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## PART I



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# Rules and Regulations

## Title 7—AGRICULTURE

### Chapter IX—Consumer and Marketing Service (Marketing Agreements and Orders; Fruits, Vegetables, Nuts), Department of Agriculture

[Orange Reg. 69, Amdt. 5; Grapefruit Reg. 71, Amdt. 2; Tangerine Reg. 42, Amdt. 4; Tangelo Reg. 42, Amdt. 2]

#### PART 905—ORANGES, GRAPEFRUIT, TANGERINES, AND TANGELOS GROWN IN FLORIDA

##### Limitation of Shipments

Notice was published in the FEDERAL REGISTER on December 10, 1971 (36 F.R. 23575), that consideration was being given to proposals relative to limitation of shipments of oranges, grapefruit, tangerines, and tangelos handled between the production area and any point outside thereof in the continental United States, Canada, or Mexico, recommended by the committees, established under the marketing agreement, as amended, and Order No. 905, as amended (7 CFR Part 905), regulating the handling of oranges, grapefruit, tangerines, and tangelos grown in Florida. This program is effective under the Agricultural Marketing Agreement Act of 1937, as amended (7 U.S.C. 601-674).

The notice provided that all written data, views, or arguments in connection with the proposed amendments be submitted by December 14, 1971. None were received within the prescribed time.

The recommendations by the committees reflect their appraisal of the potential marketing situation during the week in which Christmas Day occurs and for the period immediately following. Historically, there has been heavy purchasing of fresh oranges, grapefruit, tangerines, and tangelos in the terminal markets prior to Christmas Day followed by a period of slow movement immediately following the holiday. Inordinate shipments in the period of slow movement tend to depress market prices and returns to growers. Hence, the curtailment of such shipments, as hereinafter specified, is necessary to prevent a buildup of excess supplies in the markets during and immediately following the Christmas Day week in order to prevent unduly depressed market prices and returns to growers.

After consideration of all relevant matter presented, including the proposals set forth in the aforesaid notice and other available information, it is hereby found that the limitation of shipments of oranges, grapefruit, tangerines, and tangelos, as hereinafter set forth, is in accordance with said amended marketing agreement and order and will tend to effectuate the declared policy of the act.

It is hereby further found that good cause exists for making the aforesaid amendments effective at the time hereinafter set forth and for not postponing the effective date hereof until 30 days after publication in the FEDERAL REGISTER (5 U.S.C. 553) in that (1) notice of proposed rule making concerning these amendments, with an effective date of 6 p.m., e.s.t., December 22, 1971, was published in the FEDERAL REGISTER on December 10, 1971 (36 F.R. 23575), and no objection to these amendments or such effective date was received; (2) the recommendations and supporting information for regulation of the aforesaid fruits during the period specified herein were submitted to the Department after open meetings of the committees on December 2, 1971, which were held to consider recommendations for regulation, after giving due notice of such meetings, and interested persons were afforded an opportunity to submit their views at these meetings; (3) the provisions of these amendments, including the effective time hereof, are identical with the aforesaid recommendations of the committees; (4) information concerning such provisions and effective time has been disseminated among handlers of such fruits, and (5) compliance with the regulations will not require any special preparation on the part of the persons subject thereto which cannot be completed by the effective time hereof.

1. Order. In § 905.536 (Orange Regulation 69; 36 F.R. 20215, 22054, 22666, 23353, 23617) the provisions of paragraph (b) are revised to read as follows:  
§ 905.536 Orange Regulation 69.

(b) During the period beginning at 6 p.m., e.s.t., December 22, 1971, and ending at 12:01 a.m., e.s.t., December 30, 1971, no handler shall ship between the production area and any point outside thereof in the continental United States, Canada, or Mexico, any oranges grown in the production area.

2. In § 905.535 (Grapefruit Regulation 71; 36 F.R. 20215, 22054) the provisions of paragraph (b) are revised to read as follows:

§ 905.535 Grapefruit Regulation 71.

(b) During the period beginning at 6 p.m., e.s.t., December 22, 1971, and ending at 12:01 a.m., e.s.t., December 30, 1971, no handler shall ship between the production area and any point outside thereof in the continental United States, Canada, or Mexico, any grapefruit grown in the production area.

3. In § 905.537 (Tangerine Regulation 42; 36 F.R. 20215, 22054, 22667, 23354) the provisions of paragraph (b) are revised to read as follows:

§ 905.537 Tangerine Regulation 42.

(b) During the period beginning at 6 p.m., e.s.t., December 22, 1971, and ending at 12:01 a.m., e.s.t., December 30, 1971, no handler shall ship between the production area and any point outside thereof in the continental United States, Canada, or Mexico, any tangerines grown in the production area.

4. In § 905.538 (Tangelo Regulation 42; 36 F.R. 20215, 22054) the provisions of paragraph (b) are revised to read as follows:

§ 905.538 Tangelo Regulation 42.

(b) During the period beginning at 6 p.m., e.s.t., December 22, 1971, and ending at 12:01 a.m., e.s.t., December 30, 1971, no handler shall ship between the production area and any point outside thereof in the continental United States, Canada, or Mexico, any tangelos grown in the production area.

(Secs. 1-19, 48 Stat. 31, as amended; 7 U.S.C. 601-674)

Dated: December 16, 1971.

PAUL A. NICHOLSON,  
Deputy Director, Fruit and Vegetable Division, Consumer and Marketing Service.

[FR Doc. 71-18607 Filed 12-20-71; 8:48 am]

[Lemon Reg. 511, Amdt. 1]

#### PART 910—LEMONS GROWN IN CALIFORNIA AND ARIZONA

##### Limitation of Handling

(a) Findings. (1) Pursuant to the marketing agreement, as amended, and Order No. 910, as amended (7 CFR Part 910; 36 F.R. 9061), regulating the handling of lemons grown in California and Arizona, effective under the applicable provisions of the Agricultural Marketing Agreement Act of 1937, as amended (7 U.S.C. 601-674), and upon the basis of the recommendations and information submitted by the Lemon Administrative Committee, established under the said amended marketing agreement and order, and upon other available information, it is hereby found that the limitation of handling of such lemons, as hereinafter provided, will tend to effectuate the declared policy of the act.

(2) It is hereby further found that it is impracticable and contrary to the public interest to give preliminary notice, engage in public rule making procedure, and postpone the effective date of this amendment until 30 days after publication hereof in the FEDERAL REGISTER (5 U.S.C. 553) because the time intervening between the date when information upon which this amendment is based became



available and the time when this amendment must become effective in order to effectuate the declared policy of the act is insufficient, and this amendment relieves restriction on the handling of lemons grown in California and Arizona.

(b) *Order, as amended.* The provision in paragraph (b) (1) of § 910.811 (Lemon Regulation 511, 36 F.R. 23618) during the period December 12, 1971, through December 18, 1971, is hereby amended to read as follows:

§ 910.811 Lemon Regulation 511.

(b) *Order.* (1) \* \* \* 250,000 cartons.

(Secs. 1-19, 48 Stat. 31, as amended; 7 U.S.C. 601-674)

Dated: December 16, 1971.

PAUL A. NICHOLSON,  
Deputy Director, Fruit and Vegetable Division, Consumer and Marketing Service.

[FR Doc.71-18606 Filed 12-20-71;8:48 am]

## Title 9—ANIMALS AND ANIMAL PRODUCTS

### Chapter I—Animal and Plant Health Service,<sup>1</sup> Department of Agriculture

#### SUBCHAPTER C—INTERSTATE TRANSPORTATION OF ANIMALS AND POULTRY

##### PART 72—TEXAS (SPLENETIC) FEVER IN CATTLE

##### PART 73—SCABIES IN CATTLE

##### PART 74—SCABIES IN SHEEP

##### PART 77—TUBERCULOSIS IN CATTLE

##### PART 78—BRUCELLOSIS

##### PART 80—PARATUBERCULOSIS IN DOMESTIC ANIMALS

##### PART 81—EUROPEAN FOWL PEST AND SIMILAR POULTRY DISEASES

##### PART 82—PSITTACOSIS OR ORNITHOSIS IN POULTRY

##### Cleaning and Disinfecting Requirements; Clarification

Pursuant to the provisions of the Act of May 29, 1884, as amended, the Act of February 2, 1903, as amended, the Act of March 3, 1905, as amended, and the Act of July 2, 1962 (21 U.S.C. 111-113, 114a-1, 115-117, 120-126, 134b, 134f), Parts 72, 73, 74, 77, 78, 80, 81, and 82 of Subchapter C, Chapter I, Title 9, Code of Federal Regulations, are hereby amended in the following respects:

1. The reference to "§§ 71.4-71.11" in § 72.23 of Part 72 is changed to read: "§§ 71.6, 71.7, 71.10, and 71.11."

<sup>1</sup>The functions prescribed in the cited parts of Chapter I, Title 9, Code of Federal Regulations, have been transferred to the Animal and Plant Health Service (36 F.R. 20707).

2. The references to "§§ 71.4-71.11" in § 73.11 of Part 73, §§ 74.21 and 74.25 of Part 74, § 81.2 of Part 81 and § 82.3 of Part 82 are changed to read: "§§ 71.4, 71.6, 71.7, 71.10, and 71.11."

