family loan types relative to 30-year fixed-rate mortgages. This estimation was performed using data on 30-year FRMs and all other fixed-rate loan types (including balloons). These loan types were grouped as: 20-year FRM, 15-year FRM, balloon, FHA/VA, and second liens. Data on 30-year FRMs are included in the estimation sample because the number of observations on other, less popular fixed-rate mortgage types was insufficient for estimating product-specific default and prepayment equations. However, the resulting default and prepayment equations are only used to project performance of the alternative product types, and not 30-year FRMs.

All three statistical estimations use the same conceptual underpinnings and empirical specifications, and only vary based on the data samples used in estimation. Thus, the basic definitions of the variables are the same across all three sets of equations, although the way some of the interest rate variable values change over time will differ, for example, for FRM loans and ARM loans, because of differences in their contractual terms.

For convenience, we refer to the three separate data sets and statistical estimations as model 1 (30-year FRMs), model 2 (ARMs), and model 3 (all fixed-rate products). In addition to the basic set of explanatory variables included in all three models, model 3 includes product-specific adjustment constants. The adjustment constants act like multipliers to the baseline default (hazard) rates of 30-year FRMs. The impacts of all other explanatory variables are presumed constant across product type, so there are no product-type adjustments to their coefficients. Because ARMs are believed to perform differently than FRMs, due to changing payments over time, they are treated in a separate estimation (model 2) so that variable coefficients can be uniquely identified for ARM versus FRM loans.

The explanatory variables  $X_D(t)$  and  $X_p(t)$  used to estimate the unknown coefficients of the multinomial logit models are listed in Table 31. All of the variables except mortgage age (*AGE*) were coded as categorical variables. Categorical variables are advantageous for several reasons. For instance, assigning the various explanatory variable outcomes to categories allows one to estimate effects that may be non-linear without having to experiment with many different functional forms. Because each categorical explanatory variable has minimum and maximum categories (determined through observation of the historical data), the

<sup>208</sup>“independence of irrelevant alternatives.” In the context of consumer choice theory this independence can result in apparent anomalies when close substitutes to existing choices are introduced. See, for example, McFadden (1976). This issue does not arise in the present context.

<sup>208</sup>For example, if the data are aggregated by taking average values of the explanatory variables within broad product groupings, then particular combinations of explanatory variables that exist for individual loans and which are associated with significant differences in probabilities of default and prepayment, will not be represented in the

data. While this may not matter under “normal” circumstances, it could limit the usefulness of the model in projecting rates of default and prepayment within high risk categories under circumstances different than those embodied in the original aggregation scheme, such as those of the stress test.

impact of particular variables on rates of default or prepayment projected from the model is constrained to be within previous historical experience.<sup>209</sup> This helps to avoid unreasonable extrapolations when projecting mortgage performance under stress test conditions. Another advantage of using categorical outcomes for the explanatory variables is that it anticipates the need to apply the models to aggregated loan groups in the stress test.<sup>210</sup> The benefit of starting with loan-level data is that it allowed OFHEO to develop both the

explanatory variables and stress test loan groups in a consistent manner, thus minimizing the loss of information due to data aggregation.

The summary of explanatory variables starts with descriptions of the two key options-related predictors of mortgage default and prepayment-respectively, the probability of negative borrower equity and the mortgage premium value. A review of additional interest rate variables and loan characteristics that are used as explanatory variables follows.

$$EQ(t) = P(t) - UPB(t) \quad (Eq. 7)$$

Ideally, periodic observations on the values of individual properties would be used to update individual house values and borrower equity at the same frequency (monthly) at which the decision to prepay or default can be exercised. However, because individual housing values are not updated continuously it is not possible to compute updated values of  $EQ(t)$  for individual borrowers with sufficient accuracy for this measure to be used directly at the loan level.<sup>211</sup>

It remains possible, however, to characterize the equity positions of individual borrowers in terms of ex ante probabilities of negative equity.<sup>212</sup> The probability of negative equity is a

function of the scheduled current loan balance and the likelihood of individual house price outcomes that lie below this value. Projected distributions of individual housing values relative to the value at mortgage origination were calculated by applying estimates of house price drift and volatility obtained from independent estimates based on the OFHEO House Price Index (HPI).<sup>213</sup>

The required estimates of house price drift and volatility are direct by-products of the estimation of the OFHEO HPI. The OFHEO HPI is based on a modified version of the weighted-repeat-sales (WRS) methodology (Case and Shiller, 1987, 1989), and is consistent with the assumption that

$$\beta(t) = \ln \left( \frac{HPI(t)}{HPI(0)} \right) \quad (Eq. 8)$$

Where  $A$  is loan age (in quarters), and  $HPI(0)$  is the value of the HPI at time of

loan origination.<sup>214</sup> For the individual borrower with original house price  $P(0)$

#### a. Probability of Negative Equity

The put option has value to the borrower when the property is worth less than the outstanding balance on the mortgage. In that case, the borrower is in a negative equity position. Thus, the equity position of the borrower is determined by the difference between the market value of the property securing the loan,  $P(t)$ , and the unpaid mortgage balance,  $UPB(t)$ :

housing values are generated by a log-normal diffusion process. This means that over time individual housing values will appreciate at different rates, distributed randomly around the average rate of appreciation. Over time, the cumulative rates of appreciation for individual homes will become more and more dispersed or diffused, hence the reference to diffusion processes.

Mathematically, individual house prices are assumed to obey a non-stationary log-normal diffusion process in which individual house price appreciation since mortgage origination is normally distributed with variance  $\sigma^2(A)$  around the expected rate of appreciation from the HPI,  $\beta(t)$ , computed as:

at time 0, the probability of negative equity at time  $t$ ,  $PNEQ(t)$  is given by:

<sup>209</sup> This constraint applies specifically to the marginal contribution of particular explanatory variable outcomes, not to the overall level of the default and prepayment probabilities projected by the model. For example, if several explanatory variables simultaneously take on values that have not been previously observed in combination, then it is possible that the projected probabilities of default or prepayment would exceed those observed in the historical data. This type of outcome is anticipated by the 1992 Act, which requires regional adverse credit conditions to apply nationally to all loans at the same time.

<sup>210</sup> The loan groups used in the stress test were developed in conjunction with the classification of explanatory variable outcomes in the statistical analysis of mortgage default and prepayment. Aggregation of mortgage assets in the stress test recognizes the need to classify assets within broad product categories for financial accounting. Within the context of the proposed regulation, the use of aggregate loan groupings also facilitates the

assignment of new loan products to existing categories with known risk characteristics. Further explanation of the aggregate loan groups used in the stress test is in section III. A., Mortgage Performance of the preamble.

<sup>211</sup> As discussed above, given the measurement difficulties associated with borrower equity at the loan level, some researchers have used various means of simulating the distribution of borrower equity. For example, Foster and Van Order (1984, 1985) used a Monte Carlo simulation of a synthetic mortgage pool in conjunction with a house price diffusion process and actual default and prepayment rates to reconstruct a time-series for the number of borrowers in a negative equity position. Under additional restrictions on the model (i.e., that only borrowers with negative equity default, and only borrowers with positive equity prepay), the time-series for the number of borrowers with negative equity (various levels) was used in regressions for conditional default and prepayment probabilities.

<sup>212</sup> See the discussion of ex ante probabilities of negative equity in footnote 199.

<sup>213</sup> House price drift is defined here as the average rate of house price appreciation as determined by the appropriate market house price index, while volatility is defined as the variance in individual house price appreciation rates around the market average rate of appreciation.

<sup>214</sup> Estimates of expected appreciation or drift in house prices are obtained directly from the estimated values of the HPI for each of the nine U.S. Census divisions. Estimates of diffusion volatility,  $\sigma^2(A)$ , are computed using the estimated parameters for the error variance of individual log-differences in housing prices that are obtained from the second-stage of the WRS method for each division. See Calhoun (1996) for additional details. Deng, Quigley, and Van Order (1996) applied a similar approach using WRS indexes for 26 metropolitan areas estimated using Freddie Mac data.

$$PNEQ(t) = Pr\{EQ(t) < 0\} \quad (Eq. 9)$$

$$= \Phi \left\{ \frac{\ln(UPB(t)) - \ln(P(0)e^{\beta(t)})}{\sigma(A)} \right\} \quad (Eq. 10)$$

where  $\Phi(x)$  is the standard normal cumulative distribution function evaluated at  $x$ . This expression quantifies the relationship between changes in house prices on average, and the likelihood of negative appreciation on individual properties that places some fraction of borrowers in a negative equity position. The imputed share of borrowers with negative equity implied by equation 10 is used as a proxy for the probability of negative equity for an individual borrower.<sup>215</sup> The computed

probabilities of negative equity are assigned to one of eight categorical outcomes, as summarized in Table 31.

#### b. Relative Spread

The theoretical value of the call (prepayment) option on a mortgage is a function of the difference between the present value of the future stream of mortgage payments discounted at the current market rate of interest,  $R(t)$ , and the present value of the mortgage evaluated at the current note rate,  $C(t)$ .

$$RS(t) = \left\{ \frac{C(t) - R(t)}{C(t)} \right\} \quad (Eq. 11)$$

Positive values of the call option exist when the mortgage coupon exceeds the current market interest rate (positive spread), and the borrower can benefit financially by refinancing to obtain a lower interest rate. Outcomes for the relative spread variable are classified into seven categorical outcomes, as summarized in Table 31.

#### c. Prepayment Burnout

Recent studies of mortgage terminations have emphasized the importance of previous interest rate environments for distinguishing among borrowers more or less likely to exercise the prepayment option when the opportunity arises.<sup>216</sup> The tendency for the most responsive borrowers to prepay first, so that the remaining sample of borrowers are those with lower average conditional probabilities of prepayment, contributes to the observed seasoning or "burnout" of mortgage pools. The indicator variable  $B(t)$  is included to measure whether the borrower has missed a previous refinancing opportunity.<sup>217</sup>  $B(t)$  is defined by

whether the market rate of interest was 200 basis points or more below the coupon rate of the mortgage during two or more quarters over the past two years. Those who have missed previous refinancing opportunities are predicted to have lower conditional probabilities of prepayment and higher conditional probabilities of default. Failing to refinance under favorable interest rate conditions may indicate the existence of other credit-related problems, such as failure to obtain an adequate property appraisal.<sup>218</sup>

#### d. Yield Curve Slope

Expectations about future interest rates and differences in short-term and long-term borrowing rates associated with the slope of the Treasury yield curve influence the choice between ARM and FRM loans and the timing of refinancings and prepayments. A high value for the slope of the yield curve indicates relatively favorable short-term rates, increasing the likelihood that a borrower refinances to an ARM to take advantage of the lower initial coupons

The actual value of this call option to the borrower is unknown due to uncertainty over the future time path of mortgage payments associated with uncertain future probabilities of prepayment and default. Therefore, it is common to use other variables to capture the impact of the call option value on prepayment rates. Following recent work by Deng, Quigley and Van Order (1996), OFHEO approximated the call option value using the relative spread variable,  $RS(t)$ :

that can be offered by lenders. The variable  $YS(t)$  is included to measure the current slope of the yield curve. This variable is computed as the ratio of the ten-year Constant Maturity Treasury yield (CMT) to the one-year CMT, and assigned to four categorical outcomes.

#### e. Mortgage Age

The existence of other demographic and economic processes that may "trigger" mortgage default or prepayment, and the inability to measure the diffusion of house prices and the distribution of borrower equity precisely, create a need to account directly for age-specific differences in conditional rates of default and prepayment.<sup>219</sup> The direct dependence of the conditional probabilities on mortgage age recognizes the existence of other borrower processes and unobserved heterogeneity that induce duration dependence in the conditional rates of termination and help to explain the typical age patterns of default and prepayment.<sup>220</sup> For this reason,

<sup>215</sup> Although the market level (regional) values of house price drift and volatility are used, the imputed probability of negative equity is still specific to the individual borrower's circumstances, since the loan-specific values of original LTV and loan amount are used in the calculations.

<sup>216</sup> For example, see the discussions of borrower heterogeneity and path dependence in Bartholomew, Berk, and Roll (1988), and the discussion of burnout in Richard and Roll (1989).

<sup>217</sup> The indicator variable equals one if the spread between the note rate on the mortgage and the quarterly average market rate of interest has been 200 basis points or greater during any two of the past eight quarters.

<sup>218</sup> See footnote 198.

<sup>219</sup> Under a pure options model, the typical age patterns of conditional default and prepayment rates might be attributed entirely to the diffusion of housing values and the introduction of unobserved differences (heterogeneity) in the equity positions of

individual borrowers, resulting in differences in the rates of default and prepayment among particular subsets of individual borrowers. As these differences emerge following mortgage origination, the observed average conditional default and prepayment rates will initially increase. Eventually, as "high risk" borrowers depart the sample or mortgage pool, the average conditional rates of default and prepayment will decline.

<sup>220</sup> See Lancaster (1990) for a discussion of the impact of unobserved heterogeneity on estimates of

mortgage age (*AGE*) is included as an additional explanatory variable in the empirical model. The model utilizes a quadratic function of mortgage age, where age is defined as the number of quarters since origination. The use of a parametric function of age instead of categorical values is based on two considerations. First, the use of categorical age values for individual quarters would result in a large number of additional coefficients to estimate. Combining loans into broader age groupings to reduce the number of parameters can produce large differences in rates of default and prepayment with small increments in age for loans graduating from one age category to the next. Second, when individual age categories are used, they show that a quadratic age function is a reasonable assumption, at least for the first eight to ten years. At higher values of mortgage age, the samples are much smaller (most loans have terminated by these ages), with the result that the estimates for individual age categories are quite erratic due to sampling error. The use of a simple functional form like the quadratic helps to smooth the estimates of the age effects for the higher age groups.

#### f. Original LTV

The original LTV ratio, *LTV(0)*, serves as an indicator of the income and net worth of the borrower at mortgage origination, and directly determines the initial equity position of the borrower. To the extent that income and wealth are negatively correlated with *LTV(0)*, high LTV borrowers will have fewer economic resources to finance the transactions costs of prepayment or

endure spells of unemployment or other trigger events that might otherwise cause them to exercise the default option in a sub-optimal manner. Finally, high LTV borrowers have already demonstrated a willingness to “leverage” the financing of the home purchase, which may portend a greater sophistication or “ruthlessness” in the exercise of the default option. Thus, one would expect higher rates of default and lower rates of prepayment as *LTV(0)* increases. The six *LTV(0)* categories used in the default/prepayment models are similar to those used by the Enterprises in their annual reports and information statements.

#### g. Season of the Year

The variable *SEASON(t)* was included to account for the current season (quarter) of the calendar year, in recognition of the potential impact of weather, school schedules, and seasonal employment patterns on residential mobility and default and prepayment probabilities.

#### h. Occupancy Status

*OS* is an indicator variable included to distinguish mortgages on owner-occupied units from investor loans. Owner occupants should be less likely than investors to exercise the default option given the direct benefits they receive from the consumption of housing services. Owner occupants should be more likely to prepay than investors for non-financial reasons such as residential mobility.

#### i. Relative Loan Size

The ability to bear the transactions costs of refinancing, or to weather

economic stress and avoid default, will be correlated with the income level of the household. Given the lack of information in the historical data on household income at origination, a measure of relative loan size provided a proxy for the relative income level of the household. *LOANSIZE* was defined as the ratio of the original loan amount relative to the average-sized Enterprise loan originated in the same State during the same origination year.<sup>221</sup>

#### j. Product Type Indicators

Five product type indicators were created to account for the performance of non-standard loans relative to the standard 30-year FRM loans in model 3: 20-Year FRM, 15-Year FRM, balloon, FHA/VA, and seconds. These indicator variables provide the adjustment constants mentioned earlier.

#### k. ARM Coupon Rate Dynamics

To estimate the current values of both the probability of negative equity, *PNEQ(t)*, and the relative spread, *RS(t)*, variables for ARM loans, it was necessary to trace the path of current coupon rates over the active life of individual mortgages. For standard ARM products, the coupon rate resets periodically to a new level that depends on the underlying index, plus a fixed margin, subject to periodic and lifetime interest rate caps that specify the maximum and minimum amounts by which the coupon can change on any one adjustment and over the life of the loan.<sup>222</sup> ARM coupon rates are updated using the following formula:

$$C(t) = \max\{\min[Index(t-S) + Margin, C(t-1) + A(t) \cdot PeriodUpCap], C(t-1) - A(t) \cdot PeriodDownCap(t), C(0) + A(t) \cdot LifeUpCap\}, C(0) - A(t) \cdot LifeDownCap\} \quad (Eq. 12)$$

Where *Index(t)* is the underlying index value at time *t*, *S* is the “lookback” period, and *Margin* is the amount added to *Index(t-S)* to obtain the “fully-indexed” coupon rate. The

periodic adjustment caps are given by *PeriodUpCap* and *PeriodDownCap*, and are multiplied by an indicator variable *A(t)* which equals zero except during scheduled adjustment periods. The

maximum lifetime adjustments are determined by and *LifeUpCap* and *LifeDownCap*.<sup>223</sup>

duration dependence in econometric models of transition probabilities. Other borrower processes include residential mobility, employment mobility, involuntary unemployment, and demographic events related to household formation and dissolution, mortality, and fertility. Ideally, given suitable household-level data, these other processes would be modeled jointly with mortgage terminations.

<sup>221</sup> Price Waterhouse (1990) reported significant differences in claim rates for FHA mortgages stratified by loan size. Smaller loans were observed to fail at significantly higher rates than other loans.

<sup>222</sup> Detail on specific ARM contracts was obtained in some cases from loan-level information, and in other cases was obtained using plan-level detail for loans in certain ARM product categories. Any loan product with variable interest rates was classified as an ARM, and modeled according to product terms. This includes so-called two-step mortgages and mortgages with interest-rate buydowns. For simplicity, the margin was set at 2 percent for all ARMS.

<sup>223</sup> The majority of Enterprise ARM loans are indexed to the one-year Treasury rate, with smaller but significant numbers indexed to either the five-

year or ten-year Treasury rate, the 11-District Cost of Funds Index (COFI), or the London Inter-Bank Offer Rate (LIBOR). A small percentage of ARM loans are indexed to the six-month or three-year Treasury rates. The majority of ARM loans had lifetime adjustment caps of five or six percent, and have no lifetime rate floors. Most have periodic rate adjustment caps of two percent, while some have periodic rate adjustment caps of one percent. The majority of ARM loans have adjustment frequencies of one year, while a significant minority are adjusted every six months.

## 6. Empirical Results

The three models were estimated by the method of maximum likelihood using the SAS® CATMOD procedure. The CATMOD procedure employs a design matrix that automatically converts all categorical variables to a series of indicator variables prior to estimation. As discussed above, all explanatory variables except mortgage age were converted to indicator variables. This allows one to reduce the data to a smaller number of loan records, each representing unique combinations of the categorical variables, to which a frequency count is assigned and applied as a sampling weight in subsequent statistical analyses. This approach avoids the need to undertake choice-based sampling (e.g., over-sampling of defaulted loans) in order to assure that sufficient numbers of rare events like mortgage default are obtained.<sup>224</sup> However, given the large number of loan level observations available to OFHEO, simple random samples were used to estimate the 30-Year FRM and Multiple Products models. All available data were used to estimate the ARM model.<sup>225</sup>

Table 32 contains the parameter estimates for the three models.<sup>226</sup> The constant and age parameters are listed first, as they provide a baseline function to which the effects of other variables can be added. There is a high level of consistency in the coefficient estimates across all three models, and all three models provide empirical support for the importance of the options-related variables.

The coefficient estimates for the probability of negative equity variable (*PNEQ*) vary on the same order of

magnitude for default as the coefficient estimates for the original LTV variable. *PNEQ* is also important for prepayment, in the opposite direction, consistent with the expectation that those most likely to have negative equity will have the greatest difficulty selling their homes or refinancing their mortgages, and therefore be less likely to prepay their existing mortgages. Original LTV is relatively unimportant for prepayment, although those in the lowest LTV category are more likely to prepay.

The value of the call option measured by the relative spread (*RS*) shows quite large effects on prepayment in the hypothesized direction. The higher the coupon rate on the mortgage relative to the current market rate of interest the higher the likelihood of prepayment. Note the general similarities between the *RS* coefficient estimates for models one and two (30-year FRMs and ARMs). Because ARM coupon rates will adjust with changes in market rates, ARM borrowers are less likely than FRM borrowers to end up with large positive or negative *RS* values. However, the estimates in Table 32 imply that ARM and FRM borrowers behave in a similar manner under comparable values of the call option.

The prepayment burnout variable, *B*, is most important for default rates, and indicates that missed opportunities to prepay are associated with higher credit risk. This result reinforces the results discussed above for *PNEQ*, where higher values of *PNEQ* were associated with lower probabilities of prepayment. This result also reflects the lack of precision in measurements of borrower equity at the loan level.

The slope of the yield curve (*YS*) is important for the probability of prepayment for FRM borrowers, especially for steep positive values of the slope. This result is consistent with the tendency of borrowers to refinance to ARM mortgages when short-term rates are relatively low and lenders can offer very favorable initial coupons ("teaser" rates). It is also consistent with the assumption that the expectation of higher interest rates in the future may cause some borrowers to refinance sooner to lock in lower rates. The yield curve slope variable has similar, but smaller, effects for ARM borrowers.

The *SEASON* variable has modest effects in the anticipated directions. For FRM borrowers, prepayment rates are lower than average in the Winter and higher in the Spring. Default rates are lower in the Winter and higher in the Fall. For ARMs, prepayments are also higher in the Fall, but defaults are lower in that season.

Occupancy status (*OS*) has much larger impacts on default probabilities for ARM borrowers than FRM borrowers. For both product types, investors are more likely to default than owner-occupants, and much more so for ARM borrowers than FRM borrowers. It is reasonable to expect that owner-occupants will be less ruthless in the exercise of the default option given the offsetting value they receive from living in the home. The prepayment effects are more similar across ARM and FRM borrowers.

The variable *LOANSIZE* was included as a proxy for borrower income at origination. The results in Table 32 indicate that relative loan size is not particularly important for default probabilities, at least after controlling for the other explanatory variables. *LOANSIZE* is much more important for prepayment, with smaller loans prepaying at lower rates than relatively large loans. This is consistent with the interpretation of *LOANSIZE* as a proxy for borrower income. Lower income borrowers may lack the resources to bear the transactions costs of refinancing, causing them to prepay at lower rates than higher income borrowers with relatively large loans. Lower income borrowers may also be less mobile than higher income borrowers. The results for prepayment are similar across FRM and ARM borrowers.

The results for the two fixed-rate models, models one and three, are generally quite consistent. The individual product type indicators in model 3 provide estimates of the relative rates of default and prepayment of various fixed-rate products in comparison to 30-Year FRMs, and in comparison to each other. Balloon mortgages have the highest rates of default and prepayment relative to 30-Year FRMs. Intermediate FRM products (15-Year and 20-Year) default at lower rates than 30-Year FRMs. This result is consistent with more rapid loan payoff and accumulation of borrower equity for these borrowers. Rates of prepayment on intermediate FRMs are comparable to those on 30-Year FRMs. FHA and VA loans have higher rates of default and lower rates of prepayment than 30-Year FRM loans. Results for the category of second loans is most similar to the FHA/VA loans.

## 7. Application of the Models in the Stress Test

The three product-based single family models provide the means to project the conditional default and prepayment probabilities required as inputs to the cash flow model of Enterprise financial

<sup>224</sup> It has been demonstrated for static logit models that choice-based sampling results in biased estimates of the coefficients of the logit constant terms, for which relatively simple corrections are available, based on the population distribution of the explanatory variables across groups defined by dependent variable outcomes (Costlett, 1981). It is not clear that the same form of correction applies to the retrospective event-history sample used in this analysis. Selection on the basis of default outcomes implies selection of an array of preceding "non-events" for each quarter the loan was active, so that the distributions of the explanatory variables for specific age categories depends on the timing of default events for individual loans.

<sup>225</sup> A ten-percent random sample was used for the 30-Year FRM model and the Multiple Products model. All data used for estimation were subject to a variety of data quality screens and available data for all the explanatory variables.

<sup>226</sup> Note that a particular feature of the SAS CATMOD procedure is that when it estimates the coefficients corresponding to a variable with *N* categories, the program estimates only the first *N*-1 coefficients. The final-category coefficient for each variable is computed as the additive inverse of the first *N*-1 category coefficients.



performance. The stress test aggregates single family loan-level data into loan groups based on the following characteristics: Enterprise, portfolio (securitized vs. retained), product type, origination year, original LTV ratio class, original coupon class, starting coupon class, and region (Census division). The information contained in characteristics data for each aggregated loan grouping is sufficient, when combined with data on house price growth rates and interest rates, to compute and update all of the explanatory variables needed for computing conditional default and prepayment probabilities during the stress period.

There are three exceptions to this general statement. The variables *SEASON* and *LOANSIZE* were not used to classify loans for the purpose of the stress test. The *SEASON* variable was excluded when applying the logit models to project default and prepayment probabilities over the stress period.<sup>227</sup> The *LOANSIZE* variable was retained, but all loans were categorized as being of average size. These two changes reduced by a factor of nine the number of loan groups that had to be processed when running the stress test. Accounting for seasonal effects and differences in default and prepayment rates by loan size was not considered essential for projecting mortgage performance in the stress test.<sup>228</sup> In addition, the variable *OCCUPANCY*, used to distinguish mortgages on owner-occupied units from investor loans, is replaced by the portfolio average percentages for each occupancy status. Thus, instead of creating separate loan groups for owner-occupied and investor loans, these loans are combined into a single group, and a weighted average of the logit coefficients for owners and investors is used when projecting default and prepayment probabilities. This procedure reduces the number of records that must be processed by a

<sup>227</sup> The parameter estimates generated by the SAS CATMOD procedure are defined so that they sum to zero across all categories of a given explanatory variable. This implies that dropping them from the model is equivalent to assuming that the logit probabilities for default and prepayment include the average effect across all the possible categories of the excluded variable.

<sup>228</sup> Including the *SEASON* variable in estimation can be justified because it helps to isolate the statistical impact of changes in house prices on borrower equity from purely seasonal fluctuations in default and prepayment rates. Likewise, *LOANSIZE* and original LTV are both likely to be related to borrower income and wealth at mortgage origination. However, because *LOANSIZE* is defined relative to the average sized loan within a state in the year of origination it provides a somewhat different measure of relative income or wealth.

factor of 2, but still allows OFHEO to account for changes over time in the percentage of Enterprise mortgages that are investor loans.

The detail contained in the starting position loan group records is sufficient to treat each loan group as if it performs like a single loan, with the projected probability of default or prepayment from the model corresponding to the share of the loan group balance that will default or prepay in any given period (i.e., by the "law-of-large-numbers"). Group-specific average values of original LTV and mortgage coupon are used in place of exact loan-specific values in computing explanatory variables requiring these as inputs (e.g., *PNEQ* and *RS*). Categorical values such as original LTV and region (Census division) are classified in the same way for both the loan-level data used for estimation and the loan groupings used in the stress test.

Another nuance of stress test implementation is that, for purposes of projecting default and prepayment rates, OFHEO treats all mortgages with variable payments as if they were standard one-year Treasury ARMs, with identical payment caps and interest rate margins. In contrast, in the statistical analysis, specific payment changes for each loan type were reflected in the creation of explanatory variables.

In the development of explanatory variables for both the statistical analysis and stress test implementation, a shortcut is used to amortize ARMs. At each payment adjustment date, the new mortgage payments are computed using updated interest rates but with the original UPB and loan term, rather than current UPB and remaining term. This is seen in the formula used for  $PMT_q$ , which is the same for both fixed- and adjustable-rate mortgages. (See section 3.5.2.3, Procedures of the Appendix.) This approach provides an approximation for actual payment changes on adjustable rate mortgages. It expedites calculations by reducing the code necessary to update payments and UPB in each quarter. The approximation here should have little effect on default rate results because of the use of categorical, rather than continuous explanatory variables. Differences in loan amortization arising from using this payment-calculation approximation only affect default or prepayment rates when those differences move the probability of negative equity variable from one (value) category to another. Loan amortization in the Cash Flow component of the stress test does not use this shortcut.

In the development of variables for both the statistical analysis and stress

test implementation, the incorrect term is used to amortize balloon loans. Mortgage origination term ( $T_0$ ), rather than mortgage amortization term ( $T_a$ ), is used to amortize these loans. This is seen in the formula used for  $PMT_q$ , which does not distinguish between balloon loans and other loan products. See section 3.5.2.3, Procedures of the Appendix. Amortization of balloon loan products in the Cash Flow component of the stress test uses the mortgage amortization term.

#### 8. Consistency With the Historical Benchmark Experience

Certain adjustments and assumptions to the models were made to assure consistency of the rates of default projected in the stress test with the BLE. Loan-level data from the benchmark was aggregated in the same way current Enterprise loan groups are formed in the stress test, and the 30-year FRM model was applied to these data to project conditional and cumulative default and prepayment rates for the ten years following origination.<sup>229</sup> A single set of house price appreciation rates from the OFHEO HPI, the ten-year sequence of appreciation rates from the West South Central Census division for the period from 1984 Q1 to 1993 Q4, was applied to every benchmark loan group.<sup>230</sup> Actual historical interest rates were used. The projected average ten-year cumulative default rate was compared to that observed for the BLE, and adjustments were made to the constant term  $\alpha_D$  of the default function until the projected and observed default rates were equal.<sup>231</sup>

<sup>229</sup> Note that all loans of the BLE are newly originated loans.

<sup>230</sup> The West South Central Census Division does not exactly match the 4-State benchmark region, but its use here to represent benchmark economics is consistent with OFHEO's proposal to aggregate data based on Census divisions, and to apply historical Census division-level house price growth rates to season loans at the beginning of the stress test. What is most important is that the price series used to calibrate the statistical equations is the same series that will be used in the stress test itself. The actual ten-year house-price experience of the West South Central Division and the 4-State benchmark area, 1984–1993, are very similar.

<sup>231</sup> When computing the cumulative default rate projected by the model for comparison with that observed for the benchmark experience, the same calculations were used. The model was used to project the total defaulting UPB for benchmark loans over the ten-year period following origination for each monthly origination cohort. The total defaulting UPB for each Enterprise was obtained by summing up the total defaulting UPB for each origination cohort, which was divided by the total original UPB for that Enterprise to compute the ten-year cumulative default rate. The two Enterprise cumulative default rates were then averaged. As discussed in NPR1, because of missing data on defaulting loans, OFHEO used the original UPBs on default loans in place of UPB at the time of default.

Continued

The adjusted (calibrated) model is then applied in the stress test, along with the sequence of house price appreciation rates used in the calibration procedure.<sup>232</sup> Therefore, if newly originated loans with characteristics similar to those comprising the benchmark sample were subjected to the same economic circumstances as occurred in the benchmark experience, then the statistical model of mortgage

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This has little effect on the resulting historical loss rates, because the same values for defaulting UPBs were used when computing severity rates. In the calibration of default rates, the UPBs at the time of default projected from the model (which take into account normal amortization) were adjusted back to their origination values for consistency with the benchmark methodology.

<sup>232</sup> In the calibration, all loans of the BLE are assigned an HPI volatility parameter estimate based on the West South Central Census division. In the stress test, loans from each region retain their respective regional volatility values.

performance would project ten-year cumulative default rates equal to those of the benchmark sample. Conversely, to the extent interest rates, property values, and loan characteristics are different from the benchmark sample, and to the extent adjustments are necessary to account for other statutory requirements (e.g., increased general inflation under large increases in the ten-year CMT), the stress test rates differ from the benchmark level.

The adjustment of the model is appropriate for use in the stress test because the statistical equations in the model were estimated using Enterprise data on loans from a broad range of times and places, in addition to those loans included in the benchmark sample. Because, by definition, the BLE reflects the highest rates of loss observed from among these other periods and places, the model would

not be likely to replicate benchmark results on benchmark loans exactly without some type of adjustment.

The calibration procedure does not add an adjustment factor to match projected prepayment rates directly to the benchmark prepayment experience. Nevertheless, the stress test model is fully calibrated to the credit loss experience of the benchmark loans because the calibrated default equation, and the uncalibrated prepayment equation that was used to help calibrate the default equation, are used together to determine mortgage performance. Because the time paths of Treasury yields and mortgage rates used in the calibration were those corresponding to the individual benchmark origination cohorts, the conditions leading to prepayments in the calibration exercise are entirely consistent with the benchmark default experience.

**Table 31. Explanatory Variables for Default and Prepayment Models**

| Variable Name                                   | Description   | Categorical Ranges  |
|---|---|---|
| <i>Options-Related Variables</i>                |   |   |
| $RS(t)$   | Relative spread between the note rate and the current average market rate. Entered as a (7x1)-vector of indicator variables for value categories. See text for explanation.   | $RS \leq -0.20$<br>$-0.20 < RS \leq -0.10$<br>$-0.10 < RS \leq 0.0$<br>$0.20 < RS \leq 0.10$<br>$0.10 < RS \leq 0.20$<br>$0.20 < RS \leq 0.30$<br>$RS > 0.30$   |
| $PNEQ(t)$                                       | Probability of negative equity. Entered as an (8x1)-vector of indicator variables for probability of negative equity categories. See text for explanation.  | $0.0 < PNEQ \leq 0.05$<br>$0.05 < PNEQ \leq 0.10$<br>$0.10 < PNEQ \leq 0.15$<br>$0.15 < PNEQ \leq 0.20$<br>$0.20 < PNEQ \leq 0.25$<br>$0.25 < PNEQ \leq 0.30$<br>$0.30 < PNEQ \leq 0.35$<br>$PNEQ > 0.35$ |
| <i>Other Interest Rate Variables</i>            |   |   |
| $B(t)$  | Burnout factor. Defined as missed opportunity to refinance. This occurs if coupon on the mortgage was greater than 200 basis points above market rate during any two quarters over the past two years. Entered as an indicator variable for burnout effect. | No Chance to Refi<br>Missed Chance to Refi  |
| $YS(t)$   | Yield curve slope. Entered as a (4x1)-vector of indicator variables for yield curve slope categories. Yield curve slope is defined as ratio of 10-year CMT to 1-year CMT.   | $YS < 1.0$<br>$1.0 \leq YS < 1.2$<br>$1.2 \leq YS < 1.5$<br>$YS \geq 1.5$   |
| <i>Variables for Other Loan Characteristics</i> |   |   |
| $AGE(t)$  | Mortgage age function. This variable is computed as a quadratic function of the number of quarters since origination. When combined with the constant term, this determines the baseline hazard function.   |   |
| $LTV(0)$  | Original LTV. Entered as a (6x1)-vector of indicator variables for original LTV categories  | $LTV \leq 60$<br>$60 < LTV \leq 70$<br>$70 < LTV \leq 75$<br>$75 < LTV \leq 80$<br>$80 < LTV \leq 90$<br>$90 < LTV \leq 100$  |

**Table 31. Explanatory Variables for Default and Prepayment Models (Continued)**

| <b>Variable Name</b>                       | <b>Description</b>  | <b>Categorical Ranges</b>   |
|--|---|---|
| <i>SEASON(t)</i>                           | Season of the year. Entered as a (4x1)–vector of indicator variables for seasonal categories.   | Winter<br>Spring<br>Summer<br>Fall  |
| <i>OS</i>                                  | Occupancy status. Indicator variable for owner-occupancy status.  | Investor<br>Owner-Occupant  |
| <i>LOANSIZE</i>                            | Relative loan size. Entered as a (6x1)–vector of indicator variables for original loan size relative to the state average loan size in the same year. | $LOAN\ SIZE \leq 0.40$<br>$0.40 < LOAN\ SIZE \leq 0.60$<br>$0.60 < LOAN\ SIZE \leq 0.75$<br>$0.75 < LOAN\ SIZE \leq 1.00$<br>$1.00 < LOAN\ SIZE \leq 1.25$<br>$LOAN\ SIZE > 1.50$ |
| <b><i>Loan Product-Type Indicators</i></b> |   |   |
| <i>BALLOON</i>                             | Balloon Mortgages   | Balloon / Non-Balloon   |
| 15-Year FRM                                | 15-Year Fixed-Rate Mortgages  | 15 YR / Non-15 YR   |
| 20-Year FRM                                | 20-Year Fixed-Rate Mortgages  | 20 YR / Non-20 YR   |
| 30-Year FRM                                | 30-Year Fixed-Rate Mortgages  | 30 YR / Non-30 YR   |
| <i>GOVERNMENT</i>                          | FHA/VA Mortgages  | Government / Non-Government   |
| <i>SECONDS</i>                             | Second Liens  | Second liens/ first liens   |

**Table 32. Comparison of Multinomial Logit Parameter Estimates for Quarterly Conditional Prepayment and Default Probabilities<sup>1</sup>**

| Explanatory Variables  | 30-Year FRM       |                   | ARM                |                    | Other Fixed-Rate Products |                    |
|------------------------|-------------------|-------------------|--------------------|--------------------|---------------------------|--------------------|
|                        | Prepay            | Default           | Prepay             | Default            | Prepay                    | Default            |
| CONSTANT               | -4.514<br>(0.000) | -6.985<br>(0.000) | -4.630<br>(0.000)  | -5.218<br>(0.000)  | -4.511<br>(0.000)         | -7.045<br>(0.000)  |
| AGE                    | 0.072<br>(0.000)  | 0.118<br>(0.000)  | 0.061<br>(0.000)   | 0.057<br>(0.000)   | 0.078<br>(0.000)          | 0.139<br>(0.000)   |
| AGE * AGE              | -0.002<br>(0.000) | -0.002<br>(0.000) | -0.001<br>(0.000)  | -0.002<br>(0.000)  | -0.002<br>(0.000)         | -0.002<br>(0.000)  |
| LTV(0)<br>LTV ≤ 60     | 0.169<br>(0.000)  | -1.465<br>(0.000) | 0.097<br>(0.000)   | -1.424<br>(0.000)  | 0.117<br>(0.000)          | -1.491<br>(0.000)  |
| 60 < LTV ≤ 70          | 0.069<br>(0.000)  | -0.219<br>(0.000) | -0.008*<br>(0.134) | -0.348<br>(0.000)  | 0.041<br>(0.000)          | -0.219<br>(0.000)  |
| 70 < LTV ≤ 75          | -0.024<br>(0.000) | 0.426<br>(0.000)  | -0.080<br>(0.000)  | 0.121<br>(0.000)   | -0.027<br>(0.000)         | 0.374<br>(0.000)   |
| 75 < LTV ≤ 80          | 0.013<br>(0.000)  | 0.272<br>(0.000)  | -0.071<br>(0.000)  | 0.191<br>(0.000)   | -0.004*<br>(0.106)        | 0.220<br>(0.000)   |
| 80 < LTV ≤ 90          | -0.070<br>(0.000) | 0.399<br>(0.000)  | 0.081<br>(0.000)   | 0.322<br>(0.000)   | -0.049<br>(0.000)         | 0.412<br>(0.000)   |
| 90 < LTV ≤ 100         | -0.157            | 0.587             | -0.019             | 1.138              | -0.078                    | 0.704              |
| PNEQ(t)<br>PNEQ ≤ 0.05 | 0.234<br>(0.000)  | -1.269<br>(0.000) | 0.603<br>(0.000)   | -1.206<br>(0.000)  | 0.328<br>(0.000)          | -1.198<br>(0.000)  |
| 0.05 < PNEQ ≤ 0.10     | 0.199<br>(0.000)  | -0.559<br>(0.000) | 0.239<br>(0.000)   | -0.413<br>(0.000)  | 0.174<br>(0.000)          | -0.344<br>(0.000)  |
| 0.10 < PNEQ ≤ 0.15     | 0.196<br>(0.000)  | -0.263<br>(0.000) | 0.060<br>(0.000)   | -0.292<br>(0.000)  | 0.132<br>(0.000)          | -0.062*<br>(0.055) |
| 0.15 < PNEQ ≤ 0.20     | 0.169<br>(0.000)  | -0.135<br>(0.000) | 0.027<br>(0.037)   | -0.043*<br>(0.109) | 0.074<br>(0.000)          | -0.080<br>(0.040)  |
| 0.20 < PNEQ ≤ 0.25     | 0.015<br>(0.002)  | 0.254<br>(0.000)  | -0.005*<br>(0.736) | 0.177<br>(0.000)   | -0.042<br>(0.001)         | 0.164<br>(0.000)   |
| 0.25 < PNEQ ≤ 0.30     | -0.207<br>(0.000) | 0.563<br>(0.000)  | -0.155<br>(0.000)  | 0.398<br>(0.000)   | -0.125<br>(0.000)         | 0.404<br>(0.000)   |
| 0.30 < PNEQ ≤ 0.35     | -0.249<br>(0.000) | 0.647<br>(0.000)  | -0.242<br>(0.000)  | 0.607<br>(0.000)   | -0.169<br>(0.000)         | 0.421<br>(0.000)   |

**Table 32. Comparison of Multinomial Logit Parameter Estimates for Quarterly Conditional Prepayment and Default Probabilities<sup>1</sup> (Continued)**

| Explanatory Variables                     | 30-Year FRM       |                   | ARM                       |                   | Other Fixed-Rate Products |                    |
|---|-------------------|-------------------|---------------------------|-------------------|---------------------------|--------------------|
|   | Prepay            | Default           | Prepay                    | Default           | Prepay                    | Default            |
| $0.35 > PNEQ$                             | -0.357            | 0.762             | -0.527                    | 0.772             | -0.372                    | 0.695              |
| $RS(t)$<br>$RS \leq -0.20$                | -1.160<br>(0.000) |                   | -1.473<br>(0.000)         |                   | -1.027<br>(0.000)         |                    |
| $-0.20 < RS \leq -0.10$                   | -0.822<br>(0.000) |                   | -0.524<br>(0.000)         |                   | -0.810<br>(0.000)         |                    |
| $-0.10 < RS \leq 0.0$                     | -0.680<br>(0.000) |                   | -0.328<br>(0.000)         |                   | -0.710<br>(0.000)         |                    |
| $0.0 < RS \leq 0.10$                      | -0.432<br>(0.000) |                   | -0.162<br>(0.000)         |                   | -0.343<br>(0.000)         |                    |
| $0.10 < RS \leq 0.20$                     | 0.633<br>(0.000)  |                   | 0.414<br>(0.000)          |                   | 0.628<br>(0.000)          |                    |
| $0.20 < RS \leq 0.30$                     | 1.182<br>(0.000)  |                   | 1.066<br>(0.000)          |                   | 1.098<br>(0.000)          |                    |
| $0.30 > RS$                               | 1.279             |                   | 1.007                     |                   | 1.164                     |                    |
| BURNOUT ( $B(t)$ )<br>(No Chance to Refi) | 0.106<br>(0.000)  | -0.619<br>(0.000) | 0.027<br>(0.000)          | -0.468<br>(0.000) | 0.087<br>(0.000)          | -0.566<br>(0.000)  |
| (Missed Chance to Refi)                   | -0.106            | 0.619             | -0.027                    | 0.468             | -0.087                    | 0.566              |
| $YS(t)$<br>$YS < 1.0$                     | -0.215<br>(0.000) |                   | 0.042<br>(0.000)          |                   | -0.214<br>(0.000)         |                    |
| $1.0 \leq YS < 1.2$                       | -0.228<br>(0.000) |                   | -0.156<br>(0.000)         |                   | -0.211<br>(0.000)         |                    |
| $1.2 \leq YS < 1.5$                       | 0.022<br>(0.000)  |                   | -0.101<br>(0.000)         |                   | -0.004*<br>(0.197)        |                    |
| $1.5 \leq YS$                             | 0.421             |                   | 0.215                     |                   | 0.429                     |                    |
| SEASON( $t$ )<br>Winter                   | -0.154<br>(0.000) | -0.145<br>(0.000) | -0.151<br>(0.000)         | -0.031<br>(0.020) | -0.158<br>(0.000)         | -0.126<br>(0.000)  |
| Spring                                    | 0.161<br>(0.000)  | 0.025<br>(0.000)  | 0.065<br>0.044<br>(0.000) | 0.037<br>(0.004)  | 0.148<br>(0.000)          | -0.010*<br>(0.575) |
| Summer                                    | -0.010<br>(0.000) | -0.052<br>(0.000) | 0.009<br>(0.012)          | 0.010*<br>(0.440) | -0.002*<br>(0.421)        | -0.050<br>(0.004)  |

**Table 32. Comparison of Multinomial Logit Parameter Estimates for Quarterly Conditional Prepayment and Default Probabilities<sup>1</sup>** (Continued)

| Explanatory Variables         | 30-Year FRM       |                    | ARM               |                    | Other Fixed-Rate Products |                    |
|-------------------------------|-------------------|--------------------|-------------------|--------------------|---------------------------|--------------------|
|                               | Prepay            | Default            | Prepay            | Default            | Prepay                    | Default            |
| Fall                          | 0.003             | 0.172              | 0.077             | -0.016             | 0.012                     | 0.186              |
| <i>OCCUPANCY (OS)</i>         |                   |                    |                   |                    |                           |                    |
| Investor                      | -0.140<br>(0.000) | 0.244<br>(0.000)   | -0.228<br>(0.000) | 0.891<br>(0.000)   | -0.142<br>(0.000)         | 0.269<br>(0.000)   |
| Owner-Occupant                | 0.140             | -0.244             | 0.228             | -0.891             | 0.142                     | -0.269             |
| <i>LOANSIZE</i>               |                   |                    |                   |                    |                           |                    |
| <i>LOANSIZE</i> ≤ 0.40        | -0.531<br>(0.000) | -0.029*<br>(0.084) | -0.399<br>(0.000) | -0.215<br>(0.008)  | -0.506<br>(0.000)         | -0.073*<br>(0.082) |
| 0.40 < <i>LOANSIZE</i> ≤ 0.60 | -0.337<br>(0.000) | -0.043<br>(0.000)  | -0.288<br>(0.000) | 0.111<br>(0.000)   | -0.321<br>(0.000)         | -0.008*<br>(0.779) |
| 0.60 < <i>LOANSIZE</i> ≤ 0.75 | -0.130<br>(0.000) | -0.039<br>(0.000)  | -0.126<br>(0.000) | 0.119<br>(0.000)   | -0.131<br>(0.000)         | -0.045*<br>(0.092) |
| 0.75 < <i>LOANSIZE</i> ≤ 1.00 | 0.051<br>(0.000)  | -0.040<br>(0.000)  | 0.014<br>(0.005)  | 0.055<br>(0.004)   | 0.038<br>(0.000)          | -0.040*<br>(0.054) |
| 1.00 < <i>LOANSIZE</i> ≤ 1.25 | 0.200<br>(0.000)  | 0.010*<br>(0.174)  | 0.169<br>(0.000)  | 0.012*<br>(0.528)  | 0.188<br>(0.000)          | -0.009*<br>(0.684) |
| 1.25 < <i>LOANSIZE</i> ≤ 1.50 | 0.313<br>(0.000)  | 0.059<br>(0.000)   | 0.276<br>(0.000)  | -0.036*<br>(0.108) | 0.300<br>(0.000)          | 0.089<br>(0.000)   |
| 1.50 < <i>LOANSIZE</i>        | 0.434             | 0.082              | 0.354             | -0.046             | 0.432                     | 0.086              |
| <i>PRODUCT TYPE</i>           |                   |                    |                   |                    |                           |                    |
| Balloon                       |                   |                    |                   |                    | 0.522<br>(0.000)          | 1.175<br>(0.000)   |
| 15-Year FRM                   |                   |                    |                   |                    | -0.046<br>(0.000)         | -1.328<br>(0.000)  |
| 20-Year FRM                   |                   |                    |                   |                    | -0.059<br>(0.000)         | -0.407<br>(0.000)  |
| 30-Year FRM                   |                   |                    |                   |                    | -0.042<br>(0.000)         | -0.264<br>(0.000)  |
| FHA/VA                        |                   |                    |                   |                    | -0.226<br>(0.000)         | 0.429<br>(0.000)   |
| Second Liens                  |                   |                    |                   |                    | -0.149                    | 0.395              |

<sup>1</sup> Note: All models were estimated by the method of maximum likelihood using the SAS CATMOD procedure. Empirical p-values are shown in parentheses. P-values are not shown for the imputed coefficients (last category for each variable). An asterisk indicates that the coefficient is not statistically significant from zero at the five percent level for an asymptotic-normal hypothesis test. The coefficients burnout, occupancy status, product types, and the constants were modified for use in the regulation to reflect differently structure dummy variables.

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- C. Single Family Loss Severity*
1. Introduction
- This supplementary material provides information on the estimation and application of statistical models for the single family loss severity component of the proposed risk-based capital stress test and regulation. With one exception, all cost and revenue elements of loss severity are calculated as averages of historical Enterprise experience with foreclosed mortgages. The one exception is that a statistical regression model was developed to project the sale proceeds on foreclosed (real estate owned, or REO) properties. This regression model uses the same property valuation process that was used to create a probability of negative equity variable in the default/prepayment analysis. However, in projecting REO sales proceeds, the process is used to create a variable that measures the average equity of performing loans that have the same characteristics (other than equity) as defaulting loans. The regression then describes the relationship between average equity of performing loans and average (negative) equity of defaulting loans. One minus the projected negative equity on defaulting loans gives the projected REO sale proceeds. This regression analysis allows stress test loss severity rates to reflect economic conditions and provides an opportunity to reasonably relate loss severities on current Enterprise portfolios to the benchmark experience.
- With the exception of government insured loans, OFHEO's loss severity analysis does not make explicit distinctions by loan product type. Differences by loan products are captured in the basic loan terms—coupon rate, LTV, and amortization term—that factor into loss severity equations.
- The Enterprises rely upon various counterparties to provide credit enhancements that offset gross severity rates. An explanation of how credit enhancements are modeled in the stress test can be found in the appendix to the regulation.
- The remainder of this supplementary material is organized as follows: section 2 provides the conceptual framework for single family loss severity analysis; section 3 describes the data used in the analysis; section 4 discusses the statistical analysis; section 5 examines adjustments made to the severity equations to reasonably relate the results to the historical benchmark experience identified in the first NPR; and section 6 explains how the results of the statistical analysis are applied in the stress test.
2. Conceptual Framework
- In determining the approach to use in modeling loss severity rates, OFHEO reviewed four research studies. None of these attempted to analyze the various components of loss severity, but rather used simple regressions of some measure of a gross severity rate on original loan-to-value and loan age. These studies provide little guidance, as they do not provide frequency distributions of observed severity rates, nor do they provide averages y loan types.<sup>233</sup>
- OFHEO chose to analyze defaulted loan severity rates in three parts: loss of loan principal, transaction costs, and

<sup>233</sup> These studies are: Claretie (1990), Lekkas, Quigley, and Van Order (1993), Crawford and Rosenblatt (1995), and Berkovec, et al. (1997). The Berkovec, et al. study is not focused on loss severities, but rather analyzes them as part of a broader study of potential lending discrimination. These four studies are reviewed by Capone and Deng (1998), who themselves are interested in variations in loss severity rates across defaulted loans that can be explained by the tenets of option pricing theory. See also Kau and Keenan (1997) for the one example of severity analysis in a theoretical mortgage pricing model.



funding cost. This decomposition was used for three reasons. First, the loss of unpaid principal loan balance (UPB) is a function of the loss of property value before and during the default period, which can be statistically modeled as a function of economic conditions. The second reason for a decomposition analysis is to accommodate the timing of various cash flows during the period between initial default (month of first missed payment) and final property disposition. In the stress test, all default losses are accounted for in the month of default. The loss severity rate accounts for the timing of income and expenses after the default month. The timing of post-default cash flows is captured using present value discounting techniques. This method also captures funding costs of the nonearning assets—first the mortgage, and then the REO. Finally, the stress test calibrates the severity component related to loss of principal balance to the economic conditions of the BLE, as will be discussed in section 5. The stress test also uses BLE data for the elapsed time between default and foreclosure completion, and between foreclosure completion and property disposition.

Loss severity is most frequently expressed as a rate rather than a dollar amount. The most accurate representation of the magnitude of losses is to express loss severity as a percentage of the UPB at the time of default. Therefore, OFHEO has chosen to calculate all costs and revenues associated with loss severity as a percentage of the UPB. This will result in the computation of loss severity rates rather than dollar amounts, but they become dollar amounts when the stress test multiplies both default and loss severity rates against loan balances.

### 3. Data

Loan level data on Enterprise single family REO properties were used to analyze the components of single family loss severity rates. The data contain all defaulted mortgages on single family (1–4 unit) properties that were both originated and had a last-paid-installment date between January 1980 and December 1995. After removing incomplete records, over 116,500 valid records remained in the analysis database. These records consist of loan terms, event dates (default, foreclosure, disposition), and various expense and revenue fields.

A second analysis database was created consisting of only those loans in the historical REO analysis database that met benchmark criteria. Those criteria singled out conventional, 30-year fixed-rate loans on single family properties

(single unit, owner-occupied, detached properties) that originated in 1983 and 1984 in the States of Arkansas, Louisiana, Mississippi, and Oklahoma, and defaulted within ten years of origination. This benchmark database (789 loans) was used to create an adjustment factor that provides consistency between the loss severity rates projected in the stress test and the benchmark loss rates. This process is discussed in section 5, Consistency with the Benchmark Loss Experience, below.

Other data used in the analysis of loss severity rates includes historical Census division level HPI indices and their associated volatility parameters, which come from the *OFHEO HPI Report*, 1996:3.

### 4. Statistical Analysis

The primary statistical analysis performed for single family loss severity rates measured the impact of market conditions on REO sale proceeds. This is the one dynamic element of loss severity in stress test application. It relies upon original LTV, loan amortization, and Census division level house price growth. OFHEO performed a statistical regression analysis to model negative equity for defaulted loans as a function of the average equity of similar, but performing, loans. All other statistical analyses involved calculating average historical experience by loss severity element. The two elements with values computed as historical averages are foreclosure expenses and a combination of REO expenses, revenues (other than disposition proceeds), and property selling expenses. In addition, average times to foreclosure and time in REO were computed for use in calculating the net present value of revenues and expenses in the month of default.

When averages were computed for loss elements, a two-step procedure was used. First, the average experience of each firm was calculated using UPB as a weighting factor. This weighted average provides a good measure of portfolio-wide performance, although the analysis is based on individual loans. The second step was to give equal weight to the experience of each firm by taking a simple average of the experience of the two Enterprises. This procedure is also consistent with the procedure used to find the benchmark loss severity rate reported in NPR1.<sup>234</sup>

The averages of the foreclosure and the REO expense/revenue elements are

<sup>234</sup> See 61 FR 29592, 29597, June 11, 1996. Procedures here differ from those of the first NPR by calculating loss severity as a percentage of the outstanding loan balance at time of default, rather than a percentage of the original loan balance.

based on the entire national, historical sample of Enterprise experience. Benchmark experience was not used by itself because it was evident from an analysis of the data that there were significant numbers of records with missing expense components. The magnitudes of these expense items should not vary between the benchmark region and other areas of the country for two reasons. First, the benchmark region has a variety of foreclosure laws, by State, so that the average foreclosure expense rate for the benchmark region is similar to averages from other regions of the country, and to the average for the nation as a whole. Second, OFHEO computed these loss components as percentages of the outstanding loan balance, rather than as actual dollar amounts. Thus, the fact that the benchmark region may have had lower property values than the national average, and therefore lower dollar losses per loan, will not be material. Average loss rate components from other regions of the country should be comparable to what would be found in the benchmark loan data, if those records were complete.

OFHEO does, however, base time frames on benchmark experience. Because the benchmark region does have a variety of foreclosure laws, these time frames are actually very close to those of the entire national experience of the Enterprises.

### a. Predicting REO Sale Proceeds

The REO sale proceeds, as a percentage of the defaulting UPB, measures the impact of erosion of property value over time, both prior to and after default. To begin the analysis of REO sale proceeds, OFHEO computed negative property equity, the difference between the defaulting UPB and the gross property sale proceeds, as a percentage of the UPB.<sup>235</sup> This amount was regressed against average equity for similar, but non-defaulting loans. The resulting regression coefficient provides the relationship between average equity of performing loans and average (negative) equity of defaulting loans. The nuance here is that average equity of performing loans is first transformed into a standardized normal distance, or what is commonly called a z-score, before being used in the regression. This is a widely used statistical technique for

<sup>235</sup> The one expense that OFHEO does net from sale proceeds here is property repairs undertaken by the Enterprises during the REO period. Because these expenses reflect part of the loss of property value that occurred prior to foreclosure completion, it is appropriate that they be included in the estimation of the loss of UPB due to property value deterioration.

creating a standard unit of measure for comparisons across many different variables and/or value levels.

To measure average (performing loan) equity, the property value underlying each defaulting mortgage was adjusted using the change in the (Census division) OFHEO HPI from origination to the last-paid-installment date, and using loan amortization schedules.<sup>236</sup> This adjustment provides average expected equity for each loan, if it were performing. But these loans are not performing, and rather than having average house price growth, they will generally have lower-than-average house price growth. In fact, defaulting

loans come from the lower tail of the equity distribution, so the statistical analysis must capture just how far into the tail defaulting loan properties will be, on average. OFHEO analyzed several measures of the house price distribution to find which gave the best prediction of the difference between average performing loan equity and average non-performing loan equity. The best predictor was the z-score, identifying the distance between the expected (performing loan) house price and the (actual defaulting) loan balance. The z-score transforms the actual difference between (expected) house price and

(actual) loan balance into the number of standard deviations there are between the two values, where the standard deviation is of house prices in the Census division. The z-score tells how far below the average property value growth in the Census division must the growth of any individual property value be, before all borrower equity is eliminated. The difference of actual growth of defaulting loans from average growth for performing loans will be larger than this, on average, because the z-score distance gives the minimal difference needed to eliminate borrower equity. The z-score equation is:

$$z = \frac{\ln(HPI_{d,q,t}) - \ln(B)}{\sigma_{d,t}} \quad (Eq. 13)$$

where:

- $z$  = standardized distance of the loan balance from the average house price at the time of default
- $HPI_{d,q,t}$  = House Price Index value for properties in Census division  $d$ , whose loans originated in quarter  $q$  and defaulted at age  $t$  (in quarters). This is created by dividing the HPI value for the calendar quarter of the last-paid-installment date by the HPI value in the calendar quarter of loan origination.
- $B$  = the ratio of outstanding loan balance at default to the original house price. This captures the equity generated from both the original downpayment and loan amortization over time.
- $\sigma_{d,t}$  = standard deviation of HPI growth rates for properties in Census division  $d$ , after  $t$  quarters. This is the square root of  $(\alpha t + \beta t^2)$ , where  $\alpha$  and  $\beta$  are the two volatility parameters for each HPI series (published in the *OFHEO HPI Report*).

In their continuous rate forms, the cumulative growth rate factors are found by taking the logarithm of the HPI, as is done here. The log of HPI gives average price appreciation, and the difference between that and the log of the loan balance,  $B$ , gives the expected loan equity due to price appreciation, downpayment, and amortization.<sup>237</sup>

These standardized distances, or z-scores, are the key values used to compute the expected negative property equity (as a percent of the outstanding loan balance) when a foreclosed property is sold. Larger z-scores reflect some combination of large downpayments, loan amortization, and

high levels of (average) house price growth since loan origination. In these circumstances, loans that do default should have relatively good rates of property sale proceeds as a percent of the mortgage UPB (small rates of negative equity). In other environments, where z-scores are small, there are low rates of appreciation in the market, and/or low downpayments and a lack of significant amortization. The small z-score indicates that there is a wide range of property values in the market area that are below the loan balance. Therefore, REO sale proceeds will be low and the negative property equity will be high.

into an implied HPI growth rate factor. It is the cumulative (negative) growth of HPI necessary to eliminate all positive equity in the property. By transforming  $B$  into its continuous rate counterpart in this fashion, the z-score variable can measure the amount by which the growth of property value on loan properties must be less than the average growth rate of performing loans before default is a real possibility (the point of zero equity). The

The statistical equation used to predict negative property equity ( $L$ ) was estimated using ordinary least squares (OLS) regression of actual rates of UPB loss on the z-scores computed for each loan. The regression dataset was limited to historical REO observations where  $(-0.50 \leq z_t \leq 4.0)$ , because sample sizes outside this range were very thin.<sup>238</sup> Log-transformed values of negative property equity  $(\ln(L) + 1)$  were used in the regression to account for a change in the relationship between negative equity and z-scores as those values change. The estimated regression equation is:

regression then measures the relationship between actual below-normal growth on REO properties and the minimum required below-normal house price growth needed to trigger default.

<sup>238</sup> In stress test application, outliers are given predicted equity loss values measured at the boundary points of the z-score range employed in the regression.

<sup>236</sup> The last-paid-installment (LPI) month is the month directly prior to the month of default, when the first payment is missed. Loan amortization ends at LPI, and because the HPI index is updated quarterly rather than monthly, the choice of LPI month or default month for loan seasoning is immaterial.

<sup>237</sup> Taking the logarithm of  $B$  transforms owner-invested equity (downpayment plus amortization)

$$\ln(L + 1) = 0.241325 - 0.076959 \cdot z \quad (\text{Eq. 14})$$

where:

$$\begin{aligned} t\text{-statistic for } z \text{ coefficient} &= -102 \\ R^2 &= 0.09 \end{aligned}$$

One-half the regression variance (0.029104) is added to the regression equation to provide the median-to-mean adjustment factor for log-normal models.<sup>239</sup> The result is:

$$\ln(L + 1) = 0.27043 - 0.076959 \cdot z \quad (\text{Eq. 15})$$

so that:

$$L = \exp(0.27043 - 0.076959 \cdot z) - 1 \quad (\text{Eq. 16})$$

The low R-squared value for the regression indicates a wide variance of actual loss rates around the average, predicted rates. OFHEO has analyzed this variance and believes that using the simple regression equation that captures average loss rates at each z-score value is more appropriate for the stress test than is a more complex model that would capture deviations around that average loss rate. Average rates provide an appropriate simplification because loss severity rates will be applied to groups of loans.

The boundary values of  $L$  are computed at the boundary points of  $z$  used in the regression sample, 4.0 and  $-0.5$ . When  $z = 4.0$ ,  $L = -0.04$ . This suggests that, on average, REO sales prices are 4 percent higher than the mortgage UPB in areas with significant house price appreciation and/or for loans that have substantial amortization. That is, the average default (and there will be relatively few) will actually have a small amount of positive equity, though generally not enough to pay the costs of selling the property. At the other extreme, where  $z = -0.5$ , the predicted value of  $L = 0.36$ . This is a situation where average property values on performing loans are 36 percent below their associated mortgage balances. This extreme was reached in several areas of the country at various times during the study period. Such a loss of loan principal can cause the total loss severity to exceed 60 percent of UPB.

<sup>239</sup> The logarithmic equation used in the regression implies a lognormal distribution of potential negative equity values around predicted values. The point estimates from the regression, therefore, produce median rather than mean value estimates of loss of principal balance. The adjustment to arrive at the mean is the additive

### b. Foreclosure Expenses

Foreclosure expenses vary principally by property State and by the rate of bankruptcy filings among defaulted borrowers.<sup>240</sup> The average expense rate in the historical observation period is five percent of UPB. Unlike other loss components, this component is based solely on Fannie Mae experience because Freddie Mac did not break out foreclosure expenses from REO expenses in its data systems.

### c. REO Holding and Disposition Expenses

Property (REO) holding costs include such items as property maintenance, utilities, property taxes, and hazard insurance. OFHEO calculated the average total REO holding expenses, plus selling costs (principally, realtor fees), less miscellaneous revenues to produce a final REO expense loss severity factor of 13.7 percent.<sup>241</sup>

### d. Time Frames

There are two time frames of interest: time from default to foreclosure completion, and time from foreclosure completion to property disposition. A mean expected value for each of the time periods of interest was calculated from BLE data. The mean benchmark foreclosure time (period from default to foreclosure) was 13 months. The mean benchmark REO/property sale time was seven months. These time frames are used in the stress test to discount the

constant (0.029104), one-half the variance of the regression residuals.

<sup>240</sup> To process foreclosures when defaulting borrowers file for Bankruptcy Court protection requires further legal expenses to gain release from the bankruptcy "stay" on debt collection actions.

various default-related cash flows to the month of default.

### 5. Consistency With the Benchmark Loss Experience

The equation for negative equity of defaulted loans (equation 14) was estimated on all historical REO experience of the Enterprises. Using this broad range of data assured that the equation would be appropriate for loans entering the stress test with a wide range of loan amortization and cumulative HPI experience. The equation used in the stress test includes an adjustment that calibrates the results to the BLE.

The procedure for calibrating equation 16 to the benchmark experience parallels the procedure used by OFHEO to calibrate the single family default equations to the BLE. A database of defaulted loans meeting benchmark criteria was input into the negative equity equation to compute the projected negative equity, by loan. The z-score variable values were computed by assuming that all loans originated in the first quarter of 1984, using the West South Central HPI series, for purposes of assigning house price appreciation rates. These predicted rates of negative equity were then averaged by Enterprise, using UPB as a weighting factor. Finally, a simple average of these Enterprise averages was computed to arrive at a mean expected value for the benchmark REO database.

<sup>241</sup> As noted earlier, the Freddie Mac foreclosure expense rate is imputed from the Fannie Mae experience (five percent). Therefore, the REO holding costs used to create the average rate shown here use total expense for Freddie Mac less imputed foreclosure expense for Fannie Mae.

This final mean rate of negative equity on defaulted loans was then compared with the actual, historical mean rate across the two firms' benchmark experience. The average projected rate of negative equity using equation 16 and

this averaging method was 21.30 percent. The actual historical experience average was 31.64 percent. The difference, 10.34 percent, reflects the nature of the benchmark experience: that defaulting benchmark loans tended

to have larger losses, on average, than did loans from other regions of the country that experienced the same housing market conditions. The adjusted negative equity equation is:

$$L = (\exp(0.27043 - 0.076959 \cdot z) - 1) + 0.1034 \quad (\text{Eq. 17})$$

Proceeds from REO sale are then computed as one minus the projected negative property equity for the defaulting loans in each loan group.

#### 6. Application to the Stress Test

Stress test application of loss severities begins with the results of the statistical analysis of severity components discussed here, but then adds components for loss of loan principal, servicer claim payments, mortgage insurance, and seller/servicer recourse. OFHEO's approach is to account for all default related cash flows at one of three points in time: 120 days delinquency, foreclosure, and property disposition. The stress test then calculates the effective loss severity rate as a net present value of all cash flows, in the month of loan default. The month of default is one month after the last paid installment (LPI) date, the month of the first missed payment.

There is a difference in the treatment of sold and retained loans when computing stress test loss severity rates. For retained loans, defaulting UPB is not a cash outlay and, therefore, is not discounted. For sold loans, however, the defaulting UPB represents the current expense of repurchasing a defaulted loan from a security pool. It is, therefore, a cash-flow element that should be discounted.<sup>242</sup> This expense is normally incurred in the fourth month of default. Sold loans in default also involve four months of interest passthroughs to the investors while the loans remain in the security pools. The interest passthroughs are not immediate expenses of the Enterprises because they are initially matched by passthroughs made by the seller/servicers to the Enterprises. However, all post-default interest payments received by the Enterprises are reimbursed to servicers in the post-foreclosure claim filing. Therefore, all interest passthroughs between seller/servicers and Enterprises are ignored. Only the passthrough by the Enterprise to security holders is counted as an expense in the stress test, and it is included with the seller/

servicer claim payment at time of foreclosure.

The stress test provides that, at the time of foreclosure, the Enterprises make servicers whole for expenses incurred on the loan and property, including foreclosure costs, and receive proceeds from any available mortgage insurance. When mortgage insurance is present, mortgage insurance payments will generally be larger than the servicer claim payment and provide net inflows of funds to the Enterprises at foreclosure.

Also, any available seller/servicer recourse is applied to reduce the final loss severity rate. There are some smaller sources of credit enhancements that further reduce Enterprise losses, and these are added once dollar losses are computed in the cash flow component of the stress test.<sup>243</sup>

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<sup>243</sup> These lesser sources of credit enhancements are items where the amount of recourse available to the Enterprises is not a function of per loan losses, but rather it is available in total dollar amounts for pools of loans.

Kau, James B. and Donald C. Keenan. 1997. *Patterns of Rational Default*, unpublished working paper, University of Georgia.

Lekkas, Vassilis, John M. Quigley and Robert Van Order. 1993. "Loan Loss Severity and Optimal Mortgage Default," *AREUEA Journal* 21 (4, Winter), 353-372.

#### D. Multifamily Default/Prepayment

##### 1. Introduction and Conceptual Framework

This section describes how OFHEO developed its model of multifamily default and prepayment rates for use in the risk-based capital stress test. The same theory that underlies the single family default/prepayment models, financial options theory, also underlies OFHEO's modeling of mortgage performance for multifamily loans. However, the single family approach is modified to account for the importance of property cash flows in the default decisions of investors. This theoretical framework treats mortgage terminations as a function of their financial value to the borrower. Both the single family and multifamily default/prepayment models also use a multinomial logistic specification to estimate the impact of explanatory variables on default and prepayment rates. Beyond these similarities in general approach, however, there are significant differences in the specifics of model construction and estimation.

Many of these differences reflect special features of multifamily mortgages. For these loans, the borrowers are all investors, and that affects the determinants of credit risk. Two key financial ratios are used in commercial mortgage underwriting: the DCR and the LTV. DCR is a property's net operating income (NOI) divided by the mortgage payment.<sup>244</sup> DCR indicates how much cash there is available for loan repayment after operating expenses are paid. LTV is the ratio of the UPB to the value of the property; it measures

<sup>244</sup> NOI is a measure of the difference between full potential rent at market prices and operating expenses (including vacancy losses).

<sup>242</sup> Such loans become part of the Enterprise retained portfolios once they are bought out of the security pools.

borrower equity.<sup>245</sup> Lenders concentrate on these two ratios at loan underwriting, and all major credit rating agencies start their analysis of the credit support levels needed to receive various rating grades with the DCR and LTV values of the loan collateral.