3. The reference to "§§ 71.4-71.12" in § 77.8(e) of Part 77 is changed to read: "§§ 71.6, 71.7, and 71.12."

4. The reference to "§§ 71.4, 71.7, 71.9, 71.10, and 71.11" in § 78.8(a) of Part 78 is changed to read: "§§ 71.6, 71.7, 71.10, and 71.11"; and the reference to "§§ 71.9 through 71.11" in § 78.8(b) of Part 78 is changed to read: "§§ 71.6, 71.7, 71.10, and 71.11."

5. The reference to "§§ 71.4, 71.7, 71.9, 71.10, and 71.11" in § 80.7(a) of Part 80 is changed to read: "§§ 71.6, 71.7, 71.10, and 71.11"; and the reference to "§§ 71.9 through 71.11" in § 80.7(b) of Part 80 is changed to read: "§§ 71.6, 71.7, 71.10 and 71.11."

(Secs. 4-7, 23 Stat. 31-33, as amended; 41 Stat. 699; sec. 2, 65 Stat. 693; secs. 1-3, 32 Stat. 791-792, as amended; secs. 1-4, 33 Stat. 1264, 1265, as amended; secs. 3 and 11, 76 Stat. 130 and 132; 21 U.S.C. 111-113, 114a-1, 115-117, 120-126, 134b, 134f; 29 F.R. 10210, as amended, 36 F.R. 20707)

*Effective date.* The foregoing amendments shall become effective upon publication in the FEDERAL REGISTER (12-21-71).

The purpose of the foregoing amendments is to clarify and update the regulations in these parts by bringing certain references relating to cleaning and disinfecting requirements into conformity with previous amendments to 9 CFR Part 71. Such amendments make no substantive change in the regulations. Accordingly, under the administrative procedure provisions of 5 U.S.C. 553, it is found upon good cause that notice and other public procedure with respect to the amendments are impracticable and unnecessary, and good cause is found for making them effective less than 30 days after publication in the FEDERAL REGISTER.

Done at Washington, D.C., this 15th day of December 1971.

F. J. MULHERN,  
Administrator,  
Animal and Plant Health Service.

[FR Doc.71-18604 Filed 12-20-71;8:48 am]

### Chapter III—Consumer and Marketing Service (Meat Inspection), Department of Agriculture

#### SUBCHAPTER A—MEAT INSPECTION REGULATIONS

##### PART 331—SPECIAL PROVISIONS FOR DESIGNATED STATES AND TERRITORIES; AND FOR DESIGNATION OF ESTABLISHMENTS WHICH ENDANGER PUBLIC HEALTH AND FOR SUCH DESIGNATED ESTABLISHMENTS

##### Notice of Designation of Guam Under the Federal Meat Inspection Act

*Statement of considerations.* The Secretary of Agriculture has determined,

after consultation with appropriate officials of the Territory of Guam, that said territory has not developed or activated requirements at least equal to those under titles I and IV of the Federal Meat Inspection Act (21 U.S.C. 601 et seq.) with respect to establishments within said territory at which cattle, sheep, swine, goats, or equines are slaughtered, or their carcasses, or parts or products thereof, are prepared for use as human food, solely for distribution within said territory. Therefore, notice is hereby given that the Secretary of Agriculture designates said territory under section 301(c) of the Act as a jurisdiction in which the requirements of titles I and IV of the Act shall apply to intraterritorial operations and transactions and to persons, firms, and corporations engaged therein with respect to meat products and other articles and animals subject to the Act. Upon the expiration of 30 days after publication of this notice in the FEDERAL REGISTER, the provisions of titles I and IV of said Act shall apply to intraterritorial operations and transactions and to persons, firms, and corporations engaged therein, in Guam, to the same extent and in the same manner as if such operations and transactions were conducted in or for "commerce," within the meaning of the Act, and any establishment in Guam which conducts any slaughtering or preparation of carcasses or parts or products thereof as described above must have Federal inspection or cease its operations, unless it qualifies for an exemption under section 23(a) or 301(c) of the Act. The exemption provisions of the Act are very limited.

Therefore, the operator of each such establishment who desires to continue such operations after designation of the territory becomes effective should immediately communicate with the Regional Director for Meat and Poultry Inspection, as listed below, for information concerning the requirements and exemptions under the Act and application for inspection and survey of the establishment:

Dr. E. M. Christopherson, Director, Western Region for Meat and Poultry Inspection Program, Room 822, Appraisers Building, 630 Sansome Street, San Francisco, CA 94111.

Telephone: AC 415/556-8622

Accordingly, § 331.2 of the regulations under the Federal Meat Inspection Act is amended pursuant to said Act by adding the following State name (in alphabetical order) and effective date of designation to the list set forth in said section:

State	Effective date of designation
Guam	Jan. 21, 1972

This amendment of the regulations is necessary to reflect the determination of the Secretary of Agriculture under section 301(c) of the Federal Meat Inspection Act. It does not appear that public participation in this rulemaking proceeding would make additional information available to the Secretary. Therefore, under the administrative procedure provisions in 5 U.S.C. 553, it is found upon



good cause that such public procedure is impracticable and unnecessary, and good cause is found for making this amendment effective less than 30 days after publication in the FEDERAL REGISTER.

This amendment and the notice given hereby shall become effective upon publication in the FEDERAL REGISTER (12-21-71).

Done at Washington, D.C., on December 15, 1971.

CLAYTON YEUTTER,  
Administrator, Consumer  
and Marketing Service.

[FR Doc.71-18610 Filed 12-20-71;8:48 am]

## Title 12—BANKS AND BANKING

### Chapter V—Federal Home Loan Bank Board

#### SUBCHAPTER C—FEDERAL SAVINGS AND LOAN SYSTEM

[71-1332]

#### PART 544—CHARTER AND BYLAWS

##### Optional Bylaw for Federal Savings and Loan Associations

DECEMBER 14, 1971.

Resolved that the Federal Home Loan Bank Board considers it advisable to amend § 544.6 of the rules and regulations for the Federal Savings and Loan System (12 CFR 544.6) for the purpose of permitting Federal savings and loan associations to adopt an optional bylaw section to provide flexibility as to the dates for their annual meetings of members of such associations. Accordingly, on the basis of such consideration and for such purpose, the Federal Home Loan Bank Board hereby amends said § 544.6 by adding a new paragraph (j) thereto to read as follows, effective January 1, 1972:

##### § 544.6 Amendment to bylaws.

(j) *Annual meeting of members.* Substitute the following for section 1 of the bylaws prescribed in § 544.5:

(1) *Annual meetings of members.* The annual meeting of the members of the association for the election of directors and for the transaction of any other business of the association shall be held at its home office at 2 o'clock in the afternoon on \_\_\_\_\_ (insert a date not earlier than January 15 or later than April 15) of each year, if not a Sunday or legal holiday, or, if a Sunday or a legal holiday, then on the next succeeding day not a Sunday or a legal holiday. The annual meeting may be held at such other time on such day or at such other place in the same community as the board of directors may determine. At each annual meeting, the officers shall make a full report of the financial condition of the association and of its progress for the preceding year, and shall outline a program for the succeeding year. Annual meetings of the members shall be con-

ducted in accordance with Roberts' Rules of Order. In lieu of the date specified in the first sentence of this section, such annual meeting in any year may be held on another date which is not a Sunday or a legal holiday and which is not earlier than January 15 or later than April 15, if the following requirements are met:

(i) The board of directors determines the date by resolution adopted on or before November 1 of the year preceding the year in which the annual meeting is to be held; and

(ii) Notice of said date is continuously posted in a conspicuous place in each of the offices of the association during the 50 days immediately preceding the date so determined.

(Sec. 5, 48 Stat. 132, as amended; 12 U.S.C. 1464, Reorg. Plan No. 3 of 1947, 12 F.R. 4981, 3 CFR, 1943-48 Comp., p. 1071)

Resolved further that, since affording notice and public procedure on the above amendment would delay it from becoming effective prior to the normal January 1972 annual meeting dates of Federal savings and loan associations and since it is in the public interest that such amendment become effective prior to such annual meetings in order that the optional bylaw may be considered at such meetings, the Board hereby finds that notice and public procedure thereon are contrary to the public interest under the provisions of 12 CFR 508.11 and 5 U.S.C. 553(b); and, since such amendment relieves restriction, publication of such amendment for the 30-day period specified in 12 CFR 508.14 and 5 U.S.C. 553(d) prior to the effective date thereof is unnecessary and the Board hereby provides that such amendment shall become effective as hereinbefore set forth.

By the Federal Home Loan Bank Board.

[SEAL]

JACK CARTER,  
Secretary.

[FR Doc.71-18627 Filed 12-20-71;8:49 am]

## Title 14—AERONAUTICS AND SPACE

### Chapter I—Federal Aviation Administration, Department of Transportation

[Airworthiness Docket No. 71-WE-27-AD; Amdt. 39-1362]

#### PART 39—AIRWORTHINESS DIRECTIVES

##### Boeing Model 727 Series Airplanes

Cracks have developed in the main landing gear actuator beam support link shaft P/N 69-19167. In three cases the actuator beam was forced through the wing trailing edge structure with resultant damage to hydraulic lines and flap drive torque tubes. Since this condition is likely to develop in other Model 727 airplanes, an airworthiness directive is being issued to require inspection and rework of the shaft.