Multifamily mortgage modeling should also recognize the special features that differentiate commercial loans from single family residential loans. Commercial loans have prepayment restrictions, usually in the form of yield maintenance clauses, that severely reduce the value of refinancing during the early years of a mortgage. Commercial loans are also dominated not by fully amortizing 30-year loans, but by balloon mortgages with maturities of up to 15 years. These two product distinctions—yield maintenance and balloon terms—create different borrower incentives and different mortgage performance patterns for multifamily mortgages.

Previous research on multifamily mortgage performance has generally made simplifying assumptions to avoid having to deal with all of these issues in one model. First, research has tended to ignore DCR and only concentrate on LTV. Even then, without readily available property value indexes, researchers have not updated LTV over time to capture local market conditions.<sup>246</sup> Some studies have captured property cash flows, but they omitted LTV and had no mechanism for updating property cash flows for projection purposes.<sup>247</sup> One study that recognized the need for both DCR and LTV for predicting default rates, defined them to be perfectly correlated so that only one financial variable needed to be included in the model.<sup>248</sup> Another

shortcoming of past research has been that default and prepayment have not been analyzed together.<sup>249</sup> Either defaults are assumed not to matter because of agency guarantees, or else prepayments are ignored because of yield maintenance terms. Most studies model defaults without prepayments, but prepayment studies are starting to appear, with three in 1997 and one in 1998.<sup>250</sup> In both default and prepayment studies, little work has been done to understand the dynamics of yield maintenance and balloon terms.<sup>251</sup> But even with all of these limitations in current research, the greatest concern is that researchers most often resort to pooling multifamily mortgages with loans on other commercial property types in order to have sufficient sample sizes.<sup>252</sup>

The broad conceptual framework chosen by OFHEO corresponds to the dominant paradigm in mortgage research, financial options theory. Studies that apply financial options theory to commercial mortgage performance have generally emphasized the role of borrower equity (LTV) in default rate estimation, but have not seriously modeled the role of cash flows (DCR).<sup>253</sup> However, because both DCR and LTV are critical credit risk dimensions, an appropriate multifamily mortgage performance model should

<sup>249</sup> The first known attempt outside of OFHEO to model default and prepayment rates simultaneously was by Boyer, Follain, Ondrich, and Piccirillo (1997), who studied FHA insured mortgages.

<sup>250</sup> Abraham and Theobald (1997), Elmer and Haidorfer (1997), Follain, *et al.* (1997), and Capone and Goldberg (1998).

<sup>251</sup> In a theoretical pricing model, Kau, *et al.* (1990) do attempt to show how prepayment restrictions impact both default and prepayment options with balloon mortgages.

<sup>252</sup> The lack of historical data has often been cited as a major obstacle to research on multifamily and commercial loan credit risk (DiPasquale & Cummings, 1992; Standard & Poors, 1993; and Vandell, *et al.*, 1993). Studies that combine multifamily with other commercial mortgage types include Vandell (1992), Vandell, *et al.* (1993), Barnes and Gilberto (1994). Studies that use only multifamily data tend to model FHA-insured loans (Goldberg, 1994; ICF, 1991; Follain, *et al.*, 1997). Exceptions to this include Abraham (1993a, 1993b), who used multifamily loan data from Freddie Mac to study defaults, and Abraham and Theobald (1997), who use Freddie Mac data to model multifamily prepayment rates. Elmer and Haidorfer (1997) use Resolution Trust Corporation data to study multifamily prepayment rates. Researchers at OFHEO have published a default study based on Enterprise data (Goldberg and Capone, 1998).

<sup>253</sup> Even theoretical "pricing" models that simulate default rates on a pool of newly originated mortgages make simple assumptions that cash flow to the property owner is a fixed percentage of property value (Titman and Torous, 1989; Kau, Keenan, Epperson, and Muller, 1987 and 1990). They also treat cash flow as something negative (deducts from potential future property value) rather than something positive to the investor/owner/borrower.

also treat cash flows and equity as essential elements.<sup>254</sup>

For the default option to be in the money, the property must have both negative equity ( $LTV > 1$ ) and negative cash flow ( $DCR < 1$ ). The two sources of income for an investment property owner are rental (current) income and capital gains. Rental income can be thought of as dividend payouts from the property. Capital gains result when the property is sold. The owner holds the property until the expected annual rate of return from both dividends and capital gains becomes less than the return that could be earned by selling the property and investing the proceeds into another investment. However, if the rental market declines, and property equity becomes negative, then default becomes a viable option. This option will not be exercised as long as the dividend payout is positive. If property owners/borrowers were to default in the presence of positive cash flows, they would give up valuable cash flow streams. Therefore, default is only optimal if both equity and cash flow are negative. This implies that the dual condition,  $LTV > 1$  and  $DCR < 1$ , is required for default to occur.<sup>255</sup>

Prepayment options are in some ways simpler and in others more complex than default options. The simplicity arises because the financial value of prepaying a mortgage is directly measured by the mortgage premium value, the difference between the present value of future mortgage payments discounted at the current note rate, and present value of those same payments discounted at the current market rate. When interest rates fall, there is negative value to holding onto the existing mortgage, measured by a negative mortgage premium value. However, measuring the premium value itself is complex because of yield maintenance and balloon terms. When a

<sup>254</sup> Abraham (1993b), Goldberg (1994), and Quercia (1995) have all questioned the sufficiency of net equity as a default trigger.

<sup>255</sup> The wealth-maximizing borrower should default if the property expects to have negative equity and negative cash flow from this point on. If there are negative cash flows, delaying default would lower wealth. If negative equity and negative cash flow were expected to be only temporary conditions, default would not be optimal. In principle one should incorporate expectations regarding rental markets and interest rates, simulate wealth over time, and have the borrower default only if it maximizes wealth over some long-run investment horizon. This was viewed as an overly complex, expensive, and therefore unfeasible approach. Theory notwithstanding, researchers typically construct the default option value variable using just current year information. This is also the approach taken by OFHEO. For relevant theoretical studies, see Kau *et al.* (1987, 1990), Brennan and Schwartz (1985), Dyl and Long (1969), Joy (1976), and Robichek and VanHorne (1967).

<sup>245</sup> Commercial loan underwriting also includes examinations of borrower credit, servicing capability, site and engineering reviews, and cost certifications for new construction. Market condition reports are part of the appraisal process used to estimate LTV at loan origination.

<sup>246</sup> Vandell (1992) and Vandell, *et al.* (1993) develop models of commercial mortgage default that update LTV over time using a national property-value index, along with the property-value diffusion process introduced by Foster and Van Order (1984) for single family mortgages.

<sup>247</sup> See ICF (1991) and Pedone (1991). These studies adapt the work of Edward Altman (1981, 1983) to predict corporate bankruptcy to model multifamily defaults. Capone (1991) discusses the application of bankruptcy models to multifamily mortgages, and provides a review of this literature. A related line of literature discusses the relationship between lender and borrower in the default/bankruptcy process. Kahn (1991) and Mahue (1991) study the impact of foreclosure laws on the balance of borrower and lender bargaining strength at these crucial junctures. Riddiough and Wyatt (1994a, 1994b) explore the power of lender signals of intent to pursue debt collections on distressed-loan foreclosure.

<sup>248</sup> Abraham (1993b).

fixed-rate loan is under yield maintenance, it may refinance, but it will not accrue any value from the transaction until the yield maintenance period expires.<sup>256</sup> With balloon loans, there is the added uncertainty surrounding the contractual requirement to find new funding at loan maturity. Risk averse borrowers, therefore, may desire to refinance in the pre-balloon period even if the call option is not in the money.

An additional consideration for modeling prepayment speeds is that investors desire to leverage their investments to maximize return on equity. Interest rate spreads do not, therefore, provide the only incentive for refinancing a mortgage. To maximize leverage requires maximizing LTV ratios, within bounds set by lenders. Over time, investors will engage in cash-out refinancings in order to rebalance the ratio of debt to equity in the property. This second prepayment incentive can be captured by the LTV of the mortgage.

In modeling multifamily mortgage default rates, OFHEO distinguishes among the various programs of the Enterprises. Conventional multifamily loan purchases by the Enterprises began in 1983, and include "cash" and "negotiated" programs. Under the cash programs, the Enterprises purchased newly originated individual loans underwritten according to their own guidelines. Historically, most of these loans were retained in the portfolios of the Enterprises. Some "cash" loans were swapped for MBS, and this type of transaction is becoming more common. In a negotiated transaction, an Enterprise swaps pools of seasoned (i.e., aged and performing) loans for securities. These loans need not meet the underwriting guidelines of cash programs, and they are priced according to the risk of the loans in the pool. In negotiated transactions, unlike cash purchases, an Enterprise often requires credit enhancement from the seller/servicer to cover expected credit losses.

The initial cash programs exposed the Enterprises to significant credit risk in the late 1980s and into the 1990s. This exposure was due to generous appraisal practices used in the 1980s and to other significant weaknesses in those programs that do not exist today. Fannie Mae changed its cash program in 1988. Freddie Mac continued to build a portfolio of less-than-investment-grade mortgages through 1990. The poor performance of this portfolio led to a

three-year moratorium on Freddie Mac's new purchases of multifamily loans, and a complete overhaul of the multifamily operations of the Enterprise.

Prepayment rates were modeled by loan characteristics product type rather than program type. This breakdown captures the differences in financial incentives to prepay that exist when yield maintenance penalties are or are not in effect, and the impact on defaults of balloon mortgage maturity. Balloon maturity is a significant multifamily modeling issue for the stress test because, in an up-rate interest rate environment, balloon loan borrowers are often required to pay off the existing mortgage and refinance, at much higher interest rates than property financials are currently supporting. In order to refinance at the balloon point in the up-rate scenario, property income must be higher than the minimum necessary to qualify for a new loan under the original interest rates. Therefore, it is important to model both the expected default and payoff rates of loans at balloon maturity for the stress test.

Section 2 of this supplementary material on multifamily default/prepayment provides a review of the historical data used to estimate the statistical models, and section 3 reviews the statistical procedures employed. Section 4 completes the description of the statistical model with explanations of the development of the explanatory variables. Section 5 presents and reviews the results of statistical estimations, and section 6 concludes with a discussion of how the estimated statistical equations are applied in the stress test.

## 2. Historical Data

### a. Enterprise Loan Records

OFHEO used the combined historical experience of the Enterprises, 1983–1995, to estimate the statistical model of default and prepayment rates. This experience provided a large and rich data base that encompasses three different programs: the initial cash purchase programs that had high default rates; negotiated purchase (or transactions) programs where securities were swapped for pools of seasoned and performing mortgages; and new cash purchase programs that corrected flaws in the original programs and have experienced low default rates.

The historical data includes 35,759 conventional multifamily loans.<sup>257</sup> After

eliminating missing or erroneous records, the sample includes observations on 21,994 loans: 12,845 from Freddie Mac and 9,149 from Fannie Mae. Of these, 61 percent are cash purchases and 39 percent are negotiated purchases. The final cash purchase sample is more complete than the negotiated purchase sample because, in negotiated programs, the Enterprises have relied more on buying seasoned portfolios with (limited) credit risk recourse to the seller/servicer, rather than on gathering enough property financial characteristics to re-underwrite the loans.<sup>258</sup>

The database was expanded by creating annual observations from loan acquisition to the termination year, or to 1995 if no termination occurred. The loan-year file includes 89,577 loan-year observations for cash purchases, and 59,415 observations for negotiated purchases. Cash purchases appear in the database with origination years from 1983 to 1995. The negotiated loans, however, have origination years as early as 1970 because they were often highly seasoned at time of acquisition. Annual observations are used, rather than monthly or quarterly observations, because of the relatively small number of multifamily termination events. If quarterly or monthly event histories were used, there would be significant numbers of time periods in which there were no terminations.

To avoid any possible statistical bias resulting from not having records of loan terminations prior to 1983, negotiated purchase loans enter the database starting in the acquisition year, rather than the origination year. But they enter at their proper age and are not treated as new originations at the time of acquisition. The same issue of potential "left censoring" bias also appears for certain cash purchase programs, where the Enterprises did not begin to maintain systematic records of loan terminations until 1991. For such programs, the loans do not enter the statistical estimation sample until 1991.<sup>259</sup>

rates according to conventional loans with similar features. Because FHA pays for nearly 100 percent of default losses, the stress test imposes no credit losses on FHA-insured mortgages on the stress test.

<sup>258</sup> Ninety percent of cash purchases are retained in the final sample, while only 41 percent of negotiated purchases had enough loan characteristics data to be kept in the sample. For the 41 percent of negotiated purchase loans in the sample, DCR values at time of acquisition were estimated by OFHEO by first estimating net operating income (NOI) as  $NOI = \text{value at origination} / \text{divided by an estimate of the average CAP rate multiplier for the year, divided by the mortgage payment amount}$ .

<sup>259</sup> The left-censoring bias would result if the statistical model used complete loan-history records

<sup>256</sup> ARM loans have minimal penalties, and they have prepaid much more often in the early years after loan origination.

<sup>257</sup> Fannie Mae has maintained a portfolio of FHA-insured multifamily mortgages over time. OFHEO chose not to model performance of these loans, but rather to assign default and prepayment

For cash loans, the default outcome of record is a foreclosure or foreclosure alternative that still provides for the property to be liquidated.<sup>260</sup> For most Fannie Mae negotiated purchase loans, however, the default event of record is a 90-day delinquency. This is because, for Fannie Mae negotiated transactions, the loan is repurchased by the seller/servicer if it becomes 90-days delinquent. The seller/servicer then bills Fannie Mae for resolution costs, and these are deducted from a limited recourse pool originally established with funds from the seller/servicer at time of acquisition. OFHEO recognizes that 90-day delinquencies cannot be treated as full default events, and makes adjustments in the statistical model.

### b. Rents and Vacancies

OFHEO uses a unique approach to property valuation that uses local market indexes of rent growth rates and vacancy rates to update net operating income, and through that, update DCR and LTV over time. Rent growth rates came from the residential rent component of the CPI for each of the four Census regions, and for the 29 MSAs covered by Bureau of Labor Statistics (BLS) surveys. Most MSA level CPI series produced by BLS start in 1970, but some do not begin until the 1980s. The regional CPI series are available beginning in 1978, so percent changes for these can only be computed starting in 1979. To capture rent growth rates for each year, partial MSA series were completed with regional series starting in 1979 and national series before that. The regional series themselves were also filled in for the pre-1979 period with percent changes in the national CPI residential rent series.

Vacancy rates were obtained from the Bureau of the Census H-111 series. These are available for the same MSAs as is the CPI residential rent series (back to 1970), and for Census regions, and, beginning in 1986, for the 50 States plus the District of Columbia.<sup>261</sup> As with rent growth rates, the most disaggregated index available was used for each loan, in each calendar year.

**c. Tax Rates** OFHEO required tax rate data for calculating the present value of depreciation writeoffs (see discussion of the explanatory variable, *DW*, below). In order to compute weighted average tax rates, OFHEO used Internal Revenue Service (IRS) data on the income distribution of taxpayers with net capital gains. For 1983-90, data on adjusted gross income for taxpayers with net capital gains were obtained from the IRS publication, *Individual Income Tax Returns* (annuals). For 1991-95, data were obtained from IRS, *Statistics of Income Bulletin* (quarterly). These income-class weights were used to compute weighted average tax rates for both capital gains and ordinary income.

The marginal tax rate on ordinary income used here is for Married Filing Jointly taxpayers (Schedule Y-1). Five percent was added to the Federal tax rate for State income taxes. Schedule Y-1's for 1983-95 were obtained from Internal Revenue Service, *Package X* (annual publications 1983-95). Data on capital gains tax rates were obtained from IRS's *Package X*, for 1983-95. No adjustment was made for State taxes on capital gains.

Data on depreciation schedules is for newly constructed residential rental property, from the IRS publication,

*Depreciation 1992*, Publication 534. This publication includes accelerated schedules for years 1983-92. Accelerated depreciation was assumed in years in which it was an option. Because there were no changes in the tax code affecting depreciation after 1992, the schedule for 1992 was used for 1993-95.

### 3. Statistical Estimation

The statistical estimation involves binomial logistic regressions of subsets of the data. There are two separate regressions for default rates and five separate regressions for prepayment rates. This breakdown accommodates programmatic differences between cash and negotiated purchases in the default equations, and the changing nature of prepayment incentives across various products and loan terms. The results are matched together so that the end result is trinomial logistic probability equations that provide the same result as if defaults and prepayments were estimated simultaneously for each loan program and product.<sup>262</sup>

The logistic model is founded on assumptions that the utility of each borrower payment choice—make payment, prepay, or default—is a function of its contribution to wealth and that, each observation period, borrowers make the choice that maximizes wealth. The regressions compute weights (coefficients) that estimate the influence of each explanatory variable on the net wealth effect of one choice over another. These models estimate the log-odds of choosing a mortgage termination over continuing to make loan payments as a function of the explanatory variables. In particular,

$$\ln\left(\frac{\text{probability of default}}{\text{probability of continuing payments}}\right) = X\beta \quad (\text{Eq. 18})$$

and

$$\ln\left(\frac{\text{probability of prepayment}}{\text{probability of continuing payments}}\right) = Y\Gamma \quad (\text{Eq. 19})$$

for all loans, when some groups of loans only enter the sample if they survive to a certain point (e.g., time of acquisition by the Enterprise). If the sample were not censored at the acquisition point, the model could severely underestimate the rates of loan termination in the early years of a mortgage.

<sup>260</sup> Foreclosure alternatives include third party sales where a "third party" purchases the property at the foreclosure auction; short sales, where the Enterprise finds a buyer for the property prior to completion of foreclosure; and note sales, where the mortgage itself is sold to another investor.

<sup>261</sup> Census also added more MSAs starting in 1986. These were not used in OFHEO's statistical analysis.

<sup>262</sup> This is the three-choice logit model, though the more generic model is known as the multinomial logit, or MNL.

where:

- $\ln$  = natural logarithm
- $X$  = matrix of explanatory variables (columns) by loan record (rows)
- $\beta$  = (column) vector of coefficients (weights) to be estimated
- $Y$  = matrix of explanatory variables (columns) by loan record (rows)
- $\Gamma$  = (column) vector of coefficients (weights) to be estimated

And the resulting equations for calculating probabilities are transformations of these equations:

$$\text{Probability (default } X, Y) = \frac{e^{X\beta}}{1 + e^{X\beta} + e^{Y\Gamma}} \quad (\text{Eq. 20})$$

and

$$\text{Probability (prepayment } X, Y) = \frac{e^{Y\Gamma}}{1 + e^{X\beta} + e^{Y\Gamma}} \quad (\text{Eq. 21})$$

If  $X$  and  $Y$  are matrices of all event-history records, then the resulting probabilities will be (column) vectors of estimated probabilities for each of these records, for each observed time period. Because of the relatively small number of loan defaults in the data, OFHEO used annual observations to estimate the equations. Economic variables are averages for each calendar year, and the logistic equations estimate probabilities of default and prepayment for all loans surviving to the beginning of the next year.

The probabilities of default and prepayment are interdependent, and normally the equations would be estimated using simultaneous equations methods. However, because there are two default equations and five prepayment equations, doing so would be quite complex. Following Begg and Gray, OFHEO estimated the system using single equation methods in which separate binomial log-odds equations are estimates for default and prepayment.<sup>263</sup>

#### 4. Explanatory Variables

The multifamily mortgage performance model has separate sets of explanatory variables for default and prepayment analysis. They are described separately here.

##### a. Default Equations

OFHEO estimated two separate logit default equations, one for cash purchases and one for negotiated purchases. This decomposition serves three purposes. First, significant numbers of negotiated purchase loans did not enter the Enterprise portfolios until after the Tax Reform Act of 1986. That statute greatly changed the value of depreciation allowances to new purchasers of investment real estate. OFHEO desired to model the effects of tax law changes on default rates, but could only do this with the cash purchase loans, where there are significant numbers of observations both before and after tax reform. The second reason for separating cash from negotiated purchase loans is that

negotiated loans did not undergo the same change of quality as did cash purchases. It is easier to separate the effects of movements by the Enterprises from original to new cash-purchase programs if these are isolated from the negotiated purchases for default analysis. A third reason for separating the two programs into two separate default equations is that the majority of negotiated purchase loans have seller/servicer repurchase provisions, which required use of 90-day delinquency as the default event of record. OFHEO decided that capturing the difference between 90-day delinquencies and full defaults was best achieved through an estimation that involved only negotiated purchases.

Table 33 provides a list of the explanatory variables used in each default equation. Each variable listed in the Table will be described and developed more fully below.

<sup>263</sup> See Begg and Gray (1984). To do this, one must be sure to censor competing termination events from the regression samples. That is, for default rate log-odds estimation, all prepayment observations must be censored in the period of the prepayment (and vice versa). This censoring assures

that the estimation is of the log-odds of defaulting (or prepaying) versus remaining current on the mortgage. The underlying principle of logistic regression analysis that allows for this approach to modeling the competing risks of default and prepayment is called the independence of irrelevant

alternatives. This principle means that logistic analysis assumes that the log-odds of default versus remaining current are not influenced by the log-odds of prepaying versus remaining current.



**Table 33. Explanatory Variables in the Multifamily Default Equations**

| Variable | Description  | Cash Purchase Equation | Negotiated Purchase Equation |
|----------|--|------------------------|------------------------------|
| $JP_t$   | The joint probability of negative equity and negative cash flow ( $LTV > 1.00$ and $DCR < 1.00$ ) in year $t$ .  | Yes                    | Yes                          |
| $BJP_t$  | For balloon loans, $JP_t$ times a dummy variable equal to 1 if the loan is in the balloon year, 0 otherwise.   | Yes                    | No                           |
| $DW_t$   | Present value of depreciation tax write-offs per \$100 of property value. Value to a new owner over 20 years.  | Yes                    | No                           |
| $DD$     | Dummy variable equal to 1 if the loan was originated under an original cash purchase program (Fannie Mae, 1983-1987, Freddie Mac, 1983-1991), 0 otherwise. | Yes                    | No                           |
| $RA$     | For ARM loans, dummy variable equal to 1 if the default type is a 90-day delinquency, 0 if it is a property loss event such as a foreclosure.              | No                     | Yes                          |
| $RF$     | For fixed-rate loans, dummy variable equal to 1 if the default type is a 90-day delinquency, 0 if it is a property loss event such as a foreclosure.       | No                     | Yes                          |
| $AY_t$   | The age of the mortgage in years.  | Yes                    | Yes                          |
| $AY_t^2$ | Loan age squared.  | Yes                    | Yes                          |

*(i) Joint Probability of Negative Equity and Negative Cash Flow*

The key explanatory variable in the default equations is the joint probability of negative equity and negative cash flow, which is defined as:

$$JP = \text{Prob}(LTV > 1 \text{ and } DCR < 1) \quad (\text{Eq. 22})$$

A probabilistic measure is used because the exact financial condition of each mortgaged property, over time, is unknown. However, the equity and cash flow positions of the property at time of loan acquisition, and how local rents and vacancy rates changed over time are known. With this information, and reasonable assumptions regarding the dispersion of rent growth rates and vacancy rates across properties, the joint probability,  $JP$ , can be constructed. This variable is similar to the probability of negative equity variable used in the single family mortgage performance model, only here the variable begins with an index of growth rates of property net operating income (NOI),

rather than an index of the growth rates of property value directly. OFHEO developed this approach for multifamily modeling because there are no property value indexes available, and it was not feasible to develop one with Enterprise data.

Ideally,  $JP$  would capture all of the numerous factors affecting LTV and DCR, including rents, expenses, vacancies, special underwriting provisions (e.g., maintenance reserves), interest rates, and tax laws. OFHEO incorporated three important factors into the  $JP$  variable: rents, vacancies and interest rates. Because the actual property purchase year for current investors is unknown, the actual tax

code affecting depreciation writeoffs is also unknown for each property. Therefore, OFHEO constructed a separate variable that captures changes in the value of tax benefits from property ownership to a new purchaser. Changes in property expenses are incorporated into  $JP$  by specifying that expenses are a constant ratio of rents.

*(a) Creating Time Series for DCR and LTV*

The construction of  $JP$  first involves creating time series variables for  $DCR$  and  $LTV$ . Each of these can be shown to be a function of property  $NOI$  in each time period,  $t$ :

$$DCR_t = \frac{NOI_t}{PMT_t} \quad (\text{Eq. 23})$$

where:

$PMT_t$  = mortgage payment in period  $t$

$NOI_t$  = net operating income in period  $t$

and

$$LTV_t = \frac{UPB_t}{V_t} = \frac{UPB_t}{NOI_t \cdot M_t} \quad (Eq. 24)$$

where:

$UPB_t$  = unpaid principal loan balance in time period  $t$

$V_t$  = property value in time period  $t$

$M_t$  = capitalization (cap) rate multiplier in time period  $t$

For commercial properties, appraisers use capitalization ("cap") rate factors for estimating the present value of a future stream of property NOI.<sup>264</sup> The cap rate multiplier for each loan at origination,  $M_0$ , can be derived given three other variables:  $LTV_0$ ,  $UPB_0$ , and  $NOI_0$ .

Because the cap rate multiplier is a function of interest rates, changes in interest rates over time will affect  $M_t$  and, through that, affect  $V_t$  and  $LTV_t$  also. OFHEO collected data on cap rate multipliers at origination on Enterprise loans and the mortgage coupon rates on

those loans.<sup>265</sup> These data were used to estimate the elasticity of the cap rate multiplier with respect to interest rates, so that property values can be updated in response to interest rate changes. The estimated regression equation is:

$$\ln(M_0) = 3.01 - 0.27 \cdot (\ln r_{c,0}) \quad (Eq. 25)$$

(t=13.3)

where:

$r_{c,0}$  = mortgage coupon rate at time zero (origination)

$N$  = 8535 (sample size)

$R^2$  = 0.0525

$M$  = 10.7 (mean cap rate multiplier across sample)

By estimating a double-log equation, the coefficient on the interest rate variable,  $r_{c,0}$ , is the elasticity of the cap rate multiplier with respect to interest rate changes. This elasticity is used to project changes in  $M_t$  over time (since loan origination) as follows:

$$\frac{M_t - M_0}{M_0} = -0.27 \cdot \left( \frac{r_t - r_{c,0}}{r_{c,0}} \right) \quad (Eq. 26)$$

where:

$r_t$  = market interest rate for multifamily mortgages in time  $t$  (OFHEO generated a time series of rates from Enterprise purchases of fixed-rate loans.)

and the factor used to update  $LTV^t$  over time is then,

$$\frac{M_t}{M_0} = 1 - 0.27 \cdot \left( \frac{r_t - r_{c,0}}{r_{c,0}} \right) \quad (Eq. 27)$$

<sup>264</sup> While the cap rate multiplier is used here to project property value from NOI, the cap rate itself is the reciprocal of the multiplier. So if, for example, a cap rate multiplier of 10 is implied from the property value (and the underlying NOI), the actual cap rate is 0.10. The cap rate on each

individual property begins, like other appraisal techniques, with cap rates found on recent sales of comparable properties. Appraisers then incorporate an assessment of the duration and risk of the earnings on the particular property into the final cap rate used to project property value; a risky

earnings stream will be penalized with a higher cap rate (lower multiplier).

<sup>265</sup> The choice of an interest rate series to use here was one of convenience, and does not materially affect the results.

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distribution of property level *DCR* and *LTV* values, it is convenient to use a

logarithmic transformation of equation (31):

$$\ln(NOI_t/NOI_0) = \ln(RPI_t) + \ln(Z_t) \quad (Eq. 34)$$

where  $Z_t = [1 - 2.15 (\mu_t - 0.0623)]$  and  $RPI_t$  is a rent index that equals one plus the growth of rents since loan origination.  $Z_t$  can be interpreted as the percentage change in  $NOI_t$  due to changes in the vacancy rate since loan origination, and  $RPI_t$  is the percentage change in  $NOI_t$  due to rent growth. If  $\ln(Z)$  and  $\ln(RPI)$  are normally

distributed across properties, at any given point in time, then their sum has a bivariate normal distribution. This implies a bivariate normal distribution for  $\ln(DCR)$  and  $\ln(LTV)$ , which provides the distributional form used to estimate the joint probability that  $DCR < 1$  and  $LTV_t > 1$  for any given property,  $J_i$ .

Normality for  $\ln(RPI)$  follows from the standard assumption that growth rates follow a lognormal diffusion process over time. Such a process is also foundational to the OFHEO HPI, which is used for single family mortgage performance analysis. With lognormal diffusion, the distribution of  $\ln(RPI_{j,t})$ , where  $j$  is a property index, is:

$$\ln(RPI_{j,t}) \sim N(\ln(RPI_t), t \cdot \sigma_t^2) \quad (Eq. 35)$$

where:

$RPI_{j,t}$  = RPI for individual property,  $j$ , in time  $t$

$RPI_t$  = market rent index measuring cumulative growth of rents from time of loan origination through time  $t$

$\sigma_t^2$  = variance in individual property rent growth rates (diffusion parameter) within each time period (year),  $t$  (assumed constant over time and place)

If all apartment units can be assumed to have the same probability of being vacant, the distribution of vacancy rates across properties, within a geographic area, can be assumed to be binomial, with mean and variance parameters:

$$v_{j,t} \sim BN(v_t, v_t \cdot (1 - v_t)) \quad (Eq. 36)$$

where:

$v_{j,t}$  = vacancy rate for property,  $j$ , in time period  $t$

$v_t$  = market area vacancy rate index in time period  $t$

The binomial distribution for apartment vacancies at the project level is bounded below by zero and skewed to the right, and because it can be approximated by a lognormal distribution with the same parameters. Thus,  $Z_{j,t}$ , which is a linear transformation of  $v_{j,t}$ , can be modeled with a lognormal distribution:

$$Z_{j,t} \sim LN(Z_t, 2.15^2 \cdot v_t \cdot (1 - v_t)) \quad (Eq. 37)$$

This allows  $\ln(Z_{j,t})$  to be modeled with a normal distribution. Rewriting the parameters of  $Z_{j,t}$  as:

$$Z_{j,t} \sim LN(\mu_{Z_t}, \sigma_{Z_t}^2) \quad (Eq. 38)$$

we can write the parameters of the (normal) distribution of  $\ln(Z_{j,t})$  as:

$$\begin{aligned} \mu_{\ln z} &= \ln \mu_{z_t} - 0.50 \sigma_{\ln z_t}^2 \text{ and} \\ \sigma_{\ln z}^2 &= \ln(1 + \sigma_{z_t}^2 / \mu_{z_t}^2) \end{aligned} \quad (Eq. 39)$$

where the  $t$  subscripts for these parameters are dropped here and subsequently for clarity. Because both  $\ln(DCR_{j,t})$  and  $\ln(LTV_{j,t})$  are linear functions of the normally distributed random variables,  $\ln(Z_{j,t})$  and  $\ln(RPI_{j,t})$ ,  $\ln(DCR_{j,t})$  and  $\ln(LTV_{j,t})$  have a bivariate normal distribution,  $BV(\mu_1, \mu_2, \sigma_1, \sigma_2, \rho)$ , where,

$$\begin{aligned} \mu_{1,t} &= \ln DCR_t - 0.50 \cdot \sigma_{\ln Z}^2 \\ \mu_{2,t} &= \ln LTV_t + 0.50 \cdot \sigma_{\ln Z}^2 \\ \sigma_{1,t}^2 &= t \cdot \sigma_r^2 + \sigma_{\ln Z}^2 \\ \sigma_{2,t}^2 &= t \cdot \sigma_r^2 + \sigma_{\ln Z}^2 \\ \rho &= \text{corr}(\ln(DCR_{j,t}), \ln(LTV_{j,t})) \end{aligned} \tag{Eq. 40}$$

The correlation between  $\ln(LTV_{j,t})$  and  $\ln(DCR_{j,t})$  in the historical Enterprise data is used as an estimate of  $\pi$  (-0.5975). Unpublished data from the Bureau of Labor Statistics (BLS) suggests a value for  $\sigma^{2t}$  of 7.5 percent. Alternative values between 5 and 15 percent were

also considered, but the statistical model results (default rate equations) were insensitive to the value used for this variance.<sup>266</sup> The bivariate normal distribution defined by the parameters in equation 40 can be used to calculate the joint

probability of negative equity and negative cash flow,  $JP$ . The joint probability is the bivariate (standard) normal distribution evaluated at particular boundary (cutoff) values for  $\ln(DCR)$  and  $\ln(LTV)$ . The definition of  $JP_{j,t}$  can be restated as:

$$JP_{j,t} = \text{Prob}(\ln(DCR_{j,t}) < 0 \text{ and } \ln(LTV_{j,t}) > 0) \tag{Eq. 41}$$

which can be calculated using the bivariate normal distribution:

$$JP_{j,t} = \frac{1}{2\pi \cdot \sqrt{1 - \rho^2}} \int_{-\infty}^a \int_b^{\infty} \exp\left(\frac{x^2 - 2\rho xy + y^2}{2(1 - \rho^2)}\right) dy dx \tag{Eq. 42}$$

where  $x$  and  $y$  are two standard normal random variates, each representing the possible values of the logs of  $DCR$  and  $LTV$  values on all apartment properties in a given geographic area, at a given point in time. The  $x$  and  $y$  values are

standardized, which for  $DCR$  and  $LTV$  is accomplished by subtracting from them the log of the expected values for each property,  $\mu_{1,t}$  and  $\mu_{2,t}$ , and then dividing by the respective standard deviations,  $\sigma_{1,t}$  and  $\sigma_{2,t}$ . The two limits of

integration,  $a$  and  $b$ , are the standardized differences between the expected values for each property and the boundary conditions, which are the log of 1.00 for each. So, from equation 40 they are just:

$$a = \frac{-\mu_{1,t}}{\sigma_{1,t}} \tag{Eq. 43}$$

and

$$b = \frac{-\mu_{2,t}}{\sigma_{1,t}} \tag{Eq. 44}$$

*(iii) Updating DCR<sub>t</sub> for Balloon and ARM Payment Shocks*

The joint probability variable,  $JP_t$ , is given additional weight for balloon

loans in the maturity year. Weaker loans will be unable to qualify for refinancing in the balloon year, especially if there is an increase in rates, which leads to more defaults at that point, for any

given level of  $DCR_t$  and  $LTV_t$ . This effect should be a function of  $JP_t$ . Balloon year shock is added using a composite variable  $BJP_t$ :

<sup>266</sup> This is because the variance of  $\ln DCR$  and  $\ln LTV$  is much more heavily influenced by the

variance of the vacancy rate than the variance of the growth rate of  $RPI$ .

$$BJP_t = BYR_t \cdot JP_t \quad (Eq. 45)$$

where  $BYR_t$  is a dummy variable equal to 1 if the observation is the balloon year, and 0 otherwise, and  $JP_t$  is the joint probability of negative equity and negative cash flow. (The loan specific subscript,  $j$ , is dropped here for ease of exposition.) Due to the small number of balloon loans in negotiated purchase portfolios, this variable is only estimated in the default rate equation for cash purchase loans. In stress test application, the estimated coefficient for cash purchases is also used to predict default rates of negotiated purchase balloon loans in the maturity year.

The Enterprises tend to extend balloon loans beyond maturity when properties cannot meet minimum

qualification standards for a new loan, provided the borrower continues to make the monthly payment on the original mortgage. This possibility of what is called "extension risk," the risk of loans not leaving the portfolio at the balloon point, has been documented by Elmer and Haidorfer (1997) and by Abraham and Theobald (1997). OFHEO also finds that in the Enterprise database a large percentage of loans are extended beyond balloon maturity. This model imposes payment shock for extended loans by updating the DCR to reflect what the borrower would be paying if the borrower refinanced the property.  $DCR_t$  is updated after the balloon point by adjusting  $PMT_t$  to reflect a new

payment level commensurate with market interest rates for fixed-rate (fully amortizing) loans in the balloon year.

ARMs are treated with similar DCR adjustments, except that the payment adjustment occurs annually.<sup>267</sup> Fannie Mae and Freddie Mac purchased very few ARM loans through their cash programs, however there are significant numbers of negotiated transactions that are ARM.

*(iv) The Present Value of Depreciation Write-offs for Multifamily Properties*

The value of depreciation write-offs to a new property owner is calculated with the present value formula used by Goldberg and Capone (1998):<sup>268</sup>

$$DW_t = \sum_{s=t}^{t+19} \left( \frac{\theta_s DEP_s}{(1+r_t)^s} \right) - \varphi_s \left( \frac{\sum_{s=1}^{20} DEP_s}{(1+r_t)^{20}} \right) \quad (Eq. 46)$$

$DW_t$  is the present value of depreciation write-offs for each \$100 of investment in rental housing, and can be thought of as the percentage of the investment tax basis that is returned to the investor through depreciation write-offs. The tax rate data used to calculate this variable are described above in section IV.D.2., Historical Data.

In addition to tax rates, an estimate of a required rate of return is needed to calculate the present value of depreciation write-offs. For this OFHEO used an estimate of the weighted average cost of capital, with 20 percent equity and 80 percent debt financing. The cost of debt financing is measured with data from the Enterprises on the average coupon rate of multifamily

fixed-rate mortgages in each year, 1983–95 ( $r_{f,t}$ ). The cost of equity is calculated with data from the Enterprises and the Bureau of Labor Statistics. In particular, if property NOI is expected to increase annually at the rate  $g$ , then the cap rate,  $CAP$ , can be thought of as equaling the required return on equity ( $r_e$ ) minus the growth rate,  $g$ . This implies that the required return on equity equals:

$$r_{e,t} = CAP_{0,t} + g_t \quad (Eq. 47)$$

$CAP_{0,t}$  is estimated using cap rate values for all Enterprise loans originated in year,  $t$ , and the relationships estimated in equation 27. Values for  $g_t$

are three-year average growth rates of rents, using the Bureau of Labor Statistics CPI residential rent series,

national average (for years  $t-2$ ,  $t-1$ , and  $t$ ).

The weighted average discount rate for all loans in year,  $t$ , is then:

$$r_t = 0.2 \cdot r_{e,t} + 0.8 \cdot r_{f,t} \quad (Eq. 48)$$

Table 34 shows values of  $DW_t$  in the study period, 1983–95.

<sup>267</sup> Nearly all ARMs in Enterprise portfolios are indexed to the 11th District FHLB Cost of Funds, with monthly rate adjustments, semi-annual payment adjustments, and negative amortization provisions. The payment adjustment calculations here proxy for the full stress of partial payment adjustments and negative amortization by treating

ARM loans as 5/1 products where annual payment changes are only limited by the lifetime and annual rate caps (5 and 1 percent, respectively). This allows for larger potential payment shock than would normally be allowed on these loans to compensate for the lack of negative amortization provisions in this model.

<sup>268</sup> The variable in the Goldberg and Capone (1998) article is called  $PVTAX$ , but it is the same as the  $DW$  variable shown here. Weights for  $\theta$  and  $\varphi$  are the percent of taxpayers in adjusted gross income groups.

**Table 34. Trends in the Present Value of Depreciation Write-offs, 1983-95**

| Year | $DW_t$ |
|------|--------|
| 1983 | 12.94  |
| 1984 | 12.91  |
| 1985 | 13.52  |
| 1986 | 14.33  |
| 1987 | 9.50   |
| 1988 | 7.87   |
| 1989 | 7.73   |
| 1990 | 8.03   |
| 1991 | 7.06   |
| 1992 | 7.46   |
| 1993 | 8.29   |
| 1994 | 8.57   |
| 1995 | 9.27   |

*(v) Program Restructuring*

The original cash purchase programs of the Enterprises were implemented in an overheated lending environment in which appraisal practices allowed for inflation adjustments to rents when calculating property value. Such adjustments resulted in understatements of  $LTV_0$  and overstatements of  $DCR_0$ , leading to the purchase of loans with understated credit risk and, eventually, to severe credit losses. In addition to the overstatement of anticipated rents, original multifamily cash-purchase programs at the Enterprises had other significant weaknesses. For these reasons, on loans purchased under original cash programs (Fannie Mae, 1983–1987, Freddie Mac, 1983–1991) the stress test accounts for increased risk in two ways. The first method is to adjust  $LTV_0$  and  $DCR_0$  on original cash program loans to extract the average inflation factors. Internal research at OFHEO has concluded that reasonable adjustment multipliers are 0.85 for  $DCR_0$  and 1.27 for  $LTV_0$ .

The second method used to account for increased default risk in original cash programs is to include a dummy variable ( $PR$ ) in the default equation. This measures the behavioral difference of loans purchased prior to program restructuring (1 = original cash purchase loan).

*(vi) Default Type*

For most loans acquired through negotiated transactions, the loan event used to estimate defaults is a 90-day delinquency, rather than a foreclosure. A different event was chosen for these loans because the seller/servicer typically has a contractual obligation to repurchase delinquent loans from security pools and resolve the default. As a result, the Enterprises' data do not reflect which of these loans were cured or renegotiated and which resulted in property loss events. These loans will have more observed "defaults" because they include cures and loan modifications as well as property loss events. To adjust for this discrepancy, two dummy variables are included in the negotiated purchase default equation: one to flag ARM loans under repurchase contracts ( $RA$ ), and one to flag fixed-rate loans under repurchase contracts ( $RF$ ).

*(vii) Loan Age*

Default risk is greatest in the years just after loan origination. Apartment projects are then most vulnerable to economic shocks because  $DCR_t$  may be low,  $LTV_t$  may be high, and it may take several years to create a viable market niche for the property. However, a financially troubled project will not default immediately. First, valuable

depreciation write-offs may be available in the early years to counterbalance negative property cash flow. Second, working-capital reserves may forestall default. And third, the owner may "bleed the project" by deferring maintenance and other expenditures prior to delinquency.<sup>269</sup> Age denotes the loan year of an observation. Thus, if a loan was originated in 1985, its age is 1 in 1985, 2 in 1986, and so on.

Other studies of commercial mortgage defaults confirm that defaults tend to rise in the first years after loan origination and then, once the weakest loans exit, the conditional default rate declines.<sup>270</sup> Preliminary analysis of Enterprise data indicated that the peak default period is about four years after loan origination. To capture this underlying trend, a quadratic age function is included in the default equations.

**b. Prepayment Equations**

The explanatory variables chosen for the prepayment equations are designed to capture multiple refinancing incentives: exercising the "call" option (normal refinance); rebalancing debt and equity in the property (cash-out refinance); risk aversity with respect to

<sup>269</sup> This final reason is discussed by Quercia (1995) and by Riddiough and Thompson (1993).

<sup>270</sup> See Snyderman (1994).

pending balloon expirations (early payoffs); and balloon payoffs. The overall model is separated into five equations in order to best capture the differing prepayment incentives by product and product-life stage. For ease of exposition, these five equations are referred to here as "models."

The first model is for fixed-rate loans in the initial yield maintenance period, when refinancing has no immediate value. Beyond the yield maintenance period, fully amortizing and balloon loans with fixed interest rates are analyzed separately in two additional models. This approach is used because, after yield maintenance ends, balloon loans prepay more quickly than self-amortizing loans, reflecting borrower uncertainty surrounding interest rate

movements leading up to the time of loan maturity, when a payoff is required. At maturity, balloon loans are viewed as having payoffs rather than prepayments. The dynamics of required payoffs are much different from those of voluntary prepayments prior to maturity. Therefore, a fourth equation is estimated for balloons during and after the maturity year. This fourth model includes both fixed-and adjustable-rate balloons. The fifth and final model is for adjustable-rate mortgages other than those that may have reached a balloon maturity point. Adjustable rate mortgages do not have yield maintenance terms, and their refinancing incentives are different from those of fixed-rate mortgages.

In prepayment model 4, for balloon payoffs, OFHEO recognizes that while there is a contractual obligation to find new sources of financing at the balloon point, those with weak financials may not qualify for new funding. The Enterprises, like all lenders, however, are often unwilling to initiate foreclosure if loan payments are being made under the current (but now expired) contract. OFHEO's approach to these extended loans is, therefore, to continue to model payoff rates at and beyond the balloon point.

Table 35 sets forth the structure of the explanatory variables used in the five prepayment equation/models, as follows:



Table 35. Explanatory Variables Used in Multifamily Prepayment Equation/Models

| Variable<br>s | Definitions   | Prepayment Equation/Models |                 |                |                |                |
|---------------|---|----------------------------|-----------------|----------------|----------------|----------------|
|               |   | 1 <sup>1</sup>             | 2 <sup>2</sup>  | 3 <sup>3</sup> | 4 <sup>4</sup> | 5 <sup>5</sup> |
| $RSD_t$       | Relative interest rate spread if current rates are less than the coupon rate. Zero if current interest rates in year $t$ are higher than the coupon rate.   | Yes                        | Yes             | Yes            | No             | No             |
| $RSU_t$       | Relative interest rate spread if current rates are greater than the coupon rate. Zero if current interest rates in year $t$ are lower than the coupon rate. | Yes                        | No <sup>6</sup> | Yes            | No             | No             |
| $RSD1_t$      | $RSD_t$ times dummy variable equal to 1 if year $t$ is one year prior to balloon year; 0 otherwise.   | No                         | Yes             | No             | No             | No             |
| $RSD2_t$      | $RSD_t$ times dummy variable equal to 1 if year $t$ is two years prior to balloon year; 0 otherwise.  | No                         | Yes             | No             | No             | No             |
| $RS_t$        | Relative interest rate spread between ARM and FRM multifamily conventional loans in year $t$ .  | No                         | No              | No             | No             | Yes            |
| $r_{f,t}$     | Average market interest rate for conventional multifamily fixed-rate loans in year $t$ .  | No                         | No              | No             | No             | Yes            |
| $AY_t$        | Loan age in years.  | Yes                        | Yes             | Yes            | No             | Yes            |
| $AY_t^2$      | Loan age squared.   | Yes                        | Yes             | Yes            | No             | Yes            |
| $LTV_t$       | LTV ratio in year $t$ .   | Yes                        | Yes             | Yes            | No             | Yes            |
| $PQ_t$        | Probability of qualification for a new loan in year $t$ ( $LTV \leq 0.8$ and $DCR \geq 1.2$ ). <sup>7</sup>   | No                         | No              | No             | Yes            | No             |
| $YTG_t$       | Years remaining ("to go") in the yield maintenance period.  | Yes                        | No              | No             | No             | No             |

<sup>1</sup> All fixed-rate loans, under yield maintenance.

<sup>2</sup> Fixed-rate balloon loans in pre-balloon period (post-yield maintenance, pre-balloon).

<sup>3</sup> Fixed-rate, fully amortizing loans, out of yield maintenance.

<sup>4</sup> All balloon loans at and beyond maturity year.

<sup>5</sup> All ARMs, except for balloon-ARMs at and beyond maturity year.

<sup>6</sup> This variable is not included in this equation/model because of lack of variability in the historical data series.

<sup>7</sup> This variable is only included in the balloon maturity equation/model because of collinearity with the  $LTV$  variable used in other equations.

(i) *Relative Spreads in Interest Rates*

The relative difference between coupon and market interest rates is the

primary call option variable used in the prepayment equations. For fixed-rate loans (prepayment models 1-3), OFHEO

includes spread variables when market rates are lower ( $RSD_{j,t}$ ) and when market rates are higher than coupon rates

( $RSU_{j,t}$ ). Asymmetry of effects is allowed for because drops in rates affect refinancings with different motivations

than rises in rates do. Rate declines stimulate refinancings designed to lower

interest costs, while rate increases discourage cash-out refinancings.

$$RSD_{j,t} = \begin{cases} \frac{r_{j,t} - r_{f,t}}{r_{j,t}} & \text{when } r_{j,t} > r_{f,t} \\ 0 & \text{otherwise} \end{cases} \quad (Eq. 49)$$

$$RSU_{j,t} = \begin{cases} \left| \frac{r_{j,t} - r_{f,t}}{r_{j,t}} \right| & \text{when } r_{j,t} < r_{f,t} \\ 0 & \text{otherwise} \end{cases} \quad (Eq. 50)$$

where:

- $r_{j,t}$  = coupon interest rate on mortgage  $j$  in year  $t$
- $r_{f,t}$  = market rate, fixed-rate loans, in year  $t$

The down-rate spread variable,  $RSD_{j,t}$ , is given added weight in the years preceding balloon maturity (model 2) in order to capture the risk aversity of borrowers with respect to interest rate movements leading up the balloon point. This weight is added through two interactive variables. First,  $RSD1_{j,t}$ , is  $RSD_{j,t}$  multiplied by a 0/1 dummy variable that is turned on during the

year immediately preceding the balloon year (13–24 months prior to the maturity month). The second,  $RSD2_{j,t}$ , is  $RSD_{j,t}$  multiplied by a 0/1 dummy variable that is turned on during the second year preceding the balloon year (months 25–36 prior to the maturity month).

For adjustable rate mortgages (model 5), the spread variable is not separated

into positive and negative components, but is allowed to have one effect for both increases and decreases in interest rates.<sup>271</sup> Because ARM coupon rates change every year, the relative spread variable is used to capture the slope of the yield curve, which indicates whether it is more valuable to retain the ARM or to refinance into a fixed-rate loan.

$$RS_{j,t} = \frac{r_{j,t} - r_{f,t}}{r_{j,t}} \quad (Eq. 51)$$

(ii) Market Interest Rate

An additional interest rate variable is added to the ARM equation (model 5). This is the fixed-rate mortgage rate,  $r_{f,t}$ , and it captures incentives to refinance into fixed-rate products when the level of rates is low.

(iii) Years-To-Go in the Yield Maintenance Period

Yield maintenance fees are a function of the remaining time until the end of the prepayment restriction period. As the yield maintenance period draws to a close, the prepayment penalties decline and the value of refinancing increases. To capture this change, prepayment model 1 has a variable that

measures the years-to-go until the end of the yield maintenance period ( $YTG_t$ ).<sup>272</sup>

A small number of older Enterprise loans had prepayment lockouts for a period of years, rather than financial prepayment fees. For these loans, we set  $YTG_t$  equal to 10 (its maximum value) throughout the restriction period.

(iv) Loan-to-Value Ratio

Investors in multifamily properties will engage in cash-out refinancings to increase returns on invested equity. This refinance motivation as  $LTV$  falls over time is captured by including  $LTV_t$  as an explanatory variable.

(v) Loan Age

The baseline prepayment hazard is a function of the desired holding period of investors. The holding period is heavily influenced by tax laws: accelerated writeoffs and shorter depreciation schedules encourage shorter holding periods. It is also affected by exogenous factors, e.g., investor retirement. Lacking data to measure the expected holding periods of investors, we assume that the distribution of expected holding periods, and their effect on baseline prepayment rates, can be captured through a quadratic function of mortgage age.<sup>273</sup>

<sup>271</sup> Also, a lack of observations on high interest rate environments made it difficult to estimate separate effects for rate rises ( $RSU$ ).

<sup>272</sup> OFHEO experimented with variables that attempted to capture the impact of yield

maintenance fees on refinancing incentives, but the fixed effects (years-to-go) proved to be a better predictor of historical mortgage performance.

<sup>273</sup> Follain, *et al.* (1997) attempt a fourth-order function of age to provide a more flexible baseline

hazard function, but the third and fourth order terms are not statistically significant. Therefore, OFHEO accepts a second-order age function as sufficient for capturing the distribution of expected investor holding periods.

(vi) Probability of Qualifying To Refinance

An important obstacle to call option exercise is qualifying for a new loan. Because information on property

financials after loan origination is not available, it is not known which properties can, at any point in time, meet minimum standards,  $DCR=1.20$  and  $LTV=0.80$ . Instead, the model uses the same approach employed for default

analysis, calculating the joint probability that  $DCR$  and  $LTV$  will meet minimum qualification standards ( $PQ_t$ ).  $PQ_t$  is measured by evaluating the bivariate normal distribution shown in equation 42 with new integration limits:

$$PQ_{j,t} = \frac{1}{2\pi \cdot \sqrt{1-\rho^2}} \int_c^{\infty} \int_{-\infty}^d \exp\left(\frac{x^2 - 2\rho xy + y^2}{2(1-\rho^2)}\right) (dy dx) \quad (Eq. 52)$$

where, for any given loan (j) in any given time period (t):

$$c = \frac{\ln(1.20) - \ln\left(DCR_t \cdot \frac{PMT_0}{RPMT_t}\right) - 0.50 \cdot \sigma_{\ln Z}^2}{\sigma_{1,t}^2} \quad (Eq. 53)$$

$$d = \frac{\ln(0.80) - \mu_{2,t}}{\sigma_{2,t}^2} \quad (Eq. 54)$$

where:

$RPMT_t$  = mortgage payment if the loan were refinanced at time  $t$ , at current market interest rates

This effectively estimates the probability:

$$PQ_{j,t} = \text{Probability}(\ln DCR_{j,t} > \ln(1.20) \text{ and } \ln LTV_{j,t} < \ln(0.80)) \quad (Eq. 55)$$

(vii) Summary of Prepayment Models

In summary, the five prepayment models (equations) are organized as follows:

1. Model 1: All Fixed-Rate Mortgages-Fully Amortizing and Balloon-in the Yield Maintenance Period

Includes explanatory variables to capture investor holding horizons ( $AY_t$ ,  $AY_t^2$ ), normal refinancings ( $RSD_t$ ), cash out refinancings ( $LTV_t$ ), adverse interest rate effects on cash-out refinancings ( $RSU_t$ ), and effects on normal refinancings due to yield maintenance ( $YTG_t$ ).

2. Model 2: Balloon Loans After Yield Maintenance, but Prior to the Maturity Year

Includes explanatory variables for normal refinancings ( $RSD_t$ ), cash-out

refinancings ( $LTV_t$ ), preballoon incentives to refinance and avoid the uncertainty of interest rates at maturity ( $RSD1_t$  and  $RSD2_t$ ), and the various investment horizons of borrower/owners ( $AY_t$ ,  $AY_t^2$ ). The variable for adverse interest rate offsets to cash-out refinancings ( $RSU_t$ ) is not included in this equation because of a lack of positive observations in the historical data series.<sup>274</sup> The coefficient from model 3 is used for this variable in this equation in stress test application.

3. Model 3: Self-Amortizing Fixed-Rate Loans After Yield Maintenance

Includes explanatory variables for investment horizons ( $AY_t$ ,  $AY_t^2$ ), normal refinancings ( $RSD_t$ ), cash-out refinancings ( $LTV_t$ ), and adverse interest-rate effects on cash-out refinancings ( $RSU_t$ ).

4. Model 4: Balloon payoff

Includes an explanatory variable for the ability of the property to qualify for new financing ( $PQ_t$ ). This is the only variable because at the balloon point there are no longer prepayments, only payoffs.

5. Model 5: Prepayments of Adjustable Rate Mortgages

Includes explanatory variables for the expected investment horizons of borrower/owners ( $AY_t$ ,  $AY_t^2$ ), cash-out refinance incentives ( $LTV_t$ ), and incentives to refinance out of ARMs and into fixed-rate products ( $RS_t$  and  $r_{t,i}$ ).

5. Results of the Statistical Estimation of Default and Prepayment Equations

Table 36 provides maximum likelihood estimates of coefficients in the two default equations.

<sup>274</sup> Estimating the regression equation with both  $RSD$  and  $RSU$  does not significantly change the

coefficient on  $RSD$ . The  $RSU$  coefficient is negligible and without statistical significance.

**Table 36. Binary Logistic Default Equations for Multifamily Loans**

| Variable              | Cash Purchases       |                 | Negotiated Purchases |                 |
|-----------------------|----------------------|-----------------|----------------------|-----------------|
|                       | Coefficient Estimate | Wald Chi-Square | Coefficient Estimate | Wald Chi-Square |
| Constant              | -10.0191             | 414.3           | -9.6418              | 1065.4          |
| $AY_t$                | 1.2687               | 229.9           | 1.0596               | 213.5           |
| $AY_t^2$              | -0.0790              | 127.5           | -0.0633              | 144.9           |
| $BJP_t$               | 2.6446               | 10.8            | NA                   | NA              |
| $PR$                  | 0.6203               | 17.4            | NA                   | NA              |
| $DW_t$                | -0.0829              | 4.9             | NA                   | NA              |
| $JP_t$                | 7.8230               | 979.4           | 12.1660              | 290.8           |
| $RA$                  | NA                   | NA              | 0.6751               | 20.6            |
| $RF$                  | NA                   | NA              | 0.2627               | 1.8             |
| Model $\chi$ -squared | 1693.8               | DF=6            | 787.8                | DF=5            |

All coefficient signs are as expected in both default equations, and all variables have significant effects, both statistically and practically. The age patterns in each equation (including the constant term) are similar, but the joint probability ( $JP_t$ ) has a larger effect on negotiated purchase default rates than on cash-purchase default rates. This finding may result from the fact that most negotiated loan defaults were 90-day delinquency rather than foreclosures, and delinquencies may be more sensitive to changes in variables, such as vacancy rates, that underlie  $JP_t$ .

The dummy variable for program restructuring ( $PR$ ) has a coefficient of 0.6203. That implies that annual default rates on original cash-purchase loans are roughly 1.6 times those of new-cash purchase loans.<sup>275</sup> The value of the depreciation write-off coefficient indicates that the decrease in depreciation allowances that were part of the 1986 tax reform increased default rates roughly 40 percent.<sup>276</sup>

Table 37 provides maximum likelihood estimates of the five prepayment models (equations). All of the coefficient estimates have the

expected signs and provide consistent results. While the coefficient of the negative spread variable ( $RSD_t$ ) is larger during the yield maintenance than it is out of yield maintenance, it actually has a much smaller effect on the probability of prepayment. In this functional form, the coefficient represents (approximately) the percentage change in prepayments per unit change in rates. Because prepayment rates are much greater for loans out of yield maintenance, the larger proportional effect for loans in yield maintenance is still much smaller in absolute terms.

<sup>275</sup> The marginal probability of binary logit coefficients is  $\beta \cdot P(1 - P)$ , where  $\beta$  is the coefficient and  $P$  is the probability estimated with the coefficient set to zero. So, if  $P=1$  percent, then the

increase in probability for original cash program loans is equal to 0.61 percent, and the original-program probability is 1.61 percent. If  $P=0.5$  percent, then the probability for an original-

program cash loan is 0.8 percent (marginal probability is 0.30 percent).

<sup>276</sup> This finding is explored in greater depth in Goldberg and Capone (1998).

Table 37. Binary Logistic Prepayment Models for Multifamily Loans

| Variable                    | Coefficients, by Model<br>(Wald Chi-squared statistics in parentheses) |  |  |  |   |
|-----------------------------|--|--|--|--|---|
|                             | Model 1:<br>fixed-rate in<br>yield<br>maintenance                      | Model 2:<br>balloon out<br>of yield<br>maintenance | Model 3:<br>fixed-rate,<br>non-balloon,<br>out of yield<br>maintenance | Model 4:<br>balloon<br>maturity<br>payoffs | Model 5:<br>adjustable<br>rate<br>mortgages |
| Constant                    | -4.7854<br>(152.7)   | -7.3368<br>(172.0)                                 | 0.7129<br>(1.1)  | -1.0021<br>(2.0)                           | -0.9037<br>(1.6)                            |
| $AY_t$                      | 0.4393<br>(17.6)   | 1.5412<br>(121.2)                                  | -0.2091<br>(8.6)   | NA   | 1.7119<br>(304.1)                           |
| $AY_t^2$                    | -0.0263<br>(8.3)   | -0.0952<br>(119.2)                                 | 0.0044<br>(4.8)  | NA   | -0.1231<br>(289.6)                          |
| $RSD_t$                     | 11.0790<br>(280.6)   | 5.1700<br>(321.4)                                  | 3.9940<br>(61.3)   | NA   | NA  |
| $RSU_t$                     | -7.1300<br>(1.9)   | NA   | -0.7960<br>(11.0)  | NA   | NA  |
| $RSD1_t$                    | NA   | 1.9200<br>(12.0)                                   | NA   | NA   | NA  |
| $RSD2_t$                    | NA   | 1.6200<br>(15.6)                                   | NA   | NA   | NA  |
| $RS_t$                      | NA   | NA   | NA   | NA   | 4.8140<br>(789.1)                           |
| $r_{f,t}$                   | NA   | NA   | NA   | NA   | -51.3100<br>(74.4)                          |
| $LTV_t$                     | -0.9499<br>(7.4)   | -2.2591<br>(171.0)                                 | -3.8166<br>(30.2)  | NA   | -3.2223<br>(63.5)                           |
| $PQ_t$                      | NA   | NA   | NA   | 1.8013<br>(3.4)                            | NA  |
| $YTG_t$                     | -0.2656<br>(413.5)   | NA   | NA   | NA   | NA  |
| Model $\chi^2$ -<br>squared | 1655.7<br>DF=6   | 1002.4<br>DF=6                                     | 135.7<br>DF=5  | 3.4<br>DF=1                                | 1474.4<br>DF=5                              |
| Sample size<br>(Loan-years) | 59,272   | 26,341   | 14,269   | 360  | 37,728                                      |

As expected, balloon loans in the post-yield maintenance period have higher refinance incentives than do fully-amortizing loans, and, therefore, there is a higher coefficient on  $RSD_t$  in prepayment (model 2) than in prepayment (model 3), with even greater

effects as balloon maturity approaches ( $RSD1_t$  and  $RSD2_t$ ).

Cash-out refinancings ( $LTV_t$ ), are much stronger in the post-yield maintenance period, than during yield maintenance, as expected. ARM loan prepayments (model 5) are sensitive to all of the factors in the model. The

balloon payoff (model 4) shows that the probability of qualifying for a refinancing is a valuable predictor of annual payoff rates in the balloon and post-balloon years.

## 6. Application to the Stress Test

The risk-based-capital stress test matches default and prepayment models for each loan group by loan characteristics and age. Because the stress test uses loan aggregates (groups), the probabilities that result from use of the statistical equations can be thought of as rates of default and prepayment on the outstanding balances in each loan group, in each month of the stress period. But the default and prepayment models generated here produce annual rates of default and prepayment. Monthly rates are derived by first calculating annual equivalent rates in each month, given the explanatory variable values in that month, and then converting the annual rates to their monthly equivalents.

The stress test selects the appropriate default equation used for each loan group based solely on the value of the Program Type data field in the Enterprises' loan characteristics data. The stress test chooses among prepayment equations based upon Product Type and loan Origination Term fields in the loan characteristics data, and also upon a computed mortgage age variable. Balloon loans use three separate prepayment models throughout loan life: in yield maintenance (model 1), post-yield maintenance (model 2), and payoff period (model 4). Fully amortizing ARMs will use just one equation (model 5), balloon ARMs will use two equations (model 5, and then model 4 at balloon term). Fully amortizing fixed-rate loans will use two prepayment equations, model 1 during yield maintenance and model 3 afterward. The estimated default and prepayment equations are used not in binary logistic equations, but rather in trinomial equations, as shown in equations 20 and 21, above. Use of the trinomial or, more generally, multinomial probability equations assures that prepayments and defaults are treated as competing risks in stress test application.

Use of the statistical equations in the stress test also involves some cross-equation grafting of coefficients. This is because the historical data on post-yield maintenance balloon loans (model 2) do not have sufficient observations where market interest rates are higher than coupon rates to compute a reliable coefficient for  $RSU$ . Instead, the coefficient for the variable  $RSU$ , in model 3 is added into model 2 so that the effect of the up-rate stress test can be captured. An additional cross-equation grafting is performed for the added balloon-year effect for the joint probability variable in the default

equations ( $B/P$ ). There are insufficient loans with balloon maturity in the negotiated purchase data set to estimate a coefficient. Therefore, the coefficient estimate from the cash purchase default equation is used in the negotiated purchase default equation in the stress test.

The cap rate multiplier used to update property value from NOI (equation 27) is updated in the stress test using ten-year constant maturity Treasury yields, rather than mortgage coupon rates. Which interest rate is used to capture percent changes in interest rates is not important, and the ten-year constant maturity Treasury Yield series is the fundamental interest rate series used in the stress test. The stress test also uses a simplifying assumption for the depreciation writeoff variable,  $DW_{jt}$ . Rather than predict the value of this variable into the future, OFHEO chose to use the 1995 value (9.27) for the entire stress period, in both up- and down-rate scenarios.

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## E. Multifamily Loss Severity

### 1. Introduction

Owing primarily to limited available data, OFHEO’s approach to modeling multifamily loss severity rates for stress test application is simpler than approaches chosen for other elements of mortgage performance. The number of multifamily loans in Enterprise portfolios is a fraction of the number of single family loans. Therefore, the number of defaulted multifamily loans is relatively small. Further, only one Enterprise, Freddie Mac, has reliable historical records of multifamily loss severity rates. Until the mid-1990s, Fannie Mae’s multifamily default resolutions were handled by the various field offices, and there were no standard protocols for tracking and maintaining data elements on a loan-by-loan basis. The result is that OFHEO analysis of Enterprise experience is exclusively focused on that of Freddie Mac.

Even so, the Freddie Mac program provides sufficient data to understand the various components of loss severity rates. They represent the worst historical experience of the Enterprises, and some of the worst experience on record for industry-wide multifamily mortgage loss severities. The Freddie Mac data are not extensive enough to allow a multivariate statistical analysis. The analysis outlined here is univariate: each element is examined individually,

without explanatory variables. The result is that OFHEO chose for its stress test to use simple averages of various components of multifamily loss severity.

Section 2 of this supplementary material on multifamily loss severity gives an outline of the conceptual framework, the plan OFHEO used in approaching multifamily loss severity rates; section 3 provides a discussion of the source data; section 4 is a summary of the data analysis; and section 5 concludes with an examination of how the loss severity components are applied in the stress test.

### 2. Conceptual Framework

Loss severity is the net cost of resolving a mortgage default. It is most typically measured as a percentage of the unpaid principal balance (UPB) at the time of default.<sup>277</sup> OFHEO measures severity in this way and then applies any available credit enhancements against the loss to arrive at a net loss to the Enterprises. Credit enhancements are not discussed in this supplement. A description of how the stress test applies credit enhancements can be found in the Appendix to this regulation.

OFHEO’s general approach is to model only those loss severity rates associated with full foreclosure events. The one exception is for programs where the default event of record is a 90-day delinquency. This exception will be discussed below, under Data Analysis. Foreclosure results in the Enterprise taking title to the property, managing and rehabilitating it, and then marketing and selling the property. OFHEO also models the timing of events and cost elements associated with foreclosure and property management. As with single family loss severity rates, OFHEO recognizes three time frames in capturing costs and revenues associated with mortgage foreclosure: the first four months of delinquency, the time from default to foreclosure completion (which includes the first four months), and time of property inventory (from foreclosure completion to property disposition).

After analyzing Enterprise data, and reviewing available research on multifamily loss severity, OFHEO chose to use simple averages of Enterprise experience, by loss component, and not to perform multivariate statistical analysis. Component analysis permits the use of discounting techniques to create effective loss severity rates at the time of default (one month after last-

<sup>277</sup> All references to UPB in this part of the supplement indicate UPB at time of default.

paid-installment). OFHEO found no basis in the existing literature for multivariate statistical analysis of multifamily loss severities.

OFHEO identified seven studies of loss severity, each of which relies upon data from a broad range of commercial property types, and each of which defines and measures severity rates somewhat differently.<sup>278</sup> These studies primarily provide simple averages of loan-level loss severity rates, though some do attempt some statistical analysis of severity rates. Curry, et al (1990) model loss severities as a function of the type of organization managing the foreclosed property (public or private). Haidorfer (1997) performs a multivariate statistical analysis that looks at the type of property sale process (open auction, sealed-bid auction, or broker sales). He finds that the type of selling process does not influence severity rates. A third study by Ciochetti and Riddiough (1998) models expected property recovery rates as a function of mortgage terms, and a list of property type and region dummies.<sup>279</sup> They find no statistical significance of original LTV, debt coverage ratio (DCR), loan age, or the mortgage interest rate.

### 3. Sources of Data

OFHEO obtained loss severity data on multifamily loans from both Enterprises, but only Freddie Mac maintained a complete historical data base of all relevant revenue and expense components that was useful for this analysis.<sup>280</sup> The analysis of foreclosure

<sup>278</sup> The seven studies are: Curry, Blalock, and Cole (1990); Snyderman (1994); Fitch Investors Service (1996); Ciochetti (1997); Haidorfer (1997); Barnes, Gilberto and Peyton (1998); and Ciochetti and Riddiough (1998).

<sup>279</sup> The Ciochetti and Riddiough study looks at expected recoveries immediately following foreclosure, where property value is appraised value, and no property management or disposition costs are included in the calculations.

<sup>280</sup> Until the mid 1990s, Fannie Mae's foreclosed property inventory was managed by the individual field offices. There were no standard protocols for recording or retaining expense and revenue

loss severities is then limited to 705 multifamily loans purchased by Freddie Mac, that subsequently defaulted between 1987 and 1995 and ended in foreclosure. Over 83 percent of these loans defaulted between 1990 and 1993, in what is considered the worst period in modern history for the commercial mortgage market. These data are supplemented by Freddie Mac data on other default resolutions. These additional data are used for projecting potential losses on negotiated purchase loans for which seller/servicers must repurchase and resolve all 90-day delinquencies. Once delinquencies are resolved, the seller/servicers bill the Enterprise for the net costs.<sup>281</sup> Fannie Mae has a large portfolio of sold loans with these repurchase provisions and has maintained data on the claims for losses submitted by the seller/servicers. However, many of the claim records are incomplete and OFHEO therefore, relied on information on Freddie Mac default resolutions, and on information from other available studies, to determine a loss rate to charge against 90-day delinquencies. Freddie Mac provided OFHEO with information on the chargeoffs associated with 160 non-foreclosure resolutions that occurred from 1990 to 1995.

These data represent the worst historical experience of the Enterprises, which began purchasing conventional multifamily mortgages in 1983.<sup>282</sup> The

components of loss severity on a loan-by-loan basis. Fannie Mae could only provide OFHEO with consistent data on event times (foreclosure and property disposition).

<sup>281</sup> When these loans are purchased by the Enterprises, the seller/servicers must establish resource accounts. These credit enhancements drawn on as first-lost protection before the Enterprises actually incur any costs from loan defaults in these mortgage pools.

<sup>282</sup> Goldberg and Capone (1997) detail the problems that led to high default rates among multifamily mortgages in the late 1980s and early 1990s. These same factors led to high severity rates. In addition to market factors, Freddie Mac attributes its particularly bad performance to fraud by lenders that underwrote loans that were not of investment quality. An analysis of data shown in Investor Analyst Reports shows that in 1991, Freddie Mac's

Freddie Mac data is among the largest and richest sets of information available to any researchers who have studied multifamily loss severities.

### 4. Data Analysis

#### a. Foreclosure Severity Rates

Table 38 provides average values for loss severity components in the Freddie Mac foreclosure database. The cost components are each measured as a percent of the UPB at the time of default. These average rates are also computed using UPB as a weighting factor on each loan. This weighting provides a more accurate measure of portfolio severity rates than would a simple average.<sup>283</sup> The operating loss per month is the difference between monthly property income (rents) and expenses, where expenses include property repairs. It is not surprising that this element is a net cost rather than a net revenue because defaulting properties will have high vacancy rates and significant needs for repairs. The net proceeds of property sale is arrived at by subtracting selling expenses and other prorated expenses (taxes and rents) due at settlement from the actual sales price of each property. The two time dimensions reported here are important for discounting the associated cash flows to arrive at an effective loss severity rate at time of default (one month after last-paid-installment). One cost element not shown in Table 38 is the interest passthroughs to security holders during the initial months of delinquency. In general, loans are repurchased from security pools by the 120th day of delinquency, so that four months of passthrough interest must be added to severity calculations in stress test application.

chargeoff for bad multifamily loans was more than its total chargeoff for bad single family loans, even though its multifamily portfolio of \$10 billion was only three percent as large as the single family portfolio. This high rate of chargeoffs lasted from 1989 through 1992.

<sup>283</sup> UPB weighting is also used in the OFHEO single family loss severity analysis.



**Table 38. Multifamily Loss Severity Components  
Freddie Mac Foreclosure Experience, 1987-1995**

| Component   | Average value |
|---|---------------|
| Foreclosure costs   | 9.01%         |
| Operating loss, per month, during property holding period | 0.332%        |
| Net proceeds of property sale                             | 58.88%        |
| Time from default to foreclosure                          | 18 months     |
| Time in property inventory                                | 13 months     |

Adding the cost components here produces a 54 percent loss severity. This sum is comparable to what is reported by Fitch (1996) in its study of commercial mortgage foreclosures. Fitch reports a 56 percent average loss severity rate on foreclosures.<sup>284</sup> The Fitch study had an (undefined) interest passthrough component. If added to the Freddie Mac severity components, a four-month passthrough at eight percent interest would increase their sum from 54 percent to roughly 58 percent.

#### b. 90-Day Delinquency Severities

Deriving a loss rate to use for 90-day delinquency events involves making inferences on the rate of foreclosure and other costly resolutions versus non-costly resolutions. Snyderman (1994) found that 46 percent of 90-day delinquencies in life insurance company portfolios, 1972-1986, ended in foreclosure. Freddie Mac data are

consistent with this finding. Freddie Mac data indicate that foreclosures plus other costly resolutions are 56 percent of total 90-day delinquencies. Using 56 percent as the rate of costly loan resolutions, and applying a 70 percent foreclosure loss severity to them, produces a severity rate on 90-day delinquencies of just over 39 percent.<sup>285</sup>

#### 5. Application to the Stress Test

The loss severity components just described enter the stress test as cash flows at various points in the default time frame. These cash flows are discounted by a cost-of-debt interest rate to produce a net-present-value loss severity rate in the month of default. The use of discounting provides an implicit funding cost. It reduces the value of final proceeds by an amount equal to the cost of funding the non-performing assets (first the loan, and then the property), and it reduces the

value of various expenditures to reflect the fact that cash is not actually expended in the month of loan default but could be invested at some rate-of-return for a number of additional months. What discounting does not include is the cost of funding that portion of the loan balance that is not recovered in the sale of the foreclosed property. That portion of funding cost is captured elsewhere in the stress test by ongoing interest expenses on debt that is in excess of what can be retired by the property sale proceeds.<sup>286</sup> The ongoing interest expenses are captured in other parts of the stress test beyond the loss severity calculations.

#### a. Foreclosure Loss Severity Rate Application

The basic loss severity equation for foreclosure costs has five elements, as shown in this equation:

$$L_t = \frac{1}{\left(1 + \frac{r_{d,t}}{2}\right)^4} + \frac{(r_p/12) \cdot 4}{\left(1 + \frac{r_{d,t}}{2}\right)^2} + \frac{F}{\left(1 + \frac{r_{d,t}}{2}\right)^{t_f}} + \frac{O \cdot t_i}{\left(1 + \frac{r_{d,t}}{2}\right)^{\frac{(t_f + t_i)/2}{6}}} - \frac{P}{\left(1 + \frac{r_{d,t}}{2}\right)^{\frac{t_f + t_i}{6}}}$$

<sup>284</sup> It is not clear exactly how many foreclosures there are in the Fitch data set. Fitch reports 547 costly default resolutions of 60-day delinquencies, of which it appears from other data given in the report (loss severity rates on foreclosure and non-

foreclosure resolutions) that 147 are foreclosure events.

<sup>285</sup> The 70 percent loss rate on foreclosures comes from the 54 to 58 percent reported earlier, with asset holding costs added.

<sup>286</sup> For retained loans, the debt supporting the mortgage UPB will already be on the Enterprise balance sheets at the time of default. For sold loans, however, asset funding occurs when the Enterprise buys the defaulting loan out of its security pool.

where:

- $L_t$  = net loss severity rate (as a fraction of the unpaid loan balance) for loans that default in month  $t$
- $F$  = foreclosure costs (0.0901 of the unpaid loan balance)
- $O$  = operating loss, per month (0.0033 of the unpaid loan balance)
- $P$  = net property sale proceeds (0.5888 of the unpaid loan balance)
- $t_f$  = time from default to foreclosure (18 months). This is divided by 6 to accommodate the use of semi-annual discounting.
- $t_i$  = property inventory time (13 months), the time between foreclosure and property disposition. This is divided by 6 to accommodate semi-annual discounting.
- $r_{d,t}$  = discount rate (6-month agency cost of funds) in month  $t$ . This is divided by 2 to represent semi-annual discounting.
- $r_p$  = passthrough interest rate on the underlying mortgage(s)

The first loss element is the UPB of the defaulted loan. It is set here equal to '1' or 100 percent. For sold loans, it is discounted for four months, which represents the timing of repurchasing the loan from the security pool. For retained loans, the UPB is not discounted because the economic loss occurs at the time of default. The second loss element is the passthrough interest expense for four months. This expense

is discounted for two months as an approximation to discounting each month's pass through individually. This element only appears for sold loans.

The third element of loss severity is the expense incurred to obtain a foreclosure judgment on the property. This cost includes all legal expenses for foreclosure and, when necessary, to release a bankruptcy stay, and other charges that may be incurred to obtain

clean title to the property (e.g., property taxes due). The fourth element is the cost of operating and maintaining the foreclosed property while it is REO. And the fifth element is the net proceeds at final property disposition.

The formula can be applied very simply. Using the cost elements in Table 38, along with a discount rate,  $r_{d,t} = .06$ , and a passthrough rate,  $r_p = .08$ :

$$L_t = \frac{1}{\left(1 + \frac{0.06}{2}\right)^{\frac{4}{6}}} + \frac{(0.08/12) \cdot 4}{\left(1 + \frac{0.06}{2}\right)^{\frac{2}{6}}} + \frac{0.0901}{\left(1 + \frac{0.06}{2}\right)^{\frac{18}{6}}} + \frac{0.0033 \cdot 13}{\left(1 + \frac{0.06}{2}\right)^{\frac{(25.5)}{6}}} - \frac{0.5888}{\left(1 + \frac{0.06}{2}\right)^{\frac{31}{6}}}$$

This reduces to 0.622 for sold loans and 0.615 for retained loans. If we increase the discount rate to 12 percent, the results change to 0.661 for sold loans and 0.673 for retained loans. If the discount rate were reduced to three percent, the net present value severity rates would be 0.598 for sold loans and 0.581 for retained loans.

#### b. 90-Day Delinquencies

For negotiated purchase loans with seller/servicer repurchase provisions, the stress test discounts to reflect a time lag between the initial delinquency and the claim payment. In the stress test, seller/servicer claims on 90-day delinquencies are settled 12 months after default. Starting with the 39 percent severity rate for foreclosure alternatives reported above, and discounting for one year, yields a rate of around 34 to 37 percent, depending on the actual discount rate.

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#### F. Property Valuation

##### 1. Introduction

The stress test simulates mortgage performance under housing market

conditions that reflect stresses comparable to those of the time and place of the benchmark loss experience (BLE). This section describes the data used to define and create variables that comprise the housing market conditions of the stress test.

Three housing market condition variables are used in the stress test: house price growth rates, rent growth rates, and rental vacancy rates. House price growth rates are used to project single family mortgage performance, both default/prepayment rates and loss severity rates. Rent growth rates and vacancy rates are used to project multifamily default and prepayment rates.

Section 2 of this part of the Technical Supplement describes the conceptual framework OFHEO used to determine the housing market condition variables in the stress test. Section 3 lists the sources of data used to develop these variables. Section 4 then describes the statistical analysis performed to transform source data into housing market condition variables.

## 2. Conceptual Framework

The BLE is based upon the performance of 30-year, fixed-rate single family mortgages in four States—Arkansas, Louisiana, Mississippi, and Oklahoma—originated in 1983 and 1984, during the ten years following origination, as defined in the first NPR. The actual BLE covered twelve calendar years because benchmark loans could originate any time between January 1983 and December 1984, and the ten-year experience of the last loans originated during the benchmark time period lasted through December of 1994. For house prices, rent growth rates, and vacancy rates in the stress test, OFHEO defined the BLE as the years 1984 through 1993—the middle ten years of the twelve-year period marking the BLE. OFHEO then identified sources of data that reflect the housing market conditions of the benchmark time and place, and that are compatible with historical data used to estimate statistical (econometric) models of mortgage default, prepayment, and loss severity.

### a. Single Family House Price Appreciation Rates

OFHEO sought publicly available data with geographic coverage that reflect

stresses similar to those of the BLE. For house price growth rates, the stress test uses OFHEO HPI data from the West South Central (WSC) Census Division. Because the 1984–1993 WSC HPI series was used to calibrate the single family default- and severity-rate equations to the actual four-State benchmark loan performance,<sup>287</sup> the same series also was used to define housing market conditions in the stress test. The WSC Census Division is similar geographically to the actual four-State BLE. The difference is that the WSC includes Texas, but not Mississippi. For the ten-year period, 1984–1993, the cumulative house price appreciation rate for the WSC Census Division is very similar to that of the four-State benchmark region. For the stress test, the OFHEO HPI is converted from index form into quarterly appreciation rates.

### b. Vacancy Rates and Rent Growth Rates

Rental market data—vacancy rates and rent growth rates—used in the statistical analysis of historical multifamily default and prepayment rates are also from government sources. Rent growth rates are from the residential rent component of the consumer price index (CPI), produced by the Bureau of Labor Statistics. Vacancy rates are from the rental vacancy rate series (H-111) produced by the Bureau of the Census. However, these data series are not used directly to reflect multifamily housing market conditions during the stress period because the available geographic aggregations and time periods do not closely match the four-State benchmark. The CPI residential rent index is not available for the appropriate geographic areas, and the H-111 state vacancy rate series is not available for 1984 and 1985.<sup>288</sup>

In light of these shortcomings, OFHEO identified a non-government source of data published by the Institute for Real Estate Management (IREM). However, the IREM data do not represent the same properties as the government data. IREM surveys include only apartments, while the government surveys (both rents and vacancies), include apartments and single family rental units. To assure consistency with the government series, statistical regression equations were estimated to

use in adjusting the IREM data. The adjusted data can be thought of as answering the question, “What would CPI and H-111 data look like if they were available in the benchmark area?” The statistical regressions (detailed in section 4, Statistical Analysis) use data from all metropolitan statistical areas (MSAs) for which both IREM and CPI or H-111 data are available, to estimate statistically valid relationships. These equations are then applied to IREM data from the four-State area to assure that variables used in the stress test are compatible with the variables used to develop the statistical models.

## 3. Data Sources

The sources of data used to develop the housing market condition variables for stress test application are as follows:

- *OFHEO HPI Report, 1996:3*, West South Central Census Division Series, 1983:4–1993:4.
- Bureau of Labor Statistics, Consumer Price Index, Residential Rent Component, MSA series, 1970–1995, annual index values.
- Bureau of the Census, H-111 Housing Vacancy Survey, rental unit vacancies, MSA series, 1981–1995, annual average vacancy rates.
- Institute for Real Estate Management. Conventional Apartments. Chicago, IL: IREM. Annual publications, 1981–1995, MSA level (median) dollar rents per square foot, (median) dollar vacancy losses per square foot, and number of apartments in survey.

## 4. Statistical Analysis

### a. House Prices Appreciation Rates

The use of the OFHEO HPI in the stress test requires no statistical analysis. Monthly house price appreciation rates are derived from the OFHEO HPI index in three steps. First, monthly appreciation rate indexes are created for each quarter by dividing that quarter's index value by the index value for the preceding quarter. Second, the logarithm of this new index is used as the growth rate factor for that quarter. Finally, the quarterly rate is divided by three to produce at monthly growth rate factors for each month in the quarter. In this manner, the 120 months of stress test HPI growth rate factors ( $g_{q,t}$ ) are produced from the 41 quarterly HPI values ( $HPI_q$ ), 1983:4–1993:4:

<sup>287</sup> Benchmark loss experience calibration is discussed in both the Single Family Default/Prepayment and the Single Family Severity sections of this Technical Supplement.

<sup>288</sup> The residential rent series includes MSA level data for New Orleans, beginning in 1986. The New Orleans data alone, however, were insufficient for use in representing the BLE.

$$g_{q,t} = \frac{\ln\left(\frac{HPI_q}{HPI_{q-1}}\right)}{3} \quad (Eq. 56)$$

where:

$g_{q,t}$  = house price growth rate factor in month  $t=\{1,2,3\}$  in calendar quarter  $q = \{1984:1, \dots, 1993:4\}$

The  $g_{q,t}$  are called growth rate “factors” because they are the continuous growth rate equivalent to actual, discrete growth as measured across each month and quarter.<sup>289</sup> Stress test applications convert these factors to actual appreciation rates. This baseline series of monthly growth rates applies

in both the up- and down-rate scenarios, but may be adjusted for inflation in the up-rate scenario.

#### b. Rent Growth Rates

The statistical analysis underlying the rent growth rate variable used in the stress test uses MSA level data from

both IREM and the CPI for the 26 cities for which the CPI residential rent index is available.<sup>290</sup> Annual growth rates for 1970–1995 were computed from both the IREM and CPI rent data, and the following pooled, time series, cross-sectional, weighted least squares regression was estimated:

$$\dot{R}R_{j,y} = 0.027 + 0.295 \cdot \dot{I}R_{j,y} \quad (Eq. 57)$$

where:

$\dot{R}R_{j,y}$  = annual growth rate of the CPI residential rent index in MSA,  $j$ , and calendar year  $y$

$\dot{I}R_{j,y}$  = annual growth rate of the IREM rent growth rate series in MSA,  $j$ , and calendar year  $y$

The regression was weighted by the number of apartments that IREM surveyed in each MSA. The coefficient for  $\dot{I}R_{j,y}$  is significant at the 99 percent confidence level.

IREM data are available for one city in each of the four benchmark States—Jackson, Little Rock, New Orleans, and Oklahoma City. A benchmark region rent growth rate series was computed from equation 57, using a simple

average of annual IREM rent growth rates in each of these cities (1984–1993) to populate  $\dot{I}R_{j,y}$ . Monthly rent growth rates were then computed using the following compounding formula.

$$g_{y,t} = \sqrt[12]{1 + \hat{C}R_y} - 1 \quad (Eq. 58)$$

where:

$\hat{C}R_y$  = the “fitted value” annual government-equivalent rent growth rate from equation 57, for year,  $y = \{1984, \dots, 1993\}$ , using the four-city average IREM rent growth rates in place of  $\dot{I}R_{j,y}$

$g_{y,t}$  = monthly rent growth rates for each month  $t = \{1, \dots, 12\}$  in year  $y$

Equation 58 produces final rent growth rates in discrete form, rather than continuous form, because the process used to create the original series

was discrete. As with the house price growth rate factors, inflation adjustments may be applied in the up-rate scenario.

#### c. Vacancy Rates

Because Census vacancy rate data are available at the State level starting in 1986, OFHEO uses the average of rates

<sup>289</sup> Continuous growth rates refer to a process whereby house price appreciation is a continuous process, throughout each month or quarter. The actual house price index that shows total

appreciation across a month or quarter is just the exponential of the growth rate factor for that time period.

<sup>290</sup> Statistical analysis was based upon what the Bureau of Labor Statistics calls its “old series.” The new series covers 29 MSAs.

in the four benchmark States, from 1986–1993 for the latter eight years of the stress test. For the first two years, OFHEO employs a statistical analysis similar to that for rent growth rates to create government-equivalent vacancy

rates for 1984 and 1985, the first two years needed for the stress test. The weighted-least-squares regression matches MSA-level Census vacancy rates to IREM vacancy rates in the same cities. Matching data is available for 51

MSAs; 23 with Census data that begin in 1981, and another 28 for which Census data become available in 1986. The pooled cross-section, time series regression is:

$$\dot{C}V_{j,y} = 0.001 + 0.29 \cdot \dot{I}V_{j,y} \quad (\text{Eq. 59})$$

where:

$\dot{C}V_{j,y}$  = annual change in Census vacancy rate between years (y-1) and y, for MSA j

$\dot{I}V_{j,y}$  = Annual change in IREM vacancy series between years (y-1) and y, for MSA j

The coefficient on  $\dot{I}V_{j,y}$  is statistically significant at the 99 percent level, but the constant term is not statistically significant. This lack of significance is not surprising, given that the regression is relating rates of change and not levels of vacancy rates. In application, the constant term is dropped from the equation.

To compute vacancy rates for 1984 and 1985, equation 59 is applied using average IREM vacancy rates for the four benchmark cities to compute rates of change for the four-State average Census vacancy rate. The resulting rate of change from 1986 to 1985 is first applied to the four-State average Census vacancy rate for 1986 to compute a government-equivalent vacancy rate for 1985. The procedure is repeated to compute the vacancy value for 1984. Finally, each annual vacancy rate in the ten-year series is applied to each month in the year to extend the series to cover the 120 months of the stress period.

## V. Regulatory Impact

### A. Executive Order 12612, Federalism

Executive Order 12612 requires that Executive departments and agencies identify regulatory actions that have significant Federalism implications. "Federalism implications" is defined as regulations or actions that have substantial direct effects on the States, on the relationship or distribution of power between the national government and the States, or on the distribution of power and responsibilities between the Federal and State government. This proposed regulation has no Federalism implications that warrant the preparation of a Federalism Assessment in accordance with Executive Order 12612.

### B. Executive Order 12866, Regulatory Planning and Review

This regulation has been reviewed by the Office of Management and Budget (OMB) in accordance with Executive Order 12866. OMB has determined that this is an economically significant rule. Included in the preamble to the proposed rule is an economic analysis of the proposal's impact on the regulated entities, and in particular on mortgage credit, of various alternatives. It contains a technical supplement providing detail on the specifications and estimations of econometric models for mortgage performance, and how those statistical models are applied in the proposed risk-based capital stress test.

The proposed regulation implements the 1992 Act's requirement that OFHEO establish a risk-based capital requirement for the Enterprises. Along with the existing minimum capital leverage ratios and the examination function, the stress test is designed to ensure that the Enterprises have adequate capital and operate in a safe and sound manner.

It is difficult to estimate precisely the particular benefits and costs associated with the risk-based capital requirement. Where possible, section II. C., Implications of the Proposed Rule discusses and quantifies the potential benefits and potential costs in more detail. Otherwise, that section characterizes the benefits and costs qualitatively. The analysis indicates that the anticipated benefits from implementing the risk-based capital regulation outweigh the anticipated costs. It further indicates that the proposed regulation ensures that risk is held at an appropriate level, while imposing the least burden on the Enterprises.

By carrying out Congress' intent to implement the risk-based capital requirement, OFHEO would reduce the potential for Enterprise insolvency by protecting against interest rate, credit, and management and operations risk. By ensuring their safety and soundness, the regulation allows the Enterprises to continue to carry out their public purposes.<sup>291</sup> These include providing stability in the secondary market for residential mortgages and providing access to mortgage credit in central cities, rural areas, and underserved areas. In addition, the regulation will also ensure that the Enterprises will continue to provide benefits to the primary mortgage market such as standardizing business practices.<sup>292</sup>

Other benefits of the risk-based capital requirement are (1) making the Enterprises' capital requirement more sensitive to differences in risk exposures, (2) discouraging the Enterprises from taking excessive risks by making riskier behavior more costly, and (3) ensuring that the Enterprises maintain adequate capital in stressful credit and interest rate environments. Implementing a risk-based capital requirement with credit risk and interest rate risk components will help ensure that the Enterprises' capital requirement is more closely related to the risks that they incur. Adopting the proposed rule will result in a capital requirement that corresponds more closely to capital levels that the marketplace would demand in the absence of the benefits afforded by the government sponsorship of the Enterprises, and will lead to gains in overall economic efficiency.

<sup>291</sup> 1992 Act, section 1302(2) (12 U.S.C. 4501(2)).

<sup>292</sup> *Managing Risk in Housing Finance Markets: Perspectives from the Experiences of the United States of America and Mexico*, OFHEO and the Mortgage Bankers Association of America (June 11, 1998).

Moreover, by evaluating risk in a forward-looking, dynamic manner, the stress test identifies potential problems before they become significant.

As detailed in the Implications section, the Proposed Rule may impose some costs on the Enterprises.

Nevertheless, any such costs are the necessary and reasonable costs of carrying out Congress' intent that the Enterprises remain financially solvent, which will enable them to out their important public purposes.

Changes to comply with the risk-based capital requirement can be accomplished at relatively low costs. Both Enterprises can employ various practices and procedures to manage credit risk and interest rate risk by adjusting their holdings or operations. For example, one method to reduce credit risk exposure is to increase use of credit enhancements with highly-rated counterparties. One method to reduce interest risk exposure is to purchase derivative contracts.

By complying with an effective risk-based capital requirement, the Proposed rule may in fact reduce Enterprise costs by enhancing investor confidence. This is consistent with a study by Standard & Poor's (S&P) that provided risk-to-the-government credit ratings for the Enterprises.<sup>293</sup> While S&P had rated Fannie Mae A- and Freddie Mac A+ in 1991, the 1997 report upgraded the ratings of both Enterprises to AA-. S&P cited increased governmental oversight by OFHEO as an important factor in these higher ratings. It further noted that "OFHEO's regulatory oversight [of Freddie Mac] also gives comfort that appropriate interest rate risk mitigation steps would be taken as needed."<sup>294</sup>

#### C. Executive Order 12988, Civil Justice Reform

Executive Order 12988 sets forth guidelines to promote the just and efficient resolution of civil claims and to reduce the risk of litigation to the government. The proposed regulation meets the applicable standards of sections 3(a) and (b) of Executive Order 12988.

#### D. Regulatory Flexibility Act

The Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*) requires that a proposed regulation that has a significant economic impact on a substantial number of small entities must include an initial regulatory flexibility analysis describing the rule's impact on small entities. Such an

analysis need not be undertaken if the agency head certifies that the rule will not have a significant economic impact on a substantial number of small entities. 5 U.S.C. 605(b).

OFHEO has considered the impacts of the proposed risk-based capital regulation under the Regulatory Flexibility Act. The proposed regulation does not have a significant effect on a substantial number of small entities.

This proposed regulation would not have a significant economic impact on a substantial number of small entities since it is applicable only to the Enterprises, which are not small entities for purposes of the Regulatory Flexibility Act. Therefore, the General Counsel of OFHEO acting under delegated authority has certified that the proposed regulation would not have a significant economic impact on a substantial number of small entities.

#### E. Paperwork Reduction Act

The Paperwork Reduction Act of 1995, 44 U.S.C. Chapter 35 requires that regulations involving the collection of information receive clearance from the Office of Management and Budget (OMB). The risk-based capital proposal contains no such collection of information requiring OMB approval under the Paperwork Reduction Act.

#### List of Subjects in 12 CFR Part 1750

Capital classification, Mortgages, Risk-based capital.

Accordingly, for reasons set forth in the preamble, the Office of Federal Housing Enterprise Oversight proposes to amend 12 CFR part 1750 as follows:

#### PART 1750—CAPITAL

1. The authority citation for part 1750 as published at 61 FR 29619, June 11, 1996, continues to read as follows:

**Authority:** 12 U.S.C. 4513, 4514, 4611, 4612, 4614, 4618.

#### § 1750.5 [Removed]

2. Remove § 1750.5.  
3. Amend § 1750.12 of part 1750 as published at 61 FR 29620, June 11, 1996, by revising paragraph (a) to read as follows:

#### § 1750.12 Procedures and Timing.

(a) Each Enterprise shall file with the Director a risk-based capital report each quarter, or at such other times as the Director requires. The report shall contain information identified by OFHEO in written instructions to each Enterprise.

\* \* \* \* \*

4. Revise the Appendix to subpart B of part 1750 as published at 61 FR 29621, June 11, 1996, to read as follows:

#### Appendix to Subpart B of Part 1750—Risk-Based Capital Test Methodology and Specifications

- 1.0 Identification of the Benchmark Loss Experience
  - 1.1 Definitions
  - 1.2 Data
  - 1.3 Procedures
- 2.0 Identification of a New Benchmark Loss Experience
- 3.0 Computation of Risk-Based Capital Level
  - 3.1 Enterprise Data
    - 3.1.1 Overview
    - 3.1.2 Whole Loans
      - 3.1.2.1 Characteristics Used to Create Loan Groups
      - 3.1.2.2 Loan Group Characteristics
      - 3.1.2.3 Individual Loan Data
      - 3.1.2.4 Single Family Mortgage Portfolio-Wide Information
    - 3.1.3 Mortgage-Related Securities
      - 3.1.3.1 Single Class MBS Issued by the Enterprises and Ginnie Mae
      - 3.1.3.2 Derivative Mortgage Securities Issued by the Enterprises and Ginnie Mae
      - 3.1.3.3 Mortgage Revenue Bonds and Miscellaneous Mortgage-Related Securities
    - 3.1.4 Non-Mortgage Financial Instruments
    - 3.1.5 Operations, Taxes, and Accounting
      - 3.1.5.1 Data Required to Calculate Taxes, Operating Expenses, and Dividends
      - 3.1.5.2 Balance Sheet as of the Start of the Stress Test
    - 3.1.6 Other Off-Balance-Sheet Guarantees
  - 3.2 Commitments
    - 3.2.1 Overview
    - 3.2.2 Inputs
      - 3.2.2.1 Loan data
      - 3.2.2.2 Interest Rate Data
    - 3.2.3 Procedures
    - 3.2.4 Output
  - 3.3 Interest Rates
    - 3.3.1 Overview
    - 3.3.2 Inputs
      - 3.3.3 Procedures
        - 3.3.3.1 Identify Starting Values
        - 3.3.3.2 Project the Ten-Year CMT
        - 3.3.3.3 Project the Ten Other CMTs
        - 3.3.3.4 Project Non-Treasury Interest Rates
        - 3.3.3.5 Project Borrowing Rates
  - 3.4 Output
    - 3.4.1 Overview
    - 3.4.2 Inputs
    - 3.4.3 Procedures
    - 3.4.4 Output
  - 3.5 Mortgage Performance
    - 3.5.1 General
    - 3.5.2 Single Family Default and Prepayment
      - 3.5.2.1 Overview
      - 3.5.2.2 Inputs
      - 3.5.2.3 Procedures
      - 3.5.2.4 Output
    - 3.5.3 Single Family Loss Severity
      - 3.5.3.1 Overview
      - 3.5.3.2 Inputs
      - 3.5.3.3 Procedures
      - 3.5.3.4 Output
  - 3.5.4 Multifamily Default and Prepayment

<sup>293</sup> Final Report of Standard & Poors to OFHEO, Contract No. HE09602C (February 3, 1997).

<sup>294</sup> Contract No. HE09602C, p. 10.

- 3.5.4.1 Overview
- 3.5.4.2 Inputs
- 3.5.4.3 Procedures
- 3.5.4.4 Output
- 3.5.5 Multifamily Loss Severity
  - 3.5.5.1 Overview
  - 3.5.5.2 Inputs
  - 3.5.5.3 Procedures
  - 3.5.5.4 Output
- 3.6 Other Credit Factors
  - 3.6.1 Overview
  - 3.6.2 Input
  - 3.6.3 Procedures
    - 3.6.3.1 Identifying Other Credit Factors
    - 3.6.3.2 Classifying Rating Categories in the Stress Test
    - 3.6.3.3 Accounting for Other Credit Factors
    - 3.6.4 Output
- 3.7 Mortgage Credit Enhancements
  - 3.7.1 Overview
  - 3.7.2 Inputs
    - 3.7.2.1 Enterprise Data on Mortgage Credit Enhancements
    - 3.7.2.2 Public Rating Information
    - 3.7.2.3 Counterparty Coverage Reduction Information
  - 3.7.3 Procedures
    - 3.7.3.1 Classification of Credit Enhancements
    - 3.7.3.2 Calculating Percentage Coverage and Dollar Coverage Amounts:
    - 3.7.3.3 Calculating Percent of UPB Covered by Each Counterparty Rating Category
    - 3.7.3.4 Calculating the Percent of UPB Under Dollar-Denominated Coverage
    - 3.7.3.5 Calculating Coverage Against Credit Losses
  - 3.7.4 Output
- 3.8 Other Off-Balance Sheet Guarantees
  - 3.8.1 Overview
  - 3.8.2 Input
  - 3.8.3 Procedures
  - 3.8.4 Output
- 3.9 Cash Flows
  - 3.9.1 Whole Loans
    - 3.9.1.1 Overview
    - 3.9.1.2 Inputs
    - 3.9.1.3 Procedures
    - 3.9.1.4 Output
  - 3.9.2 Mortgage-Related Securities
    - 3.9.2.1 Overview
    - 3.9.2.2 Inputs
    - 3.9.2.3 Procedures
    - 3.9.2.4 Outputs
  - 3.9.3 Debt and Related Cash Flows
    - 3.9.3.1 Overview
    - 3.9.3.2 Inputs
    - 3.9.3.3 Procedures
    - 3.9.3.4 Output
  - 3.9.4 Non-Mortgage Investment and Investment-Linked Derivative Contract Cash Flows
    - 3.9.4.1 Overview
    - 3.9.4.2 Inputs
    - 3.9.4.3 Procedures
    - 3.9.4.4 Output
- 3.10 Operations, Taxes, and Accounting
  - 3.10.1 Overview
  - 3.10.2 Inputs
    - 3.10.2.1 Enterprise Data
    - 3.10.2.2 Interest Rates
    - 3.10.2.3 Outputs From Cash Flow Components of the Stress Test
  - 3.10.3 Procedures

- 3.10.3.1 New Debt and Investments
- 3.10.3.2 Dividends
- 3.10.3.3 Allowances for Loan Losses and Other Charge-Offs
- 3.10.3.4 Operating Expenses
- 3.10.3.5 Taxes
- 3.10.3.6 Accounting
- 3.10.4 Output
- 3.11 Treatment of New Enterprise Activities
- 3.12 Calculation of the Risk-Based Capital Requirement
  - 3.12.1 Overview
  - 3.12.2 Inputs
  - 3.12.3 Procedures
  - 3.12.4 Output

## 1.0 Identification of the Benchmark Loss Experience

OFHEO will use the definitions, data, and methodology described below to identify the benchmark loss experience.

### 1.1 Definitions

The terms defined in § 1750.11 shall apply for this Appendix. In addition, the term *Origination year* means the year in which a loan is originated.

### 1.2 Data

[a] OFHEO identifies the benchmark loss experience using historical loan-level data required to be submitted by each of the two Enterprises. OFHEO's analysis is based entirely on the most current data available on conventional, 30-year, fixed-rate loans secured by first liens on single-unit, owner-occupied, detached properties. Detached properties are defined as single family properties excluding condominiums, planned urban developments, and cooperatives. The data includes only loans that were purchased by an Enterprise within 12 months after loan origination and loans for which the Enterprise has no recourse to the lender.

[b] OFHEO organizes the data from each Enterprise to create two substantially consistent data sets. OFHEO separately analyzes default and severity data from each Enterprise. Default rates are calculated from loan records meeting the criteria specified above. Severity rates are calculated from the subset of defaulted loans for which loss data are available.

### 1.3 Procedures

1.3.1 Cumulative 10-year default rates for each combination of states and origination years (state/year combination) that OFHEO examines are calculated for each Enterprise by grouping all of the Enterprise's loans originated in that combination of states and years. For origination years with less than 10 years of loss experience, cumulative-to-date default rates are used. The two Enterprise default rates are averaged, yielding an "average default rate" for that state/year combination.

1.3.2 An "average severity rate" for each state/year combination is determined in the same manner as the average default rate. For each Enterprise, the aggregate severity rate is calculated for all loans in the relevant state/year combination and the two Enterprise severity rates are averaged.

1.3.3 The "loss rate" for any state/year combination examined is calculated by

multiplying the average default rate for that state/year combination by the average severity rate for that combination.

1.3.4 The default and severity behavior of loans in the state/year combination containing at least 2 consecutive origination years and contiguous areas with a total population equal to or greater than 5 percent of the population of the United States with the highest loss rate constitutes the benchmark loss experience.

## 2.0 Identification of a New Benchmark Loss Experience

OFHEO will periodically monitor available data and reevaluate the benchmark loss experience using the methodology set forth in this Appendix. Using this methodology, OFHEO may identify a new benchmark loss experience that has a higher rate of loss than the benchmark experience identified at the time of the issuance of this regulation. In the event such a benchmark is identified, OFHEO may incorporate the resulting higher loss rates in the stress test.

## 3.0 Computation of Risk-Based Capital Level

### 3.1 Enterprise Data

#### 3.1.1 Overview

[a] The stress test requires data on all of an Enterprise's assets, liabilities, stockholders equity, and off-balance sheet obligations, as well as the factors that affect them: interest rates, house prices, rent growth rates, and vacancy rates. This section characterizes proprietary data of the Enterprises (as opposed to publicly available data) that are necessary for the stress test, which are primarily data on Enterprise portfolios of financial instruments and guarantees as of the start of the stress test. Data available from public sources that are also necessary for the stress test—e.g., historical interest rates, house price growth rates, and public securities data<sup>1</sup>—are described in the sections of this Appendix that describe the related components of the stress test (e.g., the Interest Rate component). The stress test uses proprietary and public data directly, and also uses values derived from such data. The derivation of these additional values are also explained in sections of this Appendix. All data as of the start of the stress test, proprietary data of the Enterprises and public data, are "starting position data."

[b] Starting position data include, for all the loans owned or guaranteed by an Enterprise, as well as securities and derivative contracts, the dollar balances of these instruments and obligations, as well as all characteristics that bear on their behavior under stress test conditions. Data are required for the following categories of instruments and obligations:

- Mortgages owned by or underlying mortgage-backed securities issued by the Enterprises ("whole loans")
- Mortgage-related securities

<sup>1</sup>Data elements listed below for non-mortgage financial instruments are available from public sources for publicly traded securities, but are proprietary for privately placed instruments, in particular, derivative contracts.

• Non-mortgage-related securities, whether issued by an Enterprise, e.g., debt, or held as investments

- Derivative contracts
- Other off-balance sheet guarantees (e.g., guarantees of private-issue securities)

[c] The stress test also requires starting position data for “non-cash” balance sheet items, such as premiums and discounts, that affect pro forma financial statements through the ten-year stress period.

#### 3.1.2 Whole Loans

[a] Whole loans are individual single family or multifamily mortgage loans. The stress test distinguishes between whole loans that the Enterprises hold in their investment

portfolios (retained loans) and those that underlie mortgage-backed securities (sold loans). Data are aggregated for loans with similar portfolio (retained or sold), risk, and product characteristics. The characteristics of these “loan groups” determine mortgage default, prepayment, and loss severity rates, and cash flows.

[b] The characteristics that are the basis for loan groupings are called “classification variables” and reflect categories, e.g., fixed interest rate versus floating interest rate, or identify a value range, e.g., original loan-to-value ratio greater than 80 percent and less than or equal to 90 percent. After the loans are grouped, weighted average values for

characteristics of the loan group are calculated, e.g., weighted average loan coupon (WAC) and weighted average remaining maturity (WAM). Loan group characteristics are used as inputs in section 3.5, Mortgage Performance, of this Appendix to determine mortgage performance (default, prepayment, and loss severity) and mortgage cash flows.

##### 3.1.2.1 Characteristics Used to Create Loan Groups

[a] Loan groups are formed based on the values, as of the start of the stress test, of the relevant loan classification variables shown in Table 3-1.



**Table 3-1. Classification Variables Determining Loan Groups**

| <b>Classification Variable</b>                  | <b>Description</b>   | <b>Values</b>   |
|---|--|---|
| Business Type                                   | Whether the loan finances a single family or multifamily property  | Single Family<br>Multifamily  |
| Portfolio                                       | Whether the loan is in the retained or the sold portfolio  | Retained Portfolio<br>Sold Portfolio  |
| Program Type <sup>1</sup><br>(multifamily only) | Whether the loan is purchased individually (cash) or as part of a pool (negotiated), whether seller is responsible for any losses (recourse), and whether seller repurchases 90-day delinquent loans from securitized pools  | Cash with recourse<br>Cash without recourse<br>Negotiated with repurchase<br>Negotiated without repurchase<br>FHA-insured   |
| Product Type                                    | <p>Defines loan terms</p> <p>FHA = loans insured by the Federal Housing Administration</p> <p>VA = loans guaranteed by the Veterans Administration</p> <p>“COFI” = Federal Home Loan Bank 11th District Cost of Funds Index</p> <p>“TPM” = Tiered Payment Mortgage</p> <p>“GPM” = Graduated Payment Mortgage</p> | <p>Single Family</p> <p>FHA/VA Long Term</p> <p>FHA/VA Intermediate Term</p> <p>30-YR Fixed-Rate</p> <p>20-YR Fixed-Rate</p> <p>15-YR Fixed-Rate</p> <p>Fixed Other Intermediate</p> <p>Adjustable Rate, Treas &lt;= 1 YR</p> <p>Adjustable Rate 1-3 YR</p> <p>Adjustable Rate &gt; 3 YR</p> <p>Adjustable Rate COFI 1 MO</p> <p>Adjustable Rate COFI 2-6 MO</p> <p>Adjustable Rate COFI &gt; 6 MO</p> <p>Adjustable Rate Other</p> <p>Bi-Weekly 30 YR</p> <p>Bi-Weekly 20 YR</p> <p>Bi-Weekly 15 YR</p> <p>Balloons 5 YR</p> <p>Balloons 7 YR</p> <p>Balloons Other</p> <p>Second Lien Long</p> <p>Second Intermediate</p> <p>Steps/TPM/GPM Long</p> <p>Steps/TPM/GPM Intermediate</p> <p>Multifamily:</p> <p>FHA-insured</p> <p>30-YR Fixed-Rate</p> <p>20-YR Fixed-Rate</p> <p>15-YR Fixed-Rate</p> <p>Adjustable Rate</p> <p>Balloons 5 Year</p> <p>Balloons 7 Year</p> <p>Balloons 10 Year</p> <p>Balloons 15 year</p> <p>Balloons, Adjustable Rate, 15 Year</p> <p>All Other Products</p> |

**Table 3-1. Classification Variables Determining Loan Groups (Continued)**

| <b>Classification Variable</b>                                | <b>Description</b>   | <b>Values</b>   |
|---|--|---|
| Origination Year  | The year the loan was originated.  |   |
| Delivery Month (for loans purchased during the stress period) | The month during the stress test when an Enterprise purchases loans fulfilling commitments   | Stress period months 1-6  |
| Original Loan-to-Value Ratio (LTV) Class                      | Ratio of the original loan amount to the original property value (for multifamily negotiated program loans, this is the LTV at the time of loan acquisition) | 0<LTV<=60<br>60<LTV<=70<br>70<LTV<=75<br>75<LTV<=80<br>80<LTV<=90<br>90<LTV<=95<br>95<LTV<=100<br>100<LTV   |
| Original Coupon Class   | Original loan rate   | 0.0<=RATE<1.0<br>1.0<=RATE<2.0<br>2.0<=RATE<3.0<br>3.0<=RATE<4.0<br>4.0<=RATE<5.0<br>5.0<=RATE<6.0<br>6.0<=RATE<7.0<br>7.0<=RATE<8.0<br>8.0<=RATE<9.0<br>9.0<=RATE<10.0<br>10.0<=RATE<11.0<br>11.0<=RATE<12.0<br>12.0<=RATE<13.0<br>13.0<=RATE<14.0<br>14.0<=RATE<15.0<br>15.0<=RATE<16.0<br>16.0<=RATE<17.0<br>17.0<=RATE<18.0<br>18.0<=RATE<19.0<br>19.0<=RATE<20.0<br>20.0<=RATE<21.0<br>21.0<=RATE<22.0<br>22.0<=RATE<23.0<br>23.0<=RATE<24.0<br>24.0<=RATE |

Table 3-1. Classification Variables Determining Loan Groups (Continued)

| Classification Variable                            | Description  | Values  |
|--|--|---|
| Starting Coupon Class                              | The loan rate at the start of the stress test (original loan rate for loans fulfilling commitments)  | 0.0<=RATE<1.0<br>1.0<=RATE<2.0<br>2.0<=RATE<3.0<br>3.0<=RATE<4.0<br>4.0<=RATE<5.0<br>5.0<=RATE<6.0<br>6.0<=RATE<7.0<br>7.0<=RATE<8.0<br>8.0<=RATE<9.0<br>9.0<=RATE<10.0<br>10.0<=RATE<11.0<br>11.0<=RATE<12.0<br>12.0<=RATE<13.0<br>13.0<=RATE<14.0<br>14.0<=RATE<15.0<br>15.0<=RATE<16.0<br>16.0<=RATE<17.0<br>17.0<=RATE<18.0<br>18.0<=RATE<19.0<br>19.0<=RATE<20.0<br>20.0<=RATE<21.0<br>21.0<=RATE<22.0<br>22.0<=RATE<23.0<br>23.0<=RATE<24.0<br>24.0<=RATE |
| Debt Coverage Ratio (DCR) Class (multifamily only) | The ratio of property net income to debt service as of the date of loan acquisition for negotiated program loans; as of the date of loan origination for all cash program loans                  | 1.00 to 1.09<br>1.10 to 1.19<br>1.20 to 1.29<br>1.30 to 1.39<br>1.40 to 1.49<br>1.50 to 1.59<br>1.60 to 1.69<br>1.70 to 1.79<br>1.80 to 1.89<br>1.90 to 1.99<br>2.00 to 2.49<br>2.50 to 3.99  |
| Metropolitan Statistical Area (multifamily only)   | The 4-digit Metropolitan Statistical Area (MSA) or Consolidated Metropolitan Statistical Area (CMSA) code as defined by the Office of Management and Budget; used to calculate Rental Rate Index | All MSA and CMSA codes outside of MSA   |

**Table 3-1. Classification Variables Determining Loan Groups (Continued)**

| Classification Variable   | Description  | Values  |
|---------------------------|--|---|
| Census Region or Division | The Census division (single family) or Region (multifamily) in which the property is located   | Divisions (Single Family)<br>East North Central<br>East South Central<br>Middle Atlantic<br>Mountain<br>New England<br>Pacific<br>South Atlantic<br>West North Central<br>West South Central<br><br>Regions (Multifamily)<br>North Central<br>North East<br>South<br>West |
| Remittance Cycle          | The remittance cycle that applies to a loan and governs when payments are remitted by the servicer to the Enterprise and by the Enterprise to the investor<br>Values reflect average number of days an Enterprise holds scheduled principal and interest payments ( <a href="#">see Cash Flows: Whole Loans</a> for further details) | 7 days<br>-3 days<br>57 days  |

<sup>1</sup> The values shown reflect aggregation of similar Enterprise programs. Individual Enterprise programs (subgroups of the values shown) are distinguished in the creation of loan groups; they are not listed here because most of them are Enterprise-specific.

[b] All loans with the same values for each of the relevant characteristics included in Table 3-1 above comprise a single loan group; for example, one loan group would include all loans with the following characteristics:

- Single family
- Sold portfolio
- 30-year fixed-rate conventional
- Originated in 1997
- LTV greater than 75 percent and less than or equal to 80 percent

- Original coupon greater than or equal to six percent and less than seven percent
- Starting coupon (coupon at the start of the stress period) greater than or equal to six percent and less than seven percent
- Secured by property located in the East North Central Census division
- Subject to a remittance cycle where scheduled principal and interest payments are held for an average of seven days

#### 3.1.2.2 Loan Group Characteristics

In addition to the classification variables used for grouping loans, the stress test requires values for characteristics calculated for the loans within each group. All values are as of the start of the stress test. Except as indicated in the "Description" column, values are averages for the loans comprising a loan group, weighted by their unpaid principal balances (UPB).

**Table 3-2. Loan Group Characteristics**

| <b>Loan Group Characteristic</b>  | <b>Description</b>   |
|---|--|
| Original Coupon   | Mortgage coupon at loan origination  |
| Starting Coupon   | Mortgage coupon at loan origination for loans fulfilling commitments   |
| Margin (ARMs only)  | Amount added to an ARM interest rate index value to establish the fully adjusted rate  |
| Servicing Fee   | The amount paid to a seller/servicer for servicing a loan, calculated as a percentage of the principal balance, expressed in basis points                      |
| Net Yield   | The interest rate passed to an Enterprise by the lender (mortgage coupon less servicing fee)   |
| Guarantee Fee (sold loans only)   | Interest rate spread (in basis points) retained by Enterprise as payment for guarantee of mortgage-backed security (included in Net Yield)                     |
| Passthrough Rate (Sold loans only)  | Mortgage coupon less servicing fee and guarantee fee; the rate of interest passed through to mortgage-backed security investors                                |
| Starting UPB  | The aggregate unpaid principal balance of a loan group   |
| Original LTV  | Ratio of the original loan amount to the original property value (for multifamily negotiated program loans, this is the LTV at the time of acquisition)        |
| Original Term   | Original term to maturity in months; e.g., 360 months for 30 year fully amortizing loan or 84 months for a seven-year balloon loan                             |
| Amortization Term   | Original term, in months, used to calculate scheduled payments for balloon loans   |
| Starting Remaining Term   | Months remaining until loan maturity date  |
| Starting Mortgage Age   | Months since loan origination  |
| Debt coverage ratio (DCR) at Acquisition or Loan Origination (multifamily only) | Ratio of property net operating income to debt service (as of loan origination for cash program loans; as of date of acquisition for negotiated program loans) |
| Credit Enhancement (C.E.) Coverage Type 1 <sup>1</sup> (single family only)     | PMI coverage rate, as a percent of the gross claim amount  |
| C.E. Coverage Type 2 <sup>1</sup>   | Loss coverage provided under unlimited recourse/repurchase agreements, as a percent of the net loss amount   |
| C.E. Coverage Type 3 <sup>1</sup>   | Loss coverage provided by all other types of credit enhancements, in dollars   |
| Percent of UPB Under Dollar-Denominated Coverage <sup>1</sup>                   | Percent of loan group starting UPB covered by dollar-denominated credit enhancements   |

**Table 3-2. Loan Group Characteristics (Continued)**

| <b>Loan Group Characteristic</b>                            | <b>Description</b>   |
|---|--|
| Percent of UPB under AAA <sup>2</sup> coverage <sup>1</sup> | Percent of loan group starting UPB covered by counterparties rated AAA |
| Percent of UPB under AA <sup>2</sup> coverage <sup>1</sup>  | Percent of loan group starting UPB covered by counterparties rated AA  |
| Percent of UPB under A <sup>2</sup> coverage <sup>1</sup>   | Percent of loan group starting UPB covered by counterparties rated A   |
| Percent of UPB under BBB <sup>2</sup> coverage <sup>1</sup> | Percent of loan group starting UPB covered by counterparties rated BBB |

<sup>1</sup> Required computations are described in [section 3.7, Mortgage Credit Enhancements](#), of this Appendix.

<sup>2</sup> Rating categories are described in [section 3.6, Other Credit Factors](#), of this Appendix.

### 3.1.2.3 Individual Loan Data

The stress test requires data for individual loans in an Enterprise's portfolio in order to determine the characteristics of loans that (for purposes of the stress test) fulfill commitments that are outstanding at the start of the stress period, and to compute loss coverage provided by credit enhancements such as private mortgage insurance. These data requirements are listed below.

#### 3.1.2.3.1 Commitments Data

[a] To establish the characteristics of loans that fulfill commitments so that they are consistent with the characteristics of loans securitized by an Enterprise that were recently originated, data are required for loans that meet the following criteria:

- Single family
- Originated within six months of the start date of the stress test
- Securitized
- One of the following product types:
  1. 30-year fixed-rate
  2. 15-year fixed-rate
  3. One-year CMT ARM
  4. Seven-year balloon

[b] For these loans, the following data are required:

- Loan balance as of the beginning of the stress period
- Original LTV
- Census division
- Guarantee fee
- Servicing fee
- Margin (for ARM loans)
- Credit enhancement data described in [section 3.1.2.3.2, Credit Enhancement Data](#), below

[c] The dollar amount of commitments outstanding at the start of the stress test is also required.

#### 3.1.2.3.2 Credit Enhancement Data

[a] To facilitate calculation of the reductions in mortgage credit losses due to credit enhancements, the following data are required for all credit-enhanced loans, if any, in a loan group:

1. Type of mortgage credit enhancement:
  - a. Private mortgage insurance
  - b. Recourse
    - Limited
    - Unlimited
  - c. Indemnification
    - Limited
    - Unlimited
  - d. Pool insurance
  - e. Spread account
  - f. Collateral posted under collateral pledge agreement
  - g. Cash account
2. Private mortgage insurance coverage percent
3. Loan balance as of the beginning of the stress period
4. Public rating of mortgage insurer
5. Public rating of pool insurer
6. Public rating of seller or servicer

[b] The following additional information is needed for each loan delivery contract involving a spread account, collateral account, cash, limited recourse or indemnification, or pool insurance account (e.g., a particular contract for the delivery of \$100 million of loans may specify the establishment of a spread account as credit enhancement):

- Coverage remaining, as of the beginning of the stress period

- Account balance(s) at the start of the stress period
- Coverage expiration date

#### 3.1.2.4 Single Family Mortgage Portfolio-Wide Information

To reflect the differential performance of single family mortgages on investor-owned and owner-occupied properties, the stress test also requires data on the percentage of first lien mortgages in the combined retained and sold portfolios financing investor-owned properties.

#### 3.1.3 Mortgage-Related Securities

[a] The Enterprises hold mortgage-related securities as assets. These securities include single class and derivative mortgage-backed securities (multi-class and strip securities) issued by Fannie Mae, Freddie Mac, and Ginnie Mae; mortgage revenue bonds issued by State and local governments and their instrumentalities; and single class and derivative mortgage-backed securities issued by private entities. Most mortgage-related securities are collateralized by single family mortgages, others by multifamily mortgages, and, for the purposes of the stress test, still others by housing-related assets such as manufactured housing loans.

[b] The stress test models the cash flows of these securities individually. Enterprise data required for this purpose are described below.

##### 3.1.3.1 Single Class MBS Issued by the Enterprises and Ginnie Mae

[a] Table 3-3 provides Enterprise data regarding each MBS held in their portfolios. This information is necessary for simulating cash flows in the stress test.

**Table 3-3. MBS Input Variables**

| Variable                   | Description   |
|----------------------------|---|
| Pool Number                | A unique six-digit number assigned by the issuing Enterprise to identify an individual MBS              |
| Original Principal Balance | The pool balance at the time of security issuance multiplied by the Enterprise's percentage ownership   |
| Starting Principal Balance | The pool balance as of the start of the stress test multiplied by the Enterprise's percentage ownership |

[b] The Enterprises and Ginnie Mae make available to the public monthly pool data that provide investors with information on principal payments, as well as extensive data characterizing individual MBS and their underlying mortgage pools. These data, which are necessary to simulate MBS cash

flows, are listed in section 3.9.2, Mortgage-Related Securities, of this Appendix.

3.1.3.2 Derivative Mortgage Securities Issued by the Enterprises and Ginnie Mae

[a] Table 3-4 provides Enterprise data regarding REMICs and Strips issued by the

Enterprises or Ginnie Mae. This information is necessary for determining associated cash flows.

**Table 3-4. Derivative Mortgage Securities Input Variables**

| Variable                              | Description  |
|---------------------------------------|--|
| Series Identification                 | Unique identifier assigned by the issuing Enterprise that identifies a mortgage derivative security transaction (e.g., FHR 1980 for a Freddie Mac REMIC)                 |
| CUSIP Number                          | Unique identification number assigned to debt securities assigned by the Committee on Uniform Security Identification Procedures   |
| Original Principal (Notional) Balance | The security principal balance at issuance multiplied by the Enterprise's percentage ownership (may be notional balance for interest-only security)                      |
| Starting Principal Balance            | The security principal balance at the start of the stress test, multiplied by the Enterprise's percentage ownership (may be notional balance for interest-only security) |

[b] The data in Table 3-4 identify individual securities that are held by the Enterprises in their portfolios, as well as the REMIC or Strip transaction associated with individual securities. Public securities disclosure information is the source of data on the collateral underlying the securities

(e.g., pool numbers of securities comprising collateral for a series of securities) and the rules governing security cash flows. (See section 3.9.2, Mortgage-Related Securities, of this Appendix.)

3.1.3.3 Mortgage Revenue Bonds and Miscellaneous Mortgage-Related Securities

[a] Table 3-5 provides Enterprise data regarding mortgage revenue bonds and private-issue, mortgage-related securities (MRS). This information is necessary for determining associated cash flows.

**Table 3-5. Mortgage Revenue Bond and Other MRS Input Variables**

| Variable                   | Description   |
|----------------------------|---|
| CUSIP Number               | Unique identification number assigned to debt securities  |
| Original Principal Balance | The principal balance at the time of purchase by the Enterprise multiplied by the Enterprise's percentage ownership |
| Starting Principal Balance | The principal balance at the start of the stress test multiplies by the Enterprise's percentage ownership           |

[b] The data in Table 3-5 are supplemented with public securities disclosure data, as described in section 3.9.2, Mortgage-Related Securities, of this Appendix.

#### 3.1.4 Non-Mortgage Financial Instruments

[a] Non-mortgage financial instruments include debt securities issued to fund assets, debt securities and preferred stock held as assets, derivatives contracts (interest rate

swaps, caps, and floors), and preferred stock issued by an Enterprise. Cash flows for non-mortgage financial instruments are simulated based on their characteristics. Although information for publicly traded securities, including most of the Enterprises' debt securities and non-mortgage investments, is available from public securities disclosure documents, information on other derivative contracts and non-publicly traded

instruments must be obtained from the Enterprises. Data categories listed here apply to both publicly traded and privately placed instruments. All data are instrument specific; the pay- and receive-sides of swap contracts are treated as separate instruments. Table 3-6 provides basic information about non-mortgage financial instruments input variables, as follows:

**Table 3-6. Non-Mortgage Financial Instruments Input Variables**

| Variable                                  | Description   |
|---|---|
| Issue Date                                | First settlement date for this instrument   |
| Face/Notional Amount                      | The face amount of a security or notional amount of a derivative contract   |
| Principal/Notional Factor                 | Factor representing proportion of original principal or notional amount that is outstanding at start of stress test                                   |
| Coupon                                    | Current interest rate   |
| Index                                     | Interest rate index to which interest payments are tied   |
| Spread                                    | The amount that is added or subtracted from an interest rate index to calculate the coupon rate for floating rate instruments                         |
| Index Multiplier                          | A constant multiplier used in variable interest rate formula  |
| Payment Frequency                         | Frequency with which payments are made  |
| Accrual Method                            | The convention used for calculating interest  |
| Maturity Date                             | The date on which the instrument matures  |
| Remaining Term                            | Number of months until an instrument matures  |
| Call (Cancellation)/Put Date              | The first date on which the instrument may be called (cancelled) or put   |
| Call/Put Strike Price                     | The price at which the call or put option may be exercised  |
| Floor Rate                                | The minimum coupon for a variable rate security   |
| Cap Rate                                  | The maximum allowable coupon rate for a variable rate security  |
| Cap/Floor Strike Price                    | Used for cap and floor instruments to indicate the interest rate at which this instrument begins paying   |
| Pay/Receipt Code                          | Code that identifies whether it is a payment or a receipt   |
| Instrument I.D.                           | Links pay and receive sides of swaps  |
| Swap Reference                            | Links mortgage-linked derivative to reference security (e.g., when changing principal balance of a specific security is also notional amount of swap) |
| Original Discount                         | Discount from par represented by purchase price of security (e.g., price of 99.0 equates to discount of 1.0)  |
| Counterparty Identification               | Uniquely identifies the counterparty to a derivative agreement  |
| Public Rating of Counterparty or Security | Credit rating of counterparty or security (if applicable), as issued by a nationally recognized statistical rating agency                             |



[b] Occasionally, instruments have complex or non-standard features, and cash flows cannot be computed using the basic data listed above. In these cases the accurate modeling of cash flows requires additional information, such as amortization schedules, interest rate coupon reset formulas, and the terms of European call options, which is obtained from the Enterprises (and is included in public securities disclosure materials for publicly offered securities).

### 3.1.5 Operations, Taxes, and Accounting

The stress test determines how much total capital an Enterprise must hold at the start of the stress test so that total capital never falls below zero during the stress period. To accomplish this objective, projected cash flows for Enterprise financial instruments must be supplemented by projected operating expenses, taxes, and capital distributions. All of these must be recorded in pro forma financial statements in order to determine an Enterprise's total capital for each month of the stress period. Thus, complete information on the Enterprise balance sheet as of the start of the stress period is required. The necessary information is listed in section 3.1.5.1, Data Required to Calculate Taxes, Operating Expenses, and Dividends, below.

#### 3.1.5.1 Data Required to Calculate Taxes, Operating Expenses, and Dividends

The following Enterprise data are necessary to calculate taxes, operating expenses, and dividends:

- Operating expenses (e.g., administrative expenses, salaries and benefits, professional services, property costs, equipment costs) for the quarter prior to the beginning of the stress test

- Earnings before income taxes and provision for income taxes for the three years prior to the beginning of the stress period

- Year-to-date income before taxes and provision for income taxes

- Dividend payout ratio for the four quarters prior to the beginning of the stress period

- Minimum capital requirement as of the beginning of the stress period

#### 3.1.5.2 Balance Sheet as of the Start of the Stress Test

The data are necessary to create Enterprise balance sheets as of the start of the stress period are described below.

1. Balances for all instruments for which the stress test calculates cash flows. These are included with data the Enterprises provide for cash flow calculations. Balances are required for:

- Whole loans
- Mortgage-related securities
- Non-mortgage investments and investment-linked derivative contracts
- Debt and related cash flows

2. Additional starting position balances:

- Amounts required to reconcile starting position balances from cash flow components of the stress test with an Enterprise's balance sheet (for example, differences between actual and estimated loan prepayments during the last few days in the month)

- Cash
- Low income housing tax credit investments

- Unamortized balances of premiums, discounts, and fees from the acquisition of retained loans and mortgage-related securities at other than par value

- Allowances for loan losses
  - Accrued interest receivable on retained loans, mortgage-backed securities, mortgage-linked derivatives, and non-mortgage investments

- Amounts receivable from Index Sinking Fund Debentures, currency swaps, fees, income taxes, and other accounts receivable

- Real estate owned (REO)

- Fixed assets

- Clearing accounts

- Unamortized premiums, discounts, and fees related to debt securities

- Unamortized balances related to the sold portfolio

- Deferred balances related to liability-linked derivatives

- Accrued interest payable

- Principal and interest payable to mortgage security investors

- Other liabilities, including payables from currency swaps, escrow deposits income taxes

- Dividends payable

- Components of stockholder's equity (i.e., common stock, preferred stock, paid-in capital, retained earnings, treasury stock, and unrealized gains and losses on available-for-sale securities)

#### 3.1.6 Other Off-Balance-Sheet Guarantees

In addition to the MBS they issue, the Enterprises guarantee other securities. The stress test does not simulate the cash flows associated with these guarantees, but it does calculate an incremental capital requirement for them. This calculation requires Enterprise information on the sum of the outstanding balances of all tax-exempt multifamily housing bonds, single-family whole-loan REMICs, multifamily whole-loan REMICs, and similar instruments or obligations as of the beginning of the stress period (excluding all guarantees of securities where 100 percent of collateral is insured by FHA or guaranteed by VA).<sup>2</sup>

### 3.2 Commitments

#### 3.2.1 Overview

The Enterprises make contractual commitments to their customers to purchase or securitize mortgages. The stress test provides for deliveries of mortgages under the commitments that exist at the start of the stress period. It also determines all of the relevant characteristics of these mortgages by reference to the characteristics of the mortgages securitized by the Enterprise that

<sup>2</sup>These include: (1) Any guarantee, pledge, purchase arrangement, or other obligation or commitment provided or entered into by an Enterprise with respect to multifamily mortgages to provide credit enhancement, liquidity, interest rate support, and other guarantees and enhancements for revenue bonds issued by a state or local government unit (including a housing finance agency) or other bond issuer; and (2) all off-balance-sheet obligations of an Enterprise that are not mortgage-backed securities or substantially equivalent instruments and that are not securitized mortgage-backed securities, such as real estate mortgage investment conduits or similar securitized instruments. See 12 CFR 1750.2.

were originated in the six months preceding the start of the stress period. Based on this information, the Commitments component of the stress test creates loan groups with coupon rates that vary based upon the interest rate scenario. These loan groups are added to the Enterprise's sold portfolio and the stress test projects their performance during the stress period. In the down-rate scenario, the stress test provides that 100 percent of the mortgages specified in the commitments are delivered. In the up-rate scenario, 75 percent are delivered. Loans are delivered over the first three months of the stress period in the down-rate scenario and the first six months in the up-rate scenario.

#### 3.2.2 Inputs

The stress test uses two sources of data to determine the characteristics of the mortgages delivered under commitments. One is information from the Enterprises on commitments outstanding at the start of the stress period and deliveries of loans originated in the six months preceding the start of the stress period (See section 3.1.2, Whole Loans, of this Appendix). The other is interest rate series generated by the Interest Rates component of the stress test (See section 3.3, Interest Rates, of this Appendix).

##### 3.2.2.1 Loan Data

[a] To determine the total dollar amount of mortgages that will be delivered under commitments during the course of the stress period, the Enterprises are required to provide the total dollar amount of all commitments outstanding to purchase or securitize mortgages at the start of the stress period. In addition, to determine the composition of mortgages delivered to fulfill commitments, the stress test identifies loans that meet all of the following criteria:

- Business type-single family
- Origination date-within six months of the start date of the stress test
- Portfolio type-securitized
- Product type-one of the following:
  1. 30-year fixed-rate
  2. 15-year fixed-rate
  3. One-year CMT ARM
  4. Seven-year balloon

[b] For the selected loans, the following loan-level information are required:

- Starting UPB
- Original LTV
- Census division
- Guarantee fee
- Margin (for ARM loans)
- Servicing fee

##### 3.2.2.2 Interest Rate Data

The stress test uses the following interest rate series, generated by the Interest Rates component, (See section 3.3, Interest Rates, of this Appendix) for the first 12 months of the stress period:

- One-year CMT rate
- Conventional 30-year fixed-rate mortgage rate
- Conventional 15-year fixed-rate mortgage rate
- Seven-year balloon mortgage rate<sup>3</sup>

<sup>3</sup>The stress test assumes that mortgage interest rates on seven-year balloon mortgages are 50 basis

3.2.3 Procedures

[a] Based on the characteristics of the mortgages securitized by the Enterprise that were originated in the six months preceding the start of the stress period and the interest rate projections in the stress period, the stress test determines all of the relevant characteristics of the loans delivered under the commitments that exist at the start of the stress test. Using this information and the classification variables—business type, portfolio type, product type, original loan-to-value ratio, and Census division, the stress test creates loan groups for commitments in the same manner as loan groups are created for other loans (specified in section 3.1.2,

Whole Loans, of this Appendix). One exception is that the stress test uses an additional classification variable—delivery month—to form subgroups within each commitment loan group. This variable is used to create origination dates, which are the same as delivery dates for these loan groups. The procedures to create commitment loan groups are as follows.

1. Establish the values for classification variables—business type, portfolio type, product type, original loan-to-value ratio, and Census division as defined in section 3.1, Enterprise Data, of this Appendix.
2. Aggregate the loan-level information for the mortgages identified above into loan groups by the classification variables.

3. Concurrently with step 2, compute total starting UPB, the UPB weighted average Original LTV, Servicing fee, Guarantee fee, and Margin (for ARM loans) for each loan group.

4. Using loan group information from step 3, calculate the percent of total balance of all commitment loan groups for each loan group as follows:

$$\% \text{ of total balance} = \frac{\text{total starting UPB for the loan group (from step 3 above)} + \text{total starting UPB for all commitment loan groups added together}}{\text{total starting UPB for the loan group (from step 3 above)} + \text{total starting UPB for all commitment loan groups added together}}$$

5. For each loan group, set the loan term and amortization period as shown in Table 3-7.

**Table 3-7. Loan Term and Amortization Period**

| Product Type     | Loan term | Amortization Period |
|------------------|-----------|---------------------|
| 30 YR Fixed-rate | 360 MO    | 360 MO              |
| 15 YR Fixed-rate | 180 MO    | 180 MO              |
| ARM              | 360 MO    | 360 MO              |
| 7 YR Balloon     | 84 MO     | 360 MO              |

6. For each loan group, set remittance cycle to the shortest available option for the Enterprise.

[b] Procedures for adding subgroup characteristics to each loan group are described below.

1. Establish values for the subgroup classification variable—delivery month using percentages from Table 3-8, and divide each loan group into subgroups, one for each delivery month. Three subgroups are created in the down-rate scenario, and six subgroups are created in the up-rate scenario.

2. The total starting UPB for the subgroup is calculated as follows: subgroup balance = total dollar amount of commitments outstanding × % of total balance of the subgroup (from step 4 above) × Percent delivered in that delivery month (from Table 3-8).

**Table 3-8. Monthly Deliveries as a Percentage of Commitments Outstanding**

| Delivery month     | Up-Rate Scenario | Down-Rate Scenario |
|--------------------|------------------|--------------------|
| 1                  | 18.75%           | 62.50%             |
| 2                  | 18.75%           | 25.00%             |
| 3                  | 12.5%            | 12.50%             |
| 4                  | 12.5%            | 0.00%              |
| 5                  | 6.25%            | 0.00%              |
| 6                  | 6.25%            | 0.00%              |
| Total <sup>1</sup> | 75%              | 100%               |

<sup>1</sup> In the down-rate scenario, 100 percent of outstanding commitments will be delivered. In the up-rate scenario, 75 percent of outstanding commitments will be delivered.

3. Set the original coupon rate and starting coupon rate (as of delivery date) for each subgroup as set forth in Table 3-9.

points less than 30-year conventional mortgage

rates in the down-rate environment, and equal to the 30-year rate in the up-rate environment.

**Table 3-9. Original and Starting Coupon Rates for Commitment Loan Groups**

| <b>Product Type</b> | <b>Original and Starting Coupon Rate (as of delivery date)</b>   |
|---------------------|--|
| 30 YR Fixed-rate    | Conventional 30-year mortgage rate   |
| 15 YR Fixed-rate    | Conventional 15-year mortgage rate   |
| ARM                 | One-year T-bill rate + weighted average margin for the loan group  |
| 7 YR Balloon        | Down-rate scenario: Conventional 30-year mortgage rate - 50 basis points; Up-rate scenario: Conventional 30-year mortgage rate |

4. Based on the original coupon rate and starting coupon rate set for the subgroup in step 3, assign the subgroup with original coupon rate class value and starting coupon rate class value as defined in section 3.1.2, Whole Loans, of this Appendix.

5. Set the origination year and month of the subgroup by adding the delivery month to the starting date of the stress period.

6. Set the age of the subgroup in the stress period to the number of months elapsed in the stress period minus the delivery month. Set the remaining term of the subgroup to the amortization term minus the age of the subgroup.

7. Set the net yield of the subgroup to the starting coupon rate minus the servicing fee.

8. Set the passthrough rate of the subgroup to the net yield minus the guarantee fee.

#### 3.2.4 Output

[a] The output of the Commitment component of the stress test is data for a set of loan subgroups that are virtually identical to loan groups created for loans on the books of business of the Enterprises at the start of the stress test, except that an additional classification variable, delivery month, is used to supplement origination year for each subgroup of commitment loans. This

additional information tells when the mortgages in that particular subgroup are delivered to the Enterprise.

[b] The data for loan subgroups created by the Commitments component of the stress test allows the stress test to project the defaults, losses, prepayments, scheduled amortization, interest payments, guarantee fee income, and float income for loans purchased under commitments for the ten-year stress period.

### 3.3 Interest Rates

#### 3.3.1 Overview

The 1992 Act specifies changes in the ten-year constant maturity Treasury yield (CMT) for the two interest rate scenarios of the stress test. It further states that yields of Treasury instruments with other maturities will change relative to the ten-year CMT in patterns that are reasonably related to historical experience. The Interest Rates component of the stress test projects these Treasury yields as well as other interest rate indexes that are needed to calculate cash flows, to simulate mortgage performance for mortgages and other financial instruments, and to calculate the risk-based capital requirement. The Interest Rates component produces values for the interest rates and

indexes for the starting date of the stress test and for each of the 120 months in the stress period. The process for determining interest rates can be divided into five steps. First, identify values for the necessary interest rates and indexes on the starting date. Second, project the ten-year CMT for each month of the stress period as specified in the 1992 Act. Third, project the one-, two-, three-, and six-month Treasury yields and the one-, two-, three-, five-, 20- and 30-year CMTs.<sup>4</sup> Fourth, project non-Treasury indexes and interest rates. Fifth, project borrowing rates for the Enterprises.