The 500-landing-cycle compliance time for the initial inspection has been established by the agency on the basis of safety considerations. This compliance time provides the leadtime for operators to schedule and plan compliance with the AD with a minimum burden. To prescribe the initial inspection required by this AD under the usual notice and public procedures followed by the agency within the time the agency has determined is required in the interest of safety, would necessarily result in a reduction of the compliance time for the initial inspection required by this AD. This could possibly leave the operators insufficient time to schedule airplanes for compliance with the AD. Therefore, accomplishment of the initial inspection required by this AD within the time the agency has determined is necessary makes strict compliance with the notice and public procedure provisions of the Administrative Procedure Act impracticable and this amendment becomes effective 30 days after publication in the FEDERAL REGISTER. However, interested persons are invited to submit such written data, views, or arguments as they may desire regarding this AD. Communications should identify the docket number and be submitted in duplicate to: Regional Counsel, FAA Western Region, Post Office Box 92007, Worldway Postal Center, Los Angeles, CA 90009, Attention: Airworthiness Directives Rules Docket. All communications received before the effective date will be considered by the Administrator, and the AD may be changed in the light of comments received. All comments will be available both before and after the effective date in the Rules Docket for examination by interested persons. Operators are urged to submit their comments as early as possible since it may not be possible to evaluate comments received near the effective date in sufficient time to amend the AD before it becomes effective.

In consideration of the foregoing, and pursuant to the authority delegated to me by the Administrator (31 F.R. 13697), § 39.13 of Part 39 of the Federal Aviation Regulations is amended by adding the following new airworthiness directive:

**Boxing.** Applies to Model 727 series airplanes listed in Boeing Service Bulletin 32-196, dated September 16, 1971, and Revision 1, dated November 24, 1971, or later FAA-approved revisions, incorporating main landing gear actuator beam support link shaft P/N 69-19167-1 and -2.

Compliance required as indicated:

To detect cracks in the main landing gear actuator beam support link shaft, accomplish the following:

(a) For all shafts which have accumulated 12,000 or more landing cycles on or after the effective date of this AD, inspect the shaft within the next 500 landings after the effective date of this AD, unless already accomplished within the last 1,500 landings, and thereafter at intervals not to exceed 2,000 landings since the last inspection, per (b) below, until the shaft is replaced or reworked per (c) and (d) below.

(b) Inspect the shaft in accordance with Boeing Service Bulletin 32-196, Revision 1.



dated November 24, 1971, or later FAA-approved revisions, or an equivalent inspection approved by the Chief, Aircraft Engineering Division, FAA, Western Region. If evidence of a crack is found, replace the shaft, prior to further flight, with shaft P/N 69-19167-3 or with a shaft that (1) has accumulated less than 12,000 landing cycles, or (2) has been previously inspected per this AD, and found to be uncracked, or (3) has been reworked per (c) below.

(c) Rework or replace shafts per Boeing Service Bulletin 32-196, Revision 1, dated November 24, 1971, or later FAA-approved revisions, or an equivalent rework approved by the Chief, Aircraft Engineering Division, FAA, Western Region.

(d) Within 16,000 landings after such rework per (c) above, replace all shafts with acceptable shafts as identified in (b) above. Identify the shafts replaced so as to prevent inadvertent return to service.

(e) For the purpose of this AD, when conclusive records are not available to show the number of landings accumulated by a particular shaft, the number of landings may be computed by dividing the airplane time in service since the shaft was installed in the airplane by the operator's fleet average time per flight for his model 727 airplanes.

(f) Inspections prescribed by this AD do not apply to new replacement shafts P/N 69-19167-3 installed on Boeing 727 aircraft.

This amendment becomes effective January 25, 1972.

(Secs. 313(a), 601, 603, Federal Aviation Act of 1958, 49 U.S.C. 1354(a), 1421, 1423; sec. 6(c), Department of Transportation Act, 49 U.S.C. 1655(c))

Issued in Los Angeles, Calif., on December 10, 1971.

ARVIN O. BASNIGHT,  
Director, FAA Western Region.

[FR Doc.71-18592 Filed 12-20-71;8:47 am]

[Airspace Docket No. 71-EA-122]

## PART 71—DESIGNATION OF FEDERAL AIRWAYS, AREA LOW ROUTES, CONTROLLED AIRSPACE, AND REPORTING POINTS

### Alteration of Transition Area

On page 20051 of the FEDERAL REGISTER for October 15, 1971, the Federal Aviation Administration published a proposed rule which would alter the Wrightstown, N.J., transition area (36 F.R. 2297).

Interested parties were given 30 days after publication in which to submit written data or views. No objections to the proposed rule have been received.

In view of the foregoing, the proposed rule is hereby adopted, effective 0901 G.m.t. March 2, 1972.

(Sec. 307(a), Federal Aviation Act of 1958, 72 Stat. 749; 49 U.S.C. 1348; sec. 6(c), Department of Transportation Act, 49 U.S.C. 1655(c))

Issued in Jamaica, N.Y., on December 6, 1971.

ROBERT H. STANTON,  
Acting Director, Eastern Region.

1. Amend § 71.181 of Part 71 of the Federal Aviation Regulations so as to

amend the description of the Wrightstown, N.J. 700-foot floor transition area by adding, "; within a 6-mile radius of the center of 39°56'30" N., 74°50'30" W. of Burlington County Airpark, Mt. Holly, N.J." between the phrases, "extending from the 7-miles-radius area to the Coyle VORTAC", and, "excluding the portion within the New York, N.Y. Transition Area;".

[FR Doc.71-18593 Filed 12-20-71;8:47 am]

[Airspace Docket No. 71-SW-58]

## PART 71—DESIGNATION OF FEDERAL AIRWAYS, AREA LOW ROUTES, CONTROLLED AIRSPACE, AND REPORTING POINTS

### Alteration of Control Zone and Transition Area

The purpose of this amendment to Part 71 of the Federal Aviation Regulations is to alter the Tucumcari, N. Mex., control zone and transition area.

On November 3, 1971, a notice of proposed rule making was published in the FEDERAL REGISTER (36 F.R. 21065) stating the Federal Aviation Administration proposed to alter controlled airspace in the Tucumcari, N. Mex., terminal area.

Interested persons were afforded an opportunity to participate in the rule making through submission of comments. All comments received were favorable.

In consideration of the foregoing, Part 71 of the Federal Aviation Regulations is amended, effective 0901 G.m.t., March 3, 1972, as hereinafter set forth.

(1) In § 71.171 (36 F.R. 2055), the Tucumcari, N. Mex., control zone is amended to read:

#### TUCUMCARI, N. MEX.

That airspace within a 6-mile radius of the Tucumcari Municipal Airport (latitude 35°10'50" N., longitude 103°35'15" W.); within 2.5 miles each side of the Tucumcari, N. Mex., VORTAC 033° radial extending beyond the 6-mile radius zone to a point 6.5 miles northeast of the VORTAC; and within 2.5 miles each side of the Tucumcari, N. Mex., VORTAC 078° radial extending beyond the 6-mile-radius zone to a point 6.5 miles east of the VORTAC.

(2) In § 71.181 (36 F.R. 2140), the Tucumcari, N. Mex., transition area is amended to read:

#### TUCUMCARI, N. MEX.

That airspace extending upward from 700 feet above the surface within a 10.5-mile radius of the Tucumcari Municipal Airport (latitude 35°10'50" N., longitude 103°35'15" W.).

(Sec. 307(a), Federal Aviation Act of 1958, 49 U.S.C. 1348; sec. 6(c), Department of Transportation Act, 49 U.S.C. 1655(c))

Principal Ingredient	Grams per ton	Combined with—	Grams per ton	Limitations	Indications for use
2. a. 1. Bacitracin	***	***	10-50	For broiler chickens; do not feed to laying chickens; feed as sole ration; as zinc bacitracin, as provided by code No. 009, § 135.501(c) of this chapter.	For increased weight gain and improved feed efficiency.

Issued in Fort Worth, Tex., on December 13, 1971.

HENRY L. NEWMAN,  
Director, Southwest Region.

[FR Doc.71-18594 Filed 12-20-71;8:47 am]

## Title 21—FOOD AND DRUGS

### Chapter I—Food and Drug Administration, Department of Health, Education, and Welfare

#### SUBCHAPTER C—DRUGS

### PART 135—NEW ANIMAL DRUGS

#### Subpart C—Sponsors of Approved Applications

### PART 135e—NEW ANIMAL DRUGS FOR USE IN ANIMAL FEEDS

#### Decoquinat, Zinc Bacitracin

The Commissioner of Food and Drugs has evaluated a supplemental new animal drug application (45-348V) filed by Hess & Clark, Division of Rhodia, Inc. (formerly a division of Richardson-Merrell, Inc.), Ashland, Ohio 44805 proposing the safe and effective use of decoquinat in combination with zinc bacitracin at from 10 to 50 grams per ton in chicken feed as set forth below. The supplemental application is approved. The regulations are also amended to provide for a corporate change in the name of the sponsor.