#### 3.3.2 Inputs

Projecting interest rates and indexes in the stress test requires initial values as of the start date of the stress test. Initial values for the stress test are the averages of the values for the month preceding the start of the stress period. Additional months of historical data are input to the stress test in order to project interest rates other than the ten-year CMTs during the stress period. The historical data input for non-Treasury interest rate indexes are listed in Table 3-12. Table 3-10 below contains a list and a description of the interest rates and indexes input to the stress test.

<sup>4</sup>For ease of discussion, all of the Treasury yields are referred to as CMTs.

**Table 3-10. Interest Rate and Index Inputs for the Interest Rates Component**

| <b>Interest Rate Variable</b>                | <b>Source</b>   | <b>Description</b>   |
|--|---|--|
| 1 MO Treasury Bill                           | Bank of America, San Francisco                          | One-Month Treasury bill yield, monthly average of daily rate, secondary market, bond-equivalent yield                      |
| 2 MO Treasury Bill                           | Bank of America, San Francisco                          | Two-Month Treasury bill yield, monthly average of daily rate, secondary market, bond-equivalent yield                      |
| 3 MO Treasury Bill <sup>1</sup>              | Federal Reserve H.15 Release                            | Three-month Treasury bill yield, monthly average of daily rates, secondary market, bond-equivalent yield                   |
| 6 MO Treasury Bill <sup>a</sup>              | Federal Reserve H.15 Release                            | Six-month Treasury yield, monthly average of daily rates, secondary market, bond-equivalent yield                          |
| 1 YR CMT                                     | Federal Reserve H.15 Release                            | One-year constant maturity Treasury yield, monthly average of daily rates, bond-equivalent yield                           |
| 2 YR CMT                                     | Federal Reserve H.15 Release                            | Two-year constant maturity Treasury yield, monthly average of daily rates, bond-equivalent yield                           |
| 3 YR CMT                                     | Federal Reserve H.15 Release                            | Three-year constant maturity Treasury yield, monthly average of daily rates, bond-equivalent yield                         |
| 5 YR CMT                                     | Federal Reserve H.15 Release                            | Five-year constant maturity Treasury yield, monthly average of daily rates, bond-equivalent yield                          |
| 10 YR CMT                                    | Federal Reserve H.15 Release                            | Ten-year constant maturity Treasury yield, monthly average of daily rates, bond-equivalent yield                           |
| 20 YR CMT                                    | Federal Reserve H.15 Release                            | Twenty-year constant maturity Treasury yield, monthly average of daily rates, bond-equivalent yield                        |
| 30 YR CMT                                    | Federal Reserve H.15 Release                            | Thirty-year constant maturity Treasury yield, monthly average of daily rates, bond-equivalent yield                        |
| Overnight Federal Funds                      | Dow Jones Telerate and Federal Reserve Bank of New York | Overnight effective Federal funds rate, monthly average of daily rates, bond-equivalent yield                              |
| 7-day Federal Funds                          | Reuters America   | Seven-day Federal funds rate, monthly average of daily rates, bond-equivalent yield  |
| 180-day Federal Funds                        | Reuters America   | One hundred and eighty-day Federal funds rate, monthly average of daily rates, bond-equivalent yield                       |
| Conventional Mortgage Rate                   | Federal Reserve H.15                                    | FHLMC (Freddie Mac) contract interest rates on commitments for fixed-rate first mortgages, monthly average of weekly rates |
| FHLB 11 <sup>th</sup> District Cost of Funds | Federal Home Loan Bank of San Francisco                 | 11 <sup>th</sup> District (San Francisco) weighted average cost of funds for savings and loans, monthly                    |

**Table 3-10. Interest Rate and Index Inputs for the Interest Rates Component (Continued)**

| Interest Rate Variable    | Source             | Description  |
|---------------------------|--------------------|--|
| 15 YR fixed-rate mortgage | Dow Jones Telerate | Fifteen-year, fixed-rate mortgage, commitments for delivering in 0-10 days, monthly average of daily rates   |
| 7 YR balloon mortgage     | N/A                | Seven-year balloon mortgage, equal to the conventional mortgage rate in the up case and the conventional mortgage rate less 50 bp in the down case |

<sup>1</sup> The three-month, six-month, and one-year Treasury rates are used to determine the historical relationship between the ten-year CMT and the ten other CMTs and to estimate ARIMAs, both of which are discussed later in this section; however, the referenced source is used to determine historical relationships, while the source used for ARIMA estimations is Bank of America, DRI/McGraw Hill.

### 3.3.3 Procedures

#### 3.3.3.1 Identify Starting Values

The starting values for all of the interest rates and indexes listed in Table 3-10 are their daily averages during the month preceding the start of the stress test.

#### 3.3.3.2 Project the Ten-Year CMT

The 1992 Act specifies that the stress test be based on increases or decreases in the ten-year CMT, whichever would require more capital. The ten-year CMT increases or decreases during the first year of the stress period and remains at that level for the remainder of the stress period. The 1992 Act further specifies how the increases and decreases in the ten-year CMT are determined.

##### 3.3.3.2.1 Down-Rate Scenario

[a] To determine the ten-year CMT in the down-rate scenario, the stress test first computes the average of the ten-year CMT for the nine months prior to the start of the stress test, and subtracts 600 basis points; and second, computes the average yield of the ten-year CMT for the 36 months prior to the start of the stress test, and multiplies by 60 percent.

[b] The ten-year CMT in the down-rate scenario is decreased to the lesser of these

two yields unless that yield is less than 50 percent of the average for the nine months preceding the start date. In that case, the ten-year CMT decreases 50 percent of the nine-month average described above.

[c] Once the ten-year CMT for the down-rate scenario is determined, the stress test decreases the ten-year CMT from the value as of the start of the stress period to this level in equal increments over the first twelve months of the stress period. The ten-year CMT remains at this level for the remaining nine years of the stress period.

##### 3.3.3.2.2 Up-Rate Scenario

[a] To determine the ten-year CMT in the up-rate scenario, the stress test first computes the average for the ten-year CMT the nine months prior to the start of the stress test, and adds 600 basis points; and second, computes the average for the ten-year CMT for the 36 months prior to the start of the stress test, and multiplies by 160 percent.

[b] The ten-year CMT in the up-rate case is equal to the greater of these two rates unless that yield is greater than 175 percent of the average for the nine months preceding the stress period. In that case, the ten-year CMT increases to 175 percent of the nine-month average.

[c] Once the ten-year CMT for the up-rate scenario is determined, the stress test increases the ten-year CMT from the value as of the start of the stress period to this level in equal increments over the first twelve months of the stress period. The ten-year CMT remains at this level for the remaining nine years of the stress period.

#### 3.3.3.3 Project the Ten Other CMTs

In the third step, yields for the one-, two-, three-, five-, 20- and 30-year CMTs are projected.

##### 3.3.3.3.1 Down-Rate Scenario

[a] In the down-rate scenario, the ten other CMTs are calculated by first computing the long-term averages for the ten-year CMT and each of the ten CMTs, and then computing the ratios of the ten-year CMT long-term average to the ten other CMT long-term averages. The long-term averages are calculated over the period from May, 1986, through April, 1995. These are presented in Table 3-11 below. The stress test multiplies the ten-year CMT for the last nine years of the stress test by the appropriate ratio to create the six other CMTs for the last nine years of the stress test.

**Table 3-11. Ratios of the 10-Year CMT to Ten Other CMTs**

| CMTs          | Ratio   |
|---------------|---------|
| 1 MO / 10 YR  | 0.68271 |
| 2 MO / 10 YR  | 0.71825 |
| 3 MO / 10 YR  | 0.73700 |
| 6 MO / 10 YR  | 0.76697 |
| 1 YR / 10 YR  | 0.79995 |
| 2 YR / 10 YR  | 0.86591 |
| 3 YR / 10 YR  | 0.89856 |
| 5 YR / 10 YR  | 0.94646 |
| 20 YR / 10 YR | 1.06246 |
| 30 YR / 10 YR | 1.03432 |

[b] In the first twelve months of the stress period, the ten other CMTs are computed in a manner similar to the calculation of the ten-year CMT for that period. From its value at the start of the stress test, each of the ten other CMTs is decreased in equal steps in each of the first twelve months of the stress period until it reaches the appropriate level for the nine remaining years of the stress test.

#### 3.3.3.3.2 Up-Rate Scenario

In the up-rate scenario, the six other CMTs are equal to the ten-year CMT in the last nine

years of the stress test. Each of the six other CMTs is increased in equal increments over the first twelve months of the stress test until it equals the ten-year CMT.

#### 3.3.3.4 Project Non-Treasury Interest Rates

[a] Table 3-12 presents the equations for projecting the non-Treasury interest rates for each month of the stress test. These equations were developed using the percentage spread between the non-Treasury interest rate and the CMT with the same or similar maturity over a historical period<sup>5</sup> and an ARIMA

procedure (Autoregressive Integrated Moving Average).<sup>6</sup> The stress test applies these equations to forecast the spreads between each non-Treasury interest rate and the CMT from which it is estimated for the 120 months of the stress period. Finally, the stress test converts the projected values for the proportional spreads into rate and index levels. As used here, the percentage spread for the three-month LIBOR rate, for example, is:

$$\frac{(\text{3-month LIBOR rate} - \text{3-month Treasury Yield})}{\text{3-month Treasury Yield}}$$

[b] In Table 3-12, equations are grouped according to the Treasury maturity against which the spread was calculated. For

example, the first group's spread was computed against the one-month Treasury yield. Where the dependent variable was

estimated as a first difference, this is indicated in the Description column. "T" represents the spread variable.

<sup>5</sup> Various historical data series have missing values.

<sup>6</sup> SAS ETS Users Guide, SAS Institute, 1993.

**Table 3-12. Non-Treasury Interest Rate Indexes: ARIMA Forecasting Models (Continued)**

| Variable Name                                 | Description                            | Historical Period for Spread Estimation | Equation  |
|---|--|---|---|
| <b>Percentage Spread Based on 2-year CMT</b>  |  |   |   |
| FA024   | 24-month Federal Agency Cost of Funds  | Jun 1979-Jun 1997                       | $0.66928 \times T\_FA024_{t-1} + 0.22178 \times T\_FA024_{t-6} - 0.08219 \times T\_FA024_{t-18} + 0.21423 \times \text{ERROR}_{t-5} - 0.12729 \times \text{ERROR}_{t-11}$ |
| <b>Percentage Spread Based on 3-year CMT</b>  |  |   |   |
| FA036   | 36-month Federal Agency Cost of Funds  | Jun 1979-Jun 1997                       | $0.86153 \times T\_FA036_{t-1}$   |
| <b>Percentage Spread Based on 5-year CMT</b>  |  |   |   |
| FA060   | 60-month Federal Agency Cost of Funds  | Jun 1979-Jun 1997                       | $0.88777 \times T\_FA060_{t-2}$   |
| <b>Percentage Spread Based on 10-year CMT</b> |  |   |   |
| CONVR   | Conventional Mortgage Rate             | Jun 1979-Jun 1997                       | $0.20924 + 1.04067 \times T\_CONVR_{t-1} - 0.47582 \times T\_CONVR_{t-2} + 0.27044 \times T\_CONVR_{t-3}$   |
| FA120   | 120-month Federal Agency Cost of Funds | Jun 1979-Jun 1997                       | $0.70427 \times T\_FA120_{t-1} + 0.27343 \times T\_FA120_{t-2}$   |
| FRM15Y  | 15-year, fixed-rate mortgage           | May 1985-Jun 1997                       | $0.09307 + 1.021800 \times T\_FRM15Y_{t-1} - 0.25518 \times T\_FRM15Y_{t-2}$  |
| <b>Percentage Spread Based on 30-year CMT</b> |  |   |   |
| FA360   | 360-month Federal Agency Cost of Funds | Jun 1979-Jun 1997                       | $0.03528 + 0.92765 \times T\_FA360_{t-1}$   |

Table 3-12. Non-Treasury Interest Rate Indexes: ARIMA Forecasting Models

| Variable Name  | Description   | Historical Period for Spread Estimation | Equation   |
|--|---|---|--|
| <b>Percentage Spread Based on 1-month Treasury Yield</b> |   |   |  |
| <i>ONFFD</i>   | Overnight Fed Funds                                     | Jan 1973 - Jun 1997                     | $.11729 + .72093xT_{ONFFD,t-1} + .13259xT_{ONFFD,t-5}$   |
| <i>FFD07</i>   | 7-day Fed Funds (first difference)                      | Apr 1984 - Jun 1997                     | $.37803xERROR_{t-1} + .15897xERROR_{t-2} + .16638xERROR_{t-4}$   |
| <i>LBR01</i>   | 1-month LIBOR - Mid-Market Yield (first difference)     | Jun 1973-Jun 1997                       | $.35113xERROR_{t-1} + .02264xERROR_{t-2} + .20959xERROR_{t-3}$   |
| <b>Percentage Spread Based on 3-month Treasury Yield</b> |   |   |  |
| <i>LBR03</i>   | 3-month LIBOR - Mid-Market Yield (first difference)     | Jun 1973-Jun 1997                       | $0.13277xERROR_{t-1} + 0.13495xERROR_{t-3} + 0.39554xERROR_{t-4}$  |
| <i>FA003</i>   | 3-month Federal Agency Cost of Funds (first difference) | Jun 1979-Jun 1997                       | $0.45841xT_{FA003,t-1} + 0.91842xERROR_{t-1}$  |
| <i>PRIME</i>   | Prime Rate  | Dec 1969-Jun 1997                       | $0.14323 + 1.12090xT_{PRIME,t-1} - 0.35995xT_{PRIME,t-2} + 0.22184xT_{PRIME,t-3}$                                    |
| <b>Percentage Spread Based on 6-month Treasury Yield</b> |   |   |  |
| <i>LBR06</i>   | 6-month LIBOR - Mid-Market Yield (first difference)     | Jun 1973-Jun 1997                       | $-0.31747xT_{LBR06,t-4} - 0.11106xT_{LBR06,t-6} + 0.12368xT_{LBR06,t-7} - 24605xT_{LBR06,t-8} + 0.07568xERROR_{t-1}$ |
| <i>FA006</i>   | 6-month Federal Agency Cost of Funds                    | Jun 1979-Jun 1997                       | $0.02397 + 0.74541xT_{FA006,t-1}$  |
| <i>FF180</i>   | 180-day Fed Funds                                       | Dec 1979-Jun 1997                       | $0.96842 \times T_{FF180,t-1}$   |
| <b>Percentage Spread Based on 1-year CMT</b>             |   |   |  |
| <i>COF11</i>   | FHLB 11th District Cost of Funds                        | Jul 1981-Jun 1997                       | $1.25858xT_{COF11,t-1} - 0.31799xT_{COF11,t-2}$  |
| <i>LBR12</i>   | 12-month LIBOR - Mid-Market Yield (first difference)    | Jun 1973-Jun 1997                       | $0.14073xERROR_{t-1} + 0.12690xERROR_{t-2} + 0.10781xERROR_{t-3} + 0.22280xERROR_{t-4}$                              |
| <i>FA012</i>   | 12-month Federal Agency Cost of Funds                   | Jun 1979-Jun 1997                       | $0.01806 + 0.59137xT_{FA012,t-1}$  |

### 3.3.3.5 Project Borrowing Rates

The stress test adds a 50 basis point credit spread to the federal agency cost of funds index to project Enterprise borrowing costs for the last nine years of the stress period.

### 3.3.4 Output

The output from the interest rate calculations are 120 monthly interest rate and index values for the projected eleven points on the Treasury yield curve (one-month, two-month, three-month, six-month, one-year, two-year, three-year, five-year, ten-year, 20-year and 30-year) and the 20 non-Treasury yields.

## 3.4 Property Valuation

### 3.4.1 Overview

[a] The Property Valuation component provides the monthly single family house price growth rates, rent growth rates, and rental unit vacancy rates that contribute to the determination of property values in the calculation of mortgage performance. The rates are those associated with the benchmark loss experience, the ten-year

experience of loans originated in Arkansas, Louisiana, Mississippi, and Oklahoma during 1983 and 1984. The benchmark loss experience spans twelve years from the beginning of 1983, when the first benchmark loans were originated, through the end of 1994, ten years after the last benchmark loans were originated. The rates used in the stress test are those for the middle ten years of this period, 1984 through 1993.

[b] Single family house price growth rates are taken from the HPI series for the West South Central Census Division, which includes all of the benchmark states except Mississippi. House price growth rates are used to project single family mortgage performance. Rent growth rates and vacancy rates are taken from information for the major metropolitan areas in the four benchmark States, published by the Institute for Real Estate Management, and State level vacancy rates published by the Bureau of the Census. These rates are used to project multifamily mortgage performance.

[c] As required by the 1992 Act, in the up-rate scenario, house price rates and rent

growth rates may require adjustment for inflation. If the ten-year CMT rises more than 50 percent from the average yield during the nine months preceding the stress period, rates are adjusted upward to take into account the effect of inflation.

[d] This section includes a description of the required inputs and procedures for inflation adjustments, and concludes with outputs. These outputs include tables of benchmark house price and rent growth rates unadjusted for inflation and rental vacancy rates. These rates will not change unless the benchmark loss experience changes.

### 3.4.2 Inputs

The inputs required for adjusting house price and rent growth rates are:

- The average yield of the ten-year CMT for the nine months preceding the stress period, as computed in section 3.3, Interest Rates, of this Appendix)
- The highest 10-year CMT during the stress period, as computed in section 3.3, Interest Rates, of this Appendix



• Unadjusted house price and rent growth rates during the stress period, as shown in Tables 3-13 and 3-14 below

#### 3.4.3 Procedures

Inflation adjustments are applied over the final five years of the up-rate scenario stress test. The procedures are described below.

1. Determine whether an adjustment is necessary. Multiply the average 10-year CMT for the nine months preceding the stress period by 1.50, and subtract the product from the highest value of the 10-year CMT during the stress period. The difference is  $YD$ . If  $YD > 0$ , follow steps 2-4 to apply an inflation

adjustment. Otherwise, use the rates provided in the Tables 3-13 and 3-14.

2. Compute the adjustment. Use the following formula to compute the cumulative adjustment as if  $YD$  were to apply over 9 years and 2 months:<sup>7</sup>

$$IN = (1 + YD)^{55/6}$$

where:

$IN$  = cumulative inflation adjustment

3. Calculate the monthly inflation adjustment factors to apply to house price and rent rate growth rates. The cumulative adjustment is applied over the last five years of the stress period, and monthly adjustment factors are computed as follows:

a. For house-price growth rates, the monthly adjustment factor is:<sup>8</sup>

$$IH_t = \frac{\ln(IN)}{60}, \text{ for } t = \{61, \dots, 120\}$$

where:

$IH_t$  = monthly house-price growth adjustment factor

b. For rent growth rates, the monthly adjustment factor is:<sup>9</sup>

$$IR_t = \sqrt[60]{IN} - 1, \text{ for } t = \{61, \dots, 120\}$$

where:

$IR_t$  = monthly rent growth rate adjustment factor

4. Compute final monthly growth rates. Add the monthly inflation adjustment factors  $IH_t$  and  $IR_t$  to the house and rent growth rates for months 61 through 120. The resulting series will be inflation-adjusted growth rates.

#### 3.4.4 Output

[a] Monthly house price growth rates, rent growth rates, and rental vacancy rates are

used by the Mortgage Performance components of the stress test (see section 3.5, Mortgage Performance, of this Appendix). If there are no inflation adjustments, the house price and rent growth rates in Tables 3-13 and 3-14 are used. If the inflation adjustment is necessary, then the adjusted growth rates are used.

[b] House price growth rates are inputs to the Single Family Default and Prepayment and the Single Family Loss Severity components of the stress test (See sections 3.5.2 and 3.5.3 of this Appendix). The rent growth rates and vacancy rates are inputs to the Multifamily Default and Prepayment and Multifamily Loss Severity components (See sections 3.5.4 and 3.5.5 of this Appendix).

<sup>7</sup> If the ten-year CMT increases 75 percent over the base month, a 50 percent increase will be achieved by month eight. The full increase will be

achieved by month twelve. On average, the difference  $YD$  will apply for 9 years and 2 months.

<sup>9</sup> This factor is in discrete rate form to be compatible with the

<sup>8</sup> This factor is in continuous rate form (note use of natural logarithm) to be compatible with the house p

**Table 3-13. Stress Test Single Family House Price Growth Rates (Unadjusted)**

| <b>Stress Test Months</b> | <b>Historical Months</b> | <b>Value</b>  |
|---------------------------|--------------------------|---------------|
| 1-3                       | Oct - Dec 1983           | 0.0016826850  |
| 4-6                       | Jan - Mar 1984           | 0.0003819304  |
| 7-9                       | Apr - Jun 1984           | 0.0005691805  |
| 10-12                     | Jul - Sep 1984           | -0.0026117430 |
| 13-15                     | Oct - Dec 1984           | -0.0023250310 |
| 16-18                     | Jan - Mar 1985           | 0.0013926963  |
| 19-21                     | Apr - Jun 1985           | -0.0019789320 |
| 22-24                     | Jul - Sep 1985           | -0.0064738920 |
| 25-27                     | Oct - Dec 1985           | 0.0087437819  |
| 28-30                     | Jan - Mar 1986           | 0.0076169107  |
| 31-33                     | Apr - Jun 1986           | -0.0071341580 |
| 34-36                     | Jul - Sep 1986           | -0.0061689600 |
| 37-39                     | Oct - Dec 1986           | 0.0015192552  |
| 40-42                     | Jan - Mar 1987           | -0.0131018780 |
| 43-45                     | Apr - Jun 1987           | -0.0081272530 |
| 46-48                     | Jul - Sep 1987           | -0.0089202740 |
| 49-51                     | Oct - Dec 1987           | -0.0010606320 |
| 52-54                     | Jan - Mar 1988           | 0.0039512034  |
| 55-60                     | Apr - Sep 1988           | -0.0068292010 |
| 61-63                     | Oct - Dec 1988           | 0.0020974158  |
| 64-66                     | Jan - Mar 1989           | 0.0035077580  |
| 67-69                     | Apr - Jun 1989           | 0.0059641985  |
| 70-72                     | Jul - Sep 1989           | -0.0016271130 |
| 73-75                     | Oct - Dec 1989           | -0.0000758170 |
| 76-78                     | Jan - Mar 1990           | 0.0029346442  |
| 79-81                     | Apr - Jun 1990           | 0.0011470552  |
| 82-84                     | Jul - Sep 1990           | -0.0012589880 |
| 85-87                     | Oct - Dec 1990           | 0.0033172551  |
| 88-90                     | Jan - Mar 1991           | 0.0042053432  |

**Table 3-13. Stress Test Single Family House Price Growth Rates (Unadjusted) (Continued)**

| <b>Stress Test Months</b> | <b>Historical Months</b> | <b>Value</b>  |
|---------------------------|--------------------------|---------------|
| 91-93                     | Apr - Jun 1991           | 0.0007557299  |
| 94-96                     | Jul - Sep 1991           | 0.0041740394  |
| 97-99                     | Oct - Dec 1991           | 0.0044594285  |
| 100-102                   | Jan - Mar 1992           | -0.0001728910 |
| 103-105                   | Apr - Jun 1992           | 0.0053448952  |
| 106-108                   | Jul - Sep 1992           | 0.0018970089  |
| 109-111                   | Oct - Dec 1992           | 0.0019075056  |
| 112-114                   | Jan - Mar 17993          | 0.0035380290  |
| 115-117                   | Apr - Jun 1993           | 0.0046397580  |
| 118-120                   | Jul - Sep 1993           | 0.0037558008  |

**Table 3-14. Stress Test Rent Growth Rates (Unadjusted)**

| <b>Stress Test Months</b> | <b>Historical Months</b> | <b>Value</b> |
|---------------------------|--------------------------|--------------|
| 1-12                      | Jan - Dec 1984           | 0.0035706091 |
| 13-24                     | Jan - Dec 1985           | 0.0020566625 |
| 25-36                     | Jan - Dec 1986           | 0.0051870916 |
| 37-48                     | Jan - Dec 1987           | 0.0007700712 |
| 49-60                     | Jan - Dec 1988           | 0.0010384258 |
| 61-72                     | Jan - Dec 1989           | 0.0032714078 |
| 73-84                     | Jan - Dec 1990           | 0.0029505423 |
| 85-96                     | Jan - Dec 1991           | 0.0037578051 |
| 97-108                    | Jan - Dec 1992           | 0.0035665268 |
| 109-120                   | Jan - Dec 1993           | 0.0035279667 |

**Table 3-15. Stress Test Vacancy Rates**

| <b>Stress Test Months</b> | <b>Historical Months</b> | <b>Value</b> |
|---------------------------|--------------------------|--------------|
| 1-12                      | Jan - Dec 1984           | 0.0987886700 |
| 13-24                     | Jan - Dec 1985           | 0.1095145375 |
| 25-36                     | Jan - Dec 1986           | 0.1145000000 |
| 37-48                     | Jan - Dec 1987           | 0.1325000000 |
| 49-60                     | Jan - Dec 1988           | 0.1192500000 |
| 61-72                     | Jan - Dec 1989           | 0.1160000000 |
| 73-84                     | Jan - Dec 1990           | 0.1107500000 |
| 85-96                     | Jan - Dec 1991           | 0.0885000000 |
| 97-108                    | Jan - Dec 1992           | 0.0795000000 |
| 109-120                   | Jan - Dec 1993           | 0.0847500000 |

### 3.5 Mortgage Performance

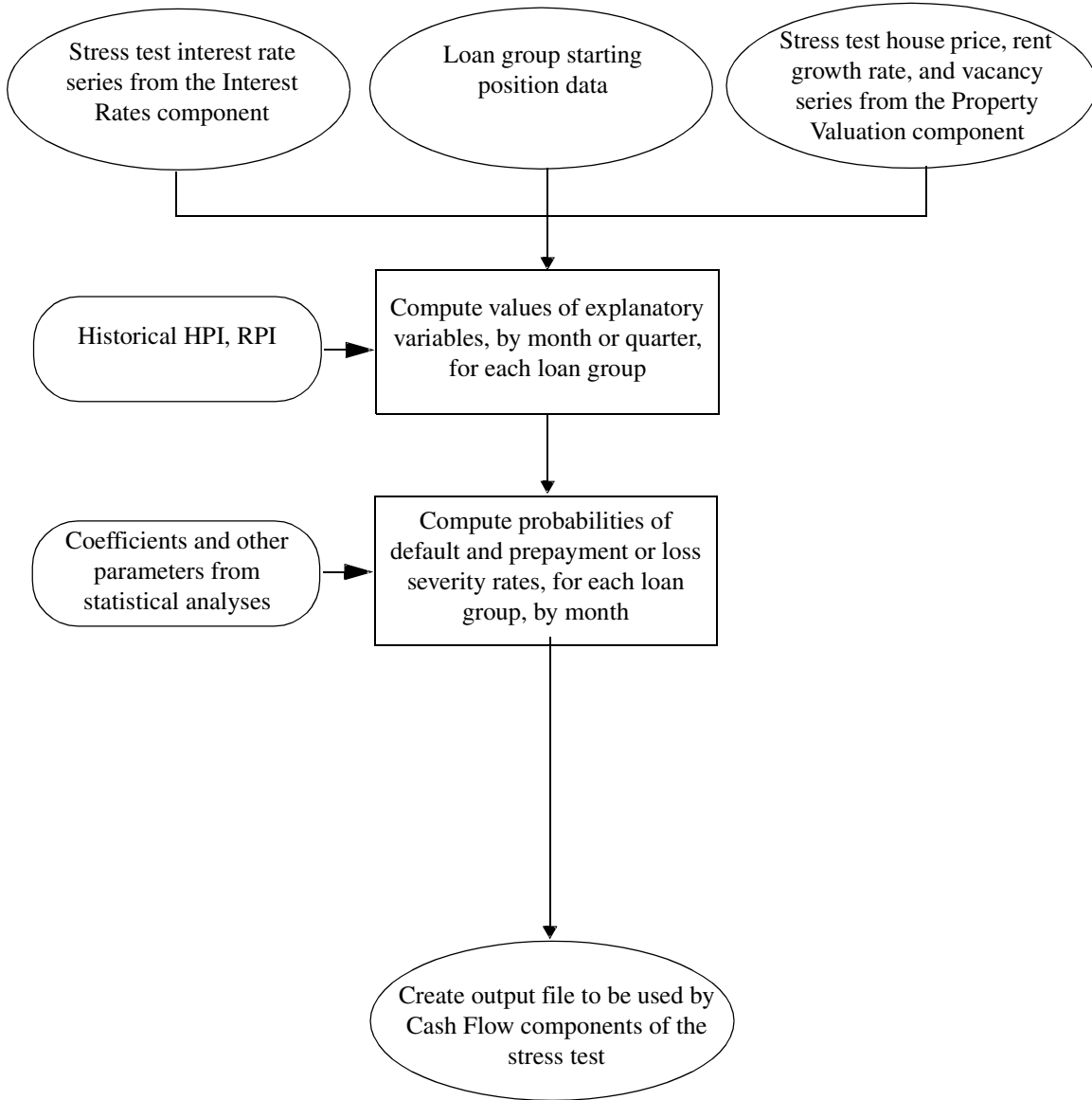
#### 3.5.1 General

[a] The four components of the stress test that simulate various elements of mortgage performance are single family default and prepayment, single family loss severity, multifamily default and prepayment, and multifamily loss severity.

[b] Figure 3-1 is a schematic overview of the basic structure of each mortgage performance component. Each mortgage performance component uses as inputs loan group starting position data, interest rate series from the Interest Rates component (see section 3.3, Interest Rates, of this Appendix), historical house-price indexes (HPI) and rental-price indexes (RPI) from government sources, and HPI and RPI growth and rental

vacancy rate series for the stress period from section 3.4, Property Valuation, of this Appendix. These inputs are used to calculate the values of explanatory variables that are then used to compute monthly default, prepayment, and loss severity rates. These monthly default, prepayment, and loss severity rates are used to compute cash flows (refer to section 3.9, Cash Flows, of this Appendix).

**Figure 3-1. Mortgage Performance Components: Basic Structure**



3.5.2 Single Family Default and Prepayment

3.5.2.1 Overview

The stress test calculates conditional default and prepayment rates for single family mortgages for each month of the ten-year stress period. A conditional rate of default or prepayment refers to the percentage of the outstanding balance in a loan group that defaults or prepays during a given period of time. Computing default and prepayment rates requires information on the risk characteristics of a loans, historical and projected rates of interest, and the historical and projected rates of property value appreciation (or depreciation). Some of this information is used directly, while other information is combined together to create

new variables for use in the default and prepayment rate calculations. In all, nine explanatory variables are used to determine default and prepayment rates for single family loans: mortgage age, mortgage age squared, original loan-to-value ratio, probability of negative equity, prepayment burnout, the percentage of investment property loans, relative interest rate spread, yield curve slope, and mortgage product-type. A statistical analysis of the relationship between the explanatory variables and historical default and prepayment rates was used to estimate the weights (also known as regression coefficients) associated with each variable. The selected weights are combined as described below to compute quarterly default and prepayment rates throughout the

stress test period. The quarterly rates are then converted to monthly conditional default and prepayment rates and used by the cash flow component (See section 3.9, Cash Flows, of this Appendix) of the stress test to calculate monthly principal reductions resulting from defaults and prepayments, and to calculate default losses for each month in the ten-year stress period.

3.5.2.2 Inputs

[a] There are three categories of data inputs for single family default and prepayment rate calculations: characteristics of loan groups, interest rates, and house price index values and volatilities.

[b] The loan group characteristics used here are listed below with their

corresponding variable names, where relevant, as they appear in subsequent formulas:

- Product type
- Origination year ( $Y_0$ )
- Origination month (required for loans delivered under commitments only)
- Census division ( $d$ )
- Origination LTV ( $LTV_0$ )
- Origination UPB ( $UPB_0$ )
- Original coupon interest rate ( $r_{c,0}$ )
- Mortgage origination term, in months ( $T_0$ )
- Mortgage amortization term, in months ( $T_a$ )
- Remaining term, in months ( $T_r$ )
- Percentage of investor loans ( $P$ ) (this refers to the percent of investor property loans in an Enterprise's entire loan portfolio)

[c] The interest rate variables are listed below, along with their reference names as they appear in subsequent formulas:

- Conventional 30-year fixed-rate mortgage coupon rates ( $r_{r,q}$ )
- One-year (Constant Maturity) Treasury yields ( $y12_q$ )
- Ten-year (Constant Maturity) Treasury yields ( $y120_q$ )

[d] All interest rate series are provided by the Interest Rate component in monthly form. They are converted to quarterly series by taking simple averages of monthly values within each calendar quarter. Each interest-rate series represents 30 years of historical values, plus 10 years of stress test values. As described below in section 3.5.2.3, Procedures, of this Appendix, loans with origination years prior to 1979 are treated as having an origination year of 1979. Therefore, no interest rate variable values before that year are used. The conventional 30-year fixed-rate mortgage rate series does not begin

until the second half of 1979, so values for the first two quarters of 1979 are equal to the third-quarter value.

[e] House price growth rates are used to adjust the value of collateral properties before and during the stress period. Before the stress test is run, mortgages are seasoned using historical Census Division HPI series from the most recent OFHEO HPI report. House price growth rates for the stress period are determined as discussed in section 3.4, Property Valuation, of this Appendix. The two house price growth rate volatility parameters published in the OFHEO HPI Report, for each Census division, are also used, as described below. The volatility parameters measure the distribution of individual house price growth paths around the measured HPI value, as a function of the age of a mortgage.

3.5.2.3 Procedures

3.5.2.3.1 Overview

Five general steps for generating default and prepayment rates for single family loans are repeated for each loan group throughout the stress period.

1. Obtain the loan group characteristics, the interest rates, and the HPI index and volatility values.
2. Using the loan characteristics and other input data, compute the values for the nine explanatory variables, by loan group, for each quarter of the stress period.
3. Match the time series of explanatory variables for each loan group to associated regression weights (coefficients) for use in calculating default and prepayment rate series. Some of the variables are multiplied by the weights and then used in the default and prepayment rate calculations. These are

called "continuous" variables, and they include age (and age squared), investor-property percent. Other variables are categorical and do not get multiplied by the weights. Rather, for these explanatory variables, one of several available weights is assigned based on the value-range or category of the explanatory variable value in each quarter. For categorical variables, the underlying values can change from quarter to quarter, and the weights used will also change, as the variable value moves from one category to another.

4. Sum the results of Step 3—a combined set of weighted continuous variables and categorical variable weights for each quarter—to produce factors that go into default and prepayment rate calculations. The rate calculations use logistic probability formulas. Table 3–17 provides all weights needed to compute the default and prepayment rates for each product type. There is one set of beta ( $\beta$ ) and gamma ( $\gamma$ ) weights for 30-year fixed-rate mortgages, one set for adjustable rate mortgages, and one set for all other product types.

5. Convert the quarter default and prepayment rates into monthly equivalent rates so that the stress test has monthly series for cash flow projections.

3.5.2.3.2 Explanatory Variables Calculations

The following sections describe how each explanatory variable is calculated and how the weights are combined to compute default and prepayment rates for a group of single family loans of similar risk characteristics.

3.5.2.3.2.1 Mortgage Age ( $A_q$ )

[a] The mortgage age in each quarter of the stress period is computed as:

$$A_q = \begin{cases} \text{int}((T_0 - T_r)/3) + q, & \text{when } Y_0 \geq 1979 \\ (Y_s - 1979) \cdot 4 + q_s + q, & \text{when } Y_0 < 1979 \end{cases}$$

where:

- $A_q$  = mortgage age in quarters, in each stress period quarter,  $q$ , where  $q = \{1, \dots, 40\}$
- $\text{int}(\cdot)$  = function which returns the integer value (whole number) portion of the expression in brackets
- $T_0$  = mortgage origination term in months
- $T_r$  = remaining term of mortgage in months, at the start of the stress period
- $Y_0$  = calendar year of loan origination
- $Y_s$  = calendar year of the start of the stress test
- $q_s$  = number of the calendar quarter immediately preceding the stress test,  $q_s = \{1, \dots, 4\}$ . if calendar quarter number is 4 (i.e., stress test begins in the first quarter of a calendar year) then reset  $q_s = 0$

[b] Loans with origination years prior to 1979 are treated as if they were originated in 1979. The age value and the squared value of age are used directly in the default and

prepayment formula, along with their weights (coefficients).

3.5.2.3.2.2 Origination LTV ( $LTV_0$ )

The value of the original LTV for each loan group does not change throughout the stress test. Once it is matched to an  $LTV_0$  category in Table 3–17, the associated default and

prepayment weights are used throughout the stress test.<sup>10</sup>

#### 3.5.2.3.2.3 Probability of Negative Equity ( $PNEQ_q$ )

[a] The probability of negative equity variable requires creating a time series of property values and amortizing loans to create updated LTV ratios throughout the stress period. The updated LTV ratios are

used along with the standard deviations of house price growth paths to compute probabilities of negative equity. The probability of negative equity measures the percent of loans underlying a loan group that are likely to have negative equity positions, in each quarter of the stress period. The step-by-step process for computing the variable  $PNEQ_q$  follows. See Figure 3-2 for an overview of the derivation process.

1. Create a time series of property values that extends from loan origination through the stress period as described below.

a. Extend the historical HPI series for each of the nine Census divisions through the stress period by adding the growth rate factors ( $g_i$ ) that are described in section 3.4, Property Valuation, of this Appendix:

$$HPI_{d,q} = HPI_d \cdot \exp\left(\sum_{i=1}^{3 \cdot q} g_i\right)$$

where:

$HPI_{d,q}$  = HPI value for Census Division,  $d$ , in quarter,  $q$ , of the stress period,  $q = \{1, \dots, 40\}$

$HPI_d$  = HPI value for Census Division,  $d$ , at the start of the stress period

$g_i$  = monthly HPI growth rate factor for month  $i$  in the stress period,  $i = \{1, \dots, 120\}$ . These growth rates associated with the benchmark loss experience, they are *not* specific to Census Divisions.

b. Create an index for average house value in each quarter of the stress period ( $V_q$ ) using HPI values from the loan origination quarter and from each quarter of the stress period, by Census division:

$$V_q = (HPI_{d,q} / HPI_{d,O})$$

where:

$HPI_{d,O}$  = HPI value for Census division,  $d$ , in the loan origination quarter,  $O$

$O$  = calendar year and quarter of mortgage origination, found by subtracting mortgage age (in quarters) at the start of the stress test ( $A_1$ ) from the calendar quarter in which the stress period starts. If, for example, a mortgage is 33 quarters old in the first quarter of the stress test, and the stress test starts in 2001:2, then  $O = 1993:1$ .

The published HPI series begins in the first quarter of 1980. Values for the four quarters of 1979 are produced by OFHEO, but are not

published. Table 3-16 provides these values, which are assigned to  $HPI_{d,O}$  for loans originating in 1979. Loans with origination

years prior to 1979 are treated as if they were originated in 1979.

<sup>10</sup> Note that Table 3-1 of this Appendix shows eight categories for original LTV ratio classes. The

default and prepayment component of the stress

test combines the last three categories into one category.

**Table 3-16. HPI Values in 1979, by Census Division, Consistent with Calculations used in the OFHEO HPI Report, 1996:3**

| Census Division    | $HPI_{d,1979:1}$ | $HPI_{d,1979:2}$ | $HPI_{d,1979:3}$ | $HPI_{d,1979:4}$ |
|--------------------|------------------|------------------|------------------|------------------|
| East North Central | 94.31            | 97.95            | 99.16            | 100.20           |
| East South Central | 95.93            | 96.96            | 98.86            | 96.74            |
| Mid-Atlantic       | 91.10            | 93.49            | 95.19            | 98.31            |
| Mountain           | 90.78            | 94.34            | 96.56            | 98.97            |
| New England        | 97.43            | 99.15            | 100.98           | 103.88           |
| Pacific            | 84.95            | 88.98            | 93.33            | 96.66            |
| South Atlantic     | 89.16            | 92.14            | 93.31            | 96.54            |
| West North Central | 95.42            | 98.56            | 99.70            | 99.73            |
| West South Central | 91.04            | 92.92            | 95.66            | 98.05            |

2. Amortize the average loan balance from loan origination through the stress period. This procedure does not use the current mortgage coupon rate at the start of the stress period, but rather creates a history of interest rate paths for the loan group, from

origination, as if all adjustable rate mortgages are Constant Maturity Treasury ARMs, with one-year adjustment periods.

a. Create the coupon interest rate series,  $r_{c,q}$ . For fixed-rate mortgages, set  $r_{c,q} = r_{c,0}$ , (original coupon) for every quarter. However,

for adjustable-rate mortgages, adjustments must be made over time, taking into account period and lifetime interest rate caps as follows:

First, set  $r_{c,q} = r_{c,0}$  for  $q = \{1, \dots, 4\}$ .

where:

$$r_{c,0} = \text{original coupon rate}$$

Then, for every fourth quarter of loan life, evaluate:

$$r_{c,q} \gg (y12_q + 0.0275), \text{ for } q = \{4, 8, 12, \dots, \text{int}((A_1 + 38)/4) \cdot 4\}$$

where:

- $r_{c,q}$  = current mortgage coupon rate in quarter,  $q$ , of loan life
- $y12_q$  = 12-month constant maturity Treasury yield, in quarter  $q$
- 0.0275 = index margin used to create fully-adjusted market interest rate
- $\text{int}()$  = the integer value of the term in parentheses. This multiplied by 4 represents the final quarter in the life of the loan—before the last quarter of the stress period—in which the mortgage age is an even multiple of 4.

When  $r_{c,q} < (y12_q + 0.0275)$ , then set:

$$r_{c,q+1 \dots q+4} = \min\{(y12_q + 0.0275), (r_{c,q} + 0.02), (r_{c,0} + 0.05)\}$$

When  $r_{c,q} > (y12_q + 0.0275)$ , then set:

$$r_{c,q+1 \dots q+4} = \max\{(y12_q + 0.0275), (r_{c,q} - 0.02), (r_{c,0} - 0.05)\}$$

When  $r_{c,q} = (y12_q + 0.0275)$ , then set:

$$r_{c,q+1 \dots q+4} = r_{c,q}$$

where:

- $r_{c,q+1 \dots q+4}$  = the reset mortgage coupon rate, in effect for loan-life quarters  $q+1$  through  $q+4$
- .02 = maximum coupon interest rate change at each time of adjustment
- .05 = lifetime maximum change in coupon interest rate

b. Compute the monthly mortgage payment factor ( $PMT_q$ ) for each quarter of the stress period,  $q = \{1, \dots, 40\}$  using the formula:



$$PMT_q = \frac{LTV_0 \cdot \left(\frac{r_{c,q}}{12}\right)}{1 - \left(\frac{1}{1 + r_{c,q}/12}\right)^{T_0}}$$

where:

- $r_{c,q}$  = current loan coupon rate in quarter,  $q$ , of the stress period (in decimal form). This is always equal to the original coupon rate for fixed-rate mortgages
- $T_0$  = Mortgage origination term, in months<sup>1</sup>
- $q$  = Stress period quarters. This will be used to represent time for the remainder of this Appendix

<sup>1</sup> In the case of balloon mortgages, in the calculation of mortgage amortization, the equation applies the mortgage origination term ( $T_0$ ) instead of the amortization term. This is consistent with procedures used to estimate the related equations.

In this formula,  $LTV_0$  represents the original loan balance. Using  $LTV_0$  allows the UPB time series to be calculated in index form to match  $V_q$ .  $PMT_q$  will be constant

throughout the stress test for fixed-rate loans because  $r_{c,q}$  is fixed at  $r_{c,0}$ .  
c. Calculate a remaining loan balance index for the UPB outstanding at the beginning of

each quarter of the stress period,  $UPB_q$ , based on  $PMT_q$ ,  $T_r$ , and elapsed time in the stress period,  $q$ , using the formula:

$$UPB_q = PMT_q \cdot \left(1 - \left(\frac{1}{1 + r_{c,q}/12}\right)^{(T_r - (q-1) \cdot 3)}\right) / \left(\frac{r_{c,q}}{12}\right)$$

where:

- $T_r$  = remaining mortgage term at beginning of stress period

3. Compute updated LTV ratios ( $LTV_q$ ) for each quarter of the stress period:

$$LTV_q = \frac{UPB_q}{V_q}$$

4. Compute the standard deviation of house price growth paths ( $\sigma_{d,q}$ ) around the  $HPI_{d,q}$  value. Limit the value of the age variable to avoid negative "diffusion." Negative diffusion occurs when the variance of house prices declines over time. The quadratic formula used here for the standard

deviation of individual house price index values will create negative diffusion unless age is limited. The age limit formula is found by solving the first derivative of the house price volatility variance with respect to age, for zero. This variance is the function under the root sign in the  $\sigma_{d,q}$  equation below (but

using  $A_q$  rather than  $MA_q$ ). The age limit gives the value of age for which the diffusion of house price growth is maximized. Once this age value is reached, the stress test then holds diffusion at the maximum value for the remainder of the life of the loan:

$$\sigma_{d,q} = \sqrt{\alpha_d \cdot MA_q + \beta_d \cdot (MA_q)^2}$$

where:

$\alpha_d$  = “alpha” volatility parameter for Census Division,  $d$ , (from OFHEO HPI Report, most recent quarter)

$\beta_d$  = “beta” volatility parameter for Census Division,  $d$ , (from OFHEO HPI Report, most recent quarter)

$MA_q$  =  $\min\{A_q, \text{age limit}\}$ , where  $\text{age limit} = -\alpha_d / (2 \cdot \beta_d)$

5. Calculate the probability of negative equity in each stress period quarter:

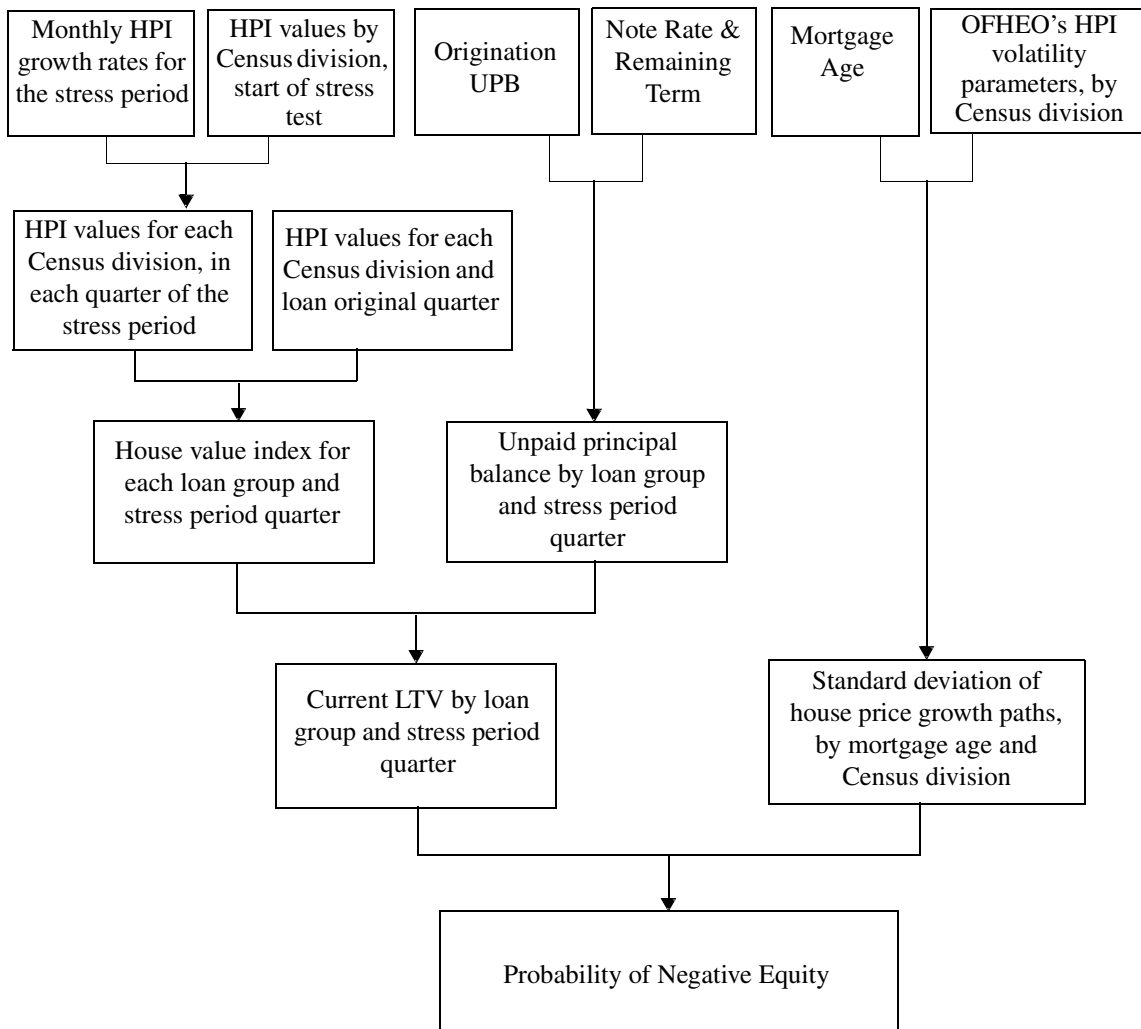
$$PNEQ_q = N\left(\frac{\ln(LTV_q)}{\sigma_{d,q}}\right)$$

where:

$N(\cdot)$  = cumulative standard normal distribution function, evaluated at the value of the term in brackets

$\ln(\cdot)$  = natural logarithm

**Figure 3-2. Derivation of Probability of Negative Equity**



3.5.2.3.2.4 Burnout ( $B_q$ )

[a] The prepayment "burnout" variable,  $B_q$ , indicates whether there have been at least two quarters of "significant refinance opportunities" among the previous eight

quarters of loan life. A mortgage undergoes a significant refinance opportunity when its coupon is at least two percentage points above the then-prevailing rate on 30-year mortgages. The rate on 30-year mortgages is always used as the benchmark for defining

refinance opportunities, regardless of the type of mortgages being analyzed. Prepayment burnout is a binary variable—two quarters of significant refinance opportunities either occur or do not occur. [b] If  $A_q \leq 8$ , then  $B_q = 0$ . If  $A_q > 8$ , then:

$$B_q = \begin{cases} 0, & \text{if } (r_{f,q-s} + 0.02) < r_{c,q} \text{ for less than 2 values of } s, s = \{1, \dots, 8\} \\ 1, & \text{if } (r_{f,q-s} + 0.02) < r_{c,q} \text{ for 2 or more values of } s, s = \{1, \dots, 8\} \end{cases}$$

where:

- $r_{f,q-s}$  = conventional mortgage rate, fixed-rate 30-year loans,  $s$  quarters prior to the present quarter,  $q$
- $r_{c,q}$  = current coupon rate of mortgage in present quarter,  $q$

3.5.2.3.2.5 Occupancy Status ( $OS$ )

The occupancy status variable is the percentage of loans in an Enterprise portfolio that are investor-owned (rental) properties rather than owner-occupied properties. It is a constant value ( $OS$ ) applied equally to all loan groups and in all stress period quarters, computed as follows:

$$OS = \frac{\sum_j UPB_{j,q=0}}{\sum_j UPB_{j,q=0} + \sum_k UPB_{k,q=0}}$$

where:

- $j$  = indicator for investor (rental property) loans (do not include second-liens in this calculation)
- $k$  = indicator for owner-occupied, first-lien property loans (do not include second-liens in this calculation)
- $q=0$  = represents the month immediately preceding the first quarter of the stress period (index for the unpaid principal balance at the start of the stress period)

3.5.2.3.2.6 Relative Spread ( $RS_q$ )

The relative spread variable ( $RS_q$  in the formula below) is the percentage spread between a loan's contract rate and the rate on 30-year fixed-rate mortgages in the current quarter of the stress test. The higher this percentage is, the more likely a loan is to prepay:

$$RS_q = \frac{r_{c,q} - r_{f,q}}{r_{c,q}}$$

3.5.2.3.2.7 Yield Curve Slope ( $YS_q$ )

The variable  $YS_q$  in the formula below represents the slope of the yield curve. It is included in the prepayment calculations to represent different relationships between short and long-term interest rates. Different yield curve slopes represent different relationships between short and long term interest rates, and these relationships impact incentives to refinance either into ARMs or into fixed-rate mortgages:

$$YS_q = \frac{y120_q}{y12_q}$$

where:

- $y120_q$  = 120-month constant maturity Treasury yield in quarter,  $q$ , of the stress period
- $y12_q$  = 12-month constant maturity Treasury yield in quarter,  $q$ , of the stress period

### 3.5.2.3.2.8 Product Type Adjustment Factors

Product types other than fixed-rate 30-year mortgages and ARMs receive unique product-specific adjustment factor weights in the stress test. These factors relate the default and prepayment risk of each product type to the fixed-rate 30-year mortgage. ARMs do not need a risk adjustment factor because they use separate default and prepayment equations. All products other than 30-year fixed-rate and adjustable-rate mortgages use the same pair of default and prepayment equations. The product types included in this combination grouping, which receive product-specific risk adjustment factors, are: 20-year fixed-rate, 15-year fixed-rate, balloon, government insured or guaranteed loans, and second mortgages. All loan products with

payment changes, such as graduated payment mortgages, two-step mortgages, and buydown mortgages, are treated as ARMs and use the ARMs default and prepayment formulas without a product adjustment factor. Biweekly and reverse mortgages are included with standard monthly mortgages of similar term and do not therefore require separate adjustments. The adjustment factor values are provided in Table 3–17.

### 3.5.2.3.2.9 Benchmark Calibration Factor

A calibration adjustment of 0.146 is added to each statistical default equation to reasonably relate current loan default rates to the historical benchmark experience. The value 0.146 is a weighting factor, not an explanatory variable.

### 3.5.2.3.3 Combining Explanatory Variables and Weights

[a] Each explanatory variable outlined above has associated numerical weights that are used in default and prepayment rate calculations. These weights, which are the estimated coefficients from statistical regressions, are referred to here as beta factors,  $\beta_j$ , for default weights, and gamma factors,  $\gamma_k$ , for prepayment weights. As mentioned above, there is also a constant weight for benchmark calibration. In addition, each statistical equation has a different regression constant. These constants appear as separate weights, not tied to any explanatory variables.

[b] The weights are combined to compute two sums:  $X\beta_q$  for defaults and  $X\gamma_q$  for prepayment as follows:

$$X\beta_q = \beta_A A_q + \beta_{A2} A2_q + \beta_{LTV0} + \beta_{PNEQq} + \beta_{Bq} B_q + \beta_p OS + \beta_T + \beta_C + \beta_0$$

and

$$X\gamma_q = \gamma_A A_q + \gamma_{A2} A2_q + \gamma_{LTV0} + \gamma_{PNEQq} + \gamma_B B_q + \gamma_p OS + \gamma_{RSq} + \gamma_{YSq} + \gamma_T + \gamma_0$$

where:

where:

- $\beta_j$  = default rate weighting factors for explanatory variables
- $j$  =  $\{A_q, A2_q, LTV_0, PNEQ_q, B_q, P\}$
- $\beta_T$  = product-type adjustment factor
- $\beta_C$  = benchmark calibration factor
- $\beta_0$  = fixed factor for equation
- $\gamma_k$  = prepayment rate weighting factors for explanatory variables
- $k$  =  $\{A_q, A2_q, LTV_0, PNEQ_q, B_q, OS, RS_q, YS_q\}$
- $\gamma_T$  = product-type adjustment factor
- $\gamma_0$  = fixed factor for equation

[c] The only explanatory variables for which both the variable and its weight are included in the formula above are age ( $A_q$ ), age squared ( $A2_q$ ), occupancy status ( $OS$ ) and burnout ( $B_q$ ). For each of these variables, the variable value is multiplied by its weight,

which can be found in Table 3–17. For other (categorical) explanatory variables, however, the weights are not accompanied by the actual values of the explanatory variables. For these variables the computed variable value is only used to identify the category to

which it belongs so that a representative weight can be selected from the weight table (Table 3–17) of this Appendix. Only the obtained weight is included in the  $X\beta_q$  and  $X\gamma_q$  formulas for these variables.

**Table 3-17. Explanatory Variable Weights<sup>1</sup> for  
Quarterly Conditional Prepayment and Default Probabilities**

| Explanatory variables and Categories                | Weighting Factors by Product Type and Variable Category |                               |                                   |                               |                                   |                               |
|---|---|-------------------------------|-----------------------------------|-------------------------------|-----------------------------------|-------------------------------|
|   | 30-Year Fixed-Rate                                      |                               | Adjustable Rate                   |                               | All Other Products                |                               |
|   | Prepayment weights ( $\gamma_j$ )                       | Default weights ( $\beta_j$ ) | Prepayment weights ( $\gamma_j$ ) | Default weights ( $\beta_j$ ) | Prepayment weights ( $\gamma_j$ ) | Default weights ( $\beta_j$ ) |
| <b>Age variables</b>                                |   |                               |                                   |                               |                                   |                               |
| $A_q$   | 0.072   | 0.118                         | 0.061                             | 0.057                         | 0.078                             | 0.139                         |
| $(A_q)^2$   | -0.002  | -0.002                        | -0.001                            | -0.002                        | -0.002                            | -0.002                        |
| <b>Original LTV</b><br>$(LTV_0)$                    |   |                               |                                   |                               |                                   |                               |
| $LTV_0 \leq 60$                                     | 0.169   | -1.465                        | 0.097                             | -1.424                        | 0.117                             | -1.491                        |
| $60 < LTV_0 \leq 70$                                | 0.069   | -0.219                        | -0.008                            | -0.348                        | 0.041                             | -0.219                        |
| $70 < LTV_0 \leq 75$                                | -0.024  | 0.426                         | -0.080                            | 0.121                         | -0.027                            | 0.374                         |
| $75 < LTV_0 \leq 80$                                | 0.013   | 0.272                         | -0.071                            | 0.191                         | -0.004                            | 0.220                         |
| $80 < LTV_0 \leq 90$                                | -0.070  | 0.399                         | 0.081                             | 0.322                         | -0.049                            | 0.412                         |
| $90 > LTV_0$  | -0.157  | 0.587                         | -0.019                            | 1.138                         | -0.078                            | 0.704                         |
| <b>Probability of negative equity</b><br>$(PNEQ_q)$ |   |                               |                                   |                               |                                   |                               |
| $.0 \leq PNEQ_q \leq 0.05$                          | 0.234   | -1.269                        | 0.603                             | -1.206                        | 0.328                             | -1.198                        |
| $.05 < PNEQ_q \leq 0.10$                            | 0.199   | -0.559                        | 0.239                             | -0.413                        | 0.174                             | -0.344                        |
| $.10 < PNEQ_q \leq 0.15$                            | 0.196   | -0.263                        | 0.060                             | -0.292                        | 0.132                             | -0.062                        |
| $.15 < PNEQ_q \leq 0.20$                            | 0.169   | -0.135                        | 0.027                             | -0.043                        | 0.074                             | -0.080                        |
| $.20 < PNEQ_q \leq 0.25$                            | 0.015   | 0.254                         | -0.005                            | 0.177                         | -0.042                            | 0.164                         |
| $.25 < PNEQ_q \leq 0.30$                            | -0.207  | 0.563                         | -0.155                            | 0.398                         | -0.125                            | 0.404                         |
| $.30 < PNEQ_q \leq 0.35$                            | -0.249  | 0.647                         | -0.242                            | 0.607                         | -0.169                            | 0.421                         |
| $.35 > PNEQ_q$                                      | -0.357  | 0.762                         | -0.527                            | 0.772                         | -0.372                            | 0.695                         |
| <b>Burnout (<math>B_q</math>)</b>                   | -0.212  | 1.238                         | -0.054                            | 0.936                         | -0.174                            | 1.132                         |
| <b>Occupancy status (<math>OS</math>)</b>           | -0.280  | 0.488                         | -0.456                            | 1.782                         | -0.284                            | 0.538                         |
| <b>Relative Spread</b><br>$(RS_q)$                  |   |                               |                                   |                               |                                   |                               |
| $RS_q \leq -0.20$                                   | -1.160  |                               | -1.473                            |                               | -1.027                            |                               |
| $-0.20 < RS_q \leq -0.10$                           | -0.822  |                               | -0.524                            |                               | -0.810                            |                               |
| $-0.10 < RS_q \leq 0$                               | -0.680  |                               | -0.328                            |                               | -0.710                            |                               |
| $0 < RS_q \leq 0.10$                                | -0.432  |                               | -0.162                            |                               | -0.343                            |                               |
| $0.10 < RS_q \leq 0.20$                             | 0.633   |                               | 0.414                             |                               | 0.628                             |                               |
| $0.20 < RS_q \leq 0.30$                             | 1.182   |                               | 1.066                             |                               | 1.098                             |                               |
| $0.30 < RS_q$                                       | 1.279   |                               | 1.007                             |                               | 1.164                             |                               |

**Table 3-17. Explanatory Variable Weights<sup>1</sup> for Quarterly Conditional Prepayment and Default Probabilities (Continued)**

| Explanatory variables and Categories                              | Weighting Factors by Product Type and Variable Category |                               |                                   |                               |                                   |                               |
|---|---|-------------------------------|-----------------------------------|-------------------------------|-----------------------------------|-------------------------------|
|   | 30-Year Fixed-Rate                                      |                               | Adjustable Rate                   |                               | All Other Products                |                               |
|   | Prepayment weights ( $\gamma_j$ )                       | Default weights ( $\beta_j$ ) | Prepayment weights ( $\gamma_j$ ) | Default weights ( $\beta_j$ ) | Prepayment weights ( $\gamma_j$ ) | Default weights ( $\beta_j$ ) |
| <b>Yield Curve Spread</b><br>( $YS_q$ )                           |   |                               |                                   |                               |                                   |                               |
| $YS_q < 1.00$   | -0.215  |                               | 0.042                             |                               | -0.214                            |                               |
| $1.00 \leq YS_q < 1.20$   | -0.228  |                               | -0.156                            |                               | -0.211                            |                               |
| $1.20 \leq S_q < 1.50$  | 0.022   |                               | -0.101                            |                               | -0.004                            |                               |
| $1.50 \leq YS_q$  | 0.421   |                               | 0.215                             |                               | 0.429                             |                               |
| <b>Product Type Adjustment factors</b><br>( $\gamma_T, \beta_T$ ) |   |                               |                                   |                               |                                   |                               |
| 20-year fixed-rate  |   |                               |                                   |                               | -0.017                            | -0.143                        |
| 15-year fixed-rate  |   |                               |                                   |                               | -0.004                            | -1.064                        |
| Balloon   |   |                               |                                   |                               | 0.564                             | 1.439                         |
| Government  |   |                               |                                   |                               | -0.184                            | 0.693                         |
| Second mortgages  |   |                               |                                   |                               | -0.107                            | 0.659                         |
| <b>Calibration constant</b> ( $\beta_c$ )                         |   | 0.146                         |                                   | 0.146                         |                                   | 0.146                         |
| <b>Fixed Effects</b><br>( $\gamma_0, \beta_0$ )                   | -4.217  | -7.888                        | -4.362                            | -6.522                        | -4.286                            | -8.184                        |

<sup>1</sup> The explanatory variable weights given in this table were estimated based upon equations using mortgage origination term ( $T_0$ ) to amortize balloon loans, rather than mortgage amortization term ( $T_a$ ) to amortize balloon loans, as seen in the formula used for  $PMT_q$ .

3.5.2.3.4 Calculating Default and Prepayment Rates

The total weighting factors,  $X\beta_q$  and  $X\gamma_q$ , are converted into quarterly default and prepayment probabilities using the following logistic probability equations:

$$Def_q = \frac{\exp\{X\beta_q\}}{1 + \exp\{X\beta_q\} + \exp\{X\gamma_q\}}$$

$$Prep_q = \frac{\exp\{X\gamma_q\}}{1 + \exp\{X\beta_q\} + \exp\{X\gamma_q\}}$$

where:

- $Def_q$  = quarterly, conditional default rate in stress period quarter,  $q$
- $Prep_q$  = quarterly, conditional prepayment rate in stress period quarter,  $q$
- $\exp\{.\}$  = exponential function

3.5.2.3.5 Monthly Default and Prepayment Rates

To this point, all calculations involved creating quarterly time series of values throughout the ten-year stress period (40 quarters). In this step, the quarterly conditional default and prepayment rates are converted into monthly rates as follows:

$$Def_{j,q} = 1 - \sqrt[3]{1 - Def_q}$$

$$Prep_{j,q} = 1 - \sqrt[3]{1 - Prep_q}$$

where:

$Def_{j,q}$  = monthly conditional default rate for each month  $j=\{1,2,3\}$  in quarter  $q=\{1,\dots,40\}$

$Prep_{j,q}$  = monthly conditional prepayment rate for each month  $j=\{1,2,3\}$  in quarter  $q=\{1,\dots,40\}$

### 3.5.2.4 Output

Use the resulting 120 monthly conditional default and prepayment rates for each loan group to calculate monthly principal reductions resulting from defaults and prepayments, and to calculate default losses for each month in the ten-year stress period.

### 3.5.3 Single Family Loss Severity

#### 3.5.3.1 Overview

[a] The Single Family Loss Severity component of the stress test computes loss severity rates for single family mortgages that default in each month of the stress test. The loss severity rate is the net cost of a loan default expressed as a percentage of the unpaid principal balance (UPB) at the time of default. Based on various cost and revenue elements associated with a loan default, the stress test calculates loss severity rates as the present value (at default date) of the net cash flows that occur following the default date. Most cost and revenue elements are entered as constant rates across loan groups throughout the stress period. Two exceptions are proceeds from property disposition and asset funding costs. Proceeds are derived through a formula that uses both historical and stress period house price appreciation rates, and that accounts for loan amortization from origination through default. Funding cost of the defaulted mortgages and the resulting foreclosed properties is captured by discounting the loss severity elements, using a cost-of-funds interest rate that varies during the stress period. Loss severity rates throughout the stress period will also vary according to the application of percent-denominated credit enhancements (dollar-denominated credit enhancements are directly applied in the Cash Flow component of the stress test) and their associated credit ratings.

[b] The inputs used to compute loss severity rates include several starting position loan group characteristics, counterparty credit risk factors, historical house price index series and stress period house price growth rates, house price appreciation volatility parameters, and stress test interest rate series. The output of loss severity rates for each loan group are used in the Cash Flow component of the stress test (see section 3.9, Cash Flows, of this Appendix) to calculate (dollar) default losses.

#### 3.5.3.2 Inputs

[a] The Single Family Loss Severity component of the stress test uses loan group characteristics as of the start of the stress test, including information on certain types of

credit enhancements, and credit risk factors associated with counterparty rating categories (see section 3.6, Other Credit Factors, of this Appendix). In addition, it uses historical and stress period HPI series, house price appreciation volatility parameters, and one interest rate series (see section 3.4, Property Valuation, of this Appendix).

[b] The particular loan group characteristics (refer to section 3.1, Enterprise Data, of this Appendix for the definitions of these loan group characteristics), with associated variable names used in the procedures below, are:

- Product Type
- Portfolio (retained or sold portfolio)
- Origination Year (subscript “y”)
- Origination Month ( $t_m$ , for commitment loan groups only)
- Census Division (subscript “d”)
- Starting Coupon ( $r_{c,s}$ )
- Original Coupon ( $r_{c,o}$ , only used for ARMs)
- Passthrough Rate ( $r_p$ , for sold loans only)
- Original LTV ( $LTV_0$ )
- Mortgage Age ( $A_m$ )
- Amortization Term ( $T_a$ )
- Credit Enhancement Coverage Type 1 ( $C_{mi}$ , PMI coverage rate)
- Credit Enhancement Coverage Type 2 ( $C_{rc}$ , seller/servicer recourse coverage rate)
- Percent of UPB under “AAA” coverage in a loan group ( $C_R$ )
- Percent of UPB under “AA” coverage in a loan group ( $C_R$ )
- Percent of UPB under “A” coverage in a loan group ( $C_R$ )
- Percent of UPB under “BBB” coverage in a loan group ( $C_R$ )

[c] Credit enhancement coverages, both Type 1 and Type 2, are reduced throughout the stress test according to “haircuts,” as defined in section 3.6, Other Credit Factors, of this Appendix. These haircuts represent percentage reductions to credit enhancement coverage due to the inability of a counterparty to meet its obligations under stressful conditions. The final (end-of-stress-period) haircuts, by credit rating class (AAA, AA, A, and BBB), are obtained from section 3.6, Other Credit Factors, of this Appendix.

[d] In addition, historical Census division HPI series and house price appreciation volatility parameters are obtained from the most recently available *OFHEO HPI Report*. The HPI series are used to update collateral property values to the beginning of the stress test. Property values are then updated during the stress period with monthly house price growth rates obtained from section 3.4,

Property Valuation, of this Appendix. The historical volatility parameters are used with stress period property values to develop distributions of property values and levels of home equity within loan groups.

[e] The final input used here is the six-month Federal agency cost-of-funds rate, for each month of the stress period (variable “ $r_{d,t}$ ”). This monthly series is generated by the interest rate component of the stress test (See section 3.3, Interest Rates, of this Appendix) and is used as the discount rate for computing the present value of the three major elements of the loss severity rate—defaulting UPB, net costs or proceeds associated with foreclosure, and net cash flows from holding and disposition of Real Estate Owned (REO) property.

#### 3.5.3.3 Procedures

[a] The process of deriving loss severity rates involves calculating the present value of three loss elements. The first loss element ( $PV1$ ) is the amount of defaulting UPB. The second loss element ( $PV2$ ) is the expense related to foreclosure, net of any mortgage insurance proceeds. The third loss element ( $PV3$ ) combines post-foreclosure property expenses with proceeds from REO property disposition. Each of these three loss elements is computed as the present value (as of the default date) of the net cash flows occurring at a separate point in time—four months after default for the first loss element, 13 months after default for the second loss element, and 20 months after default for the third loss element. The present values of the three loss elements then are added together to derive an initial loss severity rate ( $NPV1$ ). Finally, available seller/servicer recourse against the (initial) loss is applied to calculate the final loss severity rate ( $NPV3$ ). Figure 3–3 of this Appendix depicts the timing of the three loss elements and how they are combined to produced initial and final loss severity rates.