Therefore, pursuant to provisions of the Federal Food, Drug, and Cosmetic Act (sec. 512(d), 82 Stat. 347; 21 U.S.C. 360b(d)) and under authority delegated to the Commissioner (21 CFR 2.120), Parts 135 and 135e are amended as follows:

1. Part 135 is amended in § 135.501(c) as follows:

§ 135.501 Names, addresses, and code numbers of sponsors of approved applications.

(c) * * *	Code No.	Firm name and address
* * *	019	Hess & Clark, Division of Rhodia, Inc., Ashland, Ohio 44805.
* * *	* * *	* * *

2. Part 135e is amended in § 135e.51(g) by revising subitem a of item 2 as follows:

§ 135e.51 Decoquinat.

(g) Conditions of use. It is used as follows:



*Effective date.* This order shall be effective upon publication in the FEDERAL REGISTER (12-21-71).

(Sec. 512(4), 82 Stat. 347; 21 U.S.C. 360b(1))

Dated: December 9, 1971.

C. D. VAN HOUWELING,  
Director,

Bureau of Veterinary Medicine.

[FR Doc.71-18603 Filed 12-20-71; 8:48 am]

## Title 28—JUDICIAL ADMINISTRATION

### Chapter I—Department of Justice

[Directive 473-71; Memo 374, Amdt.]

#### PART 0—ORGANIZATION OF THE DEPARTMENT OF JUSTICE

##### Subpart Y—Redelegations of Authority To Compromise and Close Civil Claims

###### DELEGATION OF AUTHORITY TO U.S. ATTORNEYS IN CIVIL DIVISION CASES

DECEMBER 10, 1971.

By virtue of the authority vested in me by Part 0 of Title 28 of the Code of Federal Regulations, particularly §§ 0.45, 0.46, 0.160, 0.162, 0.164, 0.166, and 0.168, it is hereby ordered that Civil Division Memo No. 374, entitled "Delegation of Authority to U.S. Attorneys in Civil Division Cases" (28 CFR Part 0, App. to Supt. Y), as amended (30 F.R. 7819, June 17, 1965, 36 F.R. 12739, July 7, 1971) is further amended by having section 3, E, 2 read as follows:

E. Tort Section matters. . . .

##### 2. Federal Tort Claims Suits—

a. Suits under the Federal Tort Claims Act, 28 U.S.C. 1346(b), whenever all claims for damages arising out of one incident do not exceed \$10,000.

b. In all suits under the Federal Tort Claims Act, regardless of the amount claimed, the U.S. attorney may compromise all claims arising out of one incident for an aggregate amount of \$10,000 or less without prior approval of the Assistant Attorney General unless previously instructed to the contrary.

*Effective date.* The provisions of this directive shall be effective upon the date of publication of this directive in the FEDERAL REGISTER (12-21-71).

Dated: December 10, 1971.

L. PATRICK GRAY, III,  
Assistant Attorney General.

Approved:

JOHN N. MITCHELL,  
Attorney General.

[FR Doc.71-18574 Filed 12-20-71; 8:45 am]

## Title 32A—NATIONAL DEFENSE, APPENDIX

### Chapter X—Office of Oil and Gas, Department of the Interior

[Oil Import Reg. 1 (Rev. 5), Amdt. 36]

#### OIL REG. 1—OIL IMPORT REGULATION

##### Asphalt Imports, Districts I-IV

Section 31 of Oil Import Regulation 1 (Revision 5), 36 F.R. 775, provides for allocations of imports of asphalt into Districts I-IV for the current allocation period. The Director, Office of Emergency Preparedness, with the advice of the Oil Policy Committee, has determined that the program under section 31 should continue in effect for the allocation period January 1, 1972, through December 31, 1972. Accordingly, section 31 of Oil Import Regulation 1 (Revision 5) is amended as set forth below. This amendment, which makes no change of substance in section 31 for the year 1972, is based on a complete review of the asphalt program by the Office of Emergency Preparedness, in which contributions were sought from both industry and government. Therefore, it is not considered necessary to give notice of proposed rule making respecting this amendment and it shall become effective on January 1, 1972.

HOLLIS M. DOLE,  
Assistant Secretary of the Interior.

I concur: December 17, 1971.

G. A. LINCOLN,  
Director, Office of  
Emergency Preparedness.

Section 31 of Oil Import Regulation 1 (Revision 5), 36 F.R. 775, is amended to read as follows:

##### Sec. 31 Asphalt.

(a) As used in this section, the term "asphalt" means (1) if asphalt cement, a solid or semisolid cementitious material which is refined from crude oil and in which the predominant constituents are bitumens, and (2) if liquid asphalt, a product (i) the principal constituent of which is a cementitious material that, when refined from crude oil, was a solid or semisolid consisting predominantly of bitumens, (ii) the kinematic viscosity of which is not less than 250 centistokes at 140° F., and (iii) in which hydrocarbon solvents do not exceed 40 percent of the product by volume.

(b) For the allocation period January 1, 1972, through December 31, 1972, the Director shall make an allocation of imports of asphalt into Districts I-IV to any person who certifies that such imports are required to meet obligations under contracts with, or purchase orders from, customers in Districts I-IV or to meet his own construction or manufacturing requirements. The allocation shall be in the quantity which such person

certifies in writing is required to meet such obligations or requirements.

(c) Asphalt imports under an allocation made pursuant to paragraph (b) shall not be further processed except by blending by mechanical means or by air blowing and shall not be burned for lighting or for the generation of heat or power.

(d) Applications for allocations under this section may be filed with the Director at any time during the period. An application must be filed in such form as the Director may prescribe. All licenses issued under allocations made pursuant to this section shall be valid only during the period January 1, 1972, through December 31, 1972.

(e) No allocation made pursuant to this section may be sold, assigned, or otherwise transferred.

[FR Doc.71-18543 Filed 12-20-71; 8:50 am]

## Title 33—NAVIGATION AND NAVIGABLE WATERS

### Chapter II—Corps of Engineers, Department of the Army

#### PART 208—FLOOD CONTROL REGULATIONS

##### Oroville Dam and Reservoir, Feather River, Butte County, Calif.

Pursuant to the provisions of section 7 of the Act of Congress approved December 23, 1944 (58 Stat. 890; 33 U.S.C. 709), § 208.88 is hereby prescribed to govern the use and operation of Oroville Dam and Reservoir on Feather River, Calif., for flood control purposes.

##### § 208.88 Oroville Dam and Reservoir, Feather River, Calif.

The Department of Water Resources, State of California, Sacramento, Calif., shall operate or otherwise effect the operation of Oroville Dam and Reservoir in the interest of flood control as follows:

(a) Storage space in Oroville Reservoir of 750,000 acre-feet, below elevation 900 feet, shall be kept available for flood control purposes on a seasonal basis in accordance with the Flood Control Diagram currently in force for that reservoir. The Flood Control Diagram in force as of the promulgation of this section is that dated September 13, 1971, File No. 4-13-585.

(b) Except when greater releases are required as prescribed in paragraph (c) of this section, releases from Oroville Reservoir shall be restricted insofar as possible to quantities which will not cause flows in Feather River below Oroville Dam or in Feather River above Yuba River to exceed the controlling flow rates as specified on the Flood Control Diagram. Any water temporarily stored in the flood control space shall be released as rapidly as can be safely accomplished without causing downstream flows to exceed those criteria.



(c) Whenever water is stored in the flood control space and the reservoir level is rising rapidly because of flood inflow, operation of the reservoir shall be, insofar as possible, in accordance with the Emergency Spillway Release Diagram currently in force, or the Flood Control Diagram currently in force, whichever requires the greater release. The Emergency Spillway Release Diagram in force as of the promulgation of this section is that dated September 13, 1971, File No. 4-13-586.

(d) Except as necessary in order to comply with provisions of the Emergency Spillway Release Diagram under paragraph (c) of this section, the regulations of this section shall not be construed to require dangerously rapid changes in magnitudes of release. The regulations of this section shall not be construed to require that releases be made in a manner that would be inconsistent with requirements for protecting the dam and reservoir from major damage.

(e) The State of California shall; maintain a continuous record of reservoir stage, inflow, and releases; make current determinations of required flood control space and required releases and; obtain basic hydrologic data required to accomplish the flood control objectives prescribed in this section.

(f) The State of California shall keep the District Engineer, Corps of Engineers, Department of the Army in charge of the locality, currently advised for reservoir release, reservoir storage, and such other operating data as the District Engineer may request and also of those operating data at upstream reservoirs and other basic operating criteria which affect the schedule of operation.

(g) The flood control regulations of this section are subject to temporary modification by the District Engineer, Corps of Engineers, if found necessary in time of flood emergency. Requests for and action on such modification may be made by any available means of communication, and the action taken by the District Engineer shall be confirmed in writing under date of same day to the Office of the Director, Department of Water Resources, State of California.

(h) Revision of the diagrams require approval of the Chief of Engineers, or his duly authorized representative, and the State of California. Each such revision shall be effective upon the date specified in the approval, and from that date until replaced such revised diagrams shall be in force for purposes of this section. The Flood Control and Emergency Spillway Release Diagrams are on file in the Office, Chief of Engineers, Department of the Army, Washington, D.C. Copies of the diagrams currently in force shall be kept on file in and may be obtained from the District Engineer, Corps of Engineers, in charge of the locality, and the Director, Department of Water Resources, State of California, Sacramento, Calif.

[Regs., Nov. 3, 1971, DAEN-CWE-Y] (Sec. 7, 58 Stat. 890; 33 U.S.C. 709)

For the Adjutant General.

R. B. BELNAP,  
Special Advisor to TAG.

[FR Doc.71-18575 Filed 12-20-71; 8:45 am]

## Title 41—PUBLIC CONTRACTS AND PROPERTY MANAGEMENT

### Chapter 5A—Federal Supply Service, General Services Administration

#### PART 5A-73—FEDERAL SUPPLY SCHEDULE PROGRAM

##### Subpart 5A-73.1—Production and Maintenance

#### CONTRACT PERIOD AND USE OF RENEWAL OF CONTRACTS CLAUSE IN FEDERAL SUPPLY SCHEDULE CONTRACTS

1. Section 5A-73.106 is revised as follows:

##### § 5A-73.106 Contract period for Federal Supply Schedule contracts.

Federal Supply Schedule contracts shall not be entered into for periods exceeding 1 year. The inclusion of the Renewals of Contracts clause, in accordance with § 5A-73.107, is not an indication that the initial contract period or any one subsequent renewal increment will be in excess of 1 year.

2. Sections 5A-73.107 through 5A-73.107-6 are revised as follows:

##### § 5A-73.107 Contracts with renewal provisions.

##### § 5A-73.107-1 Contracts to which applicable.

(a) Negotiated multiple award Federal Supply Schedule contracts shall contain the Renewal of Contracts clause set forth in § 5A-73.107-6 unless the inclusion of this clause is clearly undesirable or inappropriate. Examples of situations where the clause should be omitted are (1) known phase-outs of the type of commodities or services, (2) anticipated downward penetrations in price trends, (3) expected shifts in the supply/demand ratio in favor of supply, hence a possibility for greater competition, and (4) such other factors which would indicate that the items on Schedule could be obtained at more favorable terms at some future date. The contracting officer for the Schedule shall make a written determination when the Renewal of Contracts clause is to be omitted, setting forth the reasons therefor, and obtain approval for his determination from an official at the next higher level of authority.

##### § 5A-73.107-2 Nature of a contract with a renewal clause.

(a) Negotiated multiple award Federal Supply Schedule contracts must not be effective for more than 1 year at any one time. A renewal under the Renewal of Contracts clause constitutes a new contract in which the contract terms and

conditions previously agreed upon, including any contract modifications, are carried over into a new contract period which, again, must not exceed the maximum of 1 year. The contract number for the renewed contract shall remain the same as the number for the contract which is being renewed.

(b) If the Government and the contractor fail to agree to renew their contract or do not desire to do so, such contract shall expire at the end of the currently effective contract period. Prior to any renewal the current contract must be carefully reviewed (see § 5A-73.107-4).

##### § 5A-73.107-3 Limitation on number of renewals.

No contract shall be renewed for a cumulative period exceeding 3 years from its first effective date.

##### § 5A-73.107-4 Required actions before renewal.

(a) According to the Renewal of Contracts clause (see § 5A-73.107-6), the Government's intent to renew must be announced in an appropriate notice to the contractor (see § 5A-73.107-5). Before furnishing such a notice, the contracting officer shall determine (1) whether (i) renewal of the current contract or (ii) issuance of a request for proposals for a new contract is in the best interest of the Government and, if he finds it to be best to renew, (2) whether and to what extent current contract provisions, prices, delivery terms, item identifications, etc., must be modified.

(b) Before renewing any existing contract, the contracting officer shall as a minimum consider the following elements:

(1) The effectiveness and appropriateness of current contract provisions;

(2) New or additional clauses which must be incorporated in a renewed contract, especially clauses required by new or revised laws or regulations issued since the existing contract was entered into or which were found desirable to be added or deleted as a result of experience obtained in the administration of the current contract;

(3) Market trends reported in trade journals; and

(4) Price structure; i.e., price reductions made by contractor or potential competitors during the current contract period; prices which remained unchanged during the current contract period but which possess a potential for reduction because of improved production methods or for other reasons; or price increases where, for the same reasons, they should have remained unchanged or even be reduced. Other issues which must be considered and evaluated with regard to price structure are:

(i) The data obtained from the contractor in connection with established catalog or market prices of commercial items sold in substantial quantities to the general public. (See § 5A-3.807-3(d), as implemented by § 5A-73.121(a), Basis for price negotiation of multiple award schedule contracts.);



(ii) Savings to the contractor generated by his not having to print and distribute new catalogs and pricelists or by his not having to prepare entirely new and complete offers if the current contract were renewed;

(iii) Reduction of taxes and duties which were included in current sales prices;

(iv) Increases in profits, published in financial or trade papers, with due recognition of profit as the motivating factor of private enterprise and the allowance of a reasonable profit;

(v) The most recent prices paid for similar items or, in connection with definite quantity purchases, for the same items;

(vi) By an informal investigation of prices or other examination of the market, especially whether better prices than those cited in the current contract would be obtainable;

(vii) Changes in the cost of raw materials for or components of the products under the current contract;

(viii) Changes in minimum wage rates established by the Secretary of Labor and, to the extent known, in wage rates otherwise changed pursuant to an agreement between the contractor and his employees;

(ix) Changes in the contractor's distribution pattern;

(x) Actual value of purchases made by the Government during the current contract period compared with the estimated value when the current contract was entered into;

(xi) Volume of sales (particularly of new items) which contractor has made to the public during the current contract period compared with the anticipated volume when the contract was entered into;

(xii) Production licenses granted by the contractor to others and contractor's expired patent rights; and

(xiii) Whether established prices are readily ascertainable and clearly indicate that the issuance of new solicitations would serve no useful purpose.

**§ 5A-73.107-5 Notice of intent to renew the contract.**

Renewal of a contract requires the contracting officer's written notification to the contractor within the time specified in the Renewal of Contracts clause. This written notice of intent to renew shall contain:

(a) All revisions of or additions to the contract provisions;

(b) Confirmation of any changes in contract prices applicable to the renewed contract;

(c) A request for pricing, sales or other data in accordance with paragraph (c) of the Renewal of Contracts clause;

(d) Instructions on the extent to which new catalogs or pricelists are to be furnished for the renewal period, subject to possible changes as a result of any subsequent negotiations.

**§ 5A-73.107-6 Renewal of Contracts clause.**

The contracting officer shall complete all blank spaces in the clause which is

set forth below. In computing the number of days which are to be inserted, the contracting officer shall consider the necessary lead time for finalizing the renewal to insure continuous supply availability, including the estimated time for negotiations, the time needed by the contractor to develop his proposal after receipt of the Government's notice of intent to renew, and the time which may be required for necessary contract approval action.

**RENEWAL OF CONTRACTS**

(a) This contract may be renewed at the expiration of its term or any extension thereof by mutual agreement of the parties. Such renewal may be for a term of 1 year or less but in no event shall this contract, as modified, be extended beyond 3 years from the first effective date of this contract.

(b) Notice of its intent to renew will be given to the Contractor in writing by the Government, normally \_\_\_\_\_ days before the expiration date of the current contract. (This notice will not be deemed to commit the Government to a contract renewal.)

(c) Prior to any renewal of this contract the Contractor shall submit within \_\_\_\_\_ days after the date of the Government's request such pricing, sales or other data as the Contracting Officer may request, such as but not limited to, the data required by the Basis for Price Negotiation and Discount Schedule and Marketing Data provisions of this contract.

(d) Notwithstanding the receipt of the aforementioned data, prices for the renewal period may be subject to negotiation and the Contracting Officer may request Contractor to furnish current cost and pricing data on any item where its price is found susceptible to negotiation. If the price is accepted by the Government it will be effective on the first day of the renewal period or on the acceptance date, whichever is later. If an agreement cannot be reached between the Government and the Contractor on any proposed price, the item or items involved will not be included in the contract for the renewal period.

3. Section 5A-73.120-4 is amended as follows:

**§ 5A-73.120-4 Clause used in solicitations when contemplating award based on catalogs and pricelists.**

(b) \* \* \*

**FEDERAL SUPPLY SCHEDULE PRICELISTS**

(b) \* \* \*

(4) \* \* \*

**11. Maximum order limitation.**

\* \* \*

(9) Terms and conditions applicable to maintenance of Government-owned equipment (after expiration of guarantee provisions). (Must be included in pricelist.)

(10) Terms and conditions applicable to repair service for Government-owned equipment. (Must be included in pricelist.)

(11) Terms and conditions applicable to repair parts indicating date of parts pricelist and any applicable discount from list prices. (Must be included in pricelist.)

(12) Specifications for special supplies if applicable, especially for use with rented equipment.

(13) Any descriptive information relating to equipment offered (subject to approval of the Contracting Officer).

(14) Equipment list (clearly identifying all foreign manufactured and all used equipment) showing the following information:

Model or type number, and brand name (if applicable).

Brief description of item, Federal Item Identification Number if assigned, and guaranteed shipping weight and cube. Government unit price for rental, purchase, and maintenance of each item, appropriately listed under the applicable Special Item Number.

Preventive maintenance, the number of hours of preventive maintenance required for each machine, per month, which shall be consistent with the Contractor's standards for preventive maintenance for each item of equipment listed.

(15) List of service and distribution points.