[b] In the procedures for calculating loss severity rates, loan amortization is performed each month for surviving loans in each loan group; all discounting of cash flows uses semi-annual compounding of interest rates; all calculations add expenses and subtract revenues to calculate loss severity rates; and all loss elements are calculated as percentages of the UPB of the defaulting loans. With the exception of computations for FHA and VA loans, calculations are not specific to any particular loan product types, although loan group characteristics (coupon rate and amortization term) are used in the severity calculations.

[c] The lack of product type distinctions in severity calculation means that adjustable

rate mortgages are treated like fixed-rate mortgages. Their coupon rates are not updated during the stress test, and the original coupon is used to perform loan amortizations used in the statistical equation for property disposition proceeds. This simplification does not affect the actual defaulting UPB used to calculate dollar losses. The cash flow portion of the stress test does update coupon rates for adjustable rate products, and uses the updated rates to amortize loan group UPB. There are also no differences in loss severity rate calculations for investor loans. The stress test does not group loans according to occupancy status (owner-occupant versus investor/rental), although the statistical analysis used to

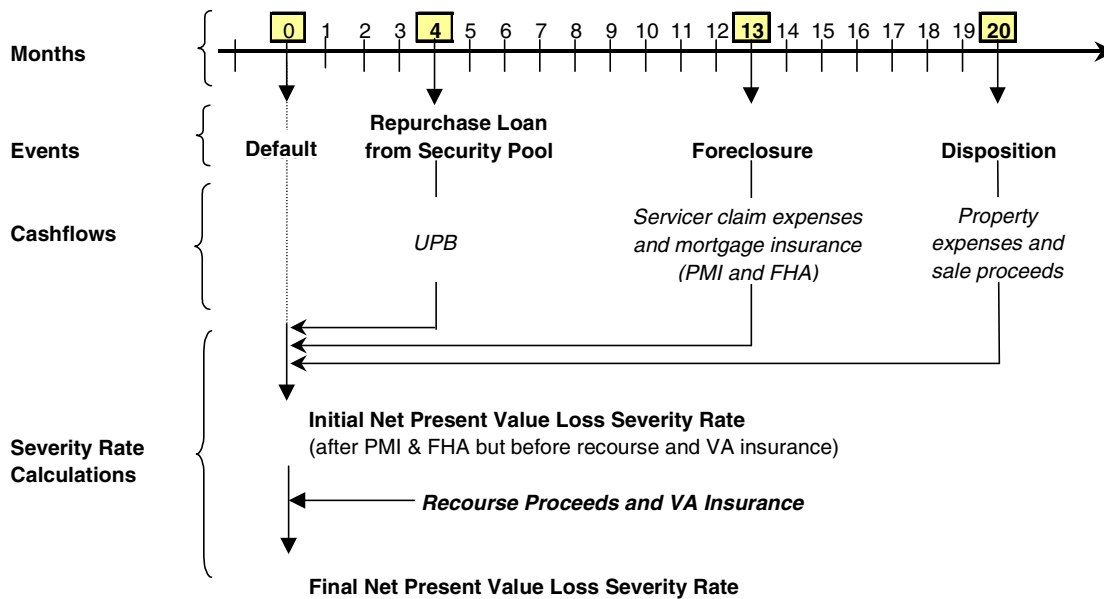
derive the loss severity elements for the stress test used data on both occupancy status types. Thus, the loss severity elements shown here reflect a balance of owner-occupant and investor loans.

[d] The stress test groups FHA and VA loans together. To calculate severity rates, FHA and VA insurance coverage amounts are calculated separately for all FHA/VA loan groups. Loan group credit enhancements are then calculated by summing the coverage amounts, with FHA insurance receiving a 0.67 weight and VA insurance receiving a 0.33 weight. Final loss severity rates for FHA/VA loan groups are then computed based on these weighted average coverage amounts.

3.5.3.3.1 Defaulting UPB

The defaulting UPB is the first loss element included in the loss severity rate calculation. The stress test recognizes defaulting UPB four months after the month of default. At this point, the defaulting UPB is recognized as a loss severity element and a potential cost (pending offsetting revenues from mortgage insurance and property disposition). For sold loans, defaulting mortgages are first purchased from the security pools, requiring a cash outlay equal to the UPB. Because only sold loans involve actual cash outlays, sold and retained loans are treated slightly differently in this loss element calculation.

Figure 3-3. Single Family Loss Severity Event Timing



1. For sold loans, recognize the cash outlay by discounting UPB back to the date of default:

$$PVI_t = \frac{1}{\left(1 + \frac{r_{d,t}}{2}\right)^{\frac{4}{6}}}$$

where:

- $PVI_t$  = present value of the defaulting UPB
- 1 = defaulting UPB
- $r_{d,t}$  = discount rate (six-month Federal agency cost-of-funds rate) in effect in month of the stress period

2. For retained loans, set  $PVI_t = 1$  to represent the full UPB. No discounting is necessary because recognition of the

defaulting UPB does not involve an actual cash outlay.

3.5.3.3.2 Net Costs or Proceeds Associated with Foreclosure

The second loss element includes foreclosure related transactions. There are



several cash flows, so that multiple computations are required.

1. Calculate survival factors for each counterparty rating category, for each month of the stress period. The monthly survival factors represent percentages of obligations

that counterparties with given credit ratings are expected to meet as the stress period continues. They are derived from the final haircuts defined in section 3.6, Other Credit Factors, of this Appendix. These factors are applied here to private mortgage insurance

(PMI) coverage, and later to seller/servicer recourse obligations. Survival factors for each credit rating category are constant across loan groups:

$$SF_{R,t} = 1 - \frac{FH_R}{120} \cdot t$$

where:

- $SF_{R,t}$  = survival factor for counterparties rated  $R$  in month  $t$  of the stress period
- $R$  = credit rating categories of counterparties
- $FH_R$  = final haircut for counterparties rated,  $R$ . This reflects their abilities to meet obligations toward Enterprises in the final month of the stress period. Values are defined in the Other Credit Factors component of the stress test

2. Calculate private mortgage insurance (PMI) proceeds.

a. Calculate the weighted average survival factor for each loan group. For each month,  $t$ , of the stress period, multiply the survival factor for each counterparty rating,  $SF_{R,t}$ , by the percentage of the loan group UPB covered by counterparties with the same rating,  $C_R$ . Sum the results across all counterparty ratings,  $R$ . Next, divide that sum by the sum of all counterparty coverage percentages. This produces a weighted average survival factor,  $SF_{w,t}$ , by loan group, for each month,  $t$ , of the stress period:

$$SF_{w,t} = \frac{\sum_R (SF_{R,t} \cdot C_R)}{\sum_R C_R}$$

where:

- $SF_{w,t}$  = weighted average counterparty survival factor in month  $t$  of the stress period
- $C_R$  = percentage of loan group UPB that has a counterparty rating of  $R$

b. Multiply the weighted average survival factors,  $SF_{w,t}$ , by the PMI percentage coverage rate,  $C_{mi}$ , to derive monthly adjusted percentage coverage rates,  $C_{mi,t}$ :

$$C_{mi,t} = C_{mi} \cdot SF_{w,t}$$

where:

- $C_{mi,t}$  = adjusted PMI percentage coverage rate for month  $t$  of the stress period
- $C_{mi}$  = loss coverage rate for Credit Enhancement Coverage Type 1, PMI

c. Compute mortgage insurance proceeds ( $mi_t$ ), by multiplying the adjusted PMI percentage coverage rate,  $C_{mi,t}$ , by the mortgage insurance claim amount. First, for all conventional loans—loan groups other than FHA/VA:

$$mi_t = \tilde{C}_{mi,t} \cdot \left( 1 + F + \left( \frac{r_{c,s}}{12} \right) \cdot t_f \right)$$

For FHA/VA loan groups, calculate the FHA insurance proceeds:

$$mi_t = 1 + (0.67 \cdot F) + \left( 0.75 \cdot \left( \frac{r_{c,s}}{12} \cdot t_f \right) \right)$$

where:

- $mi_t$  = mortgage insurance proceeds in month  $t$  of the stress period
- 1 = defaulting UPB
- $F$  = foreclosure expenses as a percentage of UPB (five percent)
- $r_{c,s}$  = starting coupon
- $t_f$  = foreclosure time (13 months)
- 0.67 = FHA reimbursement rate on foreclosure related expenses
- 0.75 = adjustment to reflect that FHA reimbursement on unpaid interest is at a government debenture rate, and not at the mortgage coupon rate

3. Discount all foreclosure related cash flows by  $t_f=13$  months to compute the post-foreclosure loss element,  $PV2_t$ .

a. For retained loans:

$$PV2_t = \frac{F - mi_t}{\left(1 + \frac{r_{d,t}}{2}\right)^{\frac{t_f}{6}}}$$

b. For sold loans, add passthrough interest expense to mortgage-backed security holders for 4 months:

$$PV2_t = \frac{\left(\frac{r_p}{3} + F\right) - mi_t}{\left(1 + \frac{r_{d,t}}{2}\right)^{\frac{t_f}{6}}}$$

c. For FHA/VA loans:

$$PV2_t = \frac{\left(F + \left(\frac{r_{c,s}}{12} \cdot t_f\right)\right) - mi_t}{\left(1 + \frac{r_{d,t}}{2}\right)^{\frac{t_f}{6}}}$$

where:

- $PV2_t$  = present value of net cost or proceeds associated with foreclosure for loans defaulting in month  $t$  of the stress period
- $r_p$  = passthrough rate on mortgage-backed securities
- $F$  = foreclosure expenses as a percentage of UPB (five percent)

4. Calculate the payment to the loan servicer ( $PVS_t$ ) net of any interest paid by the seller/servicer to the Enterprise that would be repaid in the post-foreclosure servicer claim. The present value factor generated here is not used in the computation of the foreclosure loss component, but will be used later to account for cases where there is full recourse to the seller/servicer. This is required only where there is Type 2 Credit Enhancement coverage. It is not used for FHA/VA loans. For retained loans:

$$PVS_t = \frac{F}{\left(1 + \frac{r_{d,t}}{2}\right)^{\frac{t_f}{6}}}$$

For sold loans, add the (4 months) interest passed through by the Enterprise to security holders:

$$PVS_t = \frac{\frac{r_p}{3} + F}{\left(1 + \frac{r_{d,t}}{2}\right)^{\frac{t_f}{6}}}$$

where:

$PVS_t$  = present value of the (net) servicer claim payment for loans defaulting in month  $t$  of the stress period

3.5.3.3.3 Net Cash Flow from Holding and Disposition of REO Property

The third loss element includes cash flows associated with management and disposition of REO property. Cash flows used in calculating this element are sales proceeds from disposition of foreclosed property and REO property management (maintenance and operating) expenses.

3.5.3.3.3.1 Calculate Proceeds From Property Sale

Sales proceeds is a dynamic loss severity element whose calculation involves updating property values and loan balances over time. Several steps are required. First, property values and UPB are updated from origination to the time of default. This is done with index values, rather than dollar values. Property values are represented by a house price index, and loan balances by a UPB index (ratios of defaulting UPB to the original

house price). Second, a statistical measure (z-score) of the distance between the logarithm of house price index and the logarithm of the loan balance index is calculated. Third, an econometric equation uses the z-score to compute the portion of UPB that is not recovered at property disposition. Finally, the unrecovered portion of UPB is converted into proceeds from property sale.

1. Update property values.
  - a. Calculate a house price index at the start of the stress test, according to origination year and Census division cohort:

$$I_{d,q} = \frac{HPI_{d,-1}}{HPI_{d,q}}$$

where:

- $I_{d,q}$  = house price index value at the start of the stress test for loan groups in Census division  $d$ , originating in quarter  $q$
- $HPI_{d,-1}$  = HPI value for Census Division  $d$ , for the quarter immediately preceding the stress test
- $HPI_{d,q}$  = HPI value for Census Division  $d$  in quarter  $q$

Because HPI values are as of the end of each quarter,  $HPI_{d,-1}$  gives the value as of the start of the stress period. The OFHEO HPI is published beginning with the first quarter of 1980. OFHEO has also produced (but not published) values for earlier years. To season

loans originating in 1979, assign  $HPI_{d,q}$  according to the Census division specific values listed in Table 3-16. Treat all pre-1979 originations as if they were originated in 1979.

- b. Calculate house price index values during the stress period by multiplying the  $I_{d,q}$  by cumulative house price growth rates in the stress period:

$$HPI_{d,q,t} = I_{d,q} \cdot \exp\left(\sum_{s=1}^t g_s\right)$$

where:

- $HPI_{d,q,t}$  = house price index for loan groups in Census division  $d$ , originated in quarter  $q$ , and defaulting in month  $t$  of the stress period
- $g_s$  = house price growth rate in month  $s$  of the stress period,  $s = \{1, \dots, t\}$

Do not calculate  $I_{d,q}$  for loans that an Enterprise has committed to buy, but not yet purchased at the beginning of the stress period, because pre-stress period house price appreciation is not applicable. The house price index for these loans is the cumulative monthly growth rate from the month after delivery to the month of loss severity calculations (month of default):

$$HPI_{d,q,t} = \exp \left( \sum_{s=(t_m+1)}^t g_s \right)$$

where:

- $t_m$  = loan delivery month in the stress period, for commitment loans  
 $t$  = month of loan default and loss severity calculation,  $t = \{t_{m+1}, \dots, 120\}$

2. Calculate the standard deviation of house price growth paths,  $\sigma_{d,t}$ , around the average growth path implied by the  $HPI_{d,q,t}$  value. This first requires limiting the value of the age variable to avoid negative "diffusion." Negative diffusion occurs when the variance of house prices declines over time. While negative diffusion is not expected to happen in practice, the formula for the standard deviation of house price growth paths (which is a quadratic function of time, where the first-order term is positive and the second-order term is negative) will create negative diffusion unless age is limited.

a. Create a variable for mortgage age in the stress test:

$$A_t = A_s + t$$

where:

- $A_s$  = mortgage age at the start of the stress test  
 $t$  = month  $t$  in the stress test

b. Create a mortgage age variable ( $MA_t$ ) that limits the mortgage age to a maximum value:

$$MA_t = \min \{A_t/3, \text{age limit}\}$$

where:

- $A_t/3$  = the age of the loan group in quarters, during month  $t$  of the stress period  
age limit =  $-\alpha_d / (2 \cdot \beta_d)$   
 $\alpha_d$  = "alpha" volatility parameter for Census division  $d$  (from the OFHEO HPI Report, most recent quarter)  
 $\beta_d$  = "beta" volatility parameter for Census division  $d$  (from the OFHEO HPI Report, most recent quarter)

c. Calculate the standard deviation of house price growth rate path using  $MA_t$ :

$$\sigma_{d,t} = \sqrt{(MA_t \cdot \alpha_d) + (MA_t^2 \cdot \beta_d)}$$

where:

- $\sigma_{d,t}$  = standard deviation of cumulative house price growth rates for loans in Census division  $d$ , in month  $t$  of the stress period

3. Compute a monthly loan payment factor using the original coupon rate and original LTV ( $LTV_0$ ). Since original property value is specified to be equal to one,  $LTV_0$  represents the original UPB. Use this payment factor to compute the time series of UPB index (see below) to capture amortization of surviving loans in each loan group throughout the stress period:

$$PMT = \frac{LTV_0 \cdot \frac{r_{c,o}}{12}}{1 - \left(1 + \frac{r_{c,o}}{12}\right)^{-T_a}}$$

where:  
*PMT* = monthly mortgage payment factor  
*LTV<sub>0</sub>* = original LTV  
*r<sub>c,o</sub>* = original coupon rate  
*T<sub>a</sub>* = loan amortization term

4. Calculate the time series of UPB index—the ratios of defaulting UPB in each month of the stress period to the original house price:

$$B_t = PMT \cdot \left( \frac{1 - \left(1 + \frac{r_{c,o}}{12}\right)^{-T_a + A_t}}{\frac{r_{c,o}}{12}} \right)$$

where:

*B<sub>t</sub>* = UPB index, the ratio of defaulting UPB in month *t* of the stress period to original house price

5. Compute the z-score for the “distance” between the logarithm of the house price index and the logarithm of the UPB index. The use of logarithmic values allows each variable to be

specified as a percentage difference from the original property value (1.0). This transformation makes the distance between the house price and UPB indexes consistent with the standard

deviation of the house price growth rates used to calculate the z-score.<sup>11</sup> The formula for the z-score is:

$$z_t = \frac{\ln(HPI_{d,q,t}) - \ln(b_t)}{\sigma_{d,t}}$$

where:

*z<sub>t</sub>* = z-score for the distance between the logarithm of the house price index and the logarithm of the UPB index, in month *t* of the stress test  
*σ<sub>d,t</sub>* = standard deviation of cumulative house price growth rates for loans in Census division, *d*, in month *t* of the stress period  
*ln(.)* = natural logarithm  
*b<sub>t</sub>* = *max* (*B<sub>t</sub>*, 0.05)

The allowable values of *z<sub>t</sub>* are bounded by 4.0 and -0.50. If the computed value *z<sub>t</sub>* is outside either of these bounds, it is reset to its closest boundary value.

6. Compute the percentage of UPB that is not recovered at property disposition based on the statistically derived relationship

between the percentage of UPB unrecovered at property disposition and the z-score:

$$L_t = (\exp(0.2704 - 0.0770 \cdot z_t) - 1) + 0.1034, \text{ for } -0.50 \leq z_t \leq 4.0$$

<sup>11</sup>This standard deviation is of cumulative house price growth rates. The log of HPI is the cumulative growth of average house prices in the geographic area, while the log of *b* gives an HPI-growth-rate-

equivalent interpretation to owner invested equity (downpayment plus amortization). The resulting log difference is the amount by which the individual house price growth must be lower than average

market growth in order to eliminate any equity in the property and thus lead the borrower to consider default.

where:

$L_t$  = uncovered portion of UPB, for loans in a loan group that default in month  $t$  of the stress period

0.1034 = calibration factor to reasonably relate loss severity rate to the benchmark experience

Because log-transformed values of the unrecovered UPB ( $\ln(L_t + 1)$ ) were used in the regression, the "1" in the equation above is a result of using the antilog to derive the

formula for  $L_t$ . In addition, the formula also includes the calibration factor to reasonably relate loss severity rate to the benchmark experience.

7. Calculate sales proceeds from the disposition of each foreclosed property,  $P_t$ , as UPB less the portion that was not recovered at disposition,  $L_t$ :

$$P_t = 1 - L_t$$

where:

$P_t$  = sales proceeds from property disposition for loans defaulting in month  $t$  of the stress period

#### 3.5.3.3.3.2 Net Cash Flow at Property Disposition

Subtract sales proceeds from expenses related to REO property, then discount the result by  $(t_1 + t_2 = 20$  months) to obtain the present value of the third loss severity element:

$$PV3_t = \frac{R - P_t}{\left(1 + \frac{r_{d,t}}{2}\right)^{\left(\frac{t_1 + t_2}{6}\right)}}, \text{ for all loan groups other than FHA/VA}$$

$$PV3_t = 0, \text{ for FHA/VA loan groups}$$

$$PV3_t = 0, \text{ for FHA/VA loan groups}$$

or

where:

$PV3_t$  = present value of net cash flows associated with holding and disposition of REO property for loans defaulting in month  $t$  of the stress period

$R$  = REO expenses as a percentage of UPB (13.7 percent). This includes property management and disposition expenses.

$t_1$  = property inventory time (seven months)

#### 3.5.3.3.4 Final Calculations of Loss Severity Rates

At this point, all cost elements of loss severity are included in  $PV1$ ,  $PV2$ , and  $PV3$ . Revenues from private mortgage insurance (Type 1 credit enhancement) or FHA insurance are also included in  $PV2$ . The sum of  $PV1$ ,  $PV2$ , and  $PV3$  then provides an initial

net-present-value loss severity rate ( $NPV1$ ). Once this is calculated, potential revenues from seller/servicer recourse (Type 2 credit enhancement) and VA insurance guaranty proceeds are computed. For non-government (conventional loans), the recourse proceeds are subtracted from  $NPV1$  to arrive at final loss severity rates ( $NPV3$ ) for each loan group, in each month of the stress test. For

FHA/VA loan groups, final loss severity rates are calculated using a weighted average of the proceeds from the two forms of government insurance.

1. Calculate the initial loss rates (after mortgage insurance and FHA coverage, but before seller/servicer recourse or VA coverage):

$$NPV1_t = PV1_t + PV2_t + PV3_t$$

where:

$NPV1_t$  = initial loss severity rates for loans defaulting in month  $t$  of the stress period (after mortgage insurance or FHA coverage, but before other recourse or VA guaranty)

2. Proceed based upon whether the loan group represents conventional or FHA/VA loans:

a. For conventional loans, check the initial losses in  $NPV1_t$  to evaluate whether there is any loss remaining. Loans with losses less

than zero, where  $NPV1_t \leq 0$ , will not receive any additional credit for seller/servicer recourse. For those loans, set  $RC_t = 0$ , and proceed to Step 6. Otherwise, if  $NPV1_t > 0$ , go to Step 3.

b. For FHA/VA loans, proceed to Step 5.

3. Re-calculate initial loss severity rates using the full seller/servicer claim amount,  $PVS_t$ , rather than the post-insurance foreclosure cash flow,  $PV2_t$ :

$$NPV2_t = PVI_t + PVS_t + PV3_t$$

where:

$NPV2_t$  = initial loss severity without any credit enhancements

4. Use  $NPV2_t$  with appropriate percentage recourse (Type 2) coverage rates and survival factors to calculate seller/servicer recourse coverage amounts,  $RC_t$ :

$$\tilde{C}_{rc,t} = C_{rc} \cdot SF_{w,t}$$

$$RC_t = NPV2_t \cdot \tilde{C}_{rc,t}$$

where:

$\tilde{C}_{rc,t}$  = recourse coverage rate in month  $t$  of the stress period, adjusted for the potential survival rates of counterparties in the stress test

$C_{rc}$  = contractual seller/servicer recourse coverage (Type 2) percentage

$SF_{w,t}$  = weighted average counterparty survival factor in month  $t$  of the stress period

$RC_t$  = seller/servicer recourse coverage amount to be applied in the stress test. This is adjusted for counterparty credit ratings, in month  $t$  of the stress period

Go to Step 6.

5. For FHA/VA loan groups, calculate the effective loss rate after recourse coverage amounts provided by VA guarantees:

$$NPVVA_t = \frac{\left[ \left( 1 + (R - P_t) \right) + \left( F + \frac{r_{c,s}}{12} \cdot t_f \right) \right] - 0.30}{\left( 1 + \frac{r_{d,t}}{2} \right)^{\frac{t_f}{6}}}$$

and then:

$$NPVVA_t = \max(NPVVA_t, 0)$$

---



stress test, and stress test simulation values are used to extend the series throughout the stress period.

### 3.5.4.2.3 Historical Rent Indexes

Updating property values of collateral for multifamily loans at the beginning of the stress test requires use of rent indexes. The stress test uses the residential rent component of the Consumer Price Index (CPI), which is available from the U.S. Department of Labor, Bureau of Labor Statistics (BLS). The series required for this part of the stress test are those for the U.S., the four Census regions, and the 29 Metropolitan Statistical Areas (MSAs) covered by the BLS surveys.

#### 3.5.4.2.4 Stress Period Vacancy Rates and Rent Growth Rates

Monthly vacancy rate and rent growth rate series for the stress period are generated by the Property Valuation component of the stress test (see section 3.4, Property Valuation, of this Appendix). These series are used to update multifamily property values throughout the stress period.

#### 3.5.4.3 Procedures

[a] Separate default equations are used to distinguish between loans acquired through:

one, cash purchases and two, negotiated transaction. In a cash purchase, an Enterprise acquires a newly originated loan that meets standard underwriting guidelines; the purchase can include recourse to the seller/servicer. In a negotiated transaction, an Enterprise generally acquires a pool of seasoned, nonconforming loans.

[b] FHA-insured loans are a subset of loans that are purchased through negotiated transactions, but they are included with the cash transaction loans for default calculation purposes.

[c] Fixed-rate multifamily loans have prepayment restrictions, for example, yield maintenance fees and lockouts, that severely limit prepayments for about two-thirds of the loan term. To account for the differences in prepayment speeds that result from these restrictions, five prepayment equations are used for the following types of loans: fixed-rate loans in the restriction period, fixed-rate balloon loans beyond the restriction period, self-amortizing fixed-rate loans beyond the restriction period, balloon loans at the balloon point, and adjustable rate mortgages.

[d] To calculate default and prepayment rates in the stress test, the input data described above are used to compute the values of explanatory variables for the equations for multifamily default and

prepayment rates. A total of 16 explanatory variables (shown in Table 3–20) are computed for each loan group, and for each month of the stress period. The following describes calculations of explanatory variables and the resulting default and prepayment rates. Unless otherwise indicated, each variable subscripted with a “t” is computed for the 120 months of the stress period. To illustrate each procedure, formulas are shown for one loan group for each month of the stress test. The same logic applies to all loan groups.

[e] The values of explanatory variables in each month are used in the default and prepayment equations to calculate annual default and prepayment rates. The stress test computes default and prepayment rates that would result if the conditions prevailing in each month were to continue for an entire year. These annual rates are converted to monthly rates for use in section 3.9, Cash Flows, of this Appendix.

#### 3.5.4.3.1 Computation of Explanatory Variables

##### 3.5.4.3.1.1 Mortgage Age ( $A_t$ , $AY_t$ )

[a] Mortgage age in each month of the stress period is calculated as:

$$A_t = A_s + (t - 1)$$

where:

$A_s$  = mortgage age at the start of the stress period, in months

$t$  = month of stress period, where  $t = \{1, \dots, 120\}$

[b] Since mortgage age enters the default and prepayment equations in years, rather than in months, an age-in-years variable,  $AY_t$ , is created:

$$AY_t = A_t / 12$$

##### 3.5.4.3.1.2 Program Restructuring ( $PR$ )

The stress test differentiates between cash programs in effect before 1988 for Fannie Mae and before 1992 for Freddie Mac (“original programs”) and later cash programs. This differentiation accounts for

the greater credit risk of the earlier cash programs. The variable  $PR$  is used in two ways to adjust original program loan groups for this greater risk.  $PR$  is only used for loans in the cash programs (except FHA-insured loans) because OFHEO has identified the

program structure deficiencies that caused this greater risk only on these loans. The variable is not used to adjust the risk profile of loans acquired through negotiated programs. The  $PR$  variable is computed for each loan group according to the following:

$$PR = \begin{cases} 1, & \text{if loan originated/purchased in an original cash program} \\ 0, & \text{otherwise} \end{cases}$$

First,  $PR$  is used as a categorical variable to distinguish the original cash programs from more recent cash programs of the Enterprises (“current programs”). This usage of  $PR$  captures the higher default risk of the Enterprises’ original programs. Second,  $PR$  is used as a flag for when to adjust  $DCR_0$  and  $LTV_0$  for overly optimistic appraisal practices inherent in original cash program loans. (See sections 3.5.4.3.3.10, Formula for Constructing the DCR Time Series and

3.5.4.3.4.4, Construct the LTV Time Series, of this Appendix.)

##### 3.5.4.3.1.3 Value of Depreciation Write-off ( $DW$ )

The present value of tax benefits afforded to an investor/owner in a multifamily property is captured in a depreciation write-off variable ( $DW$ ). Based on depreciation rules and OFHEO’s estimates of the marginal tax rate for ordinary income, the marginal tax rate for capital gains, and the risk-adjusted

return for multifamily projects, a value of 9.27 for this variable ( $DW$ ) is used in the stress test. This value represents a 9.27 percent estimated return for a 20-year holding period on investments in multifamily property resulting from tax benefits associated with ownership and taxes paid on the ultimate sale of the property, based on 1995 data. OFHEO may change the value for this variable if there are significant changes in depreciation rules or tax rates.  $DW$  affects defaults and is held constant for

all cash programs throughout the stress period. However, it is not used to project default rates of negotiated programs.

3.5.4.3.1.4 Seller/Service Repurchase Flags (RF, RA)

[a] Mortgage default in the stress test is defined as a loan termination in which the borrower must relinquish title to the property because of an inability to make loan

payments. However, there is one exception for multifamily mortgages in certain negotiated programs. In these negotiated programs, when a loan becomes 90 days delinquent, the seller/servicer must buy the loan out of the pool and attempt to resolve the delinquency. For these loans, the stress test defines default as a 90-day delinquency, rather than a full default. The occurrence of

90-day delinquencies is always higher than the occurrence of full defaults, since many 90-day delinquent loans cure or are modified.

[b] To distinguish a "90-day delinquency" type of default from a full default, the stress test includes two categorical variables that flag fixed-rate (RF) and adjustable rate (RA) negotiated program loans with repurchase requirements:

$$RF = \begin{cases} 1 & \text{, for fixed-rate, negotiated program loans} \\ & \text{with seller/servicer repurchase} \\ 0 & \text{, otherwise} \end{cases}$$

$$RA = \begin{cases} 1 & \text{, For ARMs in negotiated programs} \\ & \text{with seller/servicer repurchase} \\ 0 & \text{, otherwise} \end{cases}$$

3.5.4.3.1.5 Joint Probability of Negative Equity and Negative Cash Flow (JP)

The joint probability of negative equity and negative cash flow (JP) is defined as the probability that any given loan will simultaneously experience a loan-to-value ratio (LTV) greater than 1.00 and a debt coverage ratio (DCR) less than 1.00. JP is the principal variable used in the stress test to measure the value of default to multifamily borrowers. Creating this variable involves updating DCR<sub>t</sub> and LTV<sub>t</sub> over time using a property net operating income (NOI) growth factor, changes in mortgage payments, loan amortization, and a capitalization rate multiplier. The NOI growth factor is updated over time using vacancy rate changes and rental inflation since loan origination. The capitalization rate multiplier is updated

based on changes in interest rates since loan origination.

3.5.4.3.2 Updating Average Property Income

3.5.4.3.2.1 Create Rent Indexes for the Start of the Stress Period

Rent indexes at the start of the stress period are created using time series of annual percent changes in the residential rent component of the CPI for each of the four Census regions and the 29 MSAs covered by BLS surveys. If the stress test begins at a time other than January 1 (first quarter of the year), the residential rent component of the CPI at the end of the quarter just preceding the start of the stress test is used to create the final "year" of the rent index time series. Most MSA level CPI series produced by BLS start in 1970, but some do not begin until the

1980s. The regional CPI series are available beginning in 1978, so percent changes for these can only be computed starting in 1979. Each regional and MSA percent-change series is constructed as follows:

1. Fill-in the pre-1979 regional series with percent changes in the rent index values for the national CPI, going back 30 years from the start of the stress test. If any MSA is missing one or more years of data, fill-in missing values from regional series. This results in 33 time series of annual rent growth rates for 30 years, ending in the year and quarter just preceding the beginning of the stress test.

2. Using these time series, create the rent index value for each loan group at the start of the stress period, as a cumulative index from the loan origination year to the start of the stress test:

$$I_{m,y} = \sqrt{1 + g_{m,y}} \left( \prod_{k=y+1}^K (1 + g_{m,k}) \right)$$

where:

- $I_{m,y}$  = rent index value for a loan group at the start of the stress period for loans in geographic area,  $m$ , originated in year,  $y$
- $m$  = geographic indicator for matching loans to the time series of annual percentage change of the residential rent component of CPI (Use the MSA code for  $m$  (loan characteristic, classification variable) if loan is in an MSA covered by the residential rent component of the CPI, otherwise use the Census region of the property (loan characteristic, classification variable) for  $m$ .)
- $g_{m,y}$  = rent growth rate for geographic area,  $m$ , in loan origination year,  $y$ , as computed from the CPI residential rent index in the previous steps
- $g_{m,k}$  = rent growth rate for geographic area,  $m$ , in calendar year  $k$ , where  $k$  starts in the year after loan origination and extends through the year that the stress test begins
- $k$  = year index variable
- $K$  = calendar year of the start of the stress test

3. In order to link the rental series to loan group characteristics, first match each loan group by MSA code to the available residential rent series from BLS. If there is a match, then use that MSA series of historical annual growth rates of residential rent, as described above, to generate the value for  $I_{m,y}$ . If the loan group is not in an MSA covered by the BLS residential rent series,

then match the Census region of the property to the appropriate regional residential rent series, and use the regional historical annual growth rates of the residential rent series to generate the value for  $I_{m,y}$ . Assume that all loans originate in the middle of the year, for purposes of the first-year rent growth rate. To accomplish this, the above formula uses the

square root of the growth rate in the year of loan origination.

#### 3.5.4.3.2.2 Update Each Rent Index throughout Stress Period

The rent index at the beginning of the stress test ( $I_{m,y}$ ) is updated, for each loan group, throughout the stress period based on the following equation:

$$I_t = I_{m,y} \cdot \prod_{i=1}^t (1 + g_i)$$

where:

- $t$  = number of current months in stress period,  $t = \{1, \dots, 120\}$
- $i$  = index counter for month number
- $g_i$  = monthly rent growth rate in month  $i$  of the stress period, which is a monthly, rather than annual, rate of growth (See section 3.4, Property Valuation, of this Appendix.)

#### 3.5.4.3.2.3 Create a Property Net Income Multiplier

[a] The rent index series just created is combined with the vacancy rate series ( $V_t$ )

provided by the Property Valuation component of the stress test to create a formula for updating the average, underlying, NOI in each month of the stress period. The following formula provides a multiplication

factor that gives the ratio of current property NOI to NOI at loan origination (for cash programs), or at acquisition (for negotiated programs):

$$N_t = I_t \cdot (1 - 2.15(V_t - 0.0623))$$

where:

- $N_t$  = net income update multiplier in month  $t$  of the stress period (This provides a measure of the ratio,  $NOI_t/NOI_0$ , where  $NOI_0$  is NOI at loan origination or acquisition.)
- $V_t$  = rental vacancy rate in month  $t$  of the stress period
- 2.15 = the percentage decline in NOI due to a one percent increase in the vacancy rate
- .0623 = the average vacancy rate observed for multifamily rental properties in 1983-95

[b] There are two constants in the above equation. The first, 2.15, is the percentage decline in NOI due to a one percent increase in the vacancy rate. The second, 0.0623, is the average vacancy rate observed for multifamily rental properties in 1983–95. The average vacancy rate is used to approximate the vacancy rate of each loan at the time of origination (cash programs) or acquisition (negotiated programs).  $N_t$  measures how changes in rental inflation and vacancy rates together translate into percentage changes in net operating income since loan origination.

3.5.4.3.3 Create a DCR Time Series

[a] DCR is the ratio of the property NOI to the mortgage payment. DCR at loan

origination or acquisition ( $DCR_0$ ) is a loan characteristic input to the stress test. It is updated over time using the formula for  $N_t$ , and by updating the mortgage payment, if and when applicable. The mortgage payment changes regularly for ARMs. The stress test also changes mortgage payments for balloon loans that do not pay off at maturity. For such loans, the coupon interest rate is changed to the prevailing market rate at the time of balloon maturity.  $DCR_0$  for loans purchased under original cash programs (when  $PR=1$ ) of the Enterprises are adjusted to make them consistent with current cash programs (current measurement practices) by multiplying them by 0.8655.<sup>12</sup> This adjusts for differences in appraisal practices between original and current cash programs.

[b] In addition, because UPB is decremented over time, according to the coupon rate and amortization term for each loan group, updates to UPB are required to update payments on ARM and balloon loans at maturity. Updates to UPB are also used to create current LTVs. Procedures for creating a time series of LTV ratios follows this discussion involving DCR construction. In the following procedures, both UPB and mortgage payments (PMT) are factors based on an original loan balance of one dollar and do not represent actual dollar amounts.

3.5.4.3.3.1 Create the Original Payment Factor for All Loans

The original payment factor is based on original loan terms:

$$PMT_0 = \frac{r_{c,0}/12}{1 - \left(1 + r_{c,0}/12\right)^{-T_a}}$$

where:

- $PMT_0$  = monthly payment at mortgage origination, per dollar of mortgage
- $r_{c,0}$  = mortgage coupon at loan origination
- $T_a$  = amortization term of mortgage in months

3.5.4.3.3.2 Create Time Series of UPB Values for Fixed-rate, Fully Amortizing Loans

For all fixed-rate, fully amortizing loans, create the UPB time series in the stress test period according to the following equation:

$$UPB_t = PMT_0 \left( \frac{1 - (1 + r_{c,0}/12)^{(A_s + t - T_a)}}{r_{c,0}/12} \right), \text{ for all } t = \{1, \dots, 120\}$$

3.5.4.3.3.3 Update Mortgage Payment Factors and UPB for ARMs and Balloon ARMs

[a] Updating  $UPB_t$  and  $PMT_t$  for ARMs requires first creating the coupon interest rate series ( $r_{c,t}$ ) for each ARM loan group. This

series will capture the effect of period and lifetime caps on the path of coupon rates.

1. The current coupon rate at the start of the stress period,  $r_{c,s}$ , is used for the mortgage coupon rates in the first 12 months of the stress period  $r_{c,t}$ :

$$r_{c,t} = r_{c,s}, \text{ for } t = \{1, \dots, 12\}$$

2. In every twelfth month, compare:  $r_{c,t} > (r_{b,t} + 0.02375)$ , for  $t = \{12, 24, 36, \dots, 108\}$

where:

- $r_{b,t}$  = Federal Home Loan Bank 11th District Cost of Funds Index, value in month  $t$  of stress period
- 0.02375 = index margin used to create fully-adjusted coupon rate

3. When, upon evaluation in step 2,  $r_{c,t} < (r_{b,t} + 0.02375)$ , set:

$$r_{c,t+1 \dots t+12} = \min\{(r_{b,t} + 0.02375), (r_{c,t} + 0.01), (r_{c,0} + 0.05)\}$$

where:

- 0.01 = interest-rate change cap per adjustment period (period cap)
- 0.05 = interest-rate change cap over the life of the loan (life cap)

<sup>12</sup> For Fannie Mae, these are cash loans purchased prior to 1988. For Freddie Mac, these are cash loans purchased prior to 1992.

4. When, upon evaluation in step 2,  $r_{c,t} > (r_{b,t} + 0.02375)$ , set:

$$r_{c,t+1\dots t+12} = \max\{r_{b,t} + 0.02375, (r_{c,t} - 0.01), (r_{c,0} - 0.05)\}$$

5. When, upon evaluation in step 2,  $r_{c,t} = (r_{b,t} + 0.02375)$ , set:

$$r_{c,t+1\dots t+12} = r_{c,t}$$

[b] The UPB percent at the start of the stress test is calculated using an original loan balance of one dollar, remaining term, and an average of the origination and starting coupons. The resulting UPB percent is used to calculate the payment factor in month one of the stress period:

$$\bar{r} = (r_{c,0} + r_{c,s})/2$$

$$\overline{PMT} = \frac{\bar{r}/12}{1 - \left(1 + \frac{\bar{r}}{12}\right)^{-T_a}}$$

$$UPB_{t=1} = \overline{PMT} \left( \frac{1 - (1 + \bar{r}/12)^{(A_s - T_a - 1)}}{\frac{\bar{r}}{12}} \right)$$

$$PMT_{t=1} = \frac{UPB_{t=1} \cdot (r_{c,s}/12)}{\left( 1 - \left(1 + \frac{r_{c,s}}{12}\right)^{(A_s - T_a - 1)} \right)}$$

where:

- $\bar{r}$  = average of origination and current (as of the start of the stress test) coupon rates
- $\overline{PMT}$  = monthly payment factor, based on  $\bar{r}_a$ , per dollar of mortgage
- $UPB_{t=1}$  = percentage of loan balance outstanding at the beginning of the stress period
- $A_s$  = mortgage age at the start of the stress period
- $PMT_{t=1}$  = monthly payment factor at the start of the stress period
- $T_a$  = mortgage amortization term

[c] The time series of mortgage coupon rates ( $r_{c,t}$ ) from steps 1–5 is used to generate time series of payment factors and UPB percent factors for the remaining months of the stress period. These two series are developed simultaneously. In each month, each series is updated based on what happened in the other series in the previous month:

$$UPB_t = UPB_{t-1} - \left( PMT_{t-1} - UPB_{t-1} \times \frac{(r_{c,t-1})}{12} \right), \text{ for } t = \{2, \dots, 120\}$$

$$PMT_t = UPB_{t-1} \left( \frac{r_{c,t}/12}{1 - \left(1 + \frac{r_{c,t}}{12}\right)^{(A_t - T_a)}} \right), \text{ for } t = \{2, \dots, 120\}$$

where:

$A_t$  = age of mortgage, in month  $t$  of the stress test

3.5.4.3.3.4 Create Payment and UPB Factors for Fixed-Rate Balloons

Payment factors for balloon loans with fixed interest rates are held constant at  $PMT_0$  until the loans reach maturity. At maturity,

the payment factor is updated to reflect current market interest rates, the remaining loan balance, and a new amortization term.<sup>13</sup> Payment factors and UPB for balloon ARMs are constructed using the procedures just

described for ARM loans, rather than the instructions for fixed-rate balloon loans.

1. Set balloon term in months,  $T_m$ , according to product types listed in Table 3-18.

**Table 3-18. Balloon Term**

| Balloon Product                     | Term, $T_m$ |
|-------------------------------------|-------------|
| 5 YR fixed-rate                     | 60          |
| 7 YR fixed-rate                     | 84          |
| 10 YR fixed-rate                    | 120         |
| 15 YR fixed-rate (and ARM balloons) | 180         |

2. Create  $UPB_t$  and  $PMT_t$  throughout the stress period, according to when the balloon matures in the stress period. Loan group UPBs are reduced according to default and prepayment (balloon payoffs) rates (see section 3.5.4.3.6, Calculation of Default and Prepayment Rates, of this Appendix) in the

balloon year, and for up to five years beyond the month of balloon maturity. Loan groups with balloon maturity prior to the start of the stress test are terminated after three years in the stress period (thirty-seventh month). Loan groups that mature during the stress test are terminated five years after maturity.

a. If balloon term,  $T_m$ , is less than or equal to mortgage age at the start of the stress test,  $A_s$ , i.e., the loan has passed its balloon date or is just maturing when the stress test begins, then  $UPB_t$  and  $PMT_t$  are updated as follows:

$$UPB_{t=1} = PMT_0 \left( \frac{1 - (1 + r_{c,s}/12)^{(A_s - T_a)}}{r_{c,s}/12} \right)$$

$$PMT_t = \left( UPB_{t=1} \left( \frac{r_{f,1}/12}{1 - \left(1 + \frac{r_{f,1}}{12}\right)^{-T_a}} \right) \right), \text{ for } t = \{1, \dots, \tau\}$$

<sup>13</sup> The remaining life of the loan is reset to equal the amortization term of the loan at origination.

$$UPB_t = PMT_t \left( \frac{1 - (1 + r_{f,1}/12)^{(t-1-T_a)}}{r_{f,1}/12} \right), \text{ for } t = \{2, \dots, t\}$$

where:

$$\tau = 60 \text{ when } \underline{A}_s = T_m, \text{ or } 36 \text{ when } \underline{A}_s > T_m$$

$$r_{f,1} = \text{conventional 30-year fixed-rate mortgage rate, in month one of stress period}$$

b. If balloon term,  $T_m$ , is greater than mortgage age at start of stress test,  $A_s$ , then update  $UPB_t$  and  $PMT_t$  as follows.

$$PMT_t = PMT_0, \text{ for } t = \{1, \dots, m\}$$

$$UPB_t = \left( PMT_t \left( \frac{1 - (1 + r_{c,s}/12)^{(A_t - T_a)}}{r_{c,s}/12} \right) \right), \text{ for } t = \{1, \dots, m\}$$

$$PMT_t = \left( UPB_m \left( \frac{r_{f,m}/12}{1 - \left(1 + \frac{r_{f,m}}{12}\right)^{-T_a}} \right) \right), \text{ for } t = \{m+1, \dots, m+60\}$$

$$UPB_t = \left( PMT_t \left( \frac{1 - (1 + r_{f,m}/12)^{(t-m-T_a)}}{r_{f,m}/12} \right) \right), \text{ for } t = \{m+1, \dots, m+60\}$$

where:

$$m = T_m - A_s, \text{ which is the month of balloon maturity}$$

$$r_{f,m} = \text{conventional 30-year fixed-rate mortgage rate in month, } m$$

#### 3.5.4.3.3.5 Formula for Constructing the DCR Time Series

The formulas for updating DCR over time in the stress period are described below.

1. For loans originated under current cash programs (where  $PR=0$ ), and for all negotiated programs:

$$DCR_t = \frac{DCR_0 \cdot N_t}{PMT_t / PMT_0}$$

2. For loans originated under original cash programs, where  $PR=1$ :

$$DCR_t = \frac{DCR_0 \cdot N_t \cdot 0.8655}{PMT_t / PMT_0}$$

where:

0.8655 = factor required to make measurement of  $DCR_0$  in original cash programs comparable to measurements used in current cash programs (this adjusts for differences in appraisal practices between original and current programs)

#### 3.5.4.3.4 Create an LTV Time Series

LTV is the ratio of the unpaid principal loan balance (UPB) to the value of the property. The UPB is updated over time as described above. The value of the property is adjusted based on the property net operating income multiplier ( $N_t$ ) and a capitalization rate multiplier (described below). As with DCR, LTV must be adjusted for loans purchased under original Enterprise cash

programs, to make them consistent with current cash programs.

##### 3.5.4.3.4.1 Updating the Capitalization Rate Multiplier

[a] The capitalization rate multiplier is the reciprocal of the capitalization rate and reflects what investors are willing to pay for an annual cash flow stream on a property, given the property and market conditions, as well as the opportunity cost of capital. LTV

is updated in the stress test according to changes in the multiplier that result from changes in the opportunity cost of capital, as reflected through changes in market interest rates.

[b] The capitalization rate multiplier is updated in two steps, based on changes in the ten-year CMT yield (a proxy for changes in the opportunity cost of capital).

1. Compute the average monthly ten-year CMT yield for the loan origination-year:

$$y120_0 = \frac{\sum_{i=1}^{12} y120_{0,i}}{12}$$

where:

$y120_0$  = average monthly ten-year CMT yield in loan origination year

$i$  = index variable used to identify individual monthly average rates of the ten-year CMT yield,  $i = \{\text{Jan}, \dots, \text{Dec}\}$

2. Compute the time series of ratios of capitalization rate multipliers based on the relative spread between the origination-year ten-year CMT and each of the monthly values of the ten-year CMT throughout the stress period:

$$C_t = 1 + 0.23 \cdot \left( \frac{y120_0 - y120_t}{y120_0} \right)$$

where:

$C_t$  = ratio of the capitalization rate multiplier in month  $t$  of the stress period,  $t = \{1, \dots, 120\}$ , to that of the capitalization rate multiplier at origination

$y120_t$  = ten-year CMT yield in month  $t$  of the stress period

0.23 = regression coefficient from historical estimation

#### 3.5.4.3.4.2 Construct the LTV Time Series

[a] For loans acquired through current cash programs (where  $PR=0$ ), or through negotiated programs:

$$LTV_t = \frac{LTV_0 \cdot UPB_t}{C_t \cdot N_t}$$

[b] For loans acquired through original cash programs, where  $PR=1$ :

$$LTV_t = \frac{LTV_0 \cdot UPB_t \cdot 1.2778}{C_t \cdot N_t}$$



where:

1.2778 = factor required to make measurement of  $LTV_0$  in original loan programs comparable to  $LTV_0$  in current loan programs

[c] For all loans, prevent  $LTV_t$  from approaching zero by resetting small values to 0.01:

$$LTV_t = \max(LTV_t, 0.01)$$

3.5.4.3.5 Compute Joint Probability of Negative Equity and Negative Cash Flow

[a] The values of the joint probability of negative equity and negative cash flow ( $JP$ ) are computed as the area under a bivariate standard normal density function. The form for this function is:

$$BV(a, b, \rho) = \frac{1}{2\pi \cdot \sqrt{1 - \rho^2}} \int_{-\infty}^a \int_b^{\infty} \exp\left(\frac{x^2 - 2\rho xy + y^2}{2(1 - \rho^2)}\right) dy dx$$

where:

- $\pi$  = mathematical value ‘pi’
- $\rho$  = correlation between the two standard normal random variables,  $x$  and  $y$
- $a$  = limit of integration for  $x$
- $b$  = limit of integration for  $y$

[b] In the calculations of  $JP$ , the two standard normal random variables ( $x$  and  $y$ ) represent transformations of DCR and LTV values for individual properties. Standard normal random variables have normal (Gaussian) distributions, with a mean of zero and standard deviation of one. Any normally

distributed random variable can be “standardized” by subtracting the mean from the variable, and then dividing by the standard deviation. In this application, the “sample” group for which the standard deviations apply could include all multifamily properties in the geographic

location of the properties underlying the loan group being studied. Here the normally distributed variables are the true, but unknown  $\ln(DCR)$  and  $\ln(LTV)$  values for each loan, and their mean values are:

$$\bar{D}_t = \ln(DCR_t) - 0.50 \cdot \sigma_{\ln Z, t}^2 \text{ and}$$

$$\bar{L}_t = \ln(LTV_t) + 0.50 \cdot \sigma_{\ln Z, t}^2$$

where:

- $Z$  =  $1 - 2.15(V_t - 0.0623)$
- $\ln Z$  = natural logarithm of  $Z$

and

$$\sigma_{\ln Z, t}^2 = \ln \left( 1 + \left( \frac{2.15^2 \cdot V_t \cdot (1 - V_t)}{(1 - 2.15 \cdot (V_t - 0.0623))^2} \right) \right)$$

[c] The limits of integration ( $a$  and  $b$ ) represent the distance between the logs of the at-risk boundaries for underlying

properties—DCR=1.00 and LTV=1.00 and— $\bar{D}_t$  and  $\bar{L}_t$  respectively. The joint probability variable is then the value of the bivariate

density function, evaluated at particular values of the integration limits in each month of the stress period:

$$JP_t = BV(a_t, b_t, \rho)$$

[d] The following steps describe how to calculate the values of  $a_t$  and  $b_t$ .

1. First, compute the standard deviation of  $\ln(DCR_t)$  and  $\ln(LTV_t)$ :

$$\sigma_t = \sqrt{0.005625 \cdot A_t + \sigma_{\ln Z, t}^2}$$

where:

- $\sigma_t$  = standard deviation of both  $\ln(DCR_t)$  and of  $\ln(LTV_t)$  in month  $t$  of the stress period
- $A_t$  = age of mortgage (in years) in month  $t$  of the stress period
- $V_t$  = vacancy rate in month  $t$  of the stress period
- .075 = standard deviation of the rent growth rate
- 2.15 = percentage decline in net operating income for each percentage point increase in the vacancy rate since origination

2. The limits of integration in each month of the stress test,  $a_t$  and  $b_t$ , are:

$$a_t = \frac{\ln(1.00) - \bar{D}_t}{\sigma_t}$$

$$b_t = \frac{\ln(1.00) - \bar{L}_t}{\sigma_t}$$

where:

$\ln(.)$  = natural logarithm of value in brackets

These equations reduce to:

$$LTV_t = \frac{LTV_0 \cdot UPB_t \cdot 1.2778}{C_t \cdot N_t}$$

[e] The coefficient of correlation between the logarithms of  $DCR$  and  $LTV$  is:  $\rho = -0.5975$ . It should be noted that standard software packages that compute bivariate normal probabilities do their integrations over the left tails of both ( $x$  and  $y$ ) distributions. To estimate the left tail of the  $\ln DCR$  and the right tail of the  $\ln LTV$  distribution which is required to estimate  $JP_t$ ,

one simply reverses the signs on the  $\ln LTV$  integration limit (from  $b$  to  $-b$ ) and the correlation coefficient (from  $-0.5975$  to  $0.5975$ ).

#### 3.5.4.3.5.1 Balloon Maturity Risk (BJP)

[a] The balloon year is defined as the 12 months leading up to and including the maturity month. Because of the contractual requirement to pay off a loan at maturity, a

balloon loan with weak financials is more likely to default in the balloon year than at any previous time. The stress test captures this additional credit risk for balloon loans by giving extra weight to the  $JP_t$  variable in the balloon year. This is accomplished by including a second  $JP_t$  term in the default equations, which is only used for balloon loans, in the balloon year:

$$BJP_t = \begin{cases} JP_t & \text{if the loan is a balloon in month } t = \{(m-11), \dots, m\} \\ 0 & \text{otherwise} \end{cases}$$

where:

$$m = T_m - A_s, \text{ the stress period month when balloon maturity occurs}$$

[b] Not all loans will pay off or default by balloon maturity. For those that continue beyond balloon maturity, the stress test

updates  $PMT_t$  after the balloon date with current market interest rates (as described earlier) to simulate any increase (or decrease)

in payments upon refinancing the property. This change in loan payments changes the default risk in the post-balloon period.

3.5.4.3.5.2 Relative Spread Variables (*RS<sub>t</sub>*, *RSD<sub>t</sub>*, *RSU<sub>t</sub>*)

The incentive to prepay a mortgage because of the ability to refinance at lower interest rates is proxied by relative interest rate spreads. The difference here is that, for

fixed-rate mortgages, the relative spread is split into two variables: one for when market rates are below the coupon rate (*RSD<sub>t</sub>*), and one for when market rates are above the coupon rate (*RSU<sub>t</sub>*). *RSD<sub>t</sub>* captures in-the-money prepayment options, and *RSU<sub>t</sub>* captures any dampening effect on cash-out

refinancing when the prepayment option is out-of-the-money. For ARM loans, the relative spread variable (*RS<sub>t</sub>*) compares the current coupon rate to the current market rate on fixed-rate products.

1. For each ARM loan group, compute the relative spread as:

$$RS_t = \frac{r_{c,t} - r_{f,t}}{r_{c,t}}$$

2. For each fixed-rate loan group (including balloons), create the two spread variables:

$$RSD_t = \begin{cases} \frac{r_{c,0} - r_{f,t}}{r_{c,0}}, & \text{when } r_{c,0} > r_{f,t} \\ 0, & \text{otherwise} \end{cases}$$

$$RSU_t = \begin{cases} \left| \frac{r_{c,0} - r_{f,t}}{r_{c,0}} \right|, & \text{when } r_{c,0} < r_{f,t} \\ 0, & \text{otherwise} \end{cases}$$

3.5.4.3.5.3 Years-To-Go in the Yield-Maintenance Period (*YTG<sub>t</sub>*)

[a] One feature common to most fixed-rate multifamily mortgages, whether balloon or fully amortizing, is the yield maintenance

period (YMP). During a yield maintenance period, prepayment is restricted because borrowers cannot prepay the mortgage without incurring substantial penalties. For fixed-rate fully-amortizing mortgages, the YMP is 120 months. For fixed-rate balloon

loans, the YMP averages two-thirds of the loan term, up to a maximum of 120 months. ARM loans do not have yield maintenance periods. Table 3-19, of this Appendix provides the term of the YMP for each loan product as follows:

**Table 3-19. Yield Maintenance Period by Product Type**

| Product Type              | Yield Maintenance Period (in Months) |
|---------------------------|--------------------------------------|
| FHA-insured               | 120                                  |
| 30 YR Fixed-Rate Mortgage | 120                                  |
| 20 YR Fixed-Rate Mortgage | 120                                  |
| 15 YR Fixed-Rate Mortgage | 120                                  |
| 15 YR Balloon             | 120                                  |
| 10 YR Balloon             | 84                                   |
| 7 YR Balloon              | 60                                   |
| 5 YR Balloon              | 36                                   |
| Fully-amortizing ARMs     | 0                                    |
| Balloon ARMs              | 0                                    |
| Other                     | 120                                  |

[b] The YMP is used to create the explanatory variable years-to-go (*YTG<sub>t</sub>*), which measures the number of years remaining in the yield maintenance period of the mortgage. This explanatory variable is a proxy for the size of prepayment penalties, which decline throughout the YMP:

$$YTG_t = \begin{cases} (YMP - A_t)/12 & , \text{ when } YMP \geq A_t \\ 0 & , \text{ otherwise} \end{cases}$$

[c]  $YTG_t$  has its maximum value in the first month of loan life, and declines to zero by the end of the YMP. For loan programs with lockouts, which prohibit prepayment for a stated time period,  $YTG_t$  is set to ten for the duration of the lockout period.

$$YTG_t = \begin{cases} 10 & , \text{ for loans with lock-out provisions, when } YMP \geq A_t \\ 0 & , \text{ for loans with lock-out provisions, when } YMP < A_t \end{cases}$$

3.5.4.3.5.4 Relative Spread Variables in the Pre-balloon Period ( $RSD_{1t}$ ,  $RSD_{2t}$ )

For balloon loans during the post-yield-maintenance and pre-balloon period, borrowers must decide whether to lock in a

current interest rate or take their chances regarding what the market rate will be when the loan matures. To capture the additional incentive of borrowers to prepay in the two years prior to the balloon date, to take

advantage of favorable interest rates when they exist, the stress test provides extra weight to the  $RSD_t$  variable in both the year preceding the balloon year, and the year just prior to that:

$$RSD1_t = \begin{cases} RSD_t & , \text{ when } t = \{(m - 23), \dots, (m - 12)\} \\ 0 & , \text{ otherwise} \end{cases}$$

$$RSD2_t = \begin{cases} RSD_t & , \text{ when } t = \{(m - 35), \dots, (m - 24)\} \\ 0 & , \text{ otherwise} \end{cases}$$

where:

$$m = T_m - A_s, \text{ which is the month of balloon maturity in the stress period}$$

3.5.4.3.5.5 Market Rate for Fixed-Rate Mortgages ( $r_{r,t}$ )

The current market interest rate on fixed-rate single family mortgages is used to capture the effect of expectations of ARM borrowers with respect to future interest rate movements. This is in addition to the relative spread variable,  $RS_t$ , used in the prepayment equation for ARM loans. While  $RS_t$  measures differences between long-term and short-term interest rates, the long-term interest rate itself ( $r_{r,t}$ ) indicates the absolute level of interest rates.

3.5.4.3.5.6 Probability of Qualifying for Refinancing at Balloon Maturity ( $PQ_t$ )

[a] When a balloon loan matures, the borrower is contractually required to pay off the outstanding UPB. To do this, the borrower generally obtains a new loan. In practice, payoff rates are dependent on the ability of the borrower and property to qualify for a new loan. For multifamily mortgages, the LTV must generally be less than or equal to 0.80, and the DCR must be greater than or equal to 1.20. The need for the property financials to meet origination underwriting criteria at the balloon date adds to extension risk, i.e., the risk that the loan will not pay off, but remain outstanding.

[b] The stress test captures extension risk at the balloon date by estimating a separate payoff equation for balloon loans at or beyond maturity. The payoff equation includes only one variable, the probability of qualifying for refinancing ( $PQ_t$ ). This is constructed like the joint probability of negative equity and negative cash flow variable ( $JP_t$ ), except that the limits of integration now reflect the minimal requirements for loan qualification rather than the boundary points for default. The integration limits are from  $a_t$  to  $+\infty$  for  $\ln DCR_t$  (right tail) and from  $-\infty$  to  $b_t$  for  $\ln LTV_t$  (left tail), where:

$$a_t = \frac{\ln(1.20) - \ln\left(DCR_t \cdot \frac{PMT_0}{RPMT_t} - 0.50 \cdot \sigma_{V,t}^2\right)}{\sigma_t}, \text{ for } t = \{m, \dots, (m+60)\}$$

$$b_t = \frac{\ln(0.80) - \ln\left(LTV_t + 0.50 \cdot \sigma_{V,t}^2\right)}{\sigma_t}, \quad \text{for } t = \{m, \dots, (m+60)\}$$

and

$$RPMT_t = UPB_t \cdot \frac{r_{f,t}/12}{1 - \left(1 + r_{f,t}/12\right)^{-T_a}}, \quad \text{for } t = \{m, \dots, (m+60)\}$$

where:

$RPMT_t$  = mortgage payment if the loan were to be refinanced in month  $t$ , at current market interest rates,  $r_{f,t}$

$T_a$  = mortgage amortization term

$m$  = month of balloon maturity =  $(T_m - A_s)$

[c] The range of the integration limits is reversed from that used in calculating the  $JP_t$  variable, because  $PQ_t$  is calculating the probability of financially strong loans, while  $JP_t$  calculates the probability of financially weak loans. Again, in using a standard software package to calculate  $PQ_t$ , set the integration limit for  $\alpha_t = -\alpha_t$  and  $\rho = -\rho$

because the package is set up to integrate left tails only.

#### 3.5.4.3.5.7 Loan-to-Value Ratio ( $LTV_t$ )

The current loan-to-value ratio is used to capture the propensity of investors to initiate cash-out refinancing to increase borrowers' returns on equity. The time series of  $LTV_t$  is

used as an explanatory variable in prepayment equations.

#### 3.5.4.3.5.8 Summary of All Explanatory Variables

Table 3-20 outlines all of the explanatory variables that are used to calculate default and prepayment rates.

**Table 3-20. Summary List of Explanatory Variables**

| <b>Variable</b> | <b>Description</b>   |
|-----------------|--|
| $AY_t$          | Mortgage age, in (fractional) years  |
| $PR$            | This categorical variable for program restructuring adjusts for differences between original and current cash programs. A switch is set to "1" for loans originated under original cash programs at the Enterprises, and "0" for all other programs  |
| $DW$            | A fixed-value that represents the present value of tax benefits afforded to a new property investor  |
| $RF$            | A categorical variable indicating that the seller/servicer must repurchase the loans from security pools at 90-days delinquency. It is set to "1" for fixed-rate, negotiated program loans with recourse to the seller/servicer, "0" otherwise   |
| $RA$            | A categorical variable indicating that the seller/servicer must repurchase the loans from security pools at 90-days delinquency. A switch is set to "1" for adjustable-rate, negotiated program loans with recourse to the seller/servicer, "0" otherwise                                      |
| $JP_t$          | The joint probability of negative equity and negative cash flow  |
| $BJP_t$         | The joint probability of negative equity and negative cash flow for balloon loans in the 12 months leading up to and including balloon maturity, 0 otherwise   |
| $RS_t$          | The ratio of the difference between the current coupon on ARMs and the current market rate for 30-year fixed-rate single family loans, to the current coupon rate  |
| $RSD_t$         | The ratio of the difference between the original coupon on fixed-rate loans (including fixed-rate balloons) and the current market rate for single family fixed-rate loans, to the original coupon rate. Set to zero when values are negative  |
| $RSU_t$         | The absolute value of the ratio of the difference between the original coupon rate on fixed-rate loans (including fixed-rate balloons), and the current market rate for fixed-rate loans, to the original coupon rate. It is set to zero when the difference between the two rates is positive |
| $r_{i,t}$       | The conventional 30-year fixed-rate mortgage rate for single-family loans  |
| $YTG_t$         | Years remaining in the yield maintenance period  |
| $RSD1_t$        | The relative spread, down rates, variable in the period preceding the balloon maturity (months 13-23 prior to maturity), 0 otherwise   |
| $RSD2_t$        | The relative spread, down rates, variable ( $RSD$ ) for balloons in months 13-35 prior to the balloon maturity month, 0 otherwise  |
| $PQ_t$          | The joint probability that DCR and LTV are sufficient to qualify for a refinancing of the property with a new mortgage ( $DCR \geq 1.20$ and $LTV \leq 0.80$ )   |
| $LTV_t$         | The ratio of the outstanding loan balance to expected property value in each month   |

#### 3.5.4.3.6 Calculation of Default and Prepayment Rates

Conditional default and prepayment rates are calculated for each multifamily loan group based on the explanatory variables described above, and using statistical regression coefficients estimated on historical data. The regression coefficients provide weighting factors for each explanatory variable. The variables are each multiplied by their associated regression-coefficient (weights), and then added together to yield

total weighting factors. Default and prepayment total weighting factors are combined in pairs to calculate the annual-equivalent conditional default and prepayment rates for each corresponding loan group in each month of the stress period. These annual-equivalent rates are then converted into monthly rates.

#### 3.5.4.3.6.1 Combining Explanatory Variables into Total Weighting Factors

##### 3.5.4.3.6.1.1 Default Weighting Factors ( $\Delta$ )

The calculation of the total weighting factors for defaults varies by loan program. Two total weighting factors are calculated for loan defaults. One calculation is for mortgages purchased through cash programs, and the other is for mortgages acquired through negotiated programs. For each loan

group, the appropriate formula is used for the entire stress period.

For loan groups in cash programs:

$$\Delta_t = -10.0191 + 1.2687 AY_t - 0.0790 (AY_t)^2 + 0.6203 PR - 0.0829 DW + 7.8230 JP_t + 2.6446 BJP_t$$

3. For loan groups in negotiated programs:

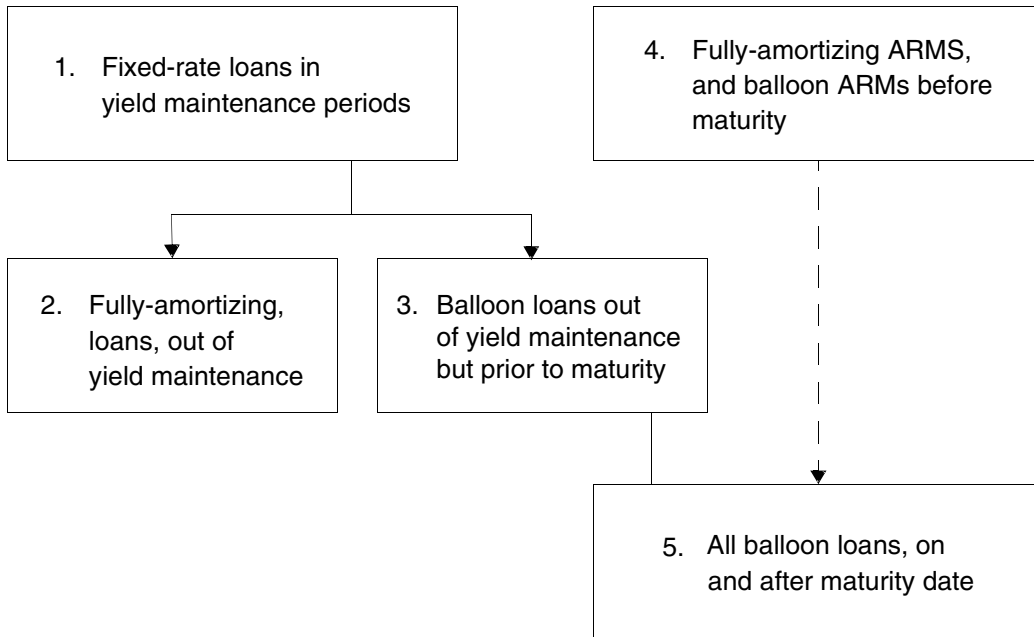
$$\Delta_t = -9.6418 + 1.0596 AY_t - 0.0633 (AY_t)^2 + 0.2627 RF + 0.6751 RA + 12.1660 JP_t + 2.6446 BJP_t$$

3.5.4.3.6.1.2 Prepayment Weighting Factors ( $\Pi_t$ )

Prepayment total weighting factors are calculated using equations that differ both by product type and life-cycle stage. For any one

loan group, one, two, or three different equations may be used during the stress period. Figure 3-4 illustrates how the prepayment weighting factor equations are used over the life of any particular loan group. Each block represents one of the five different equations for computing the prepayment total weighting factors.

**Figure 3-4. Prepayment Weighting Factor Equations**



1. Fixed-rate Mortgages (Fully Amortizing and Balloon Loans)

If the loan product is a “fixed-rate” or a non-ARM balloon, and for  $t$  where  $YMP \geq A_t$ ,

$$\Pi_t = -4.7854 + 0.4393 AY_t - 0.0263 (AY_t)^2 + 11.079 RSD_t - 7.13 RSU_t - 0.2656 YTG_t - 0.9499 LTV_t$$

2. Fully-amortizing loans, out of yield maintenance

If the loan product type is “fixed-rate,” and for  $t$  where  $YMP < A_t$ :

$$\Pi_t = 0.7129 - 0.2091 AY_t + 0.0044 (AY_t)^2 + 3.994 RSD_t - 0.796 RSU_t - 3.8166 LTV_t$$

3. Balloon loans out of yield maintenance, but prior to maturity.

When the mortgage product is a balloon with a fixed interest rate, and for values of  $t$  where  $YMP < A_t$ , and  $t < (m - 11)$ :

$$\Pi_t = -7.3368 + 1.5412 AY_t - 0.0952 (AY_t)^2 + 5.17 RSD_t - 0.796 RSU_t + 1.92 RSD1_t + 1.62 RSD2_t - 2.2591 LTV_t$$

where:

$$m = T_m - A_s, \text{ which is the month of balloon maturity in the stress period}$$

4. Fully-amortizing ARMs, and balloon ARMs before maturity.

When the mortgage product is a fully-amortizing ARM, or a balloon ARM where  $t < (m-11)$ , then:

$$\begin{aligned} \Pi_t = & -0.9037 + 1.7119 AY_t - 0.1231 (AY_t)^2 + 4.8137 RS_t - 51.31 r_{f,t} \\ & - 3.2223 LTV_t \end{aligned}$$

where:

$$m = T_m - A_s, \text{ which is the month of balloon maturity in the stress period}$$

5. All balloon loans, on and after the maturity date.

When the mortgage product is a balloon (ARM or fixed-rate), then the total weighting factors are calculated as:

$$\Pi_t = -1.0021 + 1.8013 PQ_t, \begin{cases} \text{for } t = \{ (m-11), \dots, (m+60), \text{ when } (m \geq 0) \\ \text{for } t = \{ 1, \dots, 36 \}, \text{ when } m < 0 \end{cases}$$

where:

$$m = T_m - A_s, \text{ which is the month of balloon maturity in the stress period}$$

Balloon loans do not all terminate at the balloon date. The stress test allows them to run-off according to default and prepayment (payoff) rate calculations, in the balloon year, and for up to five years beyond the balloon date. All balloon loans that do not terminate within five years beyond the balloon date are terminated in the sixty-first month. Loan groups with balloon dates prior to the start

of the stress test ( $m < 0$ ) are terminated in the thirty-seventh month of the stress period.