(Sec. 205(c), 63 Stat. 390; 40 U.S.C. 486(c); 41 CFR 5-1.101(c))

*Effective date.* This regulation is effective on the date shown below.

Dated: December 6, 1971.  
L. E. SPANGLER,  
Acting Commissioner,  
Federal Supply Service.

[FR Doc. 71-18576 Filed 12-20-71; 8:45 am]

**Title 49—TRANSPORTATION**  
**Chapter X—Interstate Commerce Commission**

**SUBCHAPTER C—ACCOUNTS, RECORDS AND REPORTS**

[No. 35344 (Sub-No. 2)]

**PART 1241—ANNUAL, SPECIAL OR PERIODIC REPORTS; CARRIERS SUBJECT TO PART I OF THE INTERSTATE COMMERCE ACT**

**Report of Incentive Per Diem—Railroads**  
*Correction*

In F.R. Doc. 71-18559 appearing at page 24059 in the issue of Saturday, December 18, 1971, the following amendments to Part 1241 were inadvertently omitted:

1. In the table of contents for Part 1241 add the following directly below "1241.13 Form prescribed for lessors to railroads.":

Sec.  
1241.14 Report of incentive per diem items—Railroads.

2. Directly below § 1241.13 add § 1241.14 to read as follows:

**§ 1241.14 Report of incentive per diem items—Railroads.**

Commencing with reports for the year ended December 31, 1970, and thereafter until further order, each common carrier by railroad shall be required to file annual reports in accordance with Form IPD, Report of incentive per diem items—Railroads. Such reports shall be filed in duplicate by all railroads with the Bureau of Accounts, Interstate Commerce Commission, Washington, D.C. 20423, on or before April 1 of the year following the end of the period to which it relates.



## Title 50—WILDLIFE AND FISHERIES

### Chapter II—National Marine Fisheries Service, National Oceanic and Atmospheric Administration, Department of Commerce

#### PART 280—YELLOWFIN TUNA

##### Restrictions Applicable to Fishing Vessels

On December 11, 1971, notice of proposed rule making regarding an amendment to restrictions applicable to fishing vessels (§ 280.6) was published in the FEDERAL REGISTER (36 F.R. 23630). After consideration of all such relevant matter presented by interested persons at a public hearing at San Diego, December 15, 1971, the amendment as so proposed is hereby adopted subject to the following changes.

In new subdivision (v) of § 280.6(e) (2) the thirteenth (13) line of the first sentence is changed by deleting the words

"a U.S. enforcement agent" and inserting the words "an agent of the U.S. Government," and the third sentence is changed by inserting after the word "to" the words "leave port to".

*Effective date.* This amendment shall become effective upon date of publication in the FEDERAL REGISTER (12-21-71).

PHILIP ROEDEL,  
Director,

National Marine Fisheries Service.

1. Add new subdivision (v) of § 280.6 (e) (2) to read as follows:

§ 280.6 Restrictions applicable to fishing vessels.

\* \* \* \* \*

(e) \* \* \* \* \*

(2) \* \* \* \* \*

(v) Notwithstanding the first sentence of paragraph (d) of this section, vessels with incidental yellowfin tuna catches aboard which were taken pursuant to restrictions in paragraph (c) of this section in the regulatory area during the 1971 closed season and wish to begin on January 1, 1972, to fish for yellowfin

tuna without restriction during the open season may do so: *Provided*, That the following procedures are observed: such vessels are made available for inspection by an agent of the U.S. Government at Balboa, Canal Zone or Puntarenas, Costa Rica, during the period of December 27 through December 31, 1971; a request for such inspection is made to the Regional Director no later than December 23, 1971; and notification is given to the Regional Director of the date and place of any unloading of the fish taken on such fishing voyages 48 hours prior to unloading. Fish in the wells at the time of inspection are subject to the applicable closed season incidental catch limitation for yellowfin tuna. Furthermore, vessels inspected during this period will not be allowed to leave port to resume fishing activities until 0001 hours, January 1, 1972. Vessels failing to follow the procedures required in this paragraph shall be restricted to the incidental catch limits prescribed for the closed season for the entire voyage.

[FR Doc.71-18644 Filed 12-20-71;8:50 am]



# Proposed Rule Making

## DEPARTMENT OF THE TREASURY

Internal Revenue Service

[ 26 CFR Part 1 ]

### INCOME TAX

#### Group-Term Life Insurance Purchased for Employees

Notice is hereby given that the regulations set forth in tentative form below are proposed to be prescribed by the Commissioner of Internal Revenue, with the approval of the Secretary of the Treasury or his delegate. Prior to the final adoption of such regulations, consideration will be given to any comments or suggestions pertaining thereto which are submitted in writing, preferably in quintuplicate, to the Commissioner of Internal Revenue, Attention: CC:LR:T, Washington, D.C. 20224, by January 20, 1972. Any written comments or suggestions not specifically designated as confidential in accordance with 26 CFR 601.601(b) may be inspected by any person upon written request. Any person submitting written comments or suggestions who desires an opportunity to comment orally at a public hearing on these proposed regulations should submit his request, in writing, to the Commissioner by January 20, 1972. In such case, a public hearing will be held, and notice of the time, place, and date will be published in a subsequent issue of the FEDERAL REGISTER, unless the person or persons who have requested a hearing withdraw their requests for a hearing before notice of the hearing has been filed with the Office of the Federal Register. The proposed regulations are to be issued under the authority contained in section 7805 of the Internal Revenue Code of 1954 (68A Stat. 917 26 U.S.C. 7805).

[SEAL] JOHNNIE M. WALTERS,  
Commissioner of Internal Revenue.

In order to clarify and revise the rules under the Income Tax Regulations (26 CFR Part 1) under section 79 of the Internal Revenue Code of 1954, such regulations are amended as follows:

Paragraph (b)(1) of § 1.79-1 is amended, by revising subdivisions (i), (ii), and (iii)(d) and adding a new (iii)(e), to read as follows:

§ 1.79-1 General rules relating to group-term life insurance purchased for employees.

(b) Meaning of terms. . . .

(1) *Group-term life insurance*—(i) In general. Group-term life insurance is term life insurance protection provided under a master policy, or group of individual policies, which policy, or policies, constitute life insurance contracts for purposes of section 101(a) and form a

part of a plan of group insurance as defined in subdivision (iii) of this subparagraph. For this purpose, the life insurance protection in a policy of permanent insurance (such as a whole life policy) does not constitute term life insurance protection. The preceding sentence shall not apply to policies in existence on December 21, 1971, until taxable years beginning after December 31, 1972. Section 79 only applies to insurance which provides general death benefits. Thus, such section does not apply to travel insurance or accident and health insurance (including amounts payable under a double indemnity clause or rider). Moreover, section 79 does not apply to any amount of life insurance protection provided for an employee by an employer which is in excess of the maximum amount of such protection which could, under the law of the applicable jurisdiction, be provided by such employer for such employee under a master policy providing only group-term insurance protection.

(ii) *Paid up or similar value.* (a) In the case of a policy which includes permanent insurance, a paid up value, a cash surrender value, or an equivalent benefit, section 79 shall apply to that portion of the insurance provided thereunder during the taxable year which constitutes group-term life insurance (within the meaning of this subparagraph) only if the policy specifies the portion of the premium which is allocable to the group-term life insurance and no part of the premium which is not so allocated is paid by the employer. If an employer pays any amount of the premium in excess of that portion which is properly allocable to the group-term life insurance, then, except as provided in (b) of this subdivision, such amount shall be includible in the employee's gross income. See § 1.61-2(d)(2)(ii). For purposes of this subparagraph, a provision permitting an employee to convert (or continue) the term insurance protection after it ceases to be provided by the employer shall not be treated as permanent insurance, a paid up value, a cash surrender value, or an equivalent benefit. If a policy containing permanent insurance, a paid up value, a cash surrender value, or an equivalent benefit is used to provide group-term life insurance protection for any employee, each employee in the same class must be eligible for such insurance protection under a policy containing such a benefit.

(b) Notwithstanding (a) of this subdivision, in the case of a policy in existence on December 21, 1971 which specifies the portion of the premium which is allocable to the group-term life insurance, and no part of the premium which is not so allocated is paid by the employer, then for taxable years beginning before January 1, 1973, even if the em-

ployer pays an amount in excess of the portion properly allocable to the group-term life insurance, such excess shall not be includible in the employee's gross income.

(c) The provisions of this subdivision may be illustrated by the following example:

*Example.* In July 1971, an employer obtains a group life insurance policy that provides group-term life insurance, to be paid for by the employer. The amount of an employee's insurance is determined on the basis of a schedule appearing in the policy. The policy also provides for permanent life insurance to be paid for by the employee who elect to be covered by the permanent insurance. All employees covered by the group policy are eligible to elect the permanent insurance coverage. When an employee elects to be covered by permanent insurance, the amount of his scheduled group-term life insurance coverage is reduced by the amount of the permanent insurance. The permanent insurance coverage is level premium life insurance, such as a whole life or life paid up at the age of 65. The policy specifically states the premium rates applicable to the group-term life insurance and, separately, the premium rates applicable to the permanent insurance. However, the portion of the premium specified by the policy as allocable to the group-term life insurance and which was paid by the employer was in excess of the portion properly allocable to the group-term life insurance. Accordingly, with respect to that part of the premium paid by the employer not properly allocable to group-term life insurance, section 79 of the Code does not apply and that part is includible in the employee's gross income for taxable years beginning after December 31, 1972. However, pursuant to (b) of this subdivision, for taxable years beginning before January 1, 1973, such portion shall not be so includible in the employee's gross income.

(iii) *Plan of group insurance defined.* . . .

(d) As a general rule, to constitute a plan of group insurance for a calendar year, an employer's plan must provide term insurance protection for at least 10 full-time employees at some time during a calendar year. However, a plan which, for an entire calendar year, provides protection for fewer than 10 full-time employees may also qualify as group insurance if the following requirements to preclude individual selection are met:

(1) The plan provides protection for all full-time employees (except as otherwise permitted in (d)(3) and (4) of this subdivision);

(2) Except as otherwise permitted in (d)(3) and (4) of this subdivision, the amount of protection for employees is computed either as a uniform percentage of salary or on the basis of coverage brackets (which are established by the insurer) under which no bracket exceeds  $2\frac{1}{2}$  times the next lower bracket and the lowest bracket is at least 10 percent of the highest bracket (see the example contained in (e) of this subdivision);



(3) Evidence of insurability may be a factor affecting either the employee's eligibility for insurance or the amount of insurance on his life only to the extent that such eligibility or amount of insurance is determined solely on the basis of a medical questionnaire completed by the employee and not requiring a medical examination;

(4) If evidence of insurability is not a factor affecting either the employee's eligibility for insurance or the amount of insurance, then a plan which provides protection for fewer than 10 full-time employees but does not meet the requirements in (d) (1) or (2) of this subdivision may nevertheless qualify as a plan of group insurance if (i) such plan is a part of an overall plan which provides protection for the employees of two or more unrelated employers, (ii) participation in the plan is restricted to, but mandatory for, all employees of an employer who belong to or are represented by a particular organization (such as a union), and (iii) such organization carries on substantial activities in addition to obtaining insurance.

For purposes of (d) of this subdivision, a plan shall be considered to be providing insurance protection for any employee who was eligible for such protection but who elected not to participate in the plan. Moreover, a plan of group-term insurance providing insurance for fewer than 10 full-time employees will not be disqualified merely because employees are not provided term insurance under the plan because they are required, by the terms of the policy, to be employed for a waiting period of not more than 6 months before their insurance becomes effective or are part-time employees. Employees whose customary employment is for not more than 20 hours in any 1 week, or 5 months in any calendar year, are presumed to be part-time employees.

(e) The provisions of (d) (2) of this subdivision may be illustrated by the following example:

*Example.* E, an employer, has fewer than 10 full-time employees and provides all eligible employees with group-term life insurance coverage under his plan. E pays the entire cost of the life insurance. Evidence of insurability is limited to a medical questionnaire to be completed by the employee and does not require a medical examination. Subject to the requirement of evidence of insurability, any full-time active employee of E is, after completing 3 months of continuous service with E, eligible for insurance. The plan provides a basic schedule of group-term life insurance coverage based upon annual earnings. No coverage bracket under the basic schedule exceeds 2½ times the next lower bracket and the lowest bracket is at least 10 percent of the highest bracket. However, the plan also provides that the amount of insurance a covered employee has at the age of 65 will be reduced by 10 percent each year that he continues working full time after the year in which he reaches the age of 65, but in no event will the amount of his coverage be reduced below 50 percent of the coverage provided in the basic schedule for his salary. This may be illustrated as follows:

Salary	Basic schedule	Reduced coverage at age 70
\$5,000	\$2,000	\$1,000
7,500	5,000	2,500
10,000	10,000	5,000
20,000	20,000	10,000

Although under the basic schedule no bracket exceeds 2½ times the next lower bracket and the lowest bracket is 10 percent of the highest bracket, the provisions for reduction after age 65 do not satisfy this rule. Thus, since the coverage for an employee earning \$6,000 at age 70 is \$1,000, the reduced coverage (\$1,000) is less than 10 percent of the highest coverage (\$20,000). Because the plan of group-term life insurance in this example provides for a reduction of an employee's coverage below the amounts prescribed by the percentage of salary or bracket test in (d) (2) of this subdivision, the insurance provided under the plan is not group-term life insurance under section 79 of the Code.

[FR Doc. 71-18632 Filed 12-20-71; 8:50 am]

## DEPARTMENT OF AGRICULTURE

### Commodity Credit Corporation

[7 CFR Part 1443]

#### COTTONSEED

#### Support Program for 1972 Crop

Pursuant to sections 301, 303, and 401 of the Agricultural Act of 1949, as amended (63 Stat. 1051, as amended; 7 U.S.C. 1447, 1449, 1421), and sections 4 and 5 of the Commodity Credit Charter Act, as amended (62 Stat. 1070, as amended; 15 U.S.C. 714b, 714c), the Secretary is considering a support program for 1972 crop cottonseed.

Section 301 of the 1949 Act authorizes the Secretary to make available through loans, purchases, or other operations support to producers for any nonbasic commodity for which support is not mandatory at a level not in excess of 90 percentum of the parity price for the commodity.

Section 401 of the Act requires that the following factors shall be taken into consideration in determining, in the case of any commodity for which support is discretionary, whether a support operation shall be undertaken and the level of such support:

- (1) The supply of the commodity in relation to the demand therefor,
- (2) The price levels at which other commodities are being supported,
- (3) The availability of funds,
- (4) The perishability of the commodity,
- (5) The importance of the commodity to agriculture and the national economy,
- (6) The ability to dispose of stocks acquired through a price-support operation,
- (7) The need for offsetting temporary losses of export markets, and
- (8) The ability and willingness of producers to keep supplies in line with demand.

Consideration will be given to data, views, and recommendations pertaining to the determinations to be made under this notice which are submitted in writing to the Director, Oilseeds and Special Crops Division, Agricultural Stabilization and Conservation Service, U.S. Department of Agriculture, Washington, D.C. 20250.

All written submissions made pursuant to this notice will be made available for public inspection at the office of the Director during regular business hours (8:15 a.m. to 4:45 p.m.) (7 CFR 1.27 (b)). In order to be sure of consideration, all submissions must be received by the Director not later than 30 days from the date of publication of this notice in the FEDERAL REGISTER.

Signed at Washington, D.C., on December 14, 1971.

KENNETH E. FRICK,  
Executive Vice President,  
Commodity Credit Corporation.

[FR Doc. 71-18629 Filed 12-20-71; 8:49 am]

### Consumer and Marketing Service

[7 CFR Part 966]

[Docket No. AO-265-A4]

#### TOMATOES GROWN IN FLORIDA

#### Notice of Recommended Decision and Opportunity To File Written Exceptions With Respect to Proposed Amendment of the Marketing Agreement and Order

Pursuant to the rules of practice and procedure governing proceedings to formulate marketing agreements and marketing orders, as amended (7 CFR Part 900), notice is hereby given of the filing with the Hearing Clerk of this recommended decision with respect to the proposed amendment of Marketing Agreement No. 125 and Order No. 966, both as amended (7 CFR Part 966), hereinafter referred to collectively as the "order," regulating the handling of tomatoes grown in the production area. This regulatory program is effective pursuant to the provisions of the Agricultural Marketing Agreement Act of 1937, as amended (7 U.S.C. 601-674), hereinafter referred to as the "act."

Interested persons may file written exceptions to this recommended decision with the Hearing Clerk, U.S. Department of Agriculture, Room 112, Administration Building, Washington, D.C. 20250, not later than the close of business on the 15th day after its publication in the FEDERAL REGISTER. Exceptions should be filed in quadruplicate. All such communications will be made available for inspection at the office of the Hearing Clerk during regular business hours (7 CFR 1.27(b)).

*Preliminary statement.* The public hearing, on the record of which the proposed amendment to the order was formulated, was held at Orlando, Fla., October 7, 1971, pursuant to notice thereof published in the September 10, 1971, issue of the FEDERAL REGISTER (36



F.R. 18212). The notice set forth the proposed amendment to the order which was submitted with a request for a hearing thereon by the Florida Tomato Committee, the administrative agency established pursuant to the order.

**Material issue.** The material issue presented on the record of hearing is the amendment of § 966.48, *Research and development*, to authorize paid advertising and promotion of tomatoes.

**Findings and conclusions.** The findings and conclusions on the material issue, all of which are based on the evidence presented at the hearing and the record thereof, are as follows:

When the Florida Tomato Marketing Order was first promulgated in 1955, the provisions of the act authorizing marketing research and development projects did not include authority for paid advertising and promotion. Therefore, while the order did authorize marketing research and development projects, it did not provide for paid advertising. The Secretary's decision recommending that provision in 1955 stated in part:

" \* \* \* the committee should have the authority to recommend the establishment of such (marketing research and development) projects which are in the best interest of tomato marketing and which will assist, improve, and promote the marketing, distribution, and consumption of Florida tomatoes. The committee should be empowered to engage in or contract for such projects, to spend funds for such purpose, and to consult and cooperate with other agencies with regard to their establishment. All such projects should receive the prior approval of the Secretary."

The above conclusions and the authority for marketing research and development projects continue in effect and would remain applicable under the proposed amended provisions of the said section as hereinafter set forth.