#### 3.5.4.3.6.1.3 Calculating Annual Equivalent Default and Prepayment Probabilities

[a] Once the time series of default and prepayment total weighting factors are computed for each loan group, they are combined in multinomial logit equations to

calculate the annual-equivalent default and prepayment probabilities. These probabilities represent what would happen over the course of a year, were default and prepayment probabilities for a given month ( $t$ ) to continue for an entire year.

[b] The annual-equivalent default probability,  $AD_t$ , in each month,  $t$ , is computed as:

$$AD_t = \frac{\exp\{\Delta_t\}}{1 + \exp\{\Delta_t\} + \exp\{\Pi_t\}}$$

and the annual-equivalent prepayment probability,  $AP_t$ , in each month ( $t$ ) is computed as:

$$AP_t = \frac{\exp\{\Pi_t\}}{1 + \exp\{\Delta_t\} + \exp\{\Pi_t\}}$$

#### 3.5.4.3.6.1.4 Terminating Balloon Loans after Maturity

At the final termination point, annual-equivalent probabilities of default and payoff are calculated as functions of two explanatory-variable probabilities: the joint probability of negative equity and negative cash flow ( $JP_t$ ), and the probability of qualifying for a refinancing ( $PQ_t$ ):

$$AD_t = \frac{JP_t}{JP_t + PQ_t}$$

$$AP_t = 1 - AD_t$$



where:

$$\begin{aligned} \text{for: } t &= m + 61, \text{ when } m \geq 0 \text{ and } (m + 61) \leq 120 \\ t &= 37 \text{ when } m < 0 \end{aligned}$$

where:  $m = T_m - A_s$ , which is the month of balloon maturity in the stress period

3.5.4.3.7 Calculating Monthly Default and Prepayment Rates The monthly conditional default and prepayment rates are derived from the annual-equivalent probabilities for each month using geometric means. For default rates:

$$Def_t = 1 - \left(1 - AD_t\right)^{\frac{1}{12}}$$

and for prepayment rates:

$$Prep_t = 1 - \left(1 - AP_t\right)^{\frac{1}{12}}$$

3.5.4.4 Output

The 120 monthly default and 120 monthly prepayment rates are generated for each loan group and are used by the Cash Flow component of the stress test to compute monthly dollar amounts of loans that prepay and default (see section 3.9, Cash Flows, of this Appendix).

3.5.5 Multifamily Loss Severity

3.5.5.1 Overview

Loss severity is the net cost to an Enterprise of a loan default. The loss severity rate is expressed as a percentage of the UPB at time of default. The stress test calculates loss severity rates for each multifamily loan group for each month of the stress period. Loss severity rates are discounted to calculate an effective loss rate in the month of default, adjusting various cost and revenue components of loss severity that occur following the default date. The effective loss

severity rate is multiplied by the corresponding mortgage default rate to calculate the loan group loss-rate. The loss-rate is multiplied by the UPB in each month to compute the dollar amount of credit losses for each loan group.

3.5.5.2 Inputs

[a] The following loan group characteristics are used:

- Program type
- Portfolio
- Net yield (the variable “ $r_y$ ” in equations below)<sup>14</sup>
- Passthrough rate (the variable “ $r_p$ ” in equations below)<sup>15</sup>

[b] The six-month Federal agency cost of funds (variable “ $r_{d,t}$ ”) interest rate series is used for discounting default-related cash flows in loss severity calculations. This series is an output from section 3.3, Interest Rates, of this Appendix.

3.5.5.3 Procedures

The loss severity rates are calculated by program type and portfolio. Cash flows are discounted semi-annually. The impact of credit enhancements on cash programs with recourse and FHA-insured loan programs is calculated below. Credit enhancements for other multifamily program types are applied in section 3.9, Cash Flows, of this Appendix.

3.5.5.3.1 Retained Portfolio: Cash Programs Without Recourse

[a] The basic loss severity equation is for loan groups consisting of retained loans purchased under cash programs without recourse. For these loan groups, loss severity rates are calculated as the UPB at the time of default (represented by the “1” in the following equation), plus the present value of foreclosure costs and property operating expenses, minus the net proceeds from sale of the property:

$$NPV_t = 1 + \frac{F}{\left(1 + \frac{r_{d,t}}{2}\right)^{\frac{t_f}{6}}} + \frac{O \cdot t_i}{\left(1 + \frac{r_{d,t}}{2}\right)^{\frac{t_f + t_i/2}{6}}} - \frac{P}{\left(1 + \frac{r_{d,t}}{2}\right)^{\frac{t_f + t_i}{6}}}$$

<sup>14</sup> Net yield at the start of the stress test is used throughout the stress period for all loan groups, including ARMs.

<sup>15</sup> Passthrough rate at the start of the stress test is used throughout the stress period for all loan groups, including ARMs.

where:

- $NPV_t$  = net loss severity rate (as a fraction of the unpaid loan balance) in month  $t = \{1, \dots, 120\}$
- $F$  = foreclosure costs (0.0901 of the unpaid loan balance)
- $O$  = operating loss, per month (0.00332 of the unpaid loan balance)
- $P$  = net property sale proceeds (0.5888063 of the unpaid loan balance)
- $t_f$  = time from default to foreclosure (18 months)
- $t_i$  = property inventory time (13 months), the time between foreclosure and property disposition
- $r_{d,t}$  = discount rate (six-month Federal agency cost of funds) in month  $t$  of the stress period

[b] Each  $NPV_t$  value represents the loss severity rate for loans defaulting in month  $t$  of the stress period. The timing of events (e.g., time from default to foreclosure, etc.) used in the equation shown above is also used in the loss severity rate equations for all other program types and portfolios. The net operating loss on foreclosed properties for the 13 months that the property would be real estate owned (REO) is expensed in the seventh month of the 13-month holding period.

3.5.5.3.2 Sold Portfolio: Programs Without Recourse or Repurchase

There is a slight change in the basic loss severity equation shown above for sold loans purchased under cash programs without recourse, and for negotiated programs without repurchase. Four months of interest are passed through to investors before the loans are bought out of security pools for default resolution. The passthrough interest expense in the second term of the loss

severity equation, below, is discounted for two months. This represents a midpoint of the period of interest expenditures. In addition, the UPB at time of default is a direct cash outlay, occurring four months after default. Therefore, the UPB at time of default is discounted because the stress test accounts for this payment in the month of default. Therefore, the following modified equation is applied to sold loans purchased under cash programs without recourse, and negotiated programs without repurchase:

$$NPV_t = \frac{1}{\left(1 + \frac{r_{d,t}}{2}\right)^6} + \frac{(r_p/12) \cdot 4}{\left(1 + \frac{r_{d,t}}{2}\right)^6} + \frac{F}{\left(1 + \frac{r_{d,t}}{2}\right)^6} + \frac{O \cdot t_i}{\left(1 + \frac{r_{d,t}}{2}\right)^{\frac{(t_f + t_i/2)}{6}}} - \frac{P}{\left(1 + \frac{r_{d,t}}{2}\right)^{\frac{t_f + t_i}{6}}}$$

where:

- $r_p$  = the passthrough interest rate

3.5.5.3.3 Retained Portfolio: Cash Programs With Recourse

When loans are purchased under cash programs with recourse, the seller/servicer shares any losses with the Enterprise. The

stress test computes the amount of recourse and reduces the gross severity rate as described below.

1. Compute two additional revenue elements: interest income paid by the seller/servicer to the Enterprise ( $II$ ) and (additional)

proceeds from the seller/servicer ( $SP$ ) recourse.

- a. Calculate mortgage interest income,  $II$ , paid by the seller/servicer during the time between default and foreclosure:

$$II = (r_y / 12) \cdot t_f$$

where:

- $r_y$  = Current net yield (coupon rate less servicing fee)

b. Calculate proceeds from the seller/servicer recourse ( $SP$ ).

- Calculate the seller/servicer share of loss,  $S$ , as a fraction of the UPB:

$$S = 0.10 + p \cdot (II + F + (1 - P) - 0.25)$$

where:

- $p$  = seller/servicer loss share percentage (0.10)
- 0.25 = deduction for amount of total default cost that is covered by the amount of lender recourse embedded in the first term on the right hand side of the equation (0.10)

• Reduce seller/servicer loss share ( $S$ ) by the interest income it has already paid to the Enterprise ( $II$ ). Thus, the final seller/servicer payment will be:

$$SP = S - II$$

2. Calculate net present value loss severity rates for defaults in each month ( $t$ ) by summing the discounted values of all cost and revenue elements:

$$NPV_t = 1 - \frac{II}{\left(1 + \frac{r_{d,t}}{2}\right)^{\frac{t_f/2}{6}}} + \frac{F}{\left(1 + \frac{r_{d,t}}{2}\right)^{\frac{t_f}{6}}} - \frac{SP}{\left(1 + \frac{r_{d,t}}{2}\right)^{\frac{t_f}{6}}} + \frac{O \cdot t_i}{\left(1 + \frac{r_{d,t}}{2}\right)^{\frac{t_f + t_i/2}{6}}} - \frac{P}{\left(1 + \frac{r_{d,t}}{2}\right)^{\frac{t_f + t_i}{6}}}$$

In this equation, interest income ( $II$ ) is discounted from the mid-point of the time between default and foreclosure, to reflect that interest payments are made monthly by the seller/servicer throughout this period. The seller/servicer's payment, or share of loss, is discounted from the foreclosure date. This is also a midpoint date, because seller/servicers pay the Enterprise some recourse amounts prior to foreclosure, and the rest of

the recourse amount approximately two months after foreclosure.

3.5.5.3.4 Sold Portfolio: Cash Programs with Recourse

The steps for computing loss severity rates for cash programs with recourse for sold loans purchased follow the steps outlined for similar programs for retained loans. The differences are that the UPB at time of default is discounted, and there is an added expense

element, the interest passthrough expense ( $IE$ ) of payments made by the Enterprise to security holders. The UPB at time of default is discounted because this amount is disbursed to security holders four months after the time of default. The interest expense is computed for four months and discounted for two months.

1. Calculate four months of passthrough interest expense:

$$IE = (r_p / 12) \cdot 4$$

where:

- $r_p$  = the passthrough interest rate

2. Calculate the loss severity rate for defaults in each month,  $t$ , using  $IE$  and other components as described above:

$$NPV_t = \frac{1}{\left(1 + \frac{r_{d,t}}{2}\right)^{\frac{4}{6}}} - \frac{II}{\left(1 + \frac{r_{d,t}}{2}\right)^{\frac{t_f/2}{6}}} + \frac{IE}{\left(1 + \frac{r_{d,t}}{2}\right)^{\frac{2}{6}}} + \frac{F}{\left(1 + \frac{r_{d,t}}{2}\right)^{\frac{t_f}{6}}} - \frac{SP}{\left(1 + \frac{r_{d,t}}{2}\right)^{\frac{t_f}{6}}} + \frac{O * t_i}{\left(1 + \frac{r_{d,t}}{2}\right)^{\frac{t_f + t_i/2}{6}}} - \frac{P}{\left(1 + \frac{r_{d,t}}{2}\right)^{\frac{t_f + t_i}{6}}}$$

3.5.5.3.5 Sold Portfolio: Negotiated Programs with Repurchase

In the case of default on negotiated programs with seller/servicer repurchase

provisions, the Enterprises' losses represent a combination of foreclosures and alternative resolutions. These alternatives are loan restructuring, note sales, pre-foreclosure

property sales, or acceptance of deeds in lieu-of foreclosure. Seller/servicers are responsible for all resolution processes, including all post-foreclosure property

management and disposition. The Enterprise pays the seller/servicer claim, *C*, that results from the default-resolution expenses. There

is typically a recourse account established for this purpose. Thus:

$$NPV_t = \frac{C}{\left(1 + \frac{r_{d,t}}{2}\right)^{\frac{12}{6}}}$$

where:

- C* = seller/servicer claim amount, as a fraction of the unpaid principal balance (0.39)
- 12 = time from default to average claim payment

In this equation, the discount time period for the single cost component is the expected time to foreclosure rather than time to final property sale, to reflect a balance of default-resolution types and associated time intervals before claims are filed with the Enterprise.

3.5.5.3.6 FHA-insured Programs

Loss severities on FHA-insured mortgages are set to three percent to reflect the costs of assigning defaulted loans to HUD.

3.5.5.4 Output

The 120 monthly loss severity rates for each loan group are used by the Cash Flow component of the stress test to calculate monthly amounts of credit losses, net of recourse offsets (see section 3.9, Cash Flows, of this Appendix).

3.6 Other Credit Factors

3.6.1 Overview

The Other Credit Factors component of the stress test accounts for sources of credit risk other than the risk of default by mortgage borrowers. These sources of credit risk include the risk of default by credit enhancement and derivative counterparties, as well as the risk of default of corporate securities, municipal securities, and rated mortgage-related securities. The stress test classifies these sources of credit risk into four ratings categories (“AAA”, “AA”, “A” and “BBB”) based on public ratings information,

and establishes credit loss factors appropriate to each of these categories that are applied during the stress period.

3.6.2 Input

The stress test uses credit ratings issued by Standard & Poor’s, Moody’s, Duff & Phelps and Fitch as the basis to assign counterparties (except seller/servicers) and securities into one of the four rating categories. The stress test only uses Standard & Poor’s and Moody’s ratings for seller/servicers.

3.6.3 Procedures

3.6.3.1 Identifying Other Credit Factors

The stress test first identifies all non-mortgage borrower sources of credit risk and associated financial instruments, and groups them into two major categories—counterparties and securities. Counterparties are mortgage insurers, pool insurers, seller/servicers, and counterparties for derivative contracts. Securities include mortgage-related securities, such as mortgage revenue bonds (MRBs) and private label REMICs, and non-mortgage investments, such as corporate and municipal bonds and asset-backed securities (ABSs).

3.6.3.2 Classifying Rating Categories in the Stress Test

[a] Public ratings of a counterparty or security determine the extent of associated

credit losses during the stress period. Based on these ratings, the stress test classifies counterparties and rated securities into one of the four rating categories:

- AAA—all securities/counterparties rated between AAA/Aaa and AAA-/Aaa3
- AA—all securities/counterparties rated AA+/Aa1 and AA-/Aa3
- A—all securities/counterparties rated A+/A1 and A-/A3
- BBB—all securities/counterparties rated BBB+/Baa1 and below (Unrated corporate securities and counterparties are included in the BBB category.)

[b] For loans with more than one layer of mortgage credit enhancement coverage, only the ratings of the counterparty providing the primary layer of coverage are used. If the security or the primary coverage provider has different ratings from different rating agencies, i.e., a “split rating,” then the lower rating is used.

3.6.3.3 Accounting for Other Credit Factors

[a] The stress test specifies the final haircuts (i.e., the full amount of discount for other sources of credit risk in the stress period) by rating categories as shown in Table 3–21. The stress test further specifies that haircuts increase by equal amounts in each month until the final haircut is reached during the 120th month of the stress period.

**Table 3-21. Stress Test Final Haircuts by Credit Rating Category**

| Rating Category (R)  | AAA | AA  | A   | BBB |
|--|-----|-----|-----|-----|
| All counterparties and securities except derivative counterparties | 10% | 20% | 40% | 80% |
| Derivative counterparties  | 2%  | 4%  | 8%  | 16% |

[b] Haircuts for each credit rating category in each month of the stress period can be obtained from the following formula:

$$H_{R,t} = \frac{FH_R}{120} \cdot t$$

where:

- $H_{R,t}$  = haircut for credit rating category R in month  $t$  of the stress period  
 $FH_R$  = final haircut for credit rating category R in the stress period  
 $t$  = month  $t$  of the stress period  
R = credit rating categories (AAA, AA, A, BBB)

[c] The haircut is applied to the cash flows of a rated security or payments due from a counterparty according to the following formula:

$$ACF_{R,t} = (1 - H_{R,t}) \cdot CF_{R,t}$$

where:

- $ACF_{R,t}$  = adjusted cash flow of a rated security or payments due from a counterparty with credit rating R in month  $t$  of the stress period  
 $CF_{R,t}$  = unadjusted cash flow of a rated security or payments due from a counterparty with credit rating R in month  $t$  of the stress period  
 $H_{R,t}$  = haircut for credit rating category R in month  $t$  of the stress period

### 3.6.4 Output

The outputs of the Other Credit Factors component are the stress period final haircuts by rating category and by counterparty and security category. These haircuts are inputs to section 3.7, Mortgage Credit Enhancements; section 3.5.3, Single Family Loss Severity; section 3.5.5, Multifamily Loss Severity; and section 3.9, Cash Flows, of this Appendix.

## 3.7 Mortgage Credit Enhancements

### 3.7.1 Overview

For each loan group and each month of the stress period, the stress test calculates reductions to mortgage credit losses that reflect the effects of credit enhancements. This component calculates the values of eight loan group characteristics relating to credit enhancements, which are part of the Enterprises' starting position loan group characteristics, as described in Table 3-2 of this Appendix. These characteristics, combined with counterparty "haircuts," are used in section 3.5.3, Single Family Loss Severity and section 3.5.5, Multifamily Loss Severity, of this Appendix to calculate loss severity rates, and in section 3.9, Cash Flows, of this Appendix to calculate dollar reductions to credit losses.

### 3.7.2 Inputs

This component uses the inputs listed in section 3.7.2.1, 3.7.2.2, and 3.7.2.3 of this Appendix.

#### 3.7.2.1 Enterprise Data on Mortgage Credit Enhancements

[a] Loan-level information on mortgage credit enhancements:

- Type of mortgage credit enhancement
- Starting UPB
- Private mortgage insurance (PMI) percent coverage, if applicable

[b] Contract-level information on mortgage credit enhancements, if applicable:

- Limited recourse coverage remaining

- Limited indemnification coverage remaining
- Starting account balance of spread accounts
- Starting account balance of collateral accounts
- Starting account balance of cash accounts
- Pool insurance coverage remaining
- Coverage expiration date, unless coverage has expired before the beginning of the stress period

#### 3.7.2.2 Public Rating Information

Rating information from four public rating agencies—Standard & Poor's, Moody's, Duff & Phelps and Fitch—is used for mortgage insurers and pool insurers, and Standard & Poor's and Moody's rating information is used for seller/servicers. A "BBB" rating category is attributed to unrated counterparties. For loans with more than one layer of credit enhancement coverage, only the ratings of the counterparty providing the primary layer of coverage are used. If the primary coverage provider has different ratings from different rating agencies, i.e., a "split rating," then the lower rating is used. For each credit-enhanced loan, the following information is required where applicable:

- Public ratings of mortgage insurer
- Public ratings of pool insurer
- Public ratings of the seller/servicer

#### 3.7.2.3 Counterparty Coverage Reduction Information

Counterparty coverage reduction data (haircuts) obtained from section 3.6, Other Credit Factors, of this Appendix, are:

- Haircuts for each month of the stress period for counterparties in the "AAA" credit rating category
- Haircuts for each month of the stress period for counterparties in the "AA" credit rating category
- Haircuts for each month of the stress period for counterparties in the "A" credit rating category

- Haircuts for each month of the stress period for counterparties in the "BBB" credit rating category

### 3.7.3 Procedures

Using the loan level and contract level information described above, the stress test first classifies the types of credit enhancement coverage within a loan group. Then it calculates values for the eight loan group characteristics relating to credit enhancements described in Table 3-2 of this Appendix. Of the eight characteristics, three are coverage amounts for the loan group for each of three types of credit enhancements, four are percentages of loan group UPB covered by each counterparty rating category, and one is the percentage of loan group UPB covered by dollar-denominated credit enhancements, as defined in section 3.7.3.1, Classification of Credit Enhancements, of this Appendix.

#### 3.7.3.1 Classification of Credit Enhancements

[a] The stress test separates all of the various mortgage credit enhancements into two categories—percent-denominated credit enhancements and dollar-denominated credit enhancements. Percent-denominated credit enhancements cover losses based on the percentage of the loss incurred. This category includes private mortgage insurance (PMI), unlimited recourse, and unlimited indemnification. In addition to the percent-denominated credit enhancements listed here, certain multifamily programs have risk-sharing arrangements between the Enterprise and the seller/servicer. The process in the stress test that simulates the coverage of these programs is described completely in section 3.5.5, Multifamily Loss Severity, of this Appendix.

[b] Depending on the specific credit enhancement type, the loss covered can be based on either the "gross claim amount" (which includes the defaulted principal balance, unpaid interest from default through

foreclosure, and associated expenses, but does not include the subsequent proceeds from the sale of REO), or the net loss incurred (which does include proceeds from the sale of REO). Specifically, private mortgage insurance coverage is based on the gross claim amount, while unlimited recourse and indemnification coverage are based on the net loss incurred. See section 3.5.3, Single Family Loss Severity, of this Appendix for details on how the coverage is applied. The stress test further classifies PMI as "Credit Enhancement Coverage Type 1" (Type 1), and unlimited recourse and unlimited indemnification as "Credit Enhancement Coverage Type 2" (Type 2).

[c] Dollar-denominated credit enhancements cover losses on a dollar-for-dollar basis, up to a maximum amount (i.e., there is a "dollar cap" on the coverage). This category includes limited recourse, limited indemnification, pool insurance, spread accounts, collateral posted under collateral pledge agreements, and cash accounts. The stress test classifies all the dollar-denominated coverages as "Credit Enhancement Coverage Type 3" (Type 3).

### 3.7.3.2 Calculating Percentage Coverage and Dollar Coverage Amounts:

For each loan group, the stress test calculates the coverage for the overall loan group UPB provided by each type of credit enhancement (Types 1, 2, and 3) on the individual loans in the group.

1. Credit Enhancement Coverage Type 1 is calculated as the UPB weighted average percent coverage for all the loans in the loan group with PMI coverage. Loans in the loan group that are not covered by PMI are assumed to have coverage of zero percent, for the purpose of calculating the weighted average. Thus if a loan group UPB is ten million dollars, and one million of that balance has 35 percent Type 1 coverage, the overall loan group Type 1 coverage is 3.5 percent.

2. Credit Enhancement Coverage Type 2 is calculated as the UPB weighted average percent coverage for all the loans with unlimited recourse and unlimited indemnification coverage in the loan group. Because coverage is unlimited for each loan, the percent coverage at the loan level is 100 percent for covered loans. Loans in the loan group that are not covered by Type 2 credit

enhancements are assumed to have coverage of zero percent, for the purpose of calculating the weighted average. Thus, if a loan group UPB is ten million dollars, and one million of that balance has 100 percent Type 2 coverage, the overall loan group Type 2 coverage is ten percent.

3. To calculate the Credit Enhancement Coverage Type 3 (i.e., the total coverage of all dollar-denominated credit enhancements), the stress test first assigns each loan under a contract its pro-rata share of the total dollar coverage for that contract (loans covered under a single contract may be assigned to several loan groups). The pro-rata dollar coverage of covered loans in a loan group is totaled to determine total dollar-denominated coverage for the entire group. This total dollar coverage is determined at the beginning of the stress period. Although the balances in spread accounts and collateral accounts at the beginning of the stress period could, in practice, fluctuate over time, the stress test specifies that these account balances are adjusted downward only to cover losses during the stress period, and are otherwise fixed.

### 3.7.3.3 Calculating Percent of UPB Covered by Each Counterparty Rating Category

The stress test calculates the percent of loan group UPB covered by each of the four counterparty rating categories. The UPBs of loans with counterparties falling into each rating category are divided by the UPB of the loan group. The results are values for the following four loan group characteristics:

- Percent of UPB under AAA coverage
- Percent of UPB under AA coverage
- Percent of UPB under A coverage
- Percent of UPB under BBB coverage

### 3.7.3.4 Calculating the Percent of UPB Under Dollar-Denominated Coverage

The stress test determines the percent of UPB under dollar-denominated coverage for each loan group. This percentage is calculated by dividing the loan group UPB with Type 3 coverage by the total UPB amount of the loan group.

### 3.7.3.5 Calculating Coverage Against Credit Losses

Based on loan group credit enhancement characteristics, the stress test simulates the coverage provided during the stress period. Percent-denominated and dollar-

denominated mortgage credit enhancement coverages are calculated and applied separately and sequentially in the stress test to generate net credit losses for each loan group. The dollar coverage of percent-denominated credit enhancements for any loan group varies based upon the mortgage losses during the stress period for that group. Therefore, the effects of percent-denominated credit enhancements are determined in connection with the calculation of loss severity rates. By contrast, amounts of dollar-denominated credit enhancements (total dollar coverage amounts) are calculated as of the start of the stress period and factored directly into the calculation of cash flows.

### 3.7.3.5.1 Calculating Percent-Denominated Credit Enhancements

The percent coverage rates for Type 1 and Type 2 credit enhancements are input into section 3.5.3, Single Family Loss Severity and section 3.5.5, Multifamily Loss Severity, of this Appendix to determine loss severity. The Loss Severity component uses this information, together with counterparty haircuts from section 3.6, Other Credit Factors, of this Appendix, to derive loss severity rates. Thus, the effects of percent-denominated credit enhancements are incorporated into the calculations of loss severity rates. These loss severity rates are then input to section 3.9, Cash Flows, of this Appendix to generate the dollar amounts of credit losses.

### 3.7.3.5.2 Calculating Dollar-Denominated Credit Enhancements

Reductions in credit losses resulting from dollar-denominated credit enhancements depend on the amount of dollar losses for a loan group and the remaining available dollar-denominated coverage in each month of the stress test. Reductions are applied in section 3.9.1, Whole Loans, of this Appendix. The algorithm implementing these reductions is described below.

1. In each month, use the time-and-category-specific haircuts ( $H_{R,t}$ ) from section 3.6, Other Credit Factors, of this Appendix to calculate a weighted average haircut for the loan group ( $H_t$ ). The weights used are the percentages of UPB that fall into each of the four counterparty rating categories for each loan group. The formula is as following:

$$H_t = \sum_R \delta_R H_{R,t}$$

where:

- $H_t$  = weighted average haircut for the loan group in month  $t$  of the stress period
- $\delta_R$  = percent of UPB under rating category R coverage in the loan group
- $H_{R,t}$  = haircut for counterparty with credit rating category R in month  $t$  of the stress period

2. In each month of the stress test, calculate the loan group dollar losses that are eligible for dollar-denominated coverage:

$$TDL_t = \theta_t \cdot UPB_t \cdot Def_t \cdot NPV3_t$$

where:

- $TDL_t$  = total dollar losses eligible for dollar-denominated coverage in a loan group
- $\theta_t$  = percentage of loan group UPB covered by dollar-denominated credit enhancement in month  $t$  of the stress test
- $t$  = month  $t$  of the stress test period ( $t=1, \dots, 120$ )
- $UPB_t$  = unpaid principal balance of the loan group
- $Def_t$  = default rate for the loan group
- $NPV3_t$  = loss severity rate for the loan group (as defined in section 3.5.3, Single Family Loss Severity, of the Appendix)

3. For each loan group, compare the total dollar losses eligible for dollar-denominated coverage ( $TDL_t$ ) with the remaining dollar coverage for the loan group in month  $t$  of the stress period ( $C3_t$ ). If  $TDL_t \geq C3_t$ , then reduce loan group credit losses by  $C3_t \cdot (1 - H_t)$ . If

$TDL_t < C3_t$ , then reduce loan group credit losses by  $TDL_t(1 - H_t)$ .

4. Update the remaining dollar-denominated coverage for the loan group in the following month ( $C3_{t+1}$ ) as the maximum between zero and the value of the remaining

dollar-denominated coverage for the loan group in the current month minus the total dollar losses eligible for dollar-denominated coverage for the loan group in that month. The formula is as follows:

$$C3_{t+1} = \max[0, C3_t - TDL_t]$$

where:

- $C3_{t+1}$  = remaining dollar coverage of all dollar-denominated credit enhancements (Type 3) in the loan group in month  $t+1$  of the stress test
- $C3_t$  = remaining dollar coverage of all dollar-denominated credit enhancements (Type 3) in the loan group in month  $t$  of the stress test
- $TDL_t$  = total dollar losses eligible for dollar-denominated coverage in a loan group in month  $t$  of the stress test

5. After generating the remaining balance of the dollar-denominated coverage in month  $t+1$  of the stress test ( $C3_{t+1}$ ), then go to steps 2–4 again, to derive the reduction to credit losses for month  $t+1$  of the stress test. This process continues for each month of the stress test until all the dollar-denominated coverage for the loan group is used up or until the stress test reaches its 120th month.

#### 3.7.4 Output

For each loan group for each month of the stress period, the Mortgage Credit Enhancements component of the stress test generates loss coverage rates for percentage-denominated credit enhancements, and dollar loss reductions for dollar-denominated credit enhancements. The percentage coverage rates are used in section 3.5.3, Single Family Loss Severity and section 3.5.5, Multifamily Loss Severity, of this Appendix to calculate loss severity rates. Dollar loss reductions are used in section 3.9.1, Whole Loans, of this Appendix to adjust default losses.

### 3.8 Other Off-Balance Sheet Guarantees

#### 3.8.1 Overview

In addition to guaranteeing mortgage-backed securities they issue as part of their main business, the Enterprises guarantee other instruments, referred to as “other off-balance-sheet (OBS) guarantees.” The stress test does not explicitly project the

performance of these other OBS guarantees. Instead, it addresses the capital requirement for other OBS guarantees by adding the product of the total other OBS guarantees principal balance and 45 basis points to the total amount of capital required to maintain positive total capital throughout the ten-year stress period.

#### 3.8.2 Input

[a] The OBS Guarantees component requires the Enterprise’s outstanding balances for the following OBS guarantees at the beginning of the stress period:

- Tax-exempt multifamily housing bonds
- Single-family whole-loan REMICs
- Multifamily whole-loan REMICs
- Any other instruments or obligations that fit the definition of “Other Off-Balance Sheet Obligations” in 12 CFR 1750.2

[b] Any instruments or obligations, 100 percent of whose collateral is guaranteed by the Federal Housing Authority (FHA), are excluded from the total dollar amount of other OBS guarantees.

#### 3.8.3 Procedures

The OBS Guarantees component first calculates the total outstanding balance of all other OBS guarantees at the beginning of the stress period by summing the outstanding balances for tax-exempt multifamily housing bonds, single-family whole-loan REMICs, multifamily whole-loan REMICs, and any

other instruments or obligations that fit the definition of other OBS guarantees. The dollar amount of capital required for other OBS guarantees is then computed as the total outstanding balance of all other OBS guarantees at the beginning of the stress period times 45 basis points.

#### 3.8.4 Output

The OBS Guarantees component produces one number: the dollar amount of capital required for other OBS guarantees. This number is input to the Calculation of the Risk-Based Capital Requirement component to compute the risk-based capital required for the Enterprises.

### 3.9 Cash Flows

#### 3.9.1 Whole Loans

##### 3.9.1.1 Overview

[a] Both Enterprises hold single family and multifamily mortgage loans in their retained portfolios and guarantee passthrough mortgage-backed securities (MBS) owned by investors and backed by pools of such mortgage loans. Loans held in portfolio are referred to as “retained loans,” and loans backing guaranteed securities are referred to as “sold loans.” Together, retained loans and sold loans are referred to as “whole loans.”

[b] The Enterprises receive all principal and interest payments on their retained loans, except for a servicing fee—a portion of

the interest payment retained by the servicer as compensation. On sold loans, the Enterprises receive guarantee fees and earn float income. Float income is earned when the Enterprises invest principal and interest payments for sold loans for the period of time between the receipt of the payments and the remittance of the payments, net of guarantee fees, to security holders. The length of time an Enterprise can invest these payments depends on the security payment cycle (the remittance cycle).

[c] The calculation of whole loan cash flows requires loan group information as the basic input data, as well as information on interest rates, mortgage performance and the credit quality of third party credit enhancements. Cash flows are produced for each month of the stress period for each loan group. (The stress test includes the dollar amount of credit losses in cash flows, even though such losses are not literally cash flows.)

### 3.9.1.2 Inputs

#### 3.9.1.2.1 Loan Group Data

The following data as of the start of the stress test are used for whole loan cash flow computations:

- Product type
- Starting unpaid principal balance
- Starting coupon
- Servicing fee
- Mortgage age
- Remaining term
- Guarantee fee (for sold loans)
- Remittance cycle (for sold loans)
- Passthrough rate (for sold loans)
- Original coupon (for ARMs)
- Margin (for ARMs)
- Amortization term (for balloons)

#### 3.9.1.2.2 Interest Rates

Whole loan cash flow calculations require the following interest rates for each of the 120 months of the stress period:

- One-, three-, and five-year Constant Maturity Treasury yields (CMT)
- 11th District Federal Home Loan Bank Cost of Funds Index (COFI)
- Overnight Federal Funds rate (for calculation of float earnings)

#### 3.9.1.2.3 Mortgage Performance Data

Whole loan cash flow calculations also require the default, prepayment, and loss severity rates, which are computed as described in section 3.5, Mortgage Performance, of this Appendix, for each loan group for each month of the stress period.

### 3.9.1.3 Procedures

This section describes calculations of prepaid principal, scheduled principal, UPB, interest, and float income for fully amortizing, monthly pay, fixed-rate loan groups. It then describes the adaptation of these calculations for biweekly, adjustable-rate, and balloon loans. Lastly, this section describes calculations of the dollar amount of credit losses.

#### 3.9.1.3.1 Fully Amortizing, Monthly Pay Fixed-Rate Loans

[a] The calculations discussed for fully amortizing, monthly pay, fixed-rate loans apply not only to loan groups made up of 30-

year and 15-year loans, but also to loan groups comprised of second lien, step, tiered payment mortgage (TPM), and graduated payment mortgage (GPM) loans.

[b] Scheduled principal and interest payments for fully amortizing monthly pay, fixed-rate loans are computed using standard equations based on three variables: UPB, starting coupon, and remaining term.

[c] The stress test computes the amounts of prepaid principal and defaulted principal in each month by multiplying the loan group's UPB at the end of the previous month by the prepayment and default rates for that loan group for that month. The stress test computes amounts of scheduled principal (the principal that is not defaulted principal nor prepaid principal) in each month by multiplying the scheduled monthly principal (principal computed according to an amortization schedule) by one minus the sum of the monthly prepayment and default rates.

[d] The stress test computes the current loan group UPB for the end of a month by subtracting the amount of scheduled principal, prepaid principal, and defaulted principal in the month from the UPB at the end of the previous month.

[e] To compute monthly interest remitted to an Enterprise for retained loan groups, the stress test multiplies the loan group net yield (current coupon less servicing fee) by the UPB at the end of the previous month less the current month's defaulted principal. To compute monthly guarantee fees for sold loan groups, the stress test multiplies the monthly guarantee fee by the UPB at the end of the previous month less the current month's defaulted principal.

[f] To compute float income earned by an Enterprise on monthly principal and interest payments received from servicers and later remitted to security holders, the stress test multiplies scheduled principal and interest and prepaid principal by the Federal Funds rate for a number of days appropriate to the remittance cycle of the associated MBS. The stress test calculates float for three remittance cycles. Depending on the remittance cycle, prepaid principal may or may not be held for the same number of days as scheduled principal and interest.

1. If an Enterprise holds scheduled principal and interest and prepaid principal for seven days before remittance to the security holder, float is calculated by multiplying the sum of scheduled principal and interest and prepaid principal, by the Federal Funds rate times seven divided by 365. (The Federal Funds rate is an annual rate. Multiplying the rate by this fraction produces the float income for the seven days that the Enterprise has the mortgagor's payment). The Enterprise earns float income on the full scheduled interest payment, because even if a mortgagor prepays a mortgage before the end of a month, remitting less than a full month's interest on the prepaid principal, the servicer must forward the interest for the rest of the month to the Enterprise. The Enterprise remits a full month's interest to the security investor.

2. If an Enterprise remits scheduled principal and interest to the investor three days prior to receiving it from the servicer, but holds prepaid principal 38 days before

remittance to the security holder, servicers are not required to forward to the Enterprise any prepayment-related shortfall in monthly interest, so the Enterprise must make up the short fall in interest to the security holder caused by a mortgagor's prepayment. If the prepayment is made in the first part of a month, the Enterprise owes the security holder interest at the security passthrough rate for the balance of the month. If the prepayment is made in the second half of the month, the Enterprise owes the security holder interest at the security passthrough rate for the balance of the current month and all of the following month. This is an average of 30 days of interest at the security passthrough rate on mortgagor prepayments. The float amount for this remittance cycle consists of:

- scheduled monthly principal and interest due the Enterprise multiplied by the Federal Funds rate times minus 3, divided by 365, plus
- prepaid principal multiplied by the Federal Funds rate times 38, divided by 365, minus
- prepaid principal multiplied by the passthrough rate (current coupon less the servicing fee less the guarantee fee) times 30, divided by 360

3. If an Enterprise holds scheduled principal and interest for 57 days prior to remittance to the security holder and holds prepaid principal for 68 days prior to remittance to the security holder, the Enterprise owes the security holder an average of 30 days of interest at the security passthrough rate on mortgagor prepayments. The float amount for this remittance cycle consists of:

- scheduled monthly principal and interest due the Enterprise multiplied by the Federal Funds rate times 57, divided by 365, plus
- prepaid principal multiplied by the Federal Funds rate times 68, divided by 365, minus
- prepaid principal multiplied by the passthrough rate (current coupon less the servicing fee less the guarantee fee) times 30, divided by 360

#### 3.9.1.3.2 Biweekly Loans

While most mortgages require monthly payments, biweekly mortgages require payments every two weeks. The cash flow calculations described above for monthly pay, fully amortizing fixed-rate loans apply, except that the relevant time interval is two weeks rather than one month. In addition, biweekly, rather than monthly default and prepayment rates are applied. The stress test then allocates the biweekly cash flows to the proper month. The first biweekly cash flow occurs 14 days into the stress period. Subsequent biweekly cash flows occur at 14 day intervals. All the cash flows occurring during the same calendar month are added together to arrive at the monthly cash flow.

#### 3.9.1.3.3 Adjustable-Rate Loans

##### 3.9.1.3.3.1 Single Family RMS

(a) The current interest rate for an adjustable-rate mortgage (ARM) is adjusted based on an interest rate index and a margin. ARM loan groups are indexed to either the



one-or three-year CMT, or the COFI, as appropriate to their product types. The product type "ARMs Other" is indexed to the COFI index.

(b) The mortgage age of the loan group is used to determine the initial month of the stress test in which to adjust the current interest rate. The loan group interest rate is adjusted then and every 12 months thereafter, regardless of the index.

(c) The stress test calculates annual and lifetime maximum interest rates (ceilings) and minimum interest rates (floors). Annual maximum and minimum new interest rates for the adjustment period are calculated by adding or subtracting, respectively, two percent to, or two percent from, the current interest rate (current coupon). Lifetime maximum and minimum interest rates are calculated by adding or subtracting, respectively, five percent to, or five percent from, the original interest rate (original coupon). The minimum lifetime interest rate is at least three percent. The maximum lifetime interest rate is no more than 14 percent.

(d) The stress test adds the margin to the appropriate ARM interest rate index value to get a prospective interest rate. If the prospective interest rate is greater than the maximum new interest rate, the stress test sets the interest rate to the maximum new interest rate. If the prospective interest rate is less than the minimum new interest rate, the stress test sets the interest rate to the minimum new interest rate. After these steps, the prospective interest rate (adjusted as appropriate) becomes the current interest rate. The computation continues as described above for fully amortizing monthly pay fixed-rate loans groups.

#### 3.9.1.3.3.2 Multifamily ARMs

(a) The interest rate for a multifamily ARM is indexed to the Federal Home Loan 11th District Costs of Funds (COFI). The computations are as described for single family ARMs except that: one, the rate is reset every month subject to 2 percent cap, 2 percent floor, and 3 percent life rate minimum; and two, the borrower payment is reset every 12 months, subject to a payment cap limiting the payment change to no more than 7.5 percent of the previous period payment.

(b) Resetting the multifamily ARM rate at a frequency different from the frequency by which the payment is reset and restricting increases in the borrower payment may result in a payment that is less than the amount necessary to fully amortize the UPB at the current ARM rate. In such situations, the shortfall is added to the outstanding balance. The maximum amount by which the UPB is allowed to increase (negatively amortize) is limited to 125 percent of the original UPB.

#### 3.9.1.3.4 Balloon Loans

Calculations of cash flows for balloon loans are the same as for fully amortizing monthly pay, fixed-rate loans, except the balloon loan matures before the principal is fully amortized. Upon maturity, all unpaid principal is due. Loans are amortized based on their amortization terms. The stress test computes the number of months remaining until the balloon payment by subtracting the

loan group mortgage age from the loan group balloon period and adding one. The loan group balloon period is identified according to the value of the variable, Product Type. If the Product Type is Balloons-Other, the balloon period is ten years.

#### 3.9.1.3.5 Credit Losses

To compute the dollar amount of credit losses, the stress test multiplies the monthly defaulting principal for a loan group by the loss severity rate for that month and loan group. That loss severity rate takes into account percentage-based credit enhancements, as described in section 3.5.3, Single Family Loss Severity and section 3.5.5, Multifamily Loss Severity, of this Appendix. The resulting loss amount is further reduced by amounts of available dollar-based credit enhancements, as described in section 3.7, Mortgage Credit Enhancements, of this Appendix.

#### 3.9.1.4 Output

Whole loan cash flows are inputs to the preparation of pro forma balance sheets and income statements for each month of the stress period. See section 3.10, Operations, Taxes, and Accounting, of this Appendix. For loan groups made up of retained loans, cash flows consist of 120 months of scheduled principal, prepaid principal, defaulted principal, credit losses, and interest.

### 3.9.2 Mortgage-Related Securities

#### 3.9.2.1 Overview

(a) Both Enterprises invest in various types of mortgage-related securities: single class MBS, multi-class derivative mortgage securities (Collateralized Mortgage Obligations, REMICs, and Strips), and mortgage revenue bonds (MRBs). Single class MBS and derivative mortgage securities may be issued by the Enterprises, by Ginnie Mae, or by private issuers. MRBs are issued by State and local governments or their instrumentalities. Certain asset-backed securities with housing-related collateral (manufactured housing loans) that are similar in their cash flow characteristics to mortgage derivatives are treated in the stress test as mortgage derivative securities.

(b) The Enterprises receive principal and interest payments on these securities. Payments on single class MBS represent the passthrough from underlying pools of mortgages of all principal and interest payments, minus servicing and guarantee fees, on the underlying pools of mortgages. Payments on derivative mortgage securities represent some of the cash flows produced by an underlying pool of mortgages and/or mortgage-related securities, determined according to rules set forth in public offering documents for the securities. Unlike MBS and derivative mortgage-related securities, mortgage revenue bonds have specific maturity schedules and call provisions; however, the collateral backing MRBs consists largely of mortgages or mortgage securities, and the pattern of principal payments is closely related to that of their underlying mortgage collateral. The stress test treats them in a manner similar to the treatment of single class MBS. A very small number of mortgage-related securities for which data are insufficient for the generation

of precise cash flows (referred to as "miscellaneous MRS") are also treated in this manner. The category miscellaneous MRS includes a very small number of Enterprise and private label REMIC securities that are not modeled by a commercial information service.

(c) In addition to reflecting the defaults of mortgage borrowers during the stress period, the stress test considers the effects of credit stress on securities that are rated by nationally recognized rating services, that is, mortgage revenue bonds and private-issue mortgage-related securities. Enterprise and Ginnie Mae securities are not rated, and the stress test reflects no credit losses on these securities. In the stress test, all rated securities experience increasing credit impairments throughout the stress period, which are reflected by reductions of contractual interest payments and losses of principal.

(d) The calculation of cash flows for mortgage-related securities requires information from the Enterprises identifying their holdings, publicly available information characterizing the securities, interest rate information, mortgage performance information, and credit rating information for rated securities.

(e) Cash flows—monthly amounts of principal payments, defaulted principal, and/or interest—are produced for each month of the stress period for each security (principal- and interest-only securities pay principal or interest). These cash flows are input to the Operations, Taxes, and Accounting component of the stress test.

#### 3.9.2.2 Inputs

##### 3.9.2.2.1 Securities

###### 3.9.2.2.1.1 Single Class MBS Issued by the Enterprises and Ginnie Mae

For the single class MBS issued by the Enterprises and Ginnie Mae and held by an Enterprise at the start of the stress test, the stress test requires information identifying the Enterprise's holdings and information describing the MBS and the underlying mortgage collateral.

1. The following information is provided by the Enterprises:

- Pool number (identifying the security)
- Original principal balance (the original pool balance multiplied by the Enterprise's percentage ownership)
- Starting principal balance (the pool balance at the start of the stress period multiplied by the Enterprise's percentage ownership)

2. Every month, the Enterprises make public through securities data services updated information about the MBS they issue. The stress test uses pool numbers for MBS held by an Enterprise to access the following information from these monthly data releases:

- Pool prefix (designates the product type of the MBS, for example, 30-year single family fixed-rate)
- Issue date
- Maturity date
- Security coupon
- Original pool balance
- Starting pool balance

- Weighted average maturity of the underlying loans at the time the security was issued
- Weighted average remaining maturity of the underlying loans at the start of the stress test
- Weighted average original coupon of the underlying loans at the time the MBS was issued
- Weighted average current coupon of the underlying loans at the start of the stress test
- Interest rate index (ARM MBS only)
- Weighted average interest rate margin for the underlying loans (ARM MBS only)
- Weighted average passthrough rate (the security coupon for some types of ARM MBS)

#### 3.9.2.2.1.2 Derivative Mortgage Securities Issued by the Enterprises and Ginnie Mae

[a] For the derivative mortgage securities issued by the Enterprises and Ginnie Mae that are held by an Enterprise at the start of the stress test, the stress test requires information identifying the Enterprise's holdings and information describing the underlying mortgage collateral. The Enterprises provide the following information:

- CUSIP number (unique security identifier assigned by the Committee on Uniform Security Identification Procedures)
- Original principal balance of the security (notional amount for interest-only securities) at the time of issuance, multiplied by the Enterprise's percentage ownership
- Starting principal balance, or notional amount, at the start of the stress period multiplied by the Enterprise's percentage ownership

[b] The stress test requires information about the multi-class transactions of which these securities are a part, including information describing all component securities, the underlying collateral, and the rules directing cash flows to the component classes. This information is obtained from public sources, including public offering documents and public securities data services.

[c] Obtaining sufficient information to calculate the cash flows of the underlying collateral may require multiple steps. For example, for a derivative mortgage security backed by single class MBS. Step 1, obtain, from public information, the pool numbers and principal balances for the specific underlying MBS. Step 2, consult public sources to obtain additional information as enumerated in section 3.9.2.2.1.1, for each of these MBS.

#### 3.9.2.2.1.3 Mortgage Revenue Bonds and Miscellaneous MRS

[a] The stress test requires two types of information for mortgage revenue bonds and miscellaneous MRS held by an Enterprise at the start of the stress test: one, information identifying the Enterprise's holdings and two, additional information about the securities. The following are obtained from the Enterprises to identify their holdings:

- CUSIP number
- Original principal balance
- Starting principal balance

[b] The following additional information required for the stress test is available from public sources, including public offering

documents and public securities data services:

- Issue date
- Maturity date
- Security interest rate
- Credit rating (for rated securities)

#### 3.9.2.2.2 Interest Rates

Interest rates projected through the stress period are necessary to calculate principal amortization and interest payments for ARM MBS and for derivative mortgage securities with indexed coupon rates. The stress test generates interest rates for each month of the stress period, as described in section 3.3, Interest Rates, of this Appendix.

#### 3.9.2.2.3 Mortgage Performance

The rate and pattern of principal payments of mortgage-related securities depend on the prepayments and, to a much smaller extent, the defaults of the underlying mortgage loans. Cash flow calculations require default and prepayment rates that are appropriate to the underlying mortgage collateral for each mortgage-related security. Rates are generated as described in section 3.5.2, Single Family Default and Prepayment, and section 3.5.4, Multifamily Default and Prepayment, of this Appendix.

#### 3.9.2.2.4 Third-Party Credit Exposure

In calculating the principal and interest payments of mortgage-related securities, the stress test treats defaults the same as prepayments. Thus, investors receive amounts of security principal equal to defaulted, prepaid, and scheduled principal on the underlying loans in the pool. For rated securities (e.g., mortgage revenue bonds and private-issue MRS), the risk of security default is reflected by reducing the calculated principal and interest payments for these instruments. These reductions, or haircuts, are described in section 3.6, Other Credit Factors, of this Appendix.

#### 3.9.2.3 Procedures

The sections below describe the calculations for single class MBS issued by the Enterprises and Ginnie Mae, the calculations for derivative mortgage securities, and calculations for MRBs and miscellaneous MRS.

#### 3.9.2.3.1 Single Class MBS Issued by the Enterprises and Ginnie Mae

[a] The calculation of cash flows for single class MBS issued by the Enterprises and Ginnie Mae follows the procedures outlined earlier in section 3.9.1, Whole Loans, of this Appendix. The collateral underlying each MBS is treated as one single family loan group. (For purposes of identifying appropriate default and prepayment rates for the small number of multifamily MBS held by the Enterprises, the stress test treats the underlying loans as 30-year fixed-rate single family mortgages.) Amounts of defaulted mortgage principal (reflecting the security guarantee) are advanced to security holders, and scheduled and prepaid mortgage principal are passed through to security holders. Interest is calculated at the security coupon rate (the weighted average passthrough rate for ARM MBS issued by the Enterprises). Security cash flows are calculated for the month in which mortgagor payments are made.

[b] For each MBS, the stress test applies default and prepayment rates and computes the amortization of principal, based on the characteristics of the underlying loans. The stress test applies amortization and default and prepayment rates for sold loan groups (of the Enterprise that issued the MBS) that have characteristics consistent with the characteristics of the MBS collateral, with the following caveat. The stress test specifies that loans underlying an MBS reflect the national distribution of original LTV and Census divisions for all otherwise similar sold loans. Therefore, default and prepayment rates represent the weighted averages for loan groups in all LTV categories and Census divisions that are otherwise similar to the MBS collateral.

[c] For Ginnie Mae MBS, the mortgage coupon for the underlying loan group equals the Ginnie Mae passthrough rate plus 0.5 percent. For fixed-rate Ginnie Mae MBS, the underlying loans are assumed to have the same distributions of LTVs and Census divisions as the Enterprise's sold portfolio FHA and VA loans with the same coupon and origination year. For loans underlying Ginnie Mae ARM MBS, the stress test uses default and prepayment rates for otherwise similar conventional ARM loans in the sold portfolio.

[d] For ARM MBS, interest rate and monthly payment adjustments for the underlying loans are calculated in the same manner as they are for ARM loan groups, except that for Ginnie Mae ARM MBS, there is a one percent annual rate cap.

[e] For balloon and biweekly MBS, cash flows for the underlying loans are calculated in the same manner as they are for balloon loan groups; product type information, such as the length of the balloon period, is determined by the MBS pool prefix and the MBS maturity date.

[f] For purposes of calculating cash flows, the stress test treats GPMs, TPMs, GEMs, and Step mortgages that back MBS as 30-year fixed-rate mortgages.

#### 3.9.2.3.2 REMICs and Strips

[a] Cash flows for derivative mortgage securities are generated according to standard securities industry procedures, in five steps.

1. Determine the percentage Enterprise ownership of a particular security by dividing the portion of the original principal balance or notional amount held by the Enterprise by the total original principal balance or notional amount of the derivative mortgage security.

2. Identify the characteristics of the underlying collateral of the derivative mortgage security.

3. Calculate the cash flows for the underlying collateral in the manner described for whole loans and MBS above, based on stress test interest, default, and prepayment rates.

4. Calculate all cash flows for the derivative mortgage security classes by applying the rules stated in public offering materials.

5. Determine the cash flows attributable to the specific securities held by an Enterprise, applying the Enterprise's ownership percentage.

[b] The stress test uses a commercial information service for steps 2 through 5. The stress test models mortgages using a limited set of loan product types and ARM indexes. The information service accurately models a larger set of mortgage product types and all ARM indexes supplied by the interest rate component of the stress test (*see* section 3.3, Interest Rates, of this Appendix).

#### 3.9.2.3.3 Mortgage Revenue Bonds and Miscellaneous MRS

[a] Cash flows for mortgage revenue bonds and miscellaneous MRS are computed in the same manner as for single class MBS, using the approach described above. The stress test uses default and prepayment rates for single family, fixed-rate FHA and VA loans with coupons that are 75 basis points higher than the security coupon, and with the LTV and Census division distributions that are similar in all other respects to sold FHA or VA loans of the Enterprise that holds the security. The stress test uses a 30-year original maturity of the underlying loans, and loan age is computed based on the date when the security was issued. Monthly interest is calculated at the bond coupon for the amortizing balance.

[b] Principal and interest payments are then reduced by applying the haircuts specified in section 3.6, Other Credit Factors, of this Appendix.

#### 3.9.2.4 Outputs

Amounts of principal, interest, and, in the case of rated securities, defaulted principal, are produced for each security. These outputs are used as inputs to the Operations, Taxes, and Accounting component, which prepares pro forma financial statements. *See* section 3.10, Operations, Taxes, and Accounting, of this Appendix.

#### 3.9.3 Debt and Related Cash Flows

##### 3.9.3.1 Overview

[a] The Debt and Related Cash Flows component of the stress test produces cash flows for debt, guaranteed investment contracts (GICs), preferred stock, debt-linked derivative contracts, and mortgage-linked derivative contracts.<sup>16</sup> Although mortgage-linked derivative contracts are usually linked to assets rather than liabilities, they are treated similarly to debt-linked derivative contracts and, therefore, are covered in this section of the Appendix. The Enterprises issue debt to fund their asset portfolios. Preferred stock issued by the Enterprises

performs two functions: it funds asset portfolios and serves as capital. The Enterprises enter into derivative contracts for three reasons: to reduce the interest rate risk of specific securities (micro hedge); to hedge the overall interest rate risk of their business (macro hedge); or to create a synthetic liability (combination of a security and a derivative contract) with a lower net cost than the equivalent actual security.

[b] The Debt and Related Cash Flows component produces instrument level cash flows for the ten years of the stress test. Debt and preferred stock cash flows include interest (or dividends for preferred stock) and principal payments (or redemptions for preferred stock), while debt-linked and mortgage-linked derivative contract cash flows are composed of interest payments and receipts. (Throughout the remainder of section 3.9.3, references to “interest payments” include interest received, as well as interest paid, on debt-linked and mortgage-linked derivative contracts. “Principal payments” refers to payments of principal on debt and redemptions of preferred stock.) Debt and preferred stock are categorized in one of the three classes listed and described in Table 3–22.

**Table 3-22. Debt and Preferred Stock**

| Debt And Preferred Stock Classes      | Description  |
|---------------------------------------|--|
| Fixed-Rate Debt or Preferred Stock    | Fixed-rate securities that pay periodic interest or dividends                                |
| Floating-Rate Debt or Preferred Stock | Floating-rate securities that pay periodic interest or dividends                             |
| Discount Instruments (Debt Only)      | Securities that are issued below face value and pay a contractually fixed amount at maturity |

[c] Debt-linked derivative contracts consist of interest rate caps, floors, and swaps. The primary difference between debt and debt-linked derivative contracts, in terms of calculating cash flows, is that interest payments on debt are based on principal amounts that are eventually repaid to creditors, whereas on debt-linked derivative contracts interest payments are based on notional amounts that never change hands. Table 3–23 describes the six classes of debt-linked derivative contracts.

<sup>16</sup>The notional balance of a mortgage-linked derivative contract declines based on the declining balance of a reference mortgage pool.

**Table 3-23. Debt-Linked Derivative Contracts**

| <b>Debt-linked Derivative Contract Classes</b> | <b>Description</b>  |
|--|---|
| Fixed-Pay Swaps                                | A derivative contract in which an Enterprise pays a fixed interest rate and receives a floating interest rate   |
| Floating-Pay Swaps                             | A derivative contract in which an Enterprise pays a floating interest rate and receives a fixed interest rate   |
| Long Cap                                       | A derivative contract in which an Enterprise receives a floating interest rate when the interest rate to which it is indexed exceeds a specified level (strike price) |
| Short Cap                                      | A derivative contract in which an Enterprise pays a floating interest rate when the interest rate to which it is indexed exceeds the strike price                     |
| Long Floor                                     | A derivative contract in which an Enterprise receives a floating interest rate when the interest rate to which it is indexed falls below the strike price             |
| Short Floor                                    | A derivative contract in which an Enterprise pays a floating interest rate when the interest rate to which it is indexed falls below the strike price                 |

[d] Mortgage-linked swaps are similar to debt-linked swaps except that, for the former, the notional balance amortizes based on the performance of certain MBS pools. The two classes of mortgage-linked derivative contracts are listed and described in Table 3-24.

**Table 3-24. Mortgage-Linked Derivative Contracts**

| <b>Mortgage-Linked Derivative Contract Classes</b> | <b>Description</b>   |
|--|--|
| Fixed-Pay Amortizing Swaps                         | A derivative contract in which an Enterprise pays a fixed interest rate and receives a floating interest rate, both of which are based on a declining notional balance |
| Floating-Pay Amortizing Swaps                      | A derivative contract in which an Enterprise pays a floating interest rate and receives a fixed interest rate, both of which are based on a declining notional balance |

### 3.9.3.2 Inputs

[a] The Debt and Related Cash Flows component of the stress test requires numerous inputs. Many of the instrument classes require simulated interest rates because their interest payments adjust periodically based on rates tied to various indices. These rates are generated as described in section 3.3, Interest Rates, of this Appendix. Instrument level inputs provided by the Enterprises are listed in the Table 3-25.

**Table 3-25. Input Variables for Debt and Related Cash Flows**

| <b>Data Elements</b>         | <b>Description</b>   |
|------------------------------|--|
| Issue Date                   | First settlement date for this security  |
| Face/Notional Amount         | The face amount of a security or notional amount of a derivative contract  |
| Principal/Notional Factor    | Factor representing the percentage of original principal or notional amount that remains outstanding relative to the original principal or notional amount       |
| Coupon/Dividend Factor       | An adjustment made to the coupon or dividend based on the day count convention (e.g., actual/360)  |
| Coupon                       | Current interest rate  |
| Dividend Rate                | Annual dividend rate on preferred stock  |
| Index                        | Interest rate index to which interest payments are tied  |
| Spread                       | The percentage (expressed as a decimal) that is added or subtracted from the index to calculate the coupon rate for floating rate instruments                    |
| Index Multiplier             | A constant multiplier used in a variable rate formula  |
| Payment Frequency            | Frequency with which payments are made   |
| Unpaid Balance               | Unpaid principal balance   |
| Contractual Maturity Date    | The date on which an instrument matures  |
| Remaining Term               | The number of months until an instrument matures   |
| Floor Rate                   | The minimum coupon for a variable rate security  |
| Cap Rate                     | The maximum coupon rate for a variable rate security   |
| Pay/Receipt Code             | A code that identifies whether the cash flow is a payment or a receipt   |
| Call/Put Strike Price        | The price at which the call or put option may be exercised   |
| Call (Cancellation)/Put Date | The date on which the instrument may be canceled (put or called)   |
| Original Discount            | Discount from par represented by purchase price of security (e.g., price of 99.0 equates to discount of 1.0)   |
| Swap Reference               | Links mortgage-linked derivative contract to a reference security (e.g., when changing principal balance of a specific security is also notional amount of swap) |
| Instrument I.D.              | Links pay and receive sides of swaps   |
| Amortization Schedule        | Schedule of decreasing principal/notional balances for instruments that amortize   |
| Cap/Floor Strike Price       | Used for cap and floor instruments to indicate the interest rate at which this instrument begins paying or receiving interest                                    |

**Table 3-25. Input Variables for Debt and Related Cash Flows (Continued)**

| Data Elements                 | Description   |
|-------------------------------|---|
| Counterparty Identification   | Identifies the counterparty to a derivative contract        |
| Public Rating of Counterparty | Credit rating of counterparty by a recognized rating agency |

[b] In addition to the above inputs, the mortgage-linked derivative contract cash flows require inputs for the performance of linked mortgage assets, including default and prepayment rates from the single family default and prepayment component of the stress test (See section 3.5.2, Single Family Default and Prepayment, of this Appendix) and periodic and lifetime minimum and maximum coupons for ARM MBS. Mortgage-linked derivative contract identification numbers are used to link the derivative contract to pool information on specific MBS. This link allows retrieval of pool information that will be used to determine how the notional balance of the swap amortizes, including the coupon rate, issue date,

maturity date, weighted average coupon (WAC), and weighted average maturity (WAM) for each pool.

#### 3.9.3.3 Procedures

[a] The debt and related cash flow component calculates separate cash flow streams for principal and interest payments. The stress test performs the following steps: determines the timing of cash flows; calculates a principal or notional factor; obtains the coupon or dividend factor; projects principal cash flows or changes in the notional amount; and projects interest cash flows.

[b] Projected cash flows for callable or cancelable instruments may be altered by

implementing a call decision rule for debt or a cancellation decision rule for swaps. In addition, special cases exist where instruments have complex characteristics, thereby requiring additional processing to compute cash flows. Each of these steps is described below.

1. The first step requires determining the timing of cash flows or the payment dates. The three inputs that are required to accomplish this task are maturity date, payment frequency, and the previous payment date. Payment frequency, defined as the number of payments per year, takes on one of five values depending on how often coupon payments are made. These values are given in Table 3-26.

**Table 3-26. Payments Per Year**

| Type Of Payment                 | Payment Frequency |
|---------------------------------|-------------------|
| Non-Coupon Bearing <sup>1</sup> | 0                 |
| Annual                          | 1                 |
| Semi-Annual                     | 2                 |
| Quarterly                       | 4                 |
| Monthly and More Frequent       | 12                |

<sup>1</sup> Non-coupon bearing instruments do not produce any cash flows until maturity; therefore, payment frequency takes the value of zero for these instruments.

2. Payment dates are based on the last payment date and the payment frequency until the instrument matures. For example, if the stress test is run on an Enterprise's data as of June 30, 1998, then an instrument with a previous payment date of April 15, 1998, that matures on October 15, 1999, and has quarterly payments will require payments on July 15, 1998, October 15, 1998, January 15, 1999, and so forth until maturity or, in the case of preferred stock, throughout the stress test. In the stress test, payments are allocated to specific months, not specific days within the month.

3. The second step requires the calculation of a principal factor. The principal factor is defined as a percentage of original value of

the instrument. In most instances, where there is no amortization of principal, the principal factor is one for each payment date until the stated maturity date, when it converts to zero. For debt and debt-linked derivative contracts that amortize, either a principal or a notional amortization schedule is provided by the Enterprises, or the amortization schedule is obtained from the offering materials for public securities. In the case of mortgage-linked derivative contracts, notional balances are amortized in the manner described in section 3.9.2, Mortgage-Related Securities, of this Appendix for principal balances of mortgage-backed securities held by an Enterprise. A GIC is a liability that may amortize; however, an

amortization schedule may not be available. When amortization information is unavailable, the issue amount of the GIC is assumed to be paid on the maturity date of the instrument. The remaining term is used to determine maturity dates for GICs.

4. The third step requires the calculation of a coupon or dividend factor. The coupon or dividend factor is an adjustment factor used to calculate the portion of the annual coupon or dividend rate applicable to a given period. It depends on day count conventions used to calculate the accrued interest for the instrument and is determined using one of the three calculations in Table 3-27.

**Table 3-27. Day Count Conventions**

| Convention | Coupon Factor Calculation   |
|------------|---|
| 30/360     | Number of days between two payment dates assuming 30 days per month/360 |
| Actual/360 | Number of days between two payment dates/360                            |
| Actual/365 | Number of days between two payment dates/365                            |

5. The fourth step in the process involves calculating principal cash flow. Principal payments can be classified as either principal payments on zero coupon bonds or principal payments on all other instruments. All principal payments are paid at maturity for zero coupon bonds, and the principal amount is equal to the face amount of the bond. For all non-zero coupon bond instruments, principal outstanding for the current period is determined by multiplying the issue amount by the principal factor for the current period. The principal payment equals the amount of principal outstanding at the end of the current period less the principal outstanding at the end of the previous period, or zero if the instrument has a notional balance.

6. The fifth step involves calculating interest and dividend cashflows. Instruments can be classified into six generic categories based on their interest payment characteristics. These are fixed-rate instruments, zero coupon bonds, discount notes, floating-rate instruments, interest rate caps and floors, and swaps. Interest or dividend cash flows for an instrument in a period are calculated as the product of the principal/notional amount of the instrument for the given period, the coupon or dividend rate, and the coupon or dividend factor.

[c] To determine the interest or dividend payments for fixed-rate instruments, the current period principal amount is multiplied by the product of the coupon or dividend rate and current period coupon or dividend factor. Interest payments for zero coupon bonds and discount notes are equal to zero. For discount notes, if the amounts for original discounts are not provided, they are estimated as the product of unpaid balance, yield, and number of days between issue and maturity dates divided by 360.

[d] Interest payments on floating-rate instruments (except for floating-rate preferred stock, which is discussed later in this section) are calculated as principal balance multiplied by the coupon for the current period. The current period coupon is calculated by adding a spread to the appropriate interest rate index and multiplying by the coupon factor. The coupon for the current period is set to this amount as long as the rate lies between the lifetime maximum and minimum rates, as periodic maximum and minimum rates are not recognized. Otherwise the coupon is set to the maximum or minimum rate.

[e] Caps and floors are derivative instruments that pay or receive interest only if their specified index is above the strike price for caps and below it for floors. Interest payments on caps and floors are determined

similarly to those for the debt instruments above; however, payments are based on notional amounts instead of principal amounts. The appropriate projected interest rate index is compared to the instrument's cap or floor rate (strike price). Interest payments are either paid or received depending on whether the Enterprise is in a long or short position in a cap or a floor. If a cap is purchased and the strike price is less than the rate on the cap's interest rate index, then the interest payment on the cap is the index less the cap rate multiplied by the notional amount of the cap. If a floor is purchased and the floor rate is higher than the index, then the interest payment on a floor is equal to the floor rate minus the index rate multiplied by the notional balance of the floor. Otherwise interest payments are zero for caps and floors.

[f] A swap is a derivative contract that requires counterparties to exchange periodic interest payments. Swaps are modeled as two separate instruments, consisting of a pay side and a receive side, with interest payments based on the same notional balance but different interest rates. For debt-linked swaps, interest payments are determined using the criteria of fixed-rate or floating-rate instruments as described above.

[g] For the pay side of mortgage-linked swaps, the component calculates the reduction in the notional balance due to scheduled monthly principal payments (taking into account both lifetime and reset period caps and floors), prepayments, and defaults of the reference MBS pool. The notional balance of the swap for the previous period is reduced by this amount to determine the notional balance for the current period. Interest payments for a given period are calculated as the product of the notional balance of the swap in that period and the coupon rate applicable for that period.

[h] For the receive side of mortgage-linked swaps, the component calculates cash flows in the same manner as debt and debt-linked derivative contracts. The only difference is that the notional balance of the swap is amortized based upon the monthly pay-downs for an underlying MBS pool, as described for the pay side above. For the receive side, interest amounts are cash inflows.

[i] In order to reduce interest costs and/or deepen the market for their securities, the Enterprises may issue debt denominated in, or indexed to, foreign currencies, and eliminate the resulting foreign currency exposure by entering into currency swap agreements. When they hedge their foreign exposure in this manner, the component

creates synthetic debt denominated in U.S. dollars and pays interest accordingly.

[j] Some debt and debt-linked derivative contracts have call or cancellation features that allow an Enterprise to terminate them at certain points in time. Whether or not a call or cancellation will be exercised is evaluated for all debt and the debt-linked derivative contracts that require cash outflows. For example, only the pay side is evaluated for swaps. If the pay side is cancelled, then the receive side is cancelled at the same time. Callable instruments are treated in the following manner. First, project cash flows for the callable instrument assuming that the instrument is not callable. Second, for each payment period when the instrument can be called, equate the outstanding balance or notional amount of the security to the sum of the discounted values of the projected cash flows. The discount rate that makes these two amounts equivalent is called the yield-to-maturity.<sup>17</sup> Third, convert the yield-to-maturity to a bond-equivalent yield and compare the bond-equivalent yield to the projected Federal Agency Cost of Funds for debt with a comparable maturity. Because the stress test does not project Federal Agency Cost of Funds indexes for every possible maturity, a linear interpolation is performed between the next higher and lower maturities to estimate the cost of funds for those maturities that are not projected. Finally, if the Federal Agency Cost of Funds is lower than 50 basis points below the bond-equivalent yield of the callable instrument, then the instrument is called. Otherwise, the instrument is not called, and it is evaluated for call at the next payment period.

[k] Some instruments have complex or non-standard features, and cash flows cannot be computed using only the data listed earlier. Characteristics of these types of instruments include complex principal or notional amortization schedules, complex coupon reset formulas for floating-rate instruments, and European call options for callable instruments. In these instances, additional information is obtained to define a set of rules to reflect the complex features of debt and debt-linked derivative contracts, thereby permitting the accurate calculation of cash flows for these instruments.

[l] An example of an instrument with complex features is an indexed amortizing swap. This instrument is not standard because its notional amount declines in a way that is dependent upon the level of interest rates. This type of swap is structured

<sup>17</sup> For instruments with notional balances, the yield-to-maturity is equal to the instrument's coupon or interest rate.

with an amortization table that contains a notional balance reduction factor for a given range of interest rates. To compute cash flows for this instrument, the notional balance at each payment date must be calculated. While raw data provides the notional balance at the beginning of the stress period, the notional balance at each payment date during the stress period must be calculated.

[m] Other instruments that require special treatment are currency linked notes, the redemption value of which is tied to a specific foreign exchange rate. They require special treatment because the stress test does not forecast foreign currency rates. If these instruments are hedged, then they become part of synthetic debt created in conjunction with a swap as discussed previously. If these instruments are not hedged, the following treatment applies. In the up-rate scenario, the U.S. Dollar per unit of foreign currency ratio is increased in proportion to the increase in the ten-year CMT. For example, if the ten-year CMT shifts up by 50 percent, then the U.S. Dollar per unit of foreign currency ratio shifts up by 50 percent. In the down-rate scenario, the foreign currency per U.S. Dollar ratio is decreased in proportion to the decrease in the ten-year CMT. The redemption value of these instruments may also have minimum and maximum principal amounts, which also must be taken into consideration in determining cash flows.

[n] As the final step in the process, the interest cash flows for debt-linked and mortgage-linked derivative contracts are

“haircut” (i.e., reduced) by some percentage to account for the risk of counterparty insolvency. The percentage haircut used is based on the public rating of the counterparty, and the year during the stress period in which the cash flow occurs (Refer to section 3.6, Other Credit Factors, of this Appendix for details on how the haircuts are applied.) The cash flows are all added together (pay side and receive side) for all contracts with a given counterparty.<sup>18</sup> The haircut is applied to the net cash owed by the counterparty in a given month. If the Enterprise owes the counterparty money, then no haircut is applied.

[o] Because the stress test does not forecast foreign exchange rates, the counterparty haircut percentages are applied to the pay side of currency swaps, instead of the receive side, to “gross up” the payment. Therefore, when synthetic debt is created, the effect is to increase the cost of the synthetic debt equal to the haircut amount.

#### 3.9.3.4 Output

Output consists of cash flows for debt, preferred stock, and derivative contracts. Cash flows include monthly interest and principal payments for debt, dividends and redemptions for preferred stock, and interest payments for debt-linked and mortgage-linked derivative contracts.

### 3.9.4 Non-Mortgage Investment and Investment-Linked Derivative Contract Cash Flows

#### 3.9.4.1 Overview

[a] The Enterprises primarily invest in non-mortgage assets as a source of liquidity. They also enter into investment-linked derivative contracts to reduce the interest rate risk of specific securities (micro hedge), hedge the overall interest rate risk of their business (macro hedge), or create a synthetic asset (combination of a security and a derivative contract) with a higher net yield than the equivalent actual security.

[b] The stress test calculates the cash flows for these assets at the instrument level. The cash flows consist of interest payments and receipts and principal payments for the ten years of the stress test. (Throughout the remainder of section 3.9.4, references to interest payments include interest received on investment-linked derivatives products.) Compared to the treatment of debt and related cash flows, the stress test takes a more simplified approach to modeling non-mortgage instruments (including linked derivative contracts) held by the Enterprises. Rather than determining the specific payment frequencies of each instrument, the stress test assumes standardized payment frequencies by types of instruments. For this purpose, the stress test distinguishes among six classes of securities and eight classes of derivative contracts. Table 3-28 lists and defines the six classes of securities.

**Table 3-28. Securities**

| Security Classes                      | Description  |
|---------------------------------------|--|
| Fixed-Rate Bonds                      | Fixed-rate securities that pay periodic interest, e.g. corporate and Euro Bonds  |
| Floating-Rate Bonds                   | Floating-rate securities that pay periodic interest, e.g., Corporate and Euro Bonds  |
| Floating-Rate Municipal Bonds         | Floating-rate bonds issued by municipalities   |
| Short-Term Instruments                | Fixed-rate securities that pay principal and interest at maturity, <sup>1</sup> e.g., Repurchase Agreements, Federal Funds, Commercial Paper |
| Fixed-Rate Asset-Backed Securities    | Fixed-rate securities collateralized by non-mortgage assets <sup>2</sup>   |
| Floating-Rate Asset-Backed Securities | Floating-rate securities collateralized by non-mortgage assets <sup>2</sup>  |

<sup>1</sup> For purposes of the stress test, auction rate preferred stock issues are included in this class.

<sup>2</sup> Except for those securities backed by housing-related assets, i.e., manufactured housing loans, which are covered in [section 3.9.2, Mortgage-Related Securities](#), of this Appendix.

[c] Table 3-29 defines the seven classes of derivative contracts and provides a description of what is included in each. (An eighth class, mortgage-related derivatives, is covered in section 3.9.3, Debt and Related Cash Flows, of this Appendix.)

<sup>18</sup> Cash flows are not aggregated together with a given counterparty for currency swaps. Instead,

haircuts are applied to each individual currency swap.



**Table 3-29. Derivatives**

| <b>Derivative Contract Classes</b> | <b>Description</b>   |
|------------------------------------|--|
| Basis Swaps                        | A derivative contract in which floating-rate interest payments are exchanged based on different interest rate indexes  |
| Fixed-Pay Swaps                    | A derivative contract in which an Enterprise pays a fixed interest rate and receives a floating interest rate  |
| Floating-Pay Swaps                 | A derivative contract in which an Enterprise pays a floating interest rate and receives a fixed interest rate  |
| Fixed-Pay Amortizing Swaps         | A derivative contract in which an Enterprise pays a fixed interest rate and receives a floating interest rate, both of which are based on a declining notional balance |
| Floating-Pay Amortizing Swaps      | A derivative contract in which an Enterprise pays a floating interest rate and receives a fixed interest rate, both of which are based on a declining notional balance |
| Long Cap                           | A derivative contract in which an Enterprise receives a floating interest rate when the interest rate to which it is indexed exceeds a specified level or strike price |
| Short Cap                          | A derivative contract in which an Enterprise pays a floating interest rate when the interest rate to which it is indexed exceeds a specified level                     |

[d] Stress test procedures are divided into two distinct steps: one, establishing interest payment dates; and two, calculating the instrument level cash flows based on payment criteria and instrument characteristics.

#### 3.9.4.2 Inputs

[a] The stress test requires instrument and interest rate inputs for the calculation of interest payments and receipts and principal payments. Instrument level inputs provided by the Enterprises are:

- Issue date
- Face/notional amount
- Maturity date

- Coupon rate
- Index
- Spread
- Instrument I.D. to link pay and receive sides of swaps
  - Pay/receipt code
  - Payment frequency
  - Cap rate
  - Cap strike price
  - Counterparty identification, if applicable
  - Public rating(s) of instrument or counterparty

[b] Each instrument class (security or derivative contract) uses only those inputs relevant to that instrument class.

[c] In addition to the inputs provided by the Enterprises, this component requires projections for the stress period for a number of interest rates. The calculation of all of these interest rates is described in section 3.3, Interest Rates, of this Appendix. Ten classes of instruments are linked to various interest rates. These interest rates are required as inputs in order to adjust periodically the interest payments on the respective instruments. The particular interest rate used is based on the instrument's specifications. The available interest rates are listed in Table 3-30.

**Table 3-30. Interest Rates and Indexes**

| <b>Indexes</b>                   |                                      |
|----------------------------------|--------------------------------------|
| Prime Rate                       | 1 MO London Inter-Bank Offered Rate  |
| 3 MO Treasury Bill               | 3 MO London Inter-Bank Offered Rate  |
| 6 MO Treasury Bill               | 6 MO London Inter-Bank Offered Rate  |
| 1 YR Constant Maturity Treasury  | 12 MO London Inter-Bank Offered Rate |
| 3 YR Constant Maturity Treasury  |                                      |
| 5 YR Constant Maturity Treasury  |                                      |
| 10 YR Constant Maturity Treasury |                                      |
| 20 YR Constant Maturity Treasury |                                      |
| Overnight Federal Funds          |                                      |
| 7-Day Federal Funds              |                                      |

## 3.9.4.3 Procedures

[a] One of seven interest payment calculations is assigned to each instrument class. These are a semi-annual fixed rate of

interest, quarterly fixed and floating rates of interest, monthly fixed and floating rates of interest, a fixed rate of interest due at maturity based on the number of days an instrument is outstanding, and a monthly

floating rate of interest based on the difference between an interest rate index and a strike price. Table 3-31 indicates the type of payment calculation for each of the various instrument classes.

**Table 3-31. Interest Rate Payments**

| <b>Instrument Class</b>  | <b>Interest Payment Frequency</b>  |
|--|--|
| Fixed-Rate Bonds   | Semi-annual fixed-rate payments  |
| Fixed-Pay Swaps (pay side)<br>Floating-Pay Swaps (receive side)  | Quarterly fixed-rate payments  |
| Floating-Rate Bonds<br>Floating-Rate Municipal Bonds<br>Basis Swaps<br>Floating-Pay Swaps (pay side)<br>Fixed-Pay Swaps (receive side) | Quarterly floating-rate payments   |
| Fixed-Rate ABSs<br>Fixed-Pay Amortizing Swaps (pay side)<br>Floating-Pay Amortizing Swaps (receive side)                               | Monthly fixed-rate payments  |
| Floating-Rate ABSs<br>Floating-Pay Amortizing Swaps (pay side)<br>Fixed-Pay Amortizing Swaps (receive side)                            | Monthly floating-rate payments   |
| Short-Term Instruments   | Fixed-rate with interest payments due at maturity  |
| Long Cap and Short Cap   | Monthly floating-rate payments based on the difference between an interest rate index and a strike price |

[b] The first step in processing the data is establishing the interest payment dates. Asset-backed securities (ABSs), amortizing swaps, and caps require monthly interest payments. For all other instrument classes, the interest payment dates are determined by working backward from the maturity date, using the payment assumptions for each instrument class. For example, if the maturity date is September 15, 1999, for an instrument that pays interest semi-annually, then interest payment dates are September 15,

1999, March 15, 1999, etc. until the initial payment date within the stress period is determined. Payments made in the stress period are allocated to specific months, not specific days within the month.

[c] The second step is the calculation of instrument level cash flows based on payment criteria and instrument characteristics. Interest payment dates are based on the criteria established above. For the non-derivative instrument classes except for ABS, each interest payment is based on

the face amount of the security. ABS interest payments are based on the remaining principal balance of the instrument after adjusting for prepayments. The entire amount of principal is due at maturity, except in the case of ABS, where the face amount is reduced by principal prepayments. Interest and principal payments for securities are, therefore, based on the formulas in Table 3-32.

**Table 3-32. Principal and Interest Calculations**

| <b>Instrument Class</b>               | <b>Interest Calculation</b>              | <b>Principal Calculation</b>  |
|---------------------------------------|--|---|
| Fixed-Rate Bonds                      | $(C \cdot F) \cdot 0.5$                  | $F$   |
| Floating-Rate Bonds                   | $(I + S) \cdot F \cdot 0.25$             | $F$   |
| Short-Term Instruments                | $(C \cdot F) \cdot D/360$                | $F$   |
| Floating-Rate Municipals <sup>1</sup> | $(L3 - (L3 \cdot T)) \cdot F \cdot 0.25$ | $F$   |
| Fixed-Rate ABS                        | $C \cdot P \cdot F \cdot 0.083$          | Monthly prepayments<br>[( $P \cdot F$ ) $\cdot Q$ ] and remaining<br>principal at maturity. |
| Floating-Rate ABS                     | $(I + S) \cdot (P \cdot F) \cdot 0.083$  | Monthly prepayments<br>[( $P \cdot F$ ) $\cdot Q$ ] and remaining<br>principal at maturity. |

<sup>1</sup> The index on which these securities reset is not modeled by the interest rate component of the stress test; therefore, the stress test approximates a tax-exempt rate by reducing the three-month LIBOR by the assumed marginal tax rate for the Enterprises multiplied by the three-month LIBOR.

where:

- $C$  = annual coupon rate
- $F$  = face amount of the instrument
- $S$  = spread over a given interest rate index
- $P$  = principal factor equal to  $(1 - \text{prepayment rate})^{(\text{sim month} - 1)}$
- $Q$  = prepayment rate, assumed to be 3.5% for fixed-rate and 2.0% for floating-rate ABS
- $T$  = marginal corporate tax rate, assumed to be 34.0%
- $D$  = number of days between settlement and maturity dates
- $L3$  = three-month LIBOR
- $I$  = interest rate index

[d] For derivative contracts such as swaps and caps, interest payments are calculated using notional amounts instead of principal balances. The stress test treats swaps as two separate instruments, consisting of a pay side and a receive side, using the criteria of fixed-rate or floating-rate instruments as described above. Each interest payment is based on the original notional amount of the derivative contract except for amortizing swaps, which

have interest payments based on the remaining notional balance after adjusting for prepayments. Prepayment speeds for amortizing swaps are set equal to the prepayment speeds for floating-rate ABSs.

[e] Caps can be purchased, in which case an Enterprise receives interest, or sold, in which case an Enterprise pays interest. Interest payments on caps are determined in the following manner. If the strike price of

the cap is less than or equal to the interest rate index, then interest payments are calculated based on the difference between the index and the strike price. If the strike price of the cap is greater than the interest rate index, then interest payments are zero. The formulas in Table 3-33 are used to calculate interest payments and receipts for investment-linked derivative contracts.

**Table 3-33. Interest Payments and Receipts**

| <b>Instrument Class</b> | <b>Interest Receipts</b>   | <b>Interest Payments</b>   |
|-------------------------|--|--|
| Fixed-Pay               | $(I + S) \cdot N \cdot 0.25$                                       | $(C + S) \cdot N \cdot 0.25$                                       |
| Floating-Pay            | $(C + S) \cdot N \cdot 0.25$                                       | $(I + S) \cdot N \cdot 0.25$                                       |
| Basis Swaps             | $(I + S) \cdot N \cdot 0.25$                                       | $(I + S) \cdot N \cdot 0.25$                                       |
| Fixed-Pay Amortizing    | $(I + S) \cdot (P \cdot N) \cdot 0.083$                            | $(C + S) \cdot (P \cdot N) \cdot 0.083$                            |
| Floating-Pay Amortizing | $(C + S) \cdot (P \cdot N) \cdot 0.083$                            | $(I + S) \cdot (P \cdot N) \cdot 0.083$                            |
| Long Cap                | $(I - K) \cdot N \cdot 0.083$ ;<br>if $K > I$ , then $(I - K) = 0$ | 0  |
| Short Cap               | 0  | $(I - K) \cdot N \cdot 0.083$ ;<br>if $K > I$ , then $(I - K) = 0$ |

[f] Equations for calculating interest on derivative contracts use the same notation as equations for securities. In addition, the following notations are used:

- $N$  = notional amount of the instrument
- $K$  = strike price

[g] Once the cash flows for interest and principal have been calculated for a particular investment or investment-linked derivative contract, the cash flow is "haircut" (i.e., reduced) by a specified percentage determined by the public rating of the investment or derivative counterparty and the year during the stress period in which the cash flow occurs, as described in section 3.6, Other Credit Factors, of this Appendix. The haircuts are applied to all investment cash flows at the instrument level. However, for investment-linked derivative contracts, the cash flows are added together (pay side and receive side) for all contracts with a given counterparty. The haircut is applied to the net cash owed by the counterparty in that month. If the Enterprise owes the counterparty money, then no haircut is applied.

#### 3.9.4.4 Output

Interest and principal payments are produced for each instrument for the 120 months of the stress period. These cash flows are inputs to section 3.10, Operations, Taxes, and Accounting, of this Appendix.

### 3.10 Operations, Taxes, and Accounting

#### 3.10.1 Overview

This component describes the procedures for creating pro forma balance sheets and income statements, determining short-term debt issuance and short-term investments, calculating operating expenses and taxes, and computing capital distributions. Input data include an Enterprise's balance sheet at the beginning of the stress period, interest rates, and the outputs from cash flow components of the stress test. The outputs of the procedures discussed in this section—120 monthly pro forma balance sheets and income statements—are the basis for the capital calculation described in section 3.12, Calculation of the Risk-Based Capital Requirement, of this Appendix.

#### 3.10.2 Inputs

This component uses the data described in section 3.10.2.1, Enterprise Data, section 3.10.2.2, Interest Rates, and section 3.10.2.3, Outputs From Cash Flow Components of the Stress Test, to produce monthly pro forma balance sheets and income statements for the Enterprises.

##### 3.10.2.1 Enterprise Data

[a] In addition to the starting position data described in the cash flow components, the Enterprises provide the dollar values for the following starting position balances:

- Amounts required to reconcile starting position balances from cash flow components of the stress test with an Enterprise's balance sheet (e.g., differences between actual and estimated loan prepayments during the last few days in the month)
  - Cash
  - Low income housing tax credit investments
  - Unamortized balances of premiums, discounts, and fees from the acquisition of retained whole loans and retained mortgage-related securities at other than par value
  - Allowances for loan losses
  - Accrued interest receivable on retained whole loans, retained mortgage-backed securities, mortgage-linked derivatives, and nonmortgage investments
  - Amounts receivable from index sinking fund debentures, currency swaps, fees, income taxes, and other accounts receivable
  - Real estate owned
  - Fixed assets
  - Clearing accounts
  - Unamortized premiums, discounts and fees related to debt securities
  - Unamortized balances related to the sold portfolio
  - Deferred balances related to liability-linked derivatives
  - Accrued interest payable
  - Principal and interest payable to mortgage security investors
  - Other liabilities (e.g., payables from currency swaps, escrow deposits, and income taxes)
  - Dividends payable

- Components of stockholder's equity (i.e., common stock, preferred stock, paid-in capital, retained earnings, treasury stock, and unrealized gains and losses on available-for-sale securities)

(b) Other data provided by the Enterprises include:

- Operating expenses for the quarter prior to the beginning of the stress test
- Earnings before income taxes and provision for income taxes for the three years prior to the beginning of the stress test
  - Year-to-date income before taxes and provision for income taxes
  - Dividend payout ratio for the four quarters prior to the beginning of the stress test
  - Minimum capital requirement at the beginning of the stress test

##### 3.10.2.2 Interest Rates

This component of the stress test requires the following interest rates generated by the Interest Rates component described in section 3.3, Interest Rates, of this Appendix:

- Six-month Federal agency cost of funds
- Six-month constant maturity Treasury yield

##### 3.10.2.3 Outputs From Cash Flow Components of the Stress Test

This component of the stress test also requires monthly cash flows generated as described in section 3.9, Cash Flows, for:

- Whole Loans (section 3.9.1)
- Mortgage-Related Securities (section 3.9.2)
  - Non-Mortgage Investment and Investment-Linked Derivative Contract Cash Flows (section 3.9.4)
  - Debt and Related Cash Flows (section 3.9.3)

##### 3.10.3 Procedures

The stress test calculates new debt and investments, dividends, allowances for loan losses, operating expenses, and income taxes. These calculations are both determined by and affect the pro forma balance sheets and income statements over the stress period.

### 3.10.3.1 New Debt and Investments

(a) The availability of cash in each month of the stress period determines whether cash is invested, or whether borrowings are required. The stress test calculates cash received and cash disbursed each month in order to determine the net availability of cash. The following describe the many "sources" and "uses" of cash.

#### 1. Cash sources include:

- Cash at the beginning of the stress test
- Principal and interest payments from retained mortgages and retained mortgage-backed securities
- Principal and interest payments from non-mortgage investments (e.g., Federal funds sold, mortgage securities purchased under agreements to resell, commercial paper, eurodollar time deposits, asset-backed securities, U.S. Treasury securities, municipal obligations, auction-rate preferred stock)

- Amounts received from counterparties on derivative contracts
- Disposition of foreclosed property included in the balance sheet at the beginning of the stress test
- Amounts received from other assets and receivables included in the balance sheet at the beginning of the stress test (e.g., receivables from index sinking fund debentures and currency swaps, Federal income taxes refundable.)

#### • Guarantee fees

- Float income on principal and interest received on the sold portfolio
- Federal income tax refunds from net operating loss (NOL) carrybacks
- Recoveries on defaulted loans

#### 2. Cash uses include:

- Repayment of principal to investors on debt instruments (as they mature or are called)
- Interest paid to investors on debt instruments
- Amounts paid to counterparties on derivative contracts
- Principal payments to investors (net of recoveries) due to mortgage defaults on loans in the sold portfolio
- Payments of miscellaneous liabilities included in the balance sheet at the beginning of the stress test, e.g., some accounts payable, escrow deposits, principal and interest due to mortgage security investors, and payables from currency swaps (Amounts recorded subsequent to the beginning of the stress period as principal and interest due mortgage securities investors do not affect the cash calculation for new debt and investments.)

#### • Operating expenses

#### • Income taxes

#### • Dividends on preferred and common stock

(b) During the stress period, the net cash position for each of the 120 months is calculated at the end of each month. Timing of sources and uses of cash within each month are ignored.

(c) At the end of any month in which the cash position is calculated to be negative, the stress test issues six month discount notes at the six month Federal Agency Cost of Funds rate, plus a 2.5 basis point issuance cost. When the cash position is positive, the stress

test invests the Enterprise's excess cash in one month maturity assets at a rate equivalent to the six month Treasury yield. As a result, the cash position of an Enterprise is zero at the end of each month during the stress test.

### 3.10.3.2 Dividends

(a) The stress test determines quarterly whether to pay preferred and common dividends and, if so, how much based on the rules that follow.

1. Preferred Stock—An Enterprise will pay dividends on preferred stock as long as that Enterprise meets the estimated minimum capital requirement before and after the payment of these dividends. Preferred stock dividends are based on the coupon rates of the issues outstanding. The coupon rates for any issues of variable rate preferred stock are calculated using projections of the appropriate index rate.

2. Common Stock—In the first year of the stress test, dividends on common stock in all four quarters are based on the trend in earnings at that Enterprise. If earnings are positive and increasing, dividends are paid based on the same percent dividend payout as the average payout of the preceding four quarters. If earnings are not positive and increasing, dividends are paid based on the preceding quarter's dollar amount of dividends per share. Common stock dividends are stopped after four quarters of payouts, except they are cut off earlier if an Enterprise's capital falls below the minimum capital requirement.

3. No other net capital distributions are made, i.e., no repurchases of common stock or redemption of preferred stock occur during the stress test.

(b) The Enterprise's minimum capital requirement is computed by applying leverage ratios to all assets (2.50 percent) and off-balance sheet obligations (0.45 percent), and summing the results.

### 3.10.3.3 Allowances for Loan Losses and Other Charge-Offs

(a) The stress test calculates a tentative allowance for loan losses monthly by multiplying current month mortgage default losses<sup>19</sup> by twelve, thus annualizing current month mortgage default losses. If the tentative allowance for loan losses for the current period is greater than the balance from the prior month plus charge-offs for the current month, a provision (e.g., expense) is recorded. Otherwise, no provision is made and the allowance for loan losses is equal to the prior period amount less current month charge-offs.

(b) Other charge-offs result from "haircuts" related to mortgage revenue bonds, private-issue MBS, and non-mortgage investments, described in their respective cash flow components. These haircuts result in receipt of less than the amount of principal

<sup>19</sup> Current month mortgage default losses include the sum of what the Enterprises classify as "provision for losses" and "foreclosed property expense." For both the retained and sold portfolios, this includes lost principal (net of recoveries from credit enhancements and disposition of the real estate collateral), and foreclosure, holding, and disposition costs.

contractually due. This lost principal is charged-off when due and not received.

### 3.10.3.4 Operating Expenses

The stress test calculates operating expenses, which include non-interest costs such as those related to an Enterprise's salaries and benefits, professional services, property, equipment and office. Over the stress period, operating expenses decline in proportion to the decline in the size of an Enterprise's mortgage portfolio (i.e., the sum of outstanding principal balances of its retained and sold mortgage portfolios). The stress test calculates the percentage of an Enterprise's mortgage portfolio at the start of the stress test that is remaining at the end of each month of the stress period. It then multiplies the percentage of assets remaining by one-third of the Enterprise's operating expenses in the quarter immediately preceding the start of the stress test. The resulting amount is an Enterprise's operating expense for a given month in the stress period.

### 3.10.3.5 Taxes

[a] Both Enterprises are subject to Federal income taxes, but neither is subject to state or local income taxes.

[b] The stress test applies an effective Federal income tax rate of 30 percent when calculating the monthly provision for income taxes (e.g., income tax expense). This tax rate is lower than the statutory rate because of tax exempt interest received, deductions for dividends received, and equity investments in affordable housing projects. OFHEO may change the 30 percent income tax rate if there are significant changes in Enterprise experience or changes in the statutory income tax rate.

[c] The stress test sets income tax expense for tax purposes equal to the provision for income taxes. The effects of timing differences between taxable income and generally accepted accounting principles (GAAP) income before income taxes are ignored. Therefore, Net Operating Loss (NOL) occurs only when the net income, before the provision for income taxes, is negative.

[d] Payments for estimated income taxes are made quarterly. At the end of each year, the annual estimated tax amount is compared to the annual actual tax amount. At that time, a payment of remaining taxes is made or a refund for overpayment of income taxes is received.

[e] A NOL for the current month is "carried back" to offset taxes in any or all of the preceding three calendar years. (The Enterprises' tax year is the same as the calendar year.) This offset of the prior years' taxes results in a negative provision for income taxes (e.g., income) for the current month. Use of a carry back reduces available carry backs in subsequent months. Any NOL remaining after carry backs are exhausted becomes a carry forward.

[f] Carry forwards represent NOLs that cannot be carried back to offset previous years' taxes, but can be used to offset taxes in any or all of the subsequent 15 years. Carry forwards accumulate until used, or until they expire 15 years after they are generated.

[g] Under the stress test, the Enterprises will not have a positive net income in future

years to utilize NOL carry forwards. A valuation adjustment is used to decrease the Federal income tax refundable to zero (e.g., the amount likely to be realized).

### 3.10.3.6 Accounting

[a] The 1992 Act specifies that total capital includes core capital and a general allowance for foreclosure losses. For the Enterprises, this general allowance is represented by general allowances for loan losses on their retained and sold mortgage portfolios. The 1992 Act further defines core capital as the sum of the following components of equity:

- The par or stated value of outstanding common stock
- The par or stated value of outstanding perpetual, noncumulative preferred stock
- Paid-in capital
- Retained earnings

[b] In order to determine the amount of total capital an Enterprise must hold to maintain positive total capital throughout the ten-year stress period, the stress test projects the above four components of equity plus general loss allowances as part of the monthly pro forma balance sheets and income statements.

[c] Details of an Enterprise's actual balance sheet at the beginning of the stress test are recorded from a combination of starting position balances for all instruments for which other components of the stress test calculates cash flows and other starting position balances for assets, liabilities, and equity accounts needed to complete an Enterprise's balance sheet.

[d] After recording an Enterprise's balance sheet at the beginning of the stress period, the stress test creates monthly pro forma balance sheets and income statements by recording output from the cash flow components of the stress test; recording new debt and investments (and related interest), dividends, loss allowances, operating expenses, and taxes; and applying accounting rules pertaining to balance sheets and pro forma income statements.

#### 3.10.3.6.1 Accounting for Positions and Cash Flows From Cash Flow Components

Balances at the beginning of the stress test and subsequent changes to related pro forma balance sheet and income statement accounts are obtained from data generated by cash flow components of the stress test for the following:

1. Retained whole loan mortgage interest cash flows in the first month of the stress period reduce accrued interest receivable at the beginning of the stress test. Subsequent months interest cash flows are recorded as accrued interest receivable and interest income in the month prior to its receipt. When the interest cash flows are received, accrued interest receivable is reduced. Monthly principal cash flows (including prepayments and defaulted principal) are recorded as reductions in the outstanding balance of the loan group. Net losses on defaults are charged off against the allowance for loan losses. Recoveries are cash inflows.

2. Retained mortgage-backed security interest cash flows in the first month of the stress period reduce accrued interest receivable at the beginning of the stress test. Subsequent months interest cash flows are

recorded as accrued interest receivable and interest income in the month prior to its receipt. When the interest cash flows are received, accrued interest receivable is reduced. Monthly principal cash flows (including prepayments) are recorded in the month received as a reduction in the outstanding balance of mortgage assets.

3. Mortgage revenue bond monthly interest cash flows in the first month of the stress period reduce accrued interest receivable at the beginning of the stress test. Subsequent months interest cash flows are recorded as accrued interest receivable and interest income in the month prior to its receipt. When the interest cash flows are received, accrued interest receivable is reduced. Monthly principal cash flows are recorded as reductions in the outstanding balance of mortgage assets. Defaulted principal is charged-off when due and not received.

4. Principal repayments from non-mortgage investments (e.g., Federal funds sold; mortgage securities purchased under agreements to resell; commercial paper; eurodollar time deposits; asset-backed securities; U.S. Treasury securities; municipal obligations, other than mortgage revenue bonds; and auction-rate preferred stock) reduce the investment and increase cash. Interest payments received increase cash and reduce accrued interest receivable. Accrued interest receivable includes both amounts at the beginning of the stress period and subsequent monthly accruals (also recorded as interest income).

5. Sold portfolio cash flows include monthly guarantee fees, float, and principal and interest due MBS investors. Guarantee fees are recorded as income in the month received. Principal and interest due mortgage security investors does not affect the balance sheet; however, interest earned on these amounts (float) is recorded as income in the month the underlying principal and interest payments are received. Principal payments received and defaulted loan balances reduce the outstanding balance of the sold portfolio. Losses (net of recoveries) are charged off against the allowance for losses on the sold portfolio (a liability on the pro forma balance sheets) and reduce cash.

6. For each debt instrument in the starting position, interest is accrued monthly. Accrued interest (representing both amounts as of the beginning of the stress period and subsequent monthly accruals) and principal debt due investors are reduced when cash payments are made.

7. Issuance of discount notes increases cash by the amount of the new debt, net of discounts and issuance costs. Interest expense is accrued monthly and paid at maturity when the discount note is retired at par. Discounts and issuance costs are amortized on a straight line basis over the life of the discount note, increasing interest expense.

8. The amortized balance (e.g., the face amount of the debt less the unamortized discount) of zero coupon debt is recorded in the starting position. The unamortized discount is amortized monthly using the level yield method over the debt's term to maturity and recorded as interest expense. At maturity, the face amount of the debt is paid

to investors and the balance of debt is reduced.

#### 3.10.3.6.2 Accounting for Other Changes in Starting Position Balances

Cash flows, income, and changes in the pro forma balances for other parts of the Enterprise's balance sheet are recorded as described below.

1. Unrealized gains (losses) on available-for-sale investments included in the balance sheet at the beginning of the stress test are recorded as income during the first month of the stress test. Recognition of unrealized gains increases earnings; recognition of unrealized losses decreases earnings.

2. Unamortized balances of premiums, discounts, and fees from the acquisition of retained loans and retained mortgage-backed securities at other than par value are a component of the balance sheet at the beginning of the stress test. Unamortized balances related to retained whole loans are amortized in proportion to the decline in the size of an Enterprise's retained portfolio. Unamortized balances related to REMICs and strips are amortized over their lives using the level yield method, calculated using cash flows generated from the cash flow component of the stress test. Amortizing deferred balances at the beginning of the stress test reduces the deferred amounts on the balance sheet by simultaneously increasing interest income by amortizing discounts and decreasing interest income by amortizing premiums.

3. Low income housing tax credit investments at the beginning of the stress test remain constant over the stress test. No earnings or expenses are directly recorded.

4. The following receivables at the beginning of the stress test are converted to cash in the first month of the stress test:

- Amounts receivable from index sinking fund debentures and currency swaps
- Other miscellaneous receivables (e.g., fees receivable and accounts receivable)
- Federal income taxes

5. Real estate owned at the beginning of the stress test is converted to cash on a straight-line basis over the first six months of the stress test.

6. Clearing accounts as of the beginning of the stress test are converted to cash on a straight-line basis over the first twelve months of the stress test.

7. Fixed assets at the beginning of the stress test remain constant over the stress test. Depreciation is included in the base on which operating expenses are calculated for each month during the stress period.

8. Unamortized premiums, discounts and fees related to debt securities at the beginning of the stress test are amortized on a level yield basis over the remaining term to contractual maturity of the debt. Specifically, unamortized amounts are grouped by term to maturity and coupon bucket for debentures, zero coupon instruments, and all other debt. Unamortized amounts are amortized on a level yield basis using weighted average maturities and weighted average coupons for each of these groups.

9. Deferred balances relating to liability-linked derivatives at the beginning of the stress test are amortized using the sum of years digits method over three years.

Amortizing deferred balances increases or decreases interest expense, as appropriate.

10. Principal and interest payable to an Enterprise's mortgage security investors at the beginning of the stress test are paid during the first two months of the stress test (one-half in month one and one-half in month two).

11. The following liabilities at the beginning of the stress test are paid in the first month of the stress test, reducing cash:

- Payables from currency swaps
- Escrow deposits

12. Unamortized balances related to the sold portfolio are amortized in proportion to the decline in the size of an Enterprise's sold portfolio.

### 3.10.3.6.3 Other Accounting Principles

Additional accounting principles that affect the pro forma balance sheets and income statements over the stress period are also applied.

1. All investment securities are treated as held to maturity. As such, they are recorded as assets at amortized cost, not at fair value.

2. Enterprise REIT subsidiaries are consolidated. Specifically, REIT assets are treated as Enterprise assets. Preferred stock of the REIT is reflected as Enterprise debt. Dividends paid on the preferred stock are reported as interest expense.

3. Dividends are declared and paid simultaneously.

4. Treasury stock is reflected as a reduction in retained earnings.

### 3.10.4 Output

For each month of the stress period, the stress test produces a pro forma balance sheet and income statement. These pro forma financial statements are the inputs for calculating capital.

### 3.11 Treatment of New Enterprise Activities

[a] Given rapid innovation in the financial services industry, OFHEO anticipates the Enterprises will become involved with new mortgage products, investments, debt and derivative instruments, and business activities that the stress test will have to accommodate. OFHEO will monitor the Enterprises' activities and, when appropriate, propose amendments to this regulation addressing the treatment of new instruments and activities. However, the regulation is sufficiently flexible and complete to address new Enterprise activities as they emerge.

[b] Credit and interest rate risk of new Enterprise activities and instruments will be reflected in the stress test by simulating their credit and cash flow characteristics using approaches described throughout this Appendix. Simulating new activities and instruments will require that the Enterprises provide complete data, and full explanations of their operation. To the extent that approaches described herein are not applicable directly, OFHEO will combine and adapt them in an appropriate manner.

For example, the stress test might employ its mortgage performance components and adapt its cash flow components to accurately simulate the loss mitigating effects of credit derivatives. Where there is no reasonable approach using existing combinations or adaptations within the timeframe for computing a quarterly capital calculation, the stress test will employ an appropriately conservative treatment, consistent with OFHEO's role as a safety and soundness regulator. Such treatment will continue until such time as sufficient information is made available to justify an alternative treatment, which may be subsequently incorporated as a specific provision in this Appendix.

[c] Procedurally, the Enterprises are expected to notify OFHEO of proposals related to new products, investments or instruments before they are purchased or sold or as soon thereafter as possible, but in any event no later than in connection with submission of the risk-based capital report provided for in § 1750.12. OFHEO will provide the Enterprise with its estimate of the capital treatment as soon thereafter as possible. The Enterprise will also be notified of the capital treatment in accordance with the notice of proposed capital classification provided for in § 1750.21.

## 3.12 Calculation of the Risk-Based Capital Requirement

### 3.12.1 Overview

[a] The stress test determines the minimum amount of total capital that an Enterprise must hold at the start of the stress test in order to maintain positive total capital throughout the ten-year stress period. Once the stress test has determined this amount of starting capital, the final calculation in the regulation is the Calculation of the Risk-Based Capital Requirement.

[b] The first step in calculating the minimum amount of total capital is to compute the discounted present value (as of the start of the stress test) of the projected month-end total capital amounts for each month of the stress period for both interest rate scenarios. The second step is to identify the lowest of the resulting 240 monthly discounted values and subtract from it the capital amount required for "other" off-balance sheet guarantees. If the resulting net amount is positive, the Enterprise has more than enough capital to maintain positive capital during the stress period. If the resulting net amount is negative, the Enterprise's capital at the start of the stress test is not sufficient. The third step is to subtract this net amount from the capital the Enterprise holds at the start of the stress test. This step effectively subtracts the extra capital or adds the shortfall to obtain the minimum amount of capital that the Enterprise needs at the start of the stress test.

[c] The final step in the regulation is the calculation of the Enterprise's risk-based capital requirement. The risk-based capital

requirement equals the adjusted capital amount times 1.3 to account for management and operations risk.

### 3.12.2 Inputs

[a] The above calculations use outputs from three components of the stress test to make the final two capital calculations. These components include section 3.3, Interest Rates; section 3.8, Other Off-Balance Sheet Guarantees; and section 3.10, Operations, Taxes, and Accounting, of this Appendix.

[b] For each month of the stress test, the following inputs are from pro forma financial statements projected by the Operations, Taxes, and Accounting component:

- Total capital (the par or stated value of outstanding common stock, the par or stated value of outstanding perpetual, noncumulative preferred stock, paid-in capital, retained earnings, and allowance for losses on retained and sold mortgages)
- Provision for income taxes (income tax expense)
- Valuation adjustment that reduces benefits recorded from net operating losses when no net operating loss tax carrybacks are available
- Discount notes (amount outstanding)

[c] For present-value calculations, the stress test uses either the six month Federal agency cost of funds or the six month Treasury yield generated by section 3.3, Interest Rates of this Appendix.

[d] The input for the capital amount for other off-balance sheet guarantees is obtained from section 3.8, Other Off-Balance Sheet Guarantees, of this Appendix.

### 3.12.3 Procedures

The following steps are used for determining the minimum total capital an Enterprise needs to maintain positive capital during the stress test and the risk-based capital requirement for the Enterprise.

1. Determine whether taxes are owed or tax refunds will be received. If the provision for income taxes is positive (reflecting taxes owed) or negative (reflecting tax refunds to be received), then the effective tax rate is 30 percent. If the provision for income taxes is zero (after valuation adjustments, implying that income is negative, but no net operating loss tax carrybacks are available), then the effective tax rate is zero.

2. Determine whether an Enterprise is an investor or a borrower in each month of the stress period. In months where an Enterprise has outstanding six-month discount notes that were issued during the stress test, then the Enterprise is a borrower. Otherwise, the Enterprise is an investor.

3. Determine the appropriate monthly discount factor for each month of the stress period. In months where an Enterprise is an investor, the monthly discount factor is based on the yield of short-term assets:

$$\text{Monthly Discount Factor} = \left[ 1 + \frac{(1 - \text{Effective Tax Rate}) \times 6\text{-month Treasury yield}}{2} \right]^{1/6}$$

In months where an Enterprise is a borrower, the monthly discount factor is based on the cost of the Enterprises' short-term debt:

$$\text{Monthly Discount Factor} = \frac{1 + \left[ (1 - \text{Effective Tax Rate}) \times \left( \frac{\text{6-month Federal Agency cost of funds}}{2} \right) \right]}{1 - \left[ (1 - \text{Effective Tax Rate}) \times 0.00025 \right]} \cdot 1/6$$

where:

.00025 is the factor that incorporates the issuance and administrative costs for an Enterprise's new discount notes.

4. Compute the cumulative discount factor for the total capital amount for each month in the stress period—The cumulative discount factor for a given month of the stress period is the monthly discount factor for that month multiplied by the cumulative discount factor for the preceding month. (The cumulative discount factor for the first month of the stress period is the monthly discount factor for that month.) Thus, the cumulative discount factor for any month incorporates all of the previous monthly discount factors.

5. Compute discounted total capital for each month of the stress period for both interest rate scenarios. Divide the total capital for a given month by the cumulative discount factor for that month.

6. Compute the amount of capital necessary to maintain positive capital throughout the stress period. Identify the lowest discounted total capital amount from among the 240 monthly discounted total capital amounts. Subtract the capital required for "other" off-balance sheet guarantees as calculated in section 3.8, Other Off-Balance Sheet Guarantees, component of the stress test from the lowest discounted amount. Then subtract the resulting difference from the Enterprise's total capital at the start of the stress period. This subtraction effectively reduces the starting capital amount by any extra capital that remains at the end of the stress period or increases starting capital by any shortfall. The resulting number is the starting capital amount that the Enterprise must hold in order to maintain positive total capital throughout the stress period.

7. Compute the risk-based capital requirement. Multiply the capital amount calculated in Step 6, by 1.3 for management and operations risk.

#### 3.12.4 Output

The output of the above calculations is the risk-based capital requirement for an Enterprise at the start date of the stress test.

5. Add new subpart C to read as follows:

#### Subpart C—Capital Classification

Sec.

1750.20 Definitions.

1750.21 Notice of capital classification.

#### Subpart C—Capital Classification

##### § 1750.20 Definitions

All of the terms defined at § 1750.2 shall have the same meaning for purposes of this subpart C.

##### § 1750.21 Notice of capital classification

(a) Pursuant to section 1364 of the 1992 Act (12 U.S.C. 4614), OFHEO is required to determine the capital classification of each Enterprise on a not less than quarterly basis.

(b) The determination of the capital classification shall be made following a notice to, and opportunity to respond by, the Enterprise.

(1) Not later than 60 calendar days after the date for which the minimum capital report required by § 1750.3 and the risk-based capital report required by § 1750.12 are filed, OFHEO will provide each Enterprise with a notice of proposed capital classification. The notice shall contain the following information:

- (i) The proposed capital classification;
- (ii) The proposed minimum capital requirement;
- (iii) The summary computation of the proposed minimum capital requirement;
- (iv) The proposed risk-based capital level; and

(v) The summary computation of the proposed risk-based capital level.

(2) Each Enterprise shall have a period of 30 calendar days following receipt of a notice of proposed capital classification to submit a response regarding the proposed capital classification. The response period may be extended for up to 30 additional calendar days at the sole discretion of the Director. The Director may shorten the response period with the consent of the Enterprise, or without such consent if the Director determines that the condition of the Enterprise requires a shorter period.

(3) The Director shall take into consideration any response to the notice of proposed capital classification received from the Enterprise and shall issue a notice of final capital classification for each Enterprise not later than 30 calendar days following the end of the response period.

(c) From [insert date of publication of the final rule in the **Federal Register**] until [insert date twelve months after date of publication of the final rule in the **Federal Register**], the Director shall determine the capital classification of the Enterprise, based solely on the proposed minimum capital requirement.

Dated: April 5, 1999.

**Mark A. Kinsey,**

*Acting Director, Office of Federal Housing Enterprise Oversight.*

[FR Doc. 99-8808 Filed 4-12-99; 8:45 am]

**BILLING CODE 4220-01-P**





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Tuesday  
April 13, 1999

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**Part III**

**Department of  
Transportation**

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**Federal Aviation Administration**

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**14 CFR Parts 65, 91, 105, and 119  
Parachute Operations; Proposed Rule**

**DEPARTMENT OF TRANSPORTATION****Federal Aviation Administration****14 CFR Parts 65, 91, 105, 119**

[Docket No. FAA-1999-5483; Notice No. 99-03]

RIN 2120-AG52

**Parachute Operations**

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

**SUMMARY:** This action proposes to amend the regulations applicable to parachute operations. The FAA proposes to define several new terms, to provide definitions for terms previously not defined, to clarify the current regulations, and to require that parachute operations be coordinated with the air traffic control facility having jurisdiction over the airspace in which the operations will be conducted. This action also proposes regulations to permit tandem parachute operations and allow non-U.S. certificated parachutists visiting from other countries to use equipment manufactured and packed in a foreign country when parachuting in the United States. In addition, the FAA proposes to remove the static-line assist device requirements for ram-air parachutes, and to add an accident reporting requirement. The FAA is proposing this action to enhance the safety of parachute operations in the National Airspace System (NAS).

**DATES:** Comments must be received on or before July 12, 1999.

**ADDRESSES:** Comments on this proposed rulemaking should be mailed or delivered, in duplicate, to the U.S. Department of Transportation (DOT) Dockets, Docket No. FAA-99-5483, 400 Seventh Street SW., Room Plaza 401, Washington, DC 20590. Comments also may be sent electronically to the following Internet address: 9-NPRM-CMTS@faa.gov. Comments may be filed and examined in Room Plaza 401 between 10:00 a.m. and 5:00 p.m. weekdays except Federal holidays.

**FOR FURTHER INFORMATION CONTACT:** Ellen Crum, Airspace and Rules Division, ATA-400, Air Traffic Airspace Management Program, Federal Aviation Administration, 800 Independence Avenue SW., Washington, DC 20591, telephone (202) 267-8783; or Randy Montgomery, Flight Standards Service Division, AFS-340, General Aviation and Commercial Branch, Federal Aviation Administration, 800

Independence Avenue SW., Washington, DC 20591, telephone (202) 267-3155.

**SUPPLEMENTARY INFORMATION:****Comments Invited**

Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments as they may desire. Comments relating to the environmental, energy, federalism, or economic impact that might result from adopting the proposals in this notice also are invited. Substantive comments should be accompanied by cost estimates. Comments must identify the regulatory docket or notice number and be submitted in duplicate to the Rules Docket address specified above.

All comments received, as well as a report summarizing each substantive public contact with FAA personnel on this rulemaking, will be filed in the docket. The docket is available for public inspection before and after the close of the comment period.

All comments received on or before the closing date will be considered by the Administrator before taking action on this proposed rulemaking. Late-filed comments will be considered to the extent practicable. The proposals contained in this notice may be changed in light of the comments received.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must include a pre-addressed, stamped postcard with those comments on which the following statement is made: "Comments to Docket No. FAA-1999-5483." The postcard will be date stamped and mailed to the commenter.

**Availability of NPRMs**

Any person may obtain a copy of this NPRM by submitting a request to the Federal Aviation Administration, Office of Rulemaking, ARM-1, 800 Independence Avenue SW., Washington, DC 20591, or by calling (202) 267-9680. Communications must identify the notice number or docket number of this NPRM.

Using a modem and suitable communications software, an electronic copy of this document may be downloaded from the FAA regulations section of the FedWorld electronic bulletin board service (telephone: (703) 321-3339) or the **Federal Register's** electronic bulletin board service (telephone: (202) 512-1661).

Internet users may reach the FAA's web page at <http://www.faa.gov> or the **Federal Register's** web page at [http://www.access.gpo.gov/su\\_docs](http://www.access.gpo.gov/su_docs) for

access to recently published rulemaking documents.

Persons interested in being placed on the mailing list for future NPRMs should request from the above office a copy of Advisory Circular No. 11-2A, Notice of Proposed Rulemaking Distribution System, which describes the application procedure.

**Background**

In 1991, the FAA reviewed part 105 and determined that revisions are necessary based on changes in the parachute industry and in parachute equipment since the rule was published in 1962. The changes in this proposed rule include: regulations to reflect current airspace reclassification, additional air traffic control communication requirements, improved parachute design, changes in industry practices, and clarification of existing regulations. The FAA believes that implementation of these changes would result in improved safety for parachute operations and other users of the NAS.

**Discussion of the Proposal***Terminology*

Part 105 currently is titled, "Parachute Jumping," and prescribes rules applicable to "parachute jumps." The FAA proposes to retitle part 105 "Parachute Operations" since this title better describes activities addressed by this part.

The FAA proposes to include a "definitions" section that would be numbered section 105.3. The definitions section would address three categories of terms: those that are used in the current part 105 but not defined, those terms previously defined but in need of further clarification, and those terms new to part 105.

There are several terms used in the current part 105, which are not defined, but are defined in this proposed rule. A definition for "main parachute" is provided to distinguish between it and the "reserve parachute." A definition for the term "pilot chute" is also proposed, which is defined as that part of a parachute system that initiates or accelerates the deployment of a parachute. Another term used in the current regulation but not defined is "drop zone." A "drop zone" would be defined as any predetermined area upon which parachutists or objects land after making an intentional parachute jump or drop.

In addition, part 105 contains terms that are defined but require further clarification. To distinguish between a "parachute jump" and a "parachute drop," the FAA proposes to define

“parachute jump” as a parachute operation that involves a person or persons, and “parachute drop” as a parachute operation that involves an object.

The term “reserve parachute” would replace the term “auxiliary parachute.” A “reserve parachute” would be defined as an approved parachute worn for emergency use, activated only upon failure of the main parachute, or in any other emergency where use of the main parachute is impractical or would increase the risk of injury.

The FAA proposes to add new terms to part 105 as a result of changes in the parachute industry. The term “parachutist” would be included in the definition section and defined as a person who boards an aircraft with the intent to use a single-harness dual parachute system to descend to the surface.

The FAA also proposes to define the term “foreign parachutist.” A foreign parachutist is a parachutist that is neither a U.S. citizen nor a resident alien.

The term “parachute operation” would be added and defined as any activity involving the use of a parachute for a controlled descent to the surface.

The FAA proposes to permit tandem parachute operations in the revised part 105. Currently, tandem parachute operations are permitted only by exemption and under certain conditions. This proposal includes the definitions of four new terms related to tandem parachutes and tandem parachute operations. These terms are “parachutist in command,” “passenger parachutist,” “tandem parachute operation,” and “tandem parachute system.” A “parachutist in command” is the person responsible for the operation and safety of a tandem parachute operation before, during, and after a tandem parachute operation. The term “passenger parachutist” means a person who boards an aircraft, acting as other than the parachutist in command of a tandem parachute operation with the intent of exiting the aircraft while in flight using the forward harness of a dual harness tandem parachute system to descend to the surface. A “tandem parachute operation” is defined as a parachute operation in which more than one person uses the same tandem parachute system while descending to the surface from an aircraft in flight. A “tandem parachute system” is the combination of a main parachute, approved reserve parachute, an approved harness and dual parachute container, and a separate approved forward harness for a passenger parachutist.

To facilitate the proposed accident reporting requirements, the FAA proposes to add the terms “serious injury” and “fatal injury.” The FAA proposes to use the same definitions for these two terms as used by the National Transportation Safety Board (NTSB). A “serious injury” means any injury that requires hospitalization for more than 48 hours, commencing within 7 days from the date the injury was received; results in a fracture of any bone (except simple fractures of fingers, toes, or the nose); causes severe hemorrhages, or nerve, muscle, or tendon damage; or involves any internal organ. A “fatal injury” means any parachuting injury that results in death within 30 days from the date of the injury.

The FAA also proposes to add the term “supervision” in describing a certificated parachute rigger’s responsibilities when a parachute is packed by a non-certificated person. The scope of supervision of a non-certificated person would be similar to the supervision requirements stated in 14 CFR § 43.3(d), which states that a “supervisor personally observes the work being done to the extent necessary to ensure that it is being done properly and if the supervisor is readily available, in person, for consultation.”

The FAA proposes to add and define the term “ram air parachute”. When the current part 105 was issued, the parachutes in use were round. Since then, ram air parachutes, which are square or rectangular in shape, have been developed and are commonly used in the parachuting industry. Present regulations, which address round parachutes, do not address the unique operational characteristics of ram air parachutes, such as the steering capability. The addition of a definition for ram air parachutes incorporates the use of ram air parachutes in the current part 105.

The term “approved parachute” is currently used in the regulations and its definition has been included in this proposal.

#### *Radio Communications*

Currently, section 105.14(a)(1)(ii) requires that an aircraft used for conducting parachute operations establish radio communications with the nearest FAA air traffic control facility or FAA flight service station at least 5 minutes before the jumping activity is to begin. The FAA proposes to change this communication requirement to require that radio communication be established with the air traffic control facility having jurisdiction over the airspace in which the parachute operation is conducted.

This proposal arises from the results of a FAA review of a selection of Aviation Safety Reporting (ASR) System reports filed with the National Aeronautics and Space Administration (NASA) between February 1992 and November, 1998. The FAA studied numerous ASR reports, in which pilots reported near midair collisions between their aircraft and aircraft involved in parachute operations. In addition, other reports involved aircraft flying in close proximity to parachutists who were descending to the ground near an airport or within controlled airspace.

The ASR reports are submitted voluntarily. According to NASA, the existence of reports concerning a specific topic in the ASRS database cannot, therefore, be used to infer the prevalence of that problem within the National Airspace System. However, these reports are often used by the FAA to provide further background information and insight into safety issues that are already being addressed by the FAA.

The ASR reports relate numerous incidents where aircraft on instrument flight plans were not provided with traffic advisories of parachute operations along their route of flight. In some cases, the air traffic controller was not in communication with the aircraft involved in parachute operations, and in other cases, not even aware the parachute activity was taking place. This proposal will ensure that aircraft involved in parachute operations are in communication with the appropriate ATC facility, thereby facilitating the exchange of traffic advisories, and reducing the risk of midair collisions between aircraft and persons conducting parachute operations.

In addition to enhancing safety, the proposed radio communication requirements would conform to annex 2 of the International Aviation Organization (ICAO), “Rules of the Air,” chapter 3.1.6, “Parachute Descents.” This annex states, “parachute descents, other than emergency descents, shall not be made except under conditions prescribed by the appropriate authority and as indicated by relevant information, advice and/or clearance from the appropriate air traffic services unit.”

#### *Reporting and Notification Requirements*

The FAA proposes to amend the reporting and notification requirements for individuals conducting parachute operations. Sections 105.19 and 105.23(a) respectively state that a parachute jump may not be made in certain designated airspace unless an

authorization is obtained from, or notification is given to, the nearest FAA air traffic control facility (ATC) or FAA flight service station (FSS), as appropriate. Section 105.25(b) also requires that these facilities be notified if the parachute jumping activity is canceled or postponed.

Under the proposed rule, the air traffic control facility having jurisdiction over the affected airspace would be notified before conducting the parachute operation; notification to FAA flight service stations would no longer be required. The FAA believes that it is appropriate for facilities that have jurisdiction over the airspace in which the operations are taking place to be notified because flight service stations are not responsible for the separation of aircraft. Under the proposed rule, the facility receiving notification of parachute activity would be responsible for advising the FSS in order to disseminate this information to users of the NAS. The FAA believes that this requirement would encourage a dialogue between those engaged in parachute operations and ATC, particularly at locations where parachute operations could potentially interfere with air traffic operations. The current provision that a pilot obtain prior approval from airport management to conduct parachute operations over or onto that airport remains unchanged.

This NPRM also includes a provision under proposed section 105.15 that each person submitting notification under 105.25(a)(3) specify the radio frequencies appropriate to the facilities to be used during the parachute operation, rather than the radio frequencies available in the aircraft.

Another proposed change to the notification procedures concerns air traffic control towers that are not operated by the U.S. Government (hereafter "non-federal tower"). The current section 105.17 permits parachute operations to be conducted at airports that have an operating, non-federal tower without prior coordination with that facility. The FAA has determined that to improve safety, pilots of aircraft conducting parachute operations should be required to contact the air traffic control tower having jurisdiction over the area where parachute operations will be conducted, regardless of who is responsible for tower operations. Therefore, the FAA proposes to require that pilots of aircraft conducting parachute operations over or onto an airport with an operating air traffic control tower establish and maintain two-way radio communication with, and obtain approval from, the air

traffic control tower before conducting parachute operations at that airport.

#### *Parachute Packing*

The FAA proposes to amend the regulations governing who is permitted to pack a parachute. Sections 65.111(b) and 105.43(a)(1) state that only a certificated parachute rigger or the person intending to jump using the parachute is authorized to pack a main parachute. Conversely, section 65.125 permits a current certificated senior or master parachute rigger (hereafter referred to as "certificated parachute rigger") to supervise other persons in packing any type of parachute for which that certificated parachute rigger is rated.

As a result of the inconsistency between the above sections of the regulations, the parachute industry has adopted a practice in which a certificated rigger regularly supervises other non-certificated persons packing main parachutes. This practice has become so widespread that an informal distinction between a "paid packer" and "rigger" exists, with the latter referring to a certificated rigger. The FAA has found that permitting a non-certificated person to pack a main parachute while supervised by a certificated rigger does not compromise safety. Therefore, for purposes of consistency, the FAA proposes to include provisions in sections 105.43(a) and 105.45(b)(1) to allow non-certificated persons to pack main parachutes when supervised by a certificated rigger.

The FAA proposes to clarify the meaning of the term "supervision," since there has been some industry confusion as to what constitutes appropriate supervision. Section 65.125 currently permits a certificated parachute rigger to supervise the packing of a parachute. In the proposed regulation, a certificated rigger must personally observe the entire packing process of the main parachute to ensure that it is being done properly by a non-certificated person who is not the holder of a parachute-rigging certificate. The certificated parachute rigger should be available for immediate consultation while the non-certificated parachute rigger is packing the main parachute. The certificated parachute rigger also should inspect the main parachute being packed, as necessary, through, and upon completion of the packing process. The only exception to this proposal would be if the person packing the main parachute is the parachutist in command and is making the next parachute jump with that parachute. These same requirements are proposed to apply to the packing of a tandem

main parachute and will be discussed further.

#### *Parachute Operations Between Sunset and Sunrise*

The FAA proposes an addition to the current § 105.33 requirement that a parachutist must display a light, visible for 3 statute miles, from the time he or she exits the aircraft. The proposal also would require that a light be displayed that is visible for 3 statute miles in all directions. The FAA also proposes that any object that is part of a parachute drop display a light visible for 3 statute miles in all directions from the time the object leaves the aircraft. This proposed requirement would conform to annex 2 of the ICAO "Rules of the Air," chapter 3.1.6, "Parachute Descents."

#### *Accident Reporting Requirements*

Presently, parachutists are not required to notify the FAA when involved in a parachuting accident. The majority of the information that the FAA has on parachute operations accidents is generally obtained as a result of a condition set forth in the grant of an exemption permitting tandem parachute operations. The National Transportation Safety Board (NTSB) has recommended that the FAA begin collecting information on parachute operations accidents. As a result of these recommendations, the FAA has decided to improve its existing accident database, which requires improving the collection process for this data. Once collected, this data would be used to assess the safety of parachute operations and prevent future accidents.

Consequently, the FAA is proposing that the parachutist involved in the accident, the pilot of the aircraft, or the drop zone owner or operator be required to notify the FAA of any serious or fatal injury to a parachutist while conducting a parachute operation.

#### *Tandem Parachute Operations*

When part 105 was originally issued, civilian parachute operations were limited to the use of a single-harness, dual-parachute pack. Since then, the parachute industry has developed new dual harness systems that support two people under a single parachute. Because part 105 allows parachute operations with single-harness parachutes only, the use of parachute equipment capable of supporting two people has only been authorized by exemption. For purposes of the exemptions, the FAA and the parachuting industry have adopted the term "tandem" to describe those parachute operations that use a dual-harness, dual-parachute system.

The first exemption authorizing tandem parachute operations in the United States was granted by the FAA in 1984. Since then, more than 2.5 million experimental tandem parachute jumps have been conducted throughout the world, including those operations conducted under exemption authority in the United States. Under the exemptions, various companies conducting tandem parachute operations were required to furnish the FAA with accident statistics on tandem operations, which provided the FAA with the means to evaluate the safety of tandem equipment compared to the safety of equipment and operations currently permitted under part 105.

In July 1997, the United States Parachute Association (USPA) submitted a petition for rulemaking requesting that the FAA amend section 105.43 to permit tandem parachute operations using an FAA-approved, dual-harness dual-parachute system capable of supporting two parachutists under a single canopy. While considering the USPA petition, the FAA reviewed accident statistics from 1991 through 1996. During this time period, approximately 16,990,000 total parachute operations were conducted, 670,707 of which were conducted using tandem parachutes. Of the total parachute operations, 194 resulted in fatalities due to equipment failure, 8 of which involved the use of tandem parachutes. The overall fatality rate for first-time skydivers involved in single-harness operations is 2.7 fatalities per 100,000 jumps. The overall fatality rate for first-time skydivers involved in tandem operations is lower, 1.2 fatalities per 100,000 jumps.

Based on the relatively low rate of fatalities that occurred during tandem operations as compared to those that occurred during single harness operations, the FAA has determined that the companies conducting experimental tandem parachute operations under an exemption from part 105 have demonstrated that tandem operations can be conducted safely. Accordingly, the FAA has concluded that tandem parachute operations should be permitted and it proposes to add section 105.45 to allow tandem parachute operations.

The proposed section 105.45 would permit tandem parachute operations under terms similar to the conditions and limitations previously contained in the exemption issued to experimental tandem parachute operators, which include: (1) Requirements for instructor experience; (2) passenger briefings before boarding the aircraft used in the parachute operation; and (3) equipment

inspection and packing. The FAA proposes to use the terms "passenger parachutist" and "parachutist in command" to replace "student" and "instructor," respectively, as used in the exemptions. In addition, the notification requirements for tandem parachute operations would be included in the general notification requirements of proposed section 105.13.

Specifically, the FAA proposes that the parachutist in command of a tandem parachute operation must provide documentation that the parachutist: (1) Has a minimum of three years experience in parachuting; (2) has completed a minimum of 500 freefall parachute jumps, at least 300 of which were completed using a ram-air parachute; (3) holds an expert parachute license issued by an organization recognized by the FAA; (4) has successfully completed a tandem instructor course given by the manufacturer of the tandem equipment used in the parachute operation or a course acceptable to the Administrator; and (5) has been certified by the appropriate parachute manufacturer or tandem course provider as being properly trained on the use of the specific tandem parachute system to be used.

Additionally, the parachutist in command would be required to conduct briefings on tandem parachute operations for passenger parachutists before each flight and use the harness position prescribed by the manufacturer of the tandem parachute equipment.

Lastly, the FAA proposes to require that a certificated rigger supervise individuals packing parachutes to be used in tandem parachute operations, unless the person packing the parachute is the parachutist in command conducting the next parachute jump with that parachute in accordance with the proposed section 105.45.

#### *Static-Line Assist Devices*

The USPA submitted a second petition for rulemaking in July 1997 requesting that the FAA amend section 105.43 to permit parachute operations using static-line, direct-deployed, ram-air parachutes without using a static-line assist device.

Skydiving schools and parachute manufacturers have been concerned that a direct deployment assist device could cause canopy damage and malfunctions. Due to this concern, the USPA Safety & Training Committee and the Parachute Industry Association Technical Committee, conducted a series of tests to determine the effect of the required device in 1989. The tests showed that an assist device does not improve the

reliability of the static line direct deployment of a ram-air canopy. The tests also show that there are no adverse effects when the device is removed. As a result of these tests, the FAA believes that safety would not be compromised by removing the static-line assist device requirements for ram-air parachutes.

#### *Equipment and Packing Requirements for Foreign Parachutists*

The USPA submitted a third petition for rulemaking in July 1997 requesting that the FAA amend section 105.43 to allow foreign parachutists to make parachute jumps in the United States using their own equipment.

Section 105.43(a) currently states that no person may make a parachute jump wearing a single-harness, dual-parachute pack having at least one main parachute and one approved reserve parachute, unless the main parachute is packed by a certificated parachute rigger or by the person making the jump, within 120 days before the date of its use, and that the reserve parachute is packed by a U.S. certificated and appropriately rated parachute rigger. The requirements of section 105.43(a) were adopted to protect parachutists from inadequate equipment at a time when the sport parachute industry was in its infancy. Part 105 does not except foreign parachutists from the requirements imposed by section 105.43(a). Therefore, foreign parachutists making parachute jumps in the United States with their own equipment are still required to have an approved reserve parachute, approved harness and dual-parachute container and have that reserve parachute packed by a U.S. certificated and appropriately rated parachute rigger.

As a result of this requirement, experienced foreign parachutists must have an exemption from section 105.43(a) in order to use their own parachute equipment while conducting parachute operations in the United States. Since 1972, the FAA has issued these exemptions to organizations sponsoring parachuting events attended by foreign parachutists and has found operations conducted under these exemptions have been conducted safely. Additionally, the FAA recognizes that the parachute equipment industry has become more sophisticated and safety conscious, and that foreign manufacturers of parachute equipment often meet U.S. standards. Therefore, the FAA proposes to add a new section 105.49 to address foreign parachutist equipment and parachute operations.

This proposed section incorporates the terms and conditions set forth in the grant of exemptions to allow these

parachute jumps. The FAA proposes to permit foreign parachutists to conduct jumps in the U.S. using their own equipment provided that they use single-harness, dual-parachute systems which contain a non-Technical Standard Order (TSO) reserve parachute or a non-TSO'd harness and container. The parachute system used by the foreign parachutist must also meet the civil aviation authority requirements of the foreign parachutist's country, and must be packed by the foreign parachutist making the next parachute jump with that parachute, or a U.S. certificated parachute rigger. These proposed requirements would conform to annex 2 of the ICAO, "Rules of the Air," chapter 3.1.6, "Parachute Descents."

#### *Changes to Other Parts of 14 CFR*

To conform the proposed rule language with the language of other pertinent parts of 14 CFR, the FAA proposes to amend sections of parts 65, 91, and 119 applicable to parachute operations.

#### **Section-by-Section Discussion of the Proposals**

The FAA has proposed several organizational changes to part 105. These changes are intended to organize the sections in a manner that first prescribes requirements that apply to most or all parachute operations, followed by sections that prescribe requirements for a specific type of parachute operation. A cross-reference table has been included to illustrate the proposed reorganization of part 105.

#### *Section 65.111 Certificate Required*

Currently, section 65.111(a) states that no person may pack, maintain, or alter any personnel-carrying parachute intended for emergency use in connection with civil aircraft of the United States (including the reserve parachute of a dual parachute system to be used for intentional parachute jumping) unless he holds an appropriate current certificate and type rating issued under this subpart and complies with sections 65.127 through 65.133. The FAA proposes to revise paragraph (a) to change the word "auxiliary" to "reserve" and the reference to "he" to "that person."

Currently, section 65.111(b) states that no person may pack any main parachute of a dual-parachute pack unless that person has an appropriate current certificate or is the person making the jump using that parachute.

The FAA proposes to revise paragraph (b) to allow persons to pack a main parachute in accordance with section

105.43(a), under the supervision of a certificated parachute rigger or to allow a parachutist in command to pack a main parachute for tandem parachute operations in accordance with section 105.45(b)(1). The FAA proposes a word change to the provision that a person may pack a main parachute if that person intends to make the next parachute jump using that parachute.

#### *Section 65.125 Certificates: Privileges*

The current section 65.125 permits a certificated parachute rigger to supervise other persons in the packing of any type of parachute for which the certificated parachute rigger is rated.

The FAA proposes to revise paragraphs 65.125(a)(2) and 65.125(b)(2) to permit that a certificated parachute rigger supervise other persons packing parachutes in accordance with section 105.43(a) or section 105.45(b)(1).

#### *Section 91.307 Parachutes and Parachuting*

The FAA proposes to revise paragraph (b) of this section by replacing "make" with "conduct," and "parachute jump" with "parachute operation." The term parachute operation includes parachute jump and parachute drop.

#### *Section 105.1 Applicability*

This proposed section combines the requirements of current sections 105.1 General, Applicability and 105.11, Operating Rules, Applicability. There are no substantive changes in this section. The proposed section 105.1 prescribes rules governing parachute operations in the U.S. This part does not apply to parachute operations conducted during an in flight emergency or to meet an emergency on the surface when conducted at the direction or with the approval of an agency of the U.S., State, Puerto Rico, District of Columbia, possession of the U.S. or an agency or political subdivision thereof. This section retains the provision for excluding parachute operations by a member of an Armed Force from other sections of part 105 when the parachute operation is within a restricted area under the control of the Armed Force or during military operations in uncontrolled airspace.

#### *Section 105.3 Definitions*

This proposed section would define the terms "approved parachute," "automatic activation device," "drop zone," "fatal injury," "foreign parachutist," "freefall," "main parachute," "object," "parachute drop," "parachute jump," "parachute operation," "parachutist," "parachutist in command," "passenger parachutist,"

"pilot chute," "ram-air parachute," "reserve parachute," "serious injury," "single-harness, dual-parachute system," "supervision," "tandem parachute operation," and "tandem parachute system."

#### *Section 105.5 General*

This proposed section is based on current section 105.13. The FAA proposes to replace the term "make" with the phrase "to conduct," the term "parachute jump" with the term "parachute operation," the term "made" with the term "conducted," and the term "jump" with the term "operation." There are no substantive changes to this section.

#### *Section 105.7 Use of Alcohol and Drugs*

This proposed section is based on current section 105.35. The proposed rule would replace the term "liquor" with the term "alcohol" because alcohol is a more general term that includes liquor. The intent of the rule is to prevent a person under the influence of alcohol from conducting parachute operations.

#### *Section 105.9 Inspections*

This proposed section includes requirements currently found in section 105.37 with no substantive changes.

#### *Section 105.13 Radio Equipment and Use Requirements*

This section is based on current section 105.14. As previously discussed, the FAA proposes to require radio communications between the pilot of an aircraft involved in parachute operations in controlled airspace and the air traffic control facility having jurisdiction over the affected airspace.

#### *Section 105.15 Information Required and Notice of Cancellation or Postponement of a Parachute Operation*

This proposed section is based on the current sections 105.15(c) and 105.25. Proposed paragraph (a)(8) of this section would require that each person requesting authorization under sections 105.21(b) and 105.25(a)(2) and each person submitting notification under section 105.25(a)(3) to specify the radio frequencies appropriate to the facilities to be used during the parachute operation, rather than the radio frequencies available in the aircraft. Proposed paragraph (b) retains the current requirement that each holder of a certificate of authorization issued under sections 105.21(b) and 105.25(b) of this part must present that certificate for inspection upon the request of the Administrator or any Federal, State, or

local official. Proposed paragraph (c) would require the pilot in command of an aircraft involved in parachute operations to promptly notify the air traffic control facility having jurisdiction over the affected airspace if the proposed or scheduled parachute operation is canceled or postponed.

#### *Section 105.17 Flight Visibility and Clearance From Cloud Requirements*

This proposed section contains the flight visibility and clearance from cloud requirements currently found in section 105.29. No changes are proposed to the current requirements.

#### *Section 105.19 Parachute Operations Between Sunset and Sunrise*

Currently, section 105.33 requires persons making parachute jumps between sunset and sunrise to be equipped with a light that is displayed and visible for 3 miles from the time that person exits the aircraft until that person reaches the surface. Proposed section 105.19 would add to the above provision that the displayed light must be visible for 3 statute miles in all directions.

This proposed section would also allow objects equipped with a light to descend from an aircraft in flight between sunset and sunrise. Each object that is dropped from an aircraft must display a light that is visible for 3 statute miles in all directions from the time the object is dropped from the aircraft until the object reaches the surface.

#### *Section 105.21 Parachute Operations Over or Into a Congested Area or an Open Air Assembly of Persons*

This proposed section contains provisions currently found in section 105.15 and contains one change. The FAA proposes to remove the 4-day requirement to apply for a certificate of authorization since the administrative time necessary to process such requests has been reduced.

#### *Section 105.23 Parachute Operations Over or Onto Airports*

This proposed section is based on the current section 105.17. As previously discussed, for airports with an operating control tower, proposed paragraph (a) of this section would require: (1) prior approval from both the airport management and the control tower to conduct parachute operations over or onto the airport; and (2) pilots of aircraft involved in parachute operations over or onto an airport with an operating airport traffic control tower (hereafter referred to as "control tower") to establish two-way radio communication

with the control tower regardless of whether the control tower is operated by the United States or another entity.

For airports without a control tower, the proposed rule would retain the requirement that pilots of aircraft involved in parachute operations obtain prior approval from management of the airport to conduct parachute operations over or onto that airport.

Proposed section 105.23 would retain the provision currently found in section 105.17 which allows a parachutist to drift 2,000 feet above an airport's traffic pattern with a fully deployed and properly functioning parachute.

#### *Section 105.25 Parachute Operations in Designated Airspace*

This proposed section contains provisions currently found in sections 105.19, 105.23, and 105.27. Proposed paragraph (a)(1) would retain the provisions currently in section 105.27 for parachute operations in restricted or prohibited airspace. Proposed paragraph (a)(2) of this section addresses parachute operations in Class A, B, C, and D airspace areas, which are found currently in section 105.19. Proposed paragraph (a)(3) of this section is based on current section 105.23 and would use the Class E and G airspace area designations instead of the phrase "other airspace" as currently used in section 105.23. There are no substantive changes to this section.

#### *Section 105.27 Accident Reporting Requirements*

This section would require the parachutist, the pilot of the aircraft, or the drop zone owner or operator to notify the FAA within 48 hours of any parachute operation resulting in a serious or fatal injury to the parachutist.

#### *Section 105.41 Applicability*

This section has been amended to read, "this subpart prescribes rules governing parachute equipment used in civil parachute operations."

#### *Section 105.43 Use of Single-Harness, Dual-Parachute Systems*

This proposed section is based on current section 105.43(a) and proposes one change. This section currently provides that only a certificated parachute rigger, or the person making the parachute jump with that parachute, may pack a main parachute. The FAA proposes that a main parachute also may be packed by a person under the direct supervision of a certificated parachute rigger.

#### *Section 105.45 Use of Tandem Parachute Systems*

This proposed section provides for tandem parachute operations, and would incorporate the conditions and limitations, with some modification, set forth in the grants of exemption issued to experimental tandem parachute operators. These conditions and limitations include instructor experience requirements, briefings for passenger parachutists, equipment inspections, and packing requirements. Because the FAA no longer refers to passenger parachutists as students, those persons would be referred to as "passenger parachutists," and tandem instructors would be referred to as "parachutists in command."

In addition, the FAA proposes that a certificated parachute rigger supervise persons packing parachutes who are not certificated under part 65, unless the person packing the parachute is a parachutist in command.

#### *Section 105.47 Use of Static Lines*

This proposed section is based on the current section 105.43(b) and contains only one proposed change, which is that the use of assist devices with ram-air parachutes would no longer be required.

#### *Section 105.49 Foreign Parachutists and Equipment*

This proposed section addresses equipment and packing requirements for foreign parachutists. Only single-harness, dual-parachute systems which contain a non-Technical Standard Order (TSO) reserve parachute or non-TSO'd harness and container would be allowed to be used in the United States by the owner or agent of that equipment. The parachute system used by the foreign parachutist must also meet the civil aviation authority requirements of the foreign parachutist's country, and must be packed by the foreign parachutist making the next parachute jump with that parachute, or a U.S. certificated parachute rigger.

#### *Section 119.1 Applicability*

The FAA proposes to amend paragraph (e)(6) of this section to read, "Nonstop flights conducted within a 25-statute-mile radius of the airport of takeoff carrying persons or objects for the purpose of conducting intentional parachute operations." This change adds the term, "objects" to the current rule.

#### **Paperwork Reduction Act**

This NPRM, Parachute Operations, contains information collection requirements. As required by the Paperwork Reduction Act of 1995 (44

U.S.C. 3507(d)), the FAA has submitted a copy of these proposed sections to the Office of Management and Budget (OMB) for its review.

At the present time, there is no requirement to notify the FAA of a parachute accident. Without this requirement, the FAA has been unable to provide adequate oversight of parachute riggers and the packing of parachutes, which have been found to be contributing factors in parachute accidents.

The information collected would be used by the FAA to propose recommendations for equipment changes, operating procedures, and/or training. In addition, the information would be used to assist in the investigation of accidents, and would help determine whether the packing, materials, or competency of the packer was a contributing factor in the accidents.

Since this reporting requirement would be used to account for the total number of parachutists who sustain serious or fatal injuries, the FAA expects this proposed rule would affect approximately 44 drop zone owners, parachutists, or pilots of aircraft used in parachute operations per year. This recordkeeping requirement would be used to improve the FAA's existing accident database. This data would be used to assess the safety of parachute operations and prevent future accidents. Accordingly, it is estimated that the approximate 44 drop zone owners, parachutists, or pilots of aircraft used in parachute operations would spend an average of one hour collecting the data at an hourly rate of \$12 per hour (44 reports  $\times$  1 hr = 44 hrs  $\times$  \$12 = \$528.00).

Individuals and organizations may submit comments on the information collection requirement by June 14, 1999, and should direct them to the address listed in the ADDRESSES section of this document.

Persons are not required to respond to a collection of information unless it displays a currently valid OMB control number. The burden associated with this proposal has been submitted to OMB for review. The FAA will publish a notice in the **Federal Register** notifying the public of the approval numbers and expiration date.

#### **International Compatibility**

The FAA has reviewed corresponding International Civil Aviation Organization international standards and recommended practices and Joint Aviation Authorities requirements and has identified no differences in these proposed amendments and the foreign regulations.

#### **Regulatory Evaluation Summary**

Three principal requirements pertain to the economic impact of changes to the Federal Regulations. First, Executive Order 12866 directs Federal agencies to promulgate new regulations or modify existing regulations only upon reasoned determination that the benefit of the intended regulation justifies its costs. Second, the Regulatory Flexibility Act of 1980 (RFA) requires agencies to analyze the economic impact of regulatory changes on small entities. Finally, the Office of Management and Budget directs agencies to assess the effects of regulatory changes on international trade. In conducting these analyses, the FAA has determined that this rule (1) would generate cost-savings that would exceed any costs; (2) is not "significant" as defined in the Executive Order and DOT policies and procedures; (3) would not have a significant impact on a substantial number of small entities; and (4) would not impose restraints on international trade. These analyses, available in the docket, are summarized below.

The FAA has determined that there would be little or no cost associated with the proposed revision of part 105 as described in this notice. The benefits of such revision would be to reduce the likelihood of midair collision involving aircraft and persons engaged in parachute operations, and reduce the risk of aircraft coming in close proximity to the parachutists who were descending to the ground after exiting the aircraft near an airport or within controlled airspace.

The proposed rule would reorganize and revise the rules applicable to parachute operations. It would clarify some sections and permit certain operations currently allowed under exemptions granted by the FAA. The proposal also would harmonize the three following proposed sections with annex 2 of ICAO: (1) the radio equipment and use requirements in proposed section 105.9; (2) the requirement in proposed section 105.19 that parachutists and objects dropped from aircraft display a light when conducting jumps or drops after sunset; and (3) the requirements listed in section 105.49 pertaining to foreign parachutists and equipment. The proposed changes to part 105 would pose little or no cost to parachutists, sky diving training schools, and certificated parachute riggers. In addition, because the requirements of the proposed sections for tandem parachute operations and parachute jumps by foreign parachutists already are being met under exemptions granted by the

FAA, the proposal would not impose additional business expenses on sky diving schools. Costs imposed on the FAA are minimal as well because the agency would not need to provide additional oversight of parachute operations under the revision of part 105.

#### **Initial Regulatory Flexibility Determination**

The Regulatory Flexibility Act of 1980 (RFA) establishes "as principle of regulatory issuance that agencies shall endeavor, consistent with the objective of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of the business, organizations, and governmental jurisdictions subject to regulation." To achieve that principal, the Act requires agencies to solicit and consider flexible regulatory proposals and to explain the rationale for their actions. The Act covers a wide-range of small entities, including small businesses, not-for-profit organizations, and small governmental jurisdictions.

Agencies must perform a review to determine whether a proposed or final rule would have a significant economic impact on a substantial number of small entities. If the determination is that it will, the agency must prepare a regulatory flexibility analysis (RFA).

However, if an agency determines that a proposed rule is not expected to have a significant economic impact on a substantial number of small entities, section 605(b) of the 1980 act provides that the head of the agency may so certify and an RFA is not required. The certification must include a statement providing the factual basis for this determination, and the reasoning should be clear.

The FAA conducted the required review of this proposal and determined that it would not have a significant economic impact on a substantial number of small entities. Accordingly, pursuant to the Regulatory Flexibility Act, 5 U.S.C. 605(b), the FAA certifies that this rule would not have a significant economic impact on a substantial number of small entities for the following reason: the proposed rule would require an additional expense of less than \$1,000 per entity (parachute lofts and clubs, sky diving training schools, and certificated riggers) in excess of normal business expenses. Major aspects of this rulemaking such as permitting tandem parachute operations would not impose additional business expenses for compliance on sky diving schools and parachute lofts because these entities currently adhere to the requirements of the proposed rule



through grants of exemptions issued by the FAA under part 105. The FAA solicits comments from affected entities with respect to this finding and determination.

**International Trade Impact Analysis**

The FAA has determined that the proposed rule would promote parachuting by foreign jumpers in the United States. This determination is based on the FAA's contention that the proposed rule would harmonize U.S. standards for parachute operations with the ICAO standards for parachute operations.

**Federalism Implications**

The regulations proposed herein will not have substantial direct effects on the States, on the relationship between the National Government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this proposal would not have significant federalism implications to warrant the preparation of a Federalism Assessment.

**Unfunded Mandates Reform Act**

Title II of the Unfunded Mandates Reform Act of 1995 (the Act), enacted as Public Law 104-4 on March 22, 1995, requires each Federal agency, to the extent permitted by law, to prepare a written assessment of the effects of any Federal mandate in a proposed or final agency rule that may result in the expenditure by State, local, and tribal governments, in the aggregate, or by the private sector, of \$100 million or more (adjusted annually for inflation) in any 1 year. Section 204(a) of the Act, 2 U.S.C. 1534(a), requires the Federal agency to develop an effective process to permit timely input by elected officers (or their designees) of State, local, and tribal governments on a proposed "significant intergovernmental mandate." A "significant intergovernmental mandate" under the Act is any provision in a Federal agency regulation that would impose an enforceable duty upon State, local, and tribal governments, in the aggregate, of \$100 million (adjusted annually for inflation) in any 1 year. Section 203 of the Act, 2 U.S.C. 1533, which supplements section 204(a), provides that before establishing any regulatory requirements that might significantly or uniquely affect small governments, the agency shall have developed a plan that, among other things, provides for notice to potentially affected small governments, if any, and for a meaningful and timely opportunity to

provide input in the development of regulatory proposals.

This rule does not contain a Federal intergovernmental or private sector mandate that exceeds \$100 million a year, therefore, the requirements of the act do not apply.

**Distribution and Derivation Tables**

The following distribution table is provided to illustrate how the current regulation would relate to the revised part 105, and the derivation table identifies how the revised part 105 would relate to the current rule.

DISTRIBUTION TABLE

| Old Section  | New Section(s)    |
|--------------|-------------------|
| 105.1 .....  | 105.1             |
| 105.11 ..... | 105.1             |
| 105.13 ..... | 105.5             |
| 105.14 ..... | 105.13            |
| 105.15 ..... | 105.21            |
| 105.17 ..... | 105.23            |
| 105.19 ..... | 105.25            |
| 105.23 ..... | 105.25            |
| 105.25 ..... | 105.15            |
| 105.27 ..... | 105.25            |
| 105.33 ..... | 105.19            |
| 105.35 ..... | 105.7             |
| 105.37 ..... | 105.9             |
| 105.41 ..... | 105.41            |
| 105.43 ..... | 105.43 and 105.47 |

DERIVATION TABLE

| New Section  | Old Section(s)             |
|--------------|----------------------------|
| 105.1 .....  | 105.1 and 105.11           |
| 105.3 .....  | New                        |
| 105.5 .....  | 105.13                     |
| 105.7 .....  | 105.35                     |
| 105.9 .....  | 105.37                     |
| 105.13 ..... | 105.14                     |
| 105.15 ..... | 105.25                     |
| 105.17 ..... | 105.29                     |
| 105.19 ..... | 105.33                     |
| 105.21 ..... | 105.15                     |
| 105.23 ..... | 105.17                     |
| 105.25 ..... | 105.19, 105.23, and 105.27 |
| 105.27 ..... | New                        |
| 105.41 ..... | 105.41                     |
| 105.43 ..... | 105.43                     |
| 105.45 ..... | New                        |
| 105.47 ..... | 105.43                     |
| 105.49 ..... | New                        |

**List of Subjects**

*14 CFR Part 65*

Air traffic controllers, Aircraft, Airmen, Airports, Alcohol abuse, Drug abuse, Reporting and recordkeeping requirements.

*14 CFR Part 91*

Afghanistan, Agriculture, Air traffic control, Aircraft, Airmen, Airports, Aviation safety, Canada, Cuba, Freight,

Mexico, Noise control, Political candidates, Reporting and recordkeeping requirements, Yugoslavia.

*14 CFR Part 105*

Aircraft, Aviation safety, Recreation and recreation areas, Reporting and recordkeeping requirements.

*14 CFR Part 119*

Administrative practice and procedure, Air carriers, Aircraft, Aviation Safety, Charter flights, Reporting and recordkeeping requirements.

**The Proposed Amendment**

In consideration of the foregoing, the Federal Aviation Administration proposes to amend parts 65, 91, 105, and 119 of Title 14, Code of Federal Regulations as follows:

**PART 65—CERTIFICATION: AIRMEN OTHER THAN FLIGHT CREWMEMBERS**

1. The authority citation for part 65 continues to read as follows:

**Authority:** 49 U.S.C. 106(g), 40113, 44701-44703, 44707, 44709-44711, 45102-45103, 45301-45302.

2. Section 65.111 is amended by revising paragraphs (a) and (b) to read as follows:

**§ 65.111 Certificate required.**

(a) No person may pack, maintain, or alter any personnel-carrying parachute intended for emergency use in connection with civil aircraft of the United States (including the reserve parachute of a dual parachute system to be used for intentional parachute jumping) unless that person holds an appropriate current certificate and type rating issued under this subpart and complies with §§ 65.127 through 65.133.

(b) No person may pack, maintain, or alter any main parachute of a dual-parachute system to be used for intentional parachute jumping in connection with civil aircraft of the United States unless that person—

- (1) Has an appropriate current certificate issued under this subpart;
- (2) Is under the supervision of a current certificated parachute rigger;
- (3) Is the person making the next parachute jump with that parachute in accordance with section 105.43(a) of this chapter; or
- (4) Is the parachutist in command making the next parachute jump with that parachute in a tandem parachute operation conducted under section 105.45(b)(1) of this chapter.

\* \* \* \* \*

3. Section 65.125 is amended by revising paragraphs (a)(2) and (b)(2) to read as follows:

**§ 65.125 Certificates: Privileges.**

(a) \* \* \*

(2) Supervise other persons in packing any type of parachute for which that person is rated in accordance with section 105.43(a) or section 105.45(b)(1) of this chapter.

(b) \* \* \*

(2) Supervise other persons in packing, maintaining, or altering any type of parachute for which the certificated parachute rigger is rated in accordance with section 105.43(a) or section 105.45(b)(1) of this chapter.

\* \* \* \* \*

**PART 91—GENERAL OPERATING AND FLIGHT RULES**

4. The authority citation for part 91 continues to read as follows:

**Authority:** 49 U.S.C. 106(g), 1155, 40103, 40113, 40120, 44101, 44111, 44701, 44709, 44711, 44712, 44715, 44716, 44717, 44722, 46306, 46315, 46316, 46504, 46506–46507, 47122, 47508, 47528–47531, articles 12 and 29 of the Convention on International Civil Aviation (61 stat. 1180).

5. Section 91.307 is amended by revising paragraph (b) to read as follows:

**§ 91.307 Parachutes and parachuting.**

\* \* \* \* \*

(b) Except in an emergency, no pilot in command may allow, and no person may conduct, a parachute operation from an aircraft within the United States except in accordance with part 105 of this chapter.

\* \* \* \* \*

6. Part 105 is revised to read as follows:

**PART 105—PARACHUTE OPERATIONS**

**Subpart A—General**

Sec.

105.1 Applicability.

105.3 Definitions.

105.5 General.

105.7 Use of alcohol and drugs.

105.9 Inspections.

**Subpart B—Operating Rules**

105.13 Radio equipment and use requirements.

105.15 Information required and notice of cancellation or postponement of a parachute operation.

105.17 Flight visibility and clearance from cloud requirements.

105.19 Parachute operations between sunset and sunrise.

105.21 Parachute operations over or into congested areas or an open-air assembly of persons.

105.23 Parachute operations over or onto airports.

105.25 Parachute operations in designated airspace.

105.27 Accident reporting requirements.

**Subpart C—Parachute Equipment and Packing**

105.41 Applicability.

105.43 Use of single-harness, dual-parachute systems.

105.45 Use of tandem parachute systems.

105.47 Use of static lines.

105.49 Foreign parachutists and equipment.

**Authority:** 49 U.S.C. 106(g), 40113–40114, 44701–44702, 44721.

**Subpart A—General**

**§ 105.1 Applicability.**

(a) Except as provided in paragraphs (b) and (c) of this section, this part prescribes rules governing parachute operations conducted in the United States.

(b) This part does not apply to a parachute operation conducted—

(1) In response to an in-flight emergency, or

(2) To meet an emergency on the surface when it is conducted at the direction or with the approval of an agency of the United States, or of a State, Puerto Rico, the District of Columbia, or a possession of the United States, or an agency or political subdivision thereof.

(c) Sections 105.5, 105.9, 105.13, 105.15, 105.17, 105.19 through 105.23, 105.25(a)(1) and 105.27 of this part do not apply to a parachute operation conducted by a member of an Armed Force—

(1) Over or within a restricted area when that area is under the control of an Armed Force.

(2) During military operations in uncontrolled airspace.

**§ 105.3 Definitions.**

For the purposes of this part—

**Approved parachute** means a parachute manufactured under a type certificate or a Technical Standard Order (C–23 series), or a personnel-carrying military parachute (other than a high altitude, high speed, or ejection type) identified by a Navy Air Facility, an Army Air Field, an Air Force-Navy drawing number, an Army Air Field order number, or any other military designation or specification number.

**Automatic Activation Device** means a self-contained mechanical device attached to a parachute, other than a static line, which automatically initiates parachute deployment at a preset altitude, time, percentage of terminal velocity, or combination thereof if that parachute has not been manually activated.

**Drop zone** means any pre-determined area upon which parachutists or objects land after making an intentional parachute jump. The center-point target of a drop zone is expressed in nautical miles from the nearest VOR facility when 30 nautical miles or less; or from the nearest airport, town, or city depicted on the appropriate Coast and Geodetic Survey World Aeronautical Chart or Sectional Aeronautical Chart, when the nearest VOR facility is more than 30 nautical miles from the drop zone.

**Fatal injury** means any parachuting injury that results in death within 30 days from the date of the injury.

**Foreign parachutist** means a parachutist who is neither a U.S. citizen nor a resident alien.

**Freefall** means the portion of a parachute jump or drop between aircraft exit and parachute deployment in which the parachute is activated manually by the parachutist at the parachutist's discretion or automatically, or, in the case of an object, is activated automatically.

**Main parachute** means a parachute worn as the primary parachute used or intended to be used in conjunction with a reserve parachute.

**Object** means any item other than a person that descends to the surface from an aircraft in flight when a parachute is used or is intended to be used during all or part of the descent.

**Parachute drop** means a parachute operation that involves the descent of an object to the surface from an aircraft in flight when a parachute is used or intended to be used during all or part of that descent.

**Parachute jump** means a parachute operation that involves the descent of one or more persons to the surface from an aircraft in flight when a parachute is used or intended to be used during all or part of that descent.

**Parachute operation** means any activity that includes a parachute jump or a parachute drop. This activity involves, but is not limited to, the following persons: parachutist, tandem parachute operation, drop zone owner or operator, certificated parachute rigger, pilot, or appropriate FAA personnel.

**Parachutist** means a person who boards an aircraft with the intent to exit the aircraft while in-flight using a single-harness, dual parachute system to descend to the surface.

**Parachutist in command** means the person responsible for the operation and safety of a tandem parachute operation before, during, and after a tandem parachute operation.

*Passenger parachutist* means a person who boards an aircraft, acting as other than the parachutist in command of a tandem parachute operation, with the intent of exiting the aircraft while in-flight using the forward harness of a dual harness tandem parachute system to descend to the surface.

*Pilot chute* means a small parachute used to initiate and/or accelerate deployment of a main or reserve parachute.

*Ram-air parachute* means a parachute with a canopy consisting of an upper and lower surface that is inflated by ram air entering through specially designed openings in the front of the canopy to form a gliding airfoil.

*Reserve parachute* means an approved parachute worn for emergency use to be activated only upon failure of the main parachute or in any other emergency where use of the main parachute is impractical or use of the main parachute would increase risk.

*Serious injury* means any injury that requires hospitalization for more than 48 hours, commencing within 7 days from the date the injury was received; results in a fracture of any bone (except simple fractures of fingers, toes, or the nose); causes severe hemorrhages, or nerve, muscle, or tendon damage; or involves any internal organ.

*Single-harness, dual parachute system* means the combination of a main parachute, approved reserve parachute, and approved single person harness and dual-parachute container. This parachute system may have an operational automatic activation device installed.

*Supervision* means that a certificated rigger personally observes a noncertificated person packing a main parachute to the extent necessary to ensure that it is being done properly.

*Tandem parachute operation* means a parachute operation in which more than one person simultaneously uses the same tandem parachute system while descending to the surface from an aircraft in flight.

*Tandem parachute system* means the combination of a main parachute, approved reserve parachute, and approved harness and dual parachute container, and a separate approved forward harness for a passenger parachutist. This parachute system must have an operational automatic activation device installed.

#### § 105.5 General.

No person may conduct a parachute operation, and no pilot in command of an aircraft may allow a parachute operation to be conducted from an aircraft, if that operation creates a

hazard to air traffic or to persons or property on the surface.

#### § 105.7 Use of alcohol and drugs.

No person may conduct a parachute operation, and no pilot in command of an aircraft may allow a person to conduct a parachute operation from that aircraft, if that person is or appears to be under the influence of—

- (a) Alcohol, or
- (b) Any drug that affects that person's faculties in any way contrary to safety.

#### § 105.9 Inspections.

The Administrator may inspect, any parachute operation to which this part applies (including inspections at the site where the parachute operation is being conducted) to determine compliance with the regulations of this part.

### Subpart B—Operating Rules

#### § 105.13 Radio equipment and use requirements.

(a) Except when otherwise authorized by air traffic control—

(1) No person may conduct a parachute operation, and no pilot in command of an aircraft may allow a parachute operation to be conducted from that aircraft, in or into controlled airspace unless, during that flight—

(i) The aircraft is equipped with a functioning two-way radio communications system appropriate to the air traffic control facilities being used; and

(ii) Radio communications have been established between the aircraft and the air traffic control facility having jurisdiction over the affected airspace at least 5 minutes before the parachute operation begins. The pilot in command and the parachutists on that flight must have established radio communications to receive information regarding air traffic activity in the vicinity of the parachute operation.

(2) The pilot in command of an aircraft used for any parachute operation in or into controlled airspace must, during each flight—

(i) Continuously monitor the appropriate frequency of the aircraft's radio communications system from the time radio communications are first established between the aircraft and air traffic control, until the pilot advises air traffic control that the parachute operation has ended for that flight; and

(ii) Advise air traffic control when the last parachutist or object leaves the aircraft.

(b) If, prior to receipt of a required air traffic control authorization, or during any parachute operation in or into controlled airspace the required radio communications system is or becomes

inoperative, any parachute operation from the aircraft must be aborted.

#### § 105.15 Information required and notice of cancellation or postponement of a parachute operation.

(a) Each person requesting an authorization under sections 105.21(b) and 105.25(a)(2) of this part and each person submitting a notification under section 105.25(a)(3) of this part must include the following information (on an individual or group basis) in that request or notice:

(1) The date and time the parachute operation will begin.

(2) The radius of the drop zone around the target expressed in nautical miles.

(3) The location of the center of the drop zone in relation to—

(i) The nearest VOR facility in terms of the VOR radial on which it is located and its distance in nautical miles from the VOR facility when that facility is 30 nautical miles or less from the drop zone target; or

(ii) The nearest airport, town, or city depicted on the appropriate Coast and Geodetic Survey World Aeronautical Chart or Sectional Aeronautical Chart, when the nearest VOR facility is more than 30 nautical miles from the drop zone target.

(4) Each altitude above mean sea level at which the aircraft will be operated when parachutists or objects exit the aircraft.

(5) The duration of the intended parachute operation.

(6) The name, address, and telephone number of the person who requests the authorization or gives notice of the parachute operation.

(7) The registration number of the aircraft to be used.

(8) The radio frequencies appropriate to the air traffic control facilities to be used, if required.

(b) Each holder of a certificate of authorization issued under sections 105.21(b) and 105.25(b) of this part must present that certificate for inspection upon the request of the Administrator or any Federal, State, or local official.

(c) Each person requesting an authorization under sections 105.21(b) and 105.25(a)(2) of this part and each person submitting a notice under section 105.25(a)(3) of this part must promptly notify the air traffic control facility having jurisdiction over the affected airspace if the proposed or scheduled parachute operation is canceled or postponed.

#### § 105.17 Flight visibility and clearance from cloud requirements.

No person may conduct a parachute operation, and no pilot in command of

an aircraft may allow a parachute operation to be conducted from that aircraft—

(a) Into or through a cloud, or

(b) When the flight visibility or the distance from any cloud is less than that prescribed in the following table:

| Altitude  | Flight visibility (statute miles) | Distance from clouds                                     |
|---|-----------------------------------|--|
| 1,200 feet or less above the surface regardless of the MSL altitude.    | 3                                 | 500 feet below, 1,000 feet above, 2,000 feet horizontal. |
| More than 1,200 feet above the surface but less than 10,000 feet MSL.   | 3                                 | 500 feet below, 1,000 feet above, 2,000 feet horizontal. |
| More than 1,200 feet above the surface and at or above 10,000 feet MSL. | 5                                 | 1,000 feet below, 1,000 feet above, 1 mile horizontal.   |

**§ 105.19 Parachute operations between sunset and sunrise.**

(a) No person may conduct a parachute operation, and no pilot in command of an aircraft may allow a person to conduct a parachute operation from an aircraft between sunset and sunrise, unless the person or object descending from the aircraft displays a light that is visible for at least 3 statute miles in all directions.

(b) Each person conducting a parachute drop between sunset and sunrise must ensure that the light required by paragraph (a) of this section is displayed from the time that the object or parachutist exits the aircraft until the object or parachutist reaches the surface.

**§ 105.21 Parachute operations over or into a congested area or an open-air assembly of persons.**

(a) No person may conduct a parachute operation, and no pilot in command of an aircraft may allow a parachute operation to be conducted from that aircraft, over or into a congested area of a city, town, or settlement, or an open-air assembly of persons unless a certificate of authorization for that parachute operation has been issued under this section. However, a parachutist may drift over a congested area or an open-air assembly of persons with a fully deployed and properly functioning parachute if that parachutist is at a sufficient altitude to avoid creating a hazard to persons or property on the surface.

(b) An application for a certificate of authorization issued under this section must—

(1) Be made to the local FSDO in a form and in a manner prescribed by the Administrator, and

(2) Contain the information in section 105.15(a) of this part.

**§ 105.23 Parachute operations over or onto airports.**

No person may conduct a parachute operation, and no pilot in command of an aircraft may allow a parachute

operation to be conducted from that aircraft, over or onto any airport unless—

(a) For airports with an operating control tower:

(1) Prior approval has been obtained from the management of the airport to conduct parachute operations over or onto that airport.

(2) Approval has been obtained from the control tower to conduct parachute operations over or onto that airport.

(3) Two-way radio communications are maintained between the pilot of the aircraft involved in the parachute operation and the control tower of the airport over or onto which the parachute operation is being conducted.

(b) For airports without an operating control tower, prior approval has been obtained from the management of the airport to conduct parachute operations over or onto that airport.

(c) A parachutist may drift over that airport with a fully deployed and properly functioning parachute if he is at least 2,000 feet above that airport's traffic pattern, and avoids creating a hazard to air traffic or to persons and property on the ground.

**§ 105.25 Parachute operations in designated airspace.**

(a) No person may conduct a parachute operation, and no pilot in command of an aircraft may allow a parachute operation to be conducted from that aircraft—

(1) Over or within a restricted area or prohibited area unless the controlling agency of the area concerned has authorized that parachute operation;

(2) Within or into Class A, B, C, or D airspace area without, or in violation of the terms of, an air traffic control authorization issued under this section;

(3) Except as provided in paragraph (c) and (d) of this section, within or into Class E or G airspace area unless the air traffic control facility having jurisdiction over the affected airspace is notified of the parachute operation no earlier than 24 hours before or no later than 1 hour before the parachute operation begins.

(b) Each request for a parachute operation authorization or notification required under this section must be submitted to the air traffic control facility having jurisdiction over the affected airspace and must include the information prescribed by section 105.15(a) of this part.

(c) For the purposes of paragraph (a)(3) of this section, air traffic control may accept a written notification from an organization that conducts parachute operations and lists the scheduled series of parachute operations to be conducted over a stated period of time not longer than 12 calendar months. The notification must contain the information prescribed by section 105.15(a) of this part, identify the responsible persons associated with that parachute operation, and be submitted at least 15 days, but not more than 30 days, before the parachute operation begins. Air traffic control may revoke the acceptance of the notification for any failure of the organization conducting the parachute operations to comply with its terms.

(d) Paragraph (a)(3) of this section does not apply to a parachute operation conducted by a member of an Armed Force within a restricted area that extends upward from the surface when that area is under the control of an Armed Force.

**105.27 Accident reporting requirements.**

The FAA must be notified within 48 hours of any parachute operation resulting in a serious or fatal injury to a parachutist by—

(a) Each parachutist involved in the accident, or

(b) the pilot of the aircraft, or

(c) The drop zone owner or operator.

**Subpart C—Parachute Equipment and Packing**

**§ 105.41 Applicability.**

This subpart prescribes rules governing parachute equipment used in civil parachute operations.

**§ 105.43 Use of single-harness, dual-parachute systems.**

No person may conduct a parachute operation using a single-harness, dual-parachute system, and no pilot in command of an aircraft may allow any person to conduct a parachute operation from that aircraft using a single-harness, dual-parachute system, unless that system has at least one main parachute, one approved reserve parachute, and one approved single person harness and container that are packed as follows:

(a) The main parachute must have been packed within 120 days before the date of its use by a certificated parachute rigger, the person making the next jump with that parachute, or a non-certificated person under the direct supervision of a certificated parachute rigger.

(b) The reserve parachute must have been packed by a certificated parachute rigger—

(1) Within 120 days before the date of its use, if its canopy, shroud, and harness are composed exclusively of nylon, rayon, or similar synthetic fiber or material that is substantially resistant to damage from mold, mildew, or other fungi, and other rotting agents propagated in a moist environment; or

(2) Within 60 days before the date of its use, if it is composed of any amount of silk, pongee, or other natural fiber, or material not specified in paragraph (b)(1) of this section.

(3) If installed, the automatic activation device must be maintained in accordance with manufacturer instructions for that automatic activation device.

**§ 105.45 Use of tandem parachute systems.**

(a) No person may conduct a parachute operation using a tandem parachute system, and no pilot in command of an aircraft may allow any person to conduct a parachute operation from that aircraft using a tandem parachute system, unless—

(1) One of the parachutists using the tandem parachute system is the parachutist in command, and meets the following requirements:

(i) Has a minimum of 3 years of experience in parachuting, and must provide documentation that the parachutist

(ii) Has completed a minimum of 500 freefall parachute jumps, at least 300 of which were completed using a ram-air parachute, and

(iii) Holds an expert parachute license issued by an organization recognized by the FAA, and

(iv) Has successfully completed a tandem instructor course given by the

manufacturer of the tandem parachute equipment used in the parachute operation or a course acceptable to the Administrator.

(v) Has been certified by the appropriate parachute manufacturer or tandem course provider as being properly trained on the use of the specific tandem parachute system to be used.

(2) The person acting as parachutist in command:

(i) Has briefed the passenger parachutist before boarding the aircraft. The briefing must include the procedures to be used in case of an emergency with the aircraft or after exiting the aircraft, while preparing to exit and exiting the aircraft, freefall, operating the parachute after freefall, landing approach, and landing.

(ii) Uses the harness position prescribed by the manufacturer of the tandem parachute equipment.

(b) No person may make a parachute jump with a tandem parachute system unless—

(1) The main parachute has been packed by a certificated parachute rigger, the parachutist in command making the next jump with that parachute, or a person under the direct supervision of a certificated parachute rigger.

(2) The reserve parachute has been packed by a certificated parachute rigger in accordance with section 105.43(b) of this part.

(3) The tandem parachute system contains an operational automatic activation device for the reserve parachute, approved by the manufacturer of that tandem parachute system.

(i) The automatic activation device must be maintained in accordance with manufacturer instructions for that automatic activation device.

(ii) [Reserved]

(4) The passenger parachutist is provided with a manual main parachute activation device and instructed on the use of that device, if required by the owner/operator.

(5) The main parachute is equipped with a single-point release system.

(6) The reserve parachute meets Technical Standard Order C23 specifications.

**§ 105.47 Use of static lines.**

(a) Except as provided in paragraph (c) of this section, no person may conduct a parachute operation using a static line attached to the aircraft and the main parachute unless an assist device, described and attached as follows, is used to aid the pilot chute in performing its function, or, if no pilot

chute is used, to aid in the direct deployment of the main parachute canopy. The assist device must—

(1) Be long enough to allow the main parachute container to open before a load is placed on the device.

(2) Have a static load strength of—

(i) At least 28 pounds but not more than 160 pounds if it is used to aid the pilot chute in performing its function; or

(ii) At least 56 pounds but not more than 320 pounds if it is used to aid in the direct deployment of the main parachute canopy; and

(3) Be attached as follows:

(i) At one end, to the static line above the static-line pins or, if static-line pins are not used, above the static-line ties to the parachute cone.

(ii) At the other end, to the pilot chute apex, bridle cord, or bridle loop, or, if no pilot chute is used, to the main parachute canopy.

(b) No person may attach an assist device required by paragraph (a) of this section to any main parachute unless that person is a certificated parachute rigger or that person makes the next parachute jump with that parachute.

(c) An assist device is not required for parachute operations using direct-deployed, ram-air parachutes.

**§ 105.49 Foreign parachutists and equipment.**

(a) No person may conduct a parachute operation, and no pilot in command of an aircraft may allow a parachute operation to be conducted from that aircraft with a non-TSO'd foreign parachute system unless—

(1) The parachute system is worn by a foreign parachutist who is the owner or agent of that system.

(2) The parachute system is of a single harness dual parachute type.

(3) The parachute system meets the civil aviation authority requirements of the foreign parachutists country.

(4) All foreign non-TSO'd parachutes deployed by a foreign parachutist during a parachute operation conducted under this section shall be packed as follows—

(a) The main parachute must be packed by the foreign parachutist making the next parachute jump with that parachute, or a certificated parachute rigger.

(b) The reserve parachute must be packed in accordance with the foreign parachutists civil aviation authority requirements, by a certificated parachute rigger, or any other person acceptable to the administrator.

**PART 119—CERTIFICATION: AIR  
CARRIERS AND COMMERCIAL  
OPERATORS**

7. The authority citation for part 119 continues to read as follows:

**Authority:** 49 U.S.C. 106(g), 1153, 40101, 40102, 40103, 44105, 44106, 44111, 44701–44717, 44722, 44901, 44903, 44904, 44906, 44912, 44914, 44936, 44938, 46103, 46105.

8. Section 119.1 is amended by revising paragraph (e)(6) to read as follows:

**§ 119.1 Applicability.**

\* \* \* \* \*

(e) \* \* \*

(6) Nonstop flights conducted within a 25-statute-mile radius of the airport of takeoff carrying persons or objects for

the purpose of conducting intentional parachute operations.

\* \* \* \* \*

Issued in Washington, DC, on April 2, 1999.

**Richard V. Powell,**

*Acting Program Director, Air Traffic Airspace Management Program.*

**L. Nicholas Lacey,**

*Director, Flight Standards Service.*

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**1999**

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**Tuesday  
April 13, 1999**

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**Part IV**

**The President**

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**Proclamation 7181—Pan American Day  
and Pan American Week, 1999**





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**Presidential Documents**

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**Title 3—****Proclamation 7181 of April 9, 1999****The President****Pan American Day and Pan American Week, 1999****By the President of the United States of America****A Proclamation**

Inspired by the powerful words of Thomas Jefferson, the courageous military tactics of José de San Martín, and the revolutionary spirit of Simón Bolívar and many other leaders, the peoples of the Americas forged their nations with a profound respect for liberty and justice. Today, a devotion to democratic ideals unifies the countries in our hemisphere. The strengthening of democratic institutions and practices throughout the Americas reflects our enduring commitment to human rights, free and fair elections, and the rule of law. The expansion of open markets illustrates our determination to achieve sustainable economic growth. At the dawn of a new millennium, we must work with a renewed spirit of cooperation to meet the challenges of our future and fulfill the destiny of our region.

In strengthening the ties that bind our nations together, we reaffirm our shared commitment to democracy and to the security of our hemisphere. Last April, the democratically elected leaders of our hemisphere met in Santiago, Chile, for the second Summit of the Americas. Building on the foundation laid at the Miami Summit in 1994, we developed an action plan for the future. Our strategy includes concrete methods to strengthen democracy, protect human rights, increase access to education, expand free and fair trade, and reduce corruption.

Thanks in part to the strong bonds between the nations of the Americas, our region has achieved an unprecedented era of peace and stability. As one of the world's oldest regional alliances, the Organization of American States has served as a guiding institution in that endeavor. Through several vital initiatives, it has worked to foster multilateral cooperation, to bolster hemispheric security, to resolve regional disputes, and to combat corruption, drug trafficking, and international terrorism. Our community of democracies also encouraged the governments of Peru and Ecuador to sign an historic Peace Accord last October that finally put their longstanding border dispute to an end.

As we look to our common future, we must not forget that our vision for the Western Hemisphere also includes Cuba, whose citizens must be allowed the fruits of liberty and the rewards of integration. We must also remember that our commitment to closer cooperation becomes especially important in times of tragedy. As hundreds of thousands of people across the Americas work to rebuild their homes and their lives in the aftermath of Hurricane Mitch and the earthquake in Colombia, we must be there to lend a helping hand and to provide the tools necessary to revitalize the economies of our neighbors and help renew their communities. United by a proud history and a shared interest in deepening political, cultural, and economic ties, the democracies of our hemisphere can serve as a beacon of peace and prosperity for citizens around the world.

NOW, THEREFORE, I, WILLIAM J. CLINTON, President of the United States of America, by virtue of the authority vested in me by the Constitution and laws of the United States, do hereby proclaim Wednesday, April 14, 1999, as Pan American Day and April 11 through April 17, 1999, as Pan American Week. I urge the Governors of the 50 States, the Governor of

the Commonwealth of Puerto Rico, and the officials of other areas under the flag of the United States to honor these observances with appropriate ceremonies and activities.

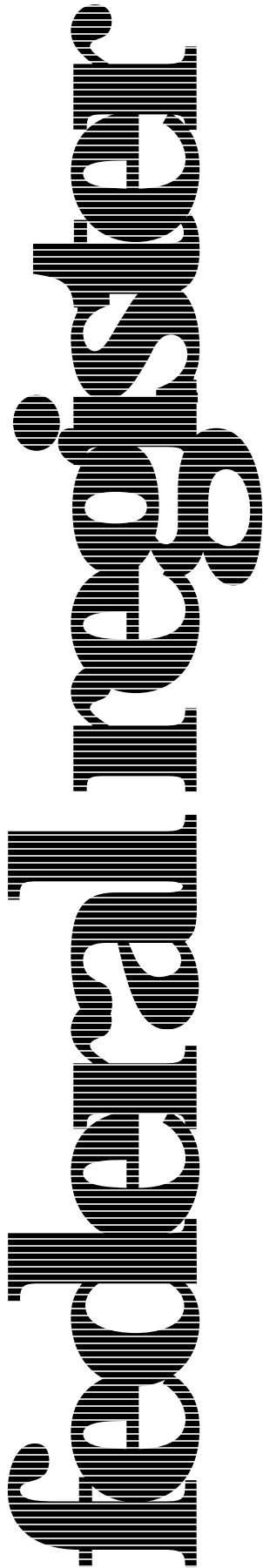
IN WITNESS WHEREOF, I have hereunto set my hand this ninth day of April, in the year of our Lord nineteen hundred and ninety-nine, and of the Independence of the United States of America the two hundred and twenty-third.



[FR Doc. 99-9349

Filed 4-12-99; 8:45 am]

Billing code 3195-01-P



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**Tuesday**  
**April 13, 1999**

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**Part V**

**The President**

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**Proclamation 7182—National Former  
Prisoner of War Recognition Day, 1999**



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# Presidential Documents

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**Title 3—****Proclamation 7182 of April 9, 1999****The President****National Former Prisoner of War Recognition Day, 1999****By the President of the United States of America****A Proclamation**

“We are honored to have had the opportunity to serve our country . . . .” With these simple words, Navy Commander Jeremiah Denton, released in 1973 from North Vietnam with his companions after the longest wartime captivity of any group of Americans in our history, summed up the courage, selflessness, and indomitable spirit of generations of American prisoners of war.

For more than two centuries, Americans have risked and lost their own freedom to defend democracy, preserve America’s liberty and values, and protect our national interests around the world. In Andersonville or along the Yalu River, confined in Nazi stalags or enduring torture in the Hanoi Hilton, our prisoners of war have set an extraordinary example of valor, patriotism, and devotion to duty in the face of enormous hardship and adversity. The somber black and white POW/MIA flag serves as a reminder of their sacrifice and symbolizes our Nation’s deep concern for and steadfast commitment to these brave Americans and their families.

But, however dark and trying the ordeal for our prisoners of war, their sacrifices did indeed serve a grand purpose. Inspired by their bravery in captivity, our Nation has been resolute in its defense of liberty. And, because of their sacrifice, the United States today is strong, free, and prosperous, looking forward to a future of limitless possibility.

Today we pay special tribute to our Nation’s former prisoners of war and their families and express our heartfelt gratitude for their many sacrifices. They have embodied the ideals of a strong people and a free Nation. They have represented America at its best, and they have served a grateful Nation with honor, dignity, and distinction. As we honor them, let us also keep foremost in our thoughts and prayers Staff Sergeant Andrew Ramirez, Staff Sergeant Christopher Stone, and Specialist Steven Gonzales of the United States Army as they endure unjust captivity in Yugoslavia and as we work for their safety and swift release.

NOW, THEREFORE, I, WILLIAM J. CLINTON, President of the United States of America, by virtue of the authority vested in me by the Constitution and laws of the United States, do hereby proclaim April 9, 1999, as National Former Prisoner of War Recognition Day. I call upon all Americans to join me in remembering former American prisoners of war who suffered the hardships of enemy captivity. I also call upon Federal, State, and local government officials and private organizations to observe this day with appropriate ceremonies and activities.

IN WITNESS WHEREOF, I have hereunto set my hand this ninth day of April, in the year of our Lord nineteen hundred and ninety-nine, and of

the Independence of the United States of America the two hundred and twenty-third.

*William Clinton*

[FR Doc. 99-9395

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# Reader Aids

## Federal Register

Vol. 64, No. 70

Tuesday, April 13, 1999

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|   |                     |
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| <b>The United States Government Manual</b>          | <b>523-5227</b>     |
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### FEDERAL REGISTER PAGES AND DATES, APRIL

|                  |    |
|------------------|----|
| 15633-15914..... | 1  |
| 15915-16332..... | 2  |
| 16333-16600..... | 5  |
| 16601-16796..... | 6  |
| 16797-17078..... | 7  |
| 17079-17270..... | 8  |
| 17271-17500..... | 9  |
| 17501-17940..... | 12 |
| 17941-18322..... | 13 |

### CFR PARTS AFFECTED DURING APRIL

At the end of each month, the Office of the Federal Register publishes separately a List of CFR Sections Affected (LSA), which lists parts and sections affected by documents published since the revision date of each title.

|   |              |       |
|---|--------------|-------|
| <b>3 CFR</b>                              | 1437.....    | 17271 |
|   | 1728.....    | 17219 |
|   | 1753.....    | 16602 |
| <b>Proclamations:</b>                     |              |       |
| 7177.....                                 | 17075        |       |
| 7178.....                                 | 17077        |       |
| 7179.....                                 | 17499        |       |
| 7180.....                                 | 17939        |       |
| 7181.....                                 | 18317        |       |
| 7182.....                                 | 18321        |       |
| <b>Executive Orders:</b>                  |              |       |
| 11223 (Amended by EO 13118).....          | 16595        |       |
| 11269 (Amended by EO 13118).....          | 16595        |       |
| 11958 (Amended by EO 13118).....          | 16595        |       |
| 12163 (Amended by EO 13118).....          | 16595        |       |
| 12188 (Amended by EO 13118).....          | 16595        |       |
| 12260 (Amended by EO 13118).....          | 16595        |       |
| 12293 (Amended by EO 13118).....          | 16595        |       |
| 12301 (Amended by EO 13118).....          | 16595        |       |
| 12599 (Amended by EO 13118).....          | 16595        |       |
| 12703 (Amended by EO 13118).....          | 16595        |       |
| 12884 (Amended by EO 13118).....          | 16595        |       |
| 12981 (Amended by EO 13117).....          | 16391        |       |
| 13116.....                                | 16333        |       |
| 13117.....                                | 16591        |       |
| 13118.....                                | 16595        |       |
| <b>Administrative Orders:</b>             |              |       |
| <b>Presidential Determinations:</b>       |              |       |
| No. 99-18 of March 25, 1999.....          | 16337        |       |
| No. 99-19 of March 31, 1999.....          | 17079        |       |
| No. 99-20 of March 31, 1999.....          | 17081        |       |
| <b>Memorandums:</b>                       |              |       |
| March 23, 1999 (Amended by EO 13118)..... | 16595        |       |
| March 31, 1999.....                       | 17083        |       |
| <b>5 CFR</b>                              |              |       |
| 351.....                                  | 16797        |       |
| 532.....                                  | 15915, 17941 |       |
| 870.....                                  | 16601        |       |
| 890.....                                  | 15633        |       |
| 1200.....                                 | 15916        |       |
| <b>7 CFR</b>                              |              |       |
| 6.....                                    | 17501        |       |
| 760.....                                  | 17942        |       |
| 254.....                                  | 17085        |       |
| 301.....                                  | 15916        |       |
|   | 1437.....    | 17271 |
|   | 1728.....    | 17219 |
|   | 1753.....    | 16602 |
| <b>Proposed Rules:</b>                    |              |       |
| 28.....                                   | 15937        |       |
| 340.....                                  | 16364        |       |
| 905.....                                  | 15634        |       |
| 944.....                                  | 15634        |       |
| 1000.....                                 | 16026        |       |
| 1001.....                                 | 16026        |       |
| 1002.....                                 | 16026        |       |
| 1004.....                                 | 16026        |       |
| 1005.....                                 | 16026        |       |
| 1006.....                                 | 16026        |       |
| 1007.....                                 | 16026        |       |
| 1012.....                                 | 16026        |       |
| 1013.....                                 | 16026        |       |
| 1030.....                                 | 16026        |       |
| 1032.....                                 | 16026        |       |
| 1033.....                                 | 16026        |       |
| 1036.....                                 | 16026        |       |
| 1040.....                                 | 16026        |       |
| 1044.....                                 | 16026        |       |
| 1046.....                                 | 16026        |       |
| 1049.....                                 | 16026        |       |
| 1050.....                                 | 16026        |       |
| 1064.....                                 | 16026        |       |
| 1065.....                                 | 16026        |       |
| 1068.....                                 | 16026        |       |
| 1076.....                                 | 16026        |       |
| 1079.....                                 | 16026        |       |
| 1106.....                                 | 16026        |       |
| 1124.....                                 | 16026        |       |
| 1126.....                                 | 16026        |       |
| 1131.....                                 | 16026        |       |
| 1134.....                                 | 16026        |       |
| 1135.....                                 | 16026        |       |
| 1137.....                                 | 16026        |       |
| 1138.....                                 | 16026        |       |
| 1139.....                                 | 16026        |       |
| <b>8 CFR</b>                              |              |       |
| 103.....                                  | 17943        |       |
| <b>Proposed Rules:</b>                    |              |       |
| 2.....                                    | 17128        |       |
| <b>9 CFR</b>                              |              |       |
| 1.....                                    | 15918        |       |
| 3.....                                    | 15918        |       |
| <b>Proposed Rules:</b>                    |              |       |
| 72.....                                   | 17573        |       |
| 93.....                                   | 16655        |       |
| 201.....                                  | 15938        |       |
| <b>10 CFR</b>                             |              |       |
| 2.....                                    | 15636, 15920 |       |
| 10.....                                   | 15636        |       |
| 11.....                                   | 15636        |       |
| 25.....                                   | 15636        |       |
| 40.....                                   | 17506        |       |
| 50.....                                   | 17944, 17947 |       |
| 72.....                                   | 17510        |       |
| 73.....                                   | 17947        |       |

|                             |                              |                              |                             |
|-----------------------------|------------------------------|------------------------------|-----------------------------|
| 95.....15636                | 284.....17276                | 504.....17270                | 60-250.....15690            |
| <b>Proposed Rules:</b>      | 343.....17087                | <b>Proposed Rules:</b>       | 60-999.....15690            |
| 170.....15876               | 385.....17087                | 65.....17128                 | 302-11.....17105            |
| 171.....15876               |                              |                              |                             |
| <b>12 CFR</b>               | <b>19 CFR</b>                | <b>29 CFR</b>                | <b>43 CFR</b>               |
| 213.....16612               | 10.....16345                 | <b>Proposed Rules:</b>       | <b>Proposed Rules:</b>      |
| 226.....16614               | 12.....17529                 | 1.....17442                  | 3100.....17598              |
| 330.....15653               | 18.....16345                 | 5.....17442                  | 3106.....17598              |
| 611.....16617               | 113.....16345                |                              | 3130.....17598              |
| 620.....16617               | 178.....16635, 16345         | <b>30 CFR</b>                | 3160.....17598              |
| 790.....17085               | 192.....16635                | 920.....17978                |                             |
| 935.....16618, 16788        | <b>Proposed Rules:</b>       | 935.....17980                | <b>44 CFR</b>               |
| <b>Proposed Rules:</b>      | 19.....16865                 | <b>Proposed Rules:</b>       | 65.....17567, 17569         |
| 933.....16792               | 146.....15873                | 206.....15949, 17990         | 67.....17571                |
| 934.....16792               |                              |                              | <b>Proposed Rules:</b>      |
| 935.....16792               | <b>20 CFR</b>                | <b>31 CFR</b>                | 67.....17598                |
| 1750.....18084              | 404.....17100                | 210.....17472                |                             |
|                             |                              |                              | <b>45 CFR</b>               |
| <b>13 CFR</b>               | <b>21 CFR</b>                | <b>32 CFR</b>                | 260.....17720               |
| <b>Proposed Rules:</b>      | 26.....16347                 | 812.....17101                | 261.....17720               |
| 120.....15942               | 510.....15683                | 863.....17545                | 262.....17720               |
| 121.....15708               | 520.....15683, 15684         |                              | 263.....17720               |
|                             | 522.....15683, 15685         | <b>33 CFR</b>                | 264.....17720               |
|                             | 558.....15683                | 100.....16348, 16812, 16813  | 265.....17720               |
| <b>14 CFR</b>               | <b>Proposed Rules:</b>       | 117.....16350, 16641, 17101  | 1611.....17108              |
| 39.....15657, 15659, 15661, | 1.....15944                  | 165.....16348, 16641, 16642, | <b>Proposed Rules:</b>      |
| 15669, 15920, 16339, 16621, | 101.....15948, 17295         | 17439                        | 1635.....16383              |
| 16624, 16625, 16801, 16803, | 310.....17985                | <b>Proposed Rules:</b>       | 2522.....17302              |
| 16805, 16808, 16810, 17086, | 1308.....17298,              | 117.....17134                | 2525.....17302              |
| 17512, 17514, 17522, 17524, | 17299                        | 154.....17222                | 2526.....17302              |
| 17947, 17949, 17951, 17954, |                              | 175.....15709                | 2527.....17302              |
| 17956, 17950, 17961, 17962, | <b>22 CFR</b>                | 177.....15709                | 2528.....17302              |
| 17964, 17966                | Ch. II.....15685             | 179.....15709                | 2529.....17302              |
| 71.....15673, 15674, 15675, | Ch. VI.....15686             | 181.....15709                |                             |
| 15676, 15678, 15679, 16024, | 121.....17531                | 183.....15709                | <b>46 CFR</b>               |
| 16340, 16341, 16342, 16343, | 123.....17531                |                              | <b>Proposed Rules:</b>      |
| 16344, 17219, 17934         | 124.....17531                | <b>36 CFR</b>                | 10.....15709                |
| 91.....15912                | 126.....17531                | <b>Proposed Rules:</b>       | 15.....15709                |
| 93.....17439                | 201.....17535                | 1.....17293                  | 24.....15709                |
| 97.....17277, 17526, 17528  | 514.....17975, 17976         | 2.....17293                  | 25.....15709                |
| <b>Proposed Rules:</b>      | <b>Proposed Rules:</b>       | 3.....17293                  | 26.....15709                |
| 39.....16364, 16366, 16656, | 514.....17988                | 4.....17293                  | 28.....15709                |
| 17130                       |                              | 5.....17293                  | 70.....15709                |
| 65.....18302                | <b>23 CFR</b>                | 6.....17293                  | 169.....15709               |
| 71.....15708, 16024, 16368, | <b>Proposed Rules:</b>       | 7.....17293                  | 175.....15709               |
| 16369, 16370, 16371, 17133, | 777.....16870                |                              |                             |
| 17717, 17983, 17984         |                              | <b>39 CFR</b>                | <b>47 CFR</b>               |
| 91.....17293, 18302         | <b>24 CFR</b>                | 111.....16814, 17102         | 69.....16353                |
| 105.....18302               | 100.....16324                |                              | 73.....17108                |
| 119.....16298, 18302        | <b>Proposed Rules:</b>       | <b>40 CFR</b>                | <b>Proposed Rules:</b>      |
| 121.....16298               | 990.....17301                | 52.....15688, 15922, 17102,  | 0.....16388                 |
| 129.....16298               |                              | 17545, 17548, 17551, 17982   | 1.....16661                 |
| 135.....16298, 17293        | <b>25 CFR</b>                | 62.....17219                 | 2.....16687                 |
| 183.....16298               | 291.....17535                | 63.....17460, 17555          | 25.....16880, 16687         |
|                             | <b>Proposed Rules:</b>       | 81.....17551                 | 69.....16389                |
| <b>15 CFR</b>               | 151.....17574                | 90.....16526                 | 73.....15712, 15713, 15714, |
| 738.....17968               |                              | 180.....16840, 16843, 16850, | 15715, 16388, 16396, 17137, |
| 740.....17968               | <b>26 CFR</b>                | 16856, 17565                 | 17138, 17139, 17140, 17141, |
| 742.....17968               | 1.....15686, 15687           | 261.....16643                | 17142, 17143                |
| 748.....17968               | 7.....15687                  | 300.....15926, 16351         | 76.....16388                |
| 762.....17968               | 31.....15687                 | <b>Proposed Rules:</b>       |                             |
| 774.....17968               | 301.....16640, 17279         | 52.....15711, 15949, 16659,  | <b>48 CFR</b>               |
|                             | 602.....15687, 15688, 15873, | 17136, 17589, 17592, 17593,  | 701.....16647               |
| <b>16 CFR</b>               | 17279                        | 17990                        | 703.....16647               |
| <b>Proposed Rules:</b>      | <b>Proposed Rules:</b>       | 63.....17465                 | 715.....16647               |
| 241.....18081               | 1.....16372                  | 70.....16659                 | 731.....16647               |
| 256.....18081               |                              | 81.....17593                 | 752.....16647               |
|                             | <b>27 CFR</b>                | 82.....16373                 | 909.....16649               |
| <b>17 CFR</b>               | 178.....17291                | 112.....17227                | 970.....16649               |
| 275.....15680               | <b>Proposed Rules:</b>       | 180.....16874                | 1333.....16651              |
| 279.....15680               | 4.....17588                  | 185.....16874                | 1533.....17109              |
| <b>Proposed Rules:</b>      | 5.....17588                  | 186.....16874                | 1552.....17109              |
| 1.....17439                 | 7.....17588                  | 300.....17593                | <b>Proposed Rules:</b>      |
|                             |                              |                              | 1833.....17603              |
| <b>18 CFR</b>               | <b>28 CFR</b>                | <b>41 CFR</b>                | <b>49 CFR</b>               |
| 1b.....17087                | 16.....17977                 | Ch. 301.....16352            | 195.....15926               |



|                        |                      |  |                      |
|------------------------|----------------------|--|----------------------|
| 533.....16860          | 192.....16882, 16885 | 600.....16862                          | 32.....17992         |
| 571.....16358          | 195.....16882, 16885 | 648 .....15704, 16361, 16362           | 223.....16396, 16397 |
| 581.....16359          | 578.....16690        | 660.....16862, 17125                   | 224.....16397        |
| <b>Proposed Rules:</b> | 611.....17062        | 679 .....16361, 16362, 16654,<br>17126 | 226.....16397        |
| 171.....16882          | <b>50 CFR</b>        | <b>Proposed Rules:</b>                 | 600.....16414        |
| 177.....16882          | 17.....15691, 17110  | 17.....16397, 16890                    | 648.....16417, 16891 |
| 178.....16882          | 229.....17292        | 20.....17308                           |                      |
| 180.....16882          |                      |  |                      |

**REMINDERS**

The items in this list were editorially compiled as an aid to Federal Register users. Inclusion or exclusion from this list has no legal significance.

**RULES GOING INTO EFFECT APRIL 13, 1999****AGRICULTURE DEPARTMENT****Farm Service Agency**

Special programs:

Dairy indemnity payment program; published 4-13-99

**COMMERCE DEPARTMENT****Export Administration Bureau**

Export licensing:

Organization of American States (OAS) model regulations for control of international movement of firearms, their parts and components and ammunition; published 4-13-99

**ENVIRONMENTAL PROTECTION AGENCY**

Air programs:

Reporting and recordkeeping burden reduction; published 2-12-99

**INTERIOR DEPARTMENT****Surface Mining Reclamation and Enforcement Office**

Permanent program and abandoned mine land reclamation plan submissions:

Maryland; published 4-13-99  
Ohio; published 4-13-99

**JUSTICE DEPARTMENT****Immigration and Naturalization Service**

Immigration:

Personal service involving notices of intention to fine; addition of commercial delivery service; published 4-13-99

**JUSTICE DEPARTMENT**

Privacy Act:

Systems of records; published 4-13-99

**TRANSPORTATION DEPARTMENT****Federal Aviation Administration**

Airworthiness directives:

Eurocopter France; published 3-9-99

**UNITED STATES INFORMATION AGENCY**

Exchange visitor program:

Short-term scholars; participation in seminars, workshops, conferences, study tours, and other similar educational and professional activities; published 4-13-99

Summer travel/work programs; published 4-13-99

**COMMENTS DUE NEXT WEEK****AGRICULTURE DEPARTMENT****Animal and Plant Health Inspection Service**

Exportation and importation of animals and animal products:

Rinderpest and foot-and-mouth disease, etc.; disease status change—South Africa; comments due by 4-19-99; published 2-17-99

**AGRICULTURE DEPARTMENT****Cooperative State Research, Education, and Extension Service**

Grants:

Special Research Program; comments due by 4-23-99; published 3-24-99

**COMMERCE DEPARTMENT National Oceanic and Atmospheric Administration**

Endangered and threatened species:

Marine and anadromous species—  
West coast chinook salmon; comments due by 4-23-99; published 3-24-99

Fishery conservation and management:

Alaska; fisheries of Exclusive Economic Zone—  
Pacific cod; comments due by 4-20-99; published 4-5-99

Caribbean, Gulf, and South Atlantic fisheries—

Gulf of Mexico reef fish; comments due by 4-19-99; published 3-5-99

South Atlantic Region; Sustainable Fisheries Act provisions; compliance; comments due by 4-19-99; published 2-18-99

West Coast states and Western Pacific fisheries—

West Coast salmon; comments due by 4-22-99; published 4-8-99

West Coast States and Western Pacific fisheries—

Pacific Coast groundfish; comments due by 4-22-99; published 4-7-99

**COMMODITY FUTURES TRADING COMMISSION**

Foreign futures and options transactions:

Access to electronic boards of trade; automated trading systems use; comments due by 4-23-99; published 3-24-99

Access to electronic boards of trade; automated trading systems use; correction; comments due by 4-23-99; published 4-9-99

**DEFENSE DEPARTMENT**

Federal Acquisition Regulation (FAR):

Contractor liability for loss of and/or damages to household goods; comments due by 4-19-99; published 2-16-99

**ENERGY DEPARTMENT**

Acquisition regulations:

Costs associated with whistleblower actions; comments due by 4-23-99; published 3-24-99

**ENERGY DEPARTMENT****Federal Energy Regulatory Commission**

Natural Gas Policy Act:

Interstate natural gas pipelines—  
Transportation services regulation; comments due by 4-22-99; published 12-30-98

**ENVIRONMENTAL PROTECTION AGENCY**

Air programs:

Stratospheric ozone protection—  
Ozone-depleting substances; substitutes list; comments due by 4-19-99; published 2-18-99

Ozone-depleting substances; substitutes list; comments due by 4-19-99; published 2-18-99

Air programs; approval and promulgation; State plans for designated facilities and pollutants:

Oklahoma; comments due by 4-19-99; published 3-19-99

Air quality implementation plans; approval and promulgation; various States:

California; comments due by 4-19-99; published 3-18-99

California and Arizona; comments due by 4-19-99; published 3-18-99

Delaware; comments due by 4-21-99; published 3-22-99

Illinois; comments due by 4-19-99; published 3-18-99  
Iowa; comments due by 4-19-99; published 3-18-99

Air quality planning purposes; designation of areas:

California; comments due by 4-19-99; published 3-18-99

Missouri and Illinois; comments due by 4-19-99; published 3-18-99

Pesticides; tolerances in food, animal feeds, and raw agricultural commodities:

Cinnamaldehyde; comments due by 4-19-99; published 2-17-99

Fenbuconazole; comments due by 4-19-99; published 2-17-99

Formic acid; comments due by 4-23-99; published 2-22-99

Superfund program:

National oil and hazardous substances contingency plan—

National priorities list update; comments due by 4-19-99; published 2-16-99

**FEDERAL COMMUNICATIONS COMMISSION**

Practice and procedure:

Regulatory fees (1999 FY); assessment and collection; comments due by 4-19-99; published 4-6-99

**FEDERAL EMERGENCY MANAGEMENT AGENCY**

Regulatory streamlining and updating; 20 CFR parts, proposed removal; comments due by 4-19-99; published 2-18-99

Correction; comments due by 4-19-99; published 3-2-99

**FEDERAL RETIREMENT THRIFT INVESTMENT BOARD**

Thrift savings plan:

Eligibility; expansion and continuation; comments due by 4-22-99; published 3-23-99

**GENERAL SERVICES ADMINISTRATION**

Federal Acquisition Regulation (FAR):

Contractor liability for loss of and/or damages to household goods; comments due by 4-19-99; published 2-16-99

#### HEALTH AND HUMAN SERVICES DEPARTMENT

##### Food and Drug Administration

Food additives:

Adjuvants, production aids, and sanitizers—

Phosphorous acid, cyclic neopentetetrayl bis(2,6-di-tert-butyl-4-methylphenyl)ester; comments due by 4-19-99; published 3-19-99

Medical devices:

Menstrual tampons labeling; absorbency ranges; comments due by 4-21-99; published 1-21-99

#### HOUSING AND URBAN DEVELOPMENT DEPARTMENT

Public and Indian housing:

Capital Fund Negotiated Rulemaking Advisory Committee; intent to establish and meeting; comments due by 4-19-99; published 3-19-99

Public housing agency plans; comments due by 4-19-99; published 2-18-99

Public and Indian Housing:

Section 8 Housing Certificate Fund Rule Negotiated Rulemaking Committee; intent to establish and meeting; comments due by 4-19-99; published 3-19-99

#### INTERIOR DEPARTMENT Fish and Wildlife Service

Endangered and threatened species:

Mountain plover; comments due by 4-19-99; published 2-16-99

Tinian monarch; withdrawn; comments due by 4-23-99; published 2-22-99

#### INTERIOR DEPARTMENT Minerals Management Service

Outer Continental Shelf; oil, gas, and sulphur operations:

Coastal zone consistency review of exploration plans and development and production plans; comments due by 4-19-99; published 2-17-99

Royalty management:

Federal marginal properties; accounting and auditing relief; comments due by

4-21-99; published 3-22-99

#### INTERIOR DEPARTMENT Surface Mining Reclamation and Enforcement Office

Federal and Indian lands programs:

Indian lands; definition clarification; comments due by 4-20-99; published 2-19-99

#### JUSTICE DEPARTMENT Immigration and Naturalization Service

Nonimmigrant classes:

Visa exemption for British Virgin Islands nationals entering U.S. through St. Thomas, U.S. Virgin Islands; comments due by 4-19-99; published 2-18-99

United Nations Convention Against Torture and Other Cruel, Inhuman, or Degrading Treatment or Punishment; implementation:

Protection from torture; claim procedures; comments due by 4-20-99; published 2-19-99

#### JUSTICE DEPARTMENT

Pam Lychner Sexual Offender Tracking and Identification Act of 1996; implementation:

National Sex Offender Registry; operation and notification requirements; comments due by 4-19-99; published 2-16-99

#### NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Federal Acquisition Regulation (FAR):

Contractor liability for loss of and/or damages to household goods; comments due by 4-19-99; published 2-16-99

#### NORTHEAST DAIRY COMPACT COMMISSION

Over-order price regulations:

Compact over-order price regulations—

Fluid milk distributions in six New England States during 1998-1999 contract year; exemption; hearing; comments due by 4-21-99; published 3-15-99

#### TRANSPORTATION DEPARTMENT

##### Coast Guard

Ports and waterways safety:

Santa Barbara Channel, CA; safety zone; comments due by 4-19-99; published 2-18-99

Regulatory Flexibility Act:

Small entities; economic impact; comments due by 4-19-99; published 1-19-99

#### TRANSPORTATION DEPARTMENT

##### Federal Aviation Administration

Airworthiness directives:

Agusta, S.p.A.; comments due by 4-19-99; published 2-16-99

Bell Helicopter Textron, Inc.; comments due by 4-19-99; published 2-17-99

Boeing; comments due by 4-19-99; published 2-17-99

Empresa Brasileira de Aeronautica S.A.; comments due by 4-22-99; published 3-23-99

Pilatus Aircraft Ltd.; comments due by 4-23-99; published 3-23-99

Pratt & Whitney; comments due by 4-22-99; published 3-23-99

Sikorsky; comments due by 4-19-99; published 2-16-99

Class D and Class E airspace; comments due by 4-20-99; published 3-3-99

Class D and Class E airspace; correction; comments due by 4-20-99; published 3-9-99

Class E airspace; comments due by 4-19-99; published 3-5-99

Class E airspace; correction; comments due by 4-20-99; published 3-9-99

VOR Federal airways; comments due by 4-22-99; published 3-8-99

#### TRANSPORTATION DEPARTMENT

##### Federal Highway Administration

Motor carrier safety standards:

Inspection, repair, and maintenance—

Intermodal container chassis and trailers; comments due by 4-19-99; published 2-17-99

#### TRANSPORTATION DEPARTMENT

##### Federal Transit Administration

Buy America requirements; certification procedures:

Corrections to inadvertent errors in certifications after bid opening; comments due by 4-19-99; published 2-18-99

#### TRANSPORTATION DEPARTMENT

##### National Highway Traffic Safety Administration

Anthropomorphic test devices:

Occupant crash protection—  
12-month-old infant crash test dummy; comments due by 4-22-99; published 3-8-99

Motor Vehicle Safety Standards:

Child restraint systems—  
Standardized child restraint anchorage systems independent of seat belts; comments due by 4-19-99; published 3-5-99

#### TRANSPORTATION DEPARTMENT

##### Research and Special Programs Administration

Hazardous materials:

Hazardous liquid transportation—  
Liquefied compressed gases; transportation and unloading; comments due by 4-21-99; published 3-22-99

#### TRANSPORTATION DEPARTMENT

##### Transportation Statistics Bureau

ICC Termination Act; implementation:

Motor carriers of property and household goods; reporting requirements; comments due by 4-22-99; published 3-23-99

#### TREASURY DEPARTMENT Internal Revenue Service

Income taxes:

Capital gains; installment sales of depreciable real property; unrecaptured section 1250 gain; comments due by 4-22-99; published 1-22-99

Qualified education loans, interest deduction; comments due by 4-21-99; published 1-21-99

Procedure and administration:

Filing of notice of lien; notice and opportunity for hearing; cross reference; comments due by 4-22-99; published 1-22-99

Levy; notice and opportunity for hearing; cross reference; comments due by 4-22-99; published 1-22-99

#### LIST OF PUBLIC LAWS

This is a continuing list of public bills from the current

session of Congress which have become Federal laws. It may be used in conjunction with "PLUS" (Public Laws Update Service) on 202-523-6641. This list is also available online at <http://www.nara.gov/fedreg>.

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(phone, 202-512-1808). The text will also be made available on the Internet from GPO Access at <http://www.access.gpo.gov/nara/index.html>. Some laws may not yet be available.

**H.R. 171/P.L. 106-18**

To authorize appropriations for the Coastal Heritage Trail Route in New Jersey, and for other purposes. (Apr. 8, 1999; 113 Stat. 28)

**H.R. 705/P.L. 106-19**

To make technical corrections with respect to the monthly

reports submitted by the Postmaster General on official mail of the House of Representatives. (Apr. 8, 1999; 113 Stat. 29)  
**Last List April 8, 1999.**

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