Pursuant to the authority presently contained in the order, the committee did recommend and the Secretary did approve several research and development projects.

Since 1955, the act has been amended several times to authorize paid advertising and promotion for many fruit and vegetable commodities under Federal marketing orders. The act was so amended, effective January 11, 1971, to authorize paid advertising and promotion projects for tomatoes under Federal marketing agreements and orders (title II of Public Law 91-670, 91st Congress, 84 Stat. 2041).

The Florida Tomato Committee, at its organizational meeting on August 10, 1971, voted unanimously to take advantage of the authority granted by the amendment to the act. On August 24, 1971, the committee formally requested a hearing on a proposed amendment to the order to add authority to engage in any form of research and market development including market promotion and paid advertising.

The per capita consumption of commercially produced fresh tomatoes in the United States has declined from approx-

imately 16 pounds in 1946 to about 12 pounds during the last few years. Florida's sales of commercially produced fresh tomatoes also have declined, from over 17 million 40-pound cartons in the 1965-66 crop year to approximately 14 million 40-pound cartons in the 1970-71 crop year. This is a reduction of well over 18 percent during a period of only 5 years.

Tomatoes must compete with many other fresh and processed fruits and vegetables for shelf space in supermarkets and in smaller retail grocery stores throughout the country. Many of these competing commodities are well advertised and promoted. In competition for display space and for advertising assistance, Florida tomatoes have been at a disadvantage since no vehicle has existed to facilitate industry-wide advertisement and promotion. The objective of a promotional and advertising program for tomatoes would be to increase the demand for such commodity and thereby contribute to improve returns to producers.

The types of advertising and promotion activities which may be required to meet the needs of the Florida tomato industry cannot be foreseen with exactitude. Therefore, the authority for the committee to undertake, with the approval of the Secretary, such paid advertising and promotion activities as are authorized by the act should be broad and flexible.

Proponents stated that public relation and publicity-type activities directed toward food editors would be most practical. This method would be relatively inexpensive but should be effective for disseminating information on the nutritional value of tomatoes, their availability, methods of preparation, recipes and serving suggestions. Tomatoes are well adapted to this type of promotion, as they are rich in vitamins and minerals, low in calories and so attractive for salads.

Another effective method of promoting Florida tomatoes would be through merchandising and point of sale material. Many fruit and vegetable organizations employ field service representatives to work with fresh produce merchandisers in major consuming areas where promotional activities are scheduled. Such field service men for tomatoes could provide a variety of services, including distribution and display of point of sale material and merchandising aids, informing the trade of advertising programs, and helping with special promotions. They could also furnish the committee valuable information on arrival condition and attitudes of the trade and of consumers.

Other possibilities noted in the record would be for the committee to tie in with other organizations for use of more expensive advertising media which might be impractical unless utilized in a cooperative effort with one or more other organizations. Examples of such groups mentioned in the record of hearing include the United Fresh Fruit and Vege-

table Association and tomato producers' organizations in California and Mexico.

To successfully carry out a program of advertising and promotion, careful study and planning are required. A subcommittee on promotion and advertising should be appointed to plan and propose a program to be approved by a vote of at least two-thirds of the Florida Tomato Committee. Such a program would also require approval by the Secretary before being adopted.

If the committee should engage the services of an advertising agency for performance of a specific program, the progress of such activity should be reviewed periodically, and the contracting agency should be required to maintain records of funds received from the committee and the expenditures made. Copies of such reports should also be furnished to the Secretary.

The funds to cover the costs of any promotion and advertising activities should be obtained from assessments on shipments, the same as for other committee expenses. Such promotion and advertising expenses should be included in the committee's annual budget of expenses, or in amended budgets of expenses, submitted to the Secretary for approval.

Since the act has been amended to authorize advertising and promotion for tomatoes under Federal marketing orders, and since Florida tomato producers have requested that such authority be added to their marketing order provisions, and the record has demonstrated the need for such authority in order to effectuate the declared purpose of the act, it is concluded that § 966.48, *Research and development*, of the order should be amended as hereinafter set forth to authorize any form of marketing promotion including paid advertising.

**Rulings on proposed findings and conclusions.** The presiding officer at the hearing set November 8, 1971, as the final date for filing briefs with respect to the evidence presented at the hearing and the conclusions which should be drawn therefrom. Within the time prescribed, a brief was filed by the West Mexico Vegetable Distributors Association of Nogales, Ariz., whose members are importers of Mexican tomatoes. In said brief, the Association indicated its belief that promotion can expand the market for tomatoes, and that it would be interested in collaborative efforts to increase tomato consumption. The Association further stated its position that it would not be proper for the Florida Tomato Committee to engage in advertising which referred adversely to tomatoes from other producing areas. The Association therefore recommended that a proviso be added to the proposed amendment of § 966.48 to read: "Provided, That no such project may refer in any way adversely to tomatoes produced by growers outside the area represented by the committee."

The record of hearing discloses that the proponents of the proposed amendment, i.e., the Florida Tomato Committee, also would be interested in



considering collaborative efforts to increase the consumption of fresh tomatoes, and that no advertising sponsored under the order should refer adversely to tomatoes produced in other areas. Further, since any advertising of tomatoes under the provisions of the order would be subject to approval by the Secretary, there is no need to add the recommended proviso to the proposed amended provisions of § 966.48 as the policy of the Department would not permit such references. At the same time, however, this should not preclude any effort by the Florida industry to advertise or promote the favorable attributes of its own tomatoes, much as is done for many local agricultural commodities in the United States such as Texas and Florida citrus, apples from Washington, and potatoes from Idaho.

*General findings.* Upon the basis of the evidence presented at the hearing and the record thereof it is found that:

(1) The amended marketing agreement and order, as both are hereby proposed to be amended, and all the terms and conditions thereof, will tend to effectuate the declared policy of the act;

(2) The amended marketing agreement and order, as both are hereby proposed to be amended, regulate the handling of tomatoes grown in the production area in the same manner as, and are applicable only to persons in the respective classes of industrial and commercial activity specified in the marketing order upon which a hearing has been held;

(3) The amended marketing agreement and order, as both are hereby proposed to be amended, are limited in application to the smallest regional production area which is practicable, consistent with carrying out the declared policy of the act; and the issuance of several orders applicable to subdivisions of the production area would not effectively carry out the declared policy of the act;

(4) The amended marketing agreement and order, as both are hereby proposed to be amended, prescribe, so far as practicable, such different terms, applicable to different parts of the production area, as are necessary to give due recognition to the differences in the production and marketing of tomatoes grown in different parts of the production area; and

(5) All handling of tomatoes grown in the production area, as defined in the amended marketing agreement and order, as hereby proposed to be amended, is in the current of interstate or foreign commerce, or directly burdens, obstructs, or affects such commerce.

*Recommended amendment of the marketing agreement and order.* The following amendment of the said marketing agreement and order is recommended as the detailed means by which the aforesaid conclusions may be carried out:

Amend § 966.48, *Research and development*, to read as follows:

§ 966.48 *Research and development.*

The committee, with the approval of the Secretary, may establish or provide

for the establishment of any form of marketing research and development projects including paid advertising designed to assist, improve, or promote the marketing, distribution, and consumption of tomatoes. The expenses of such projects shall be paid from funds collected pursuant to § 966.42.

Copies of this notice of recommended decision may be obtained from the Hearing Clerk, U.S. Department of Agriculture, Room 112, Administration Building, Washington, D.C. 20250, or may be there inspected.

Dated: December 15, 1971.

JOHN C. BLUM,  
Deputy Administrator,  
Regulatory Programs.

[FR Doc. 71-18608 Filed 12-20-71; 8:48 am]

## DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

[ 14 CFR Part 71 ]

[Airspace Docket No. 71-GL-24]

### CONTROL ZONE AND TRANSITION AREA

#### Proposed Alteration

The Federal Aviation Administration is considering amending Part 71 of the Federal Aviation Regulations so as to alter the control zone and transition area at Findlay, Ohio.

Interested persons may participate in the proposed rule making by submitting such written data, views, or arguments as they may desire. Communications should be submitted in triplicate to the Director, Great Lakes Region, Attention: Chief, Air Traffic Division, Federal Aviation Administration, 3166 Des Plaines Avenue, Des Plaines, IL 60018. All communications received within 45 days after publication of this notice in the FEDERAL REGISTER will be considered before action is taken on the proposed amendments. No public hearing is contemplated at this time, but arrangements for informal conferences with Federal Aviation Administration officials may be made by contacting the Regional Air Traffic Division Chief.

Any data, views, or arguments presented during such conferences must also be submitted in writing in accordance with this notice in order to become part of the record for consideration. The proposals contained in this notice may be changed in the light of comments received.

A public docket will be available for examination by interested persons in the Office of the Regional Counsel, Federal Aviation Administration, 3166 Des Plaines Avenue, Des Plaines, IL 60018.

Since the designation of controlled airspace at Findlay, Ohio, an NDB approach has been cancelled and a new approach based on the TVOR has been developed for the Findlay Airport, Findlay, Ohio.

Accordingly, it is necessary to alter the Findlay, Ohio, control zone and transition area to adequately protect aircraft executing the new approach.

In consideration of the foregoing, the Federal Aviation Administration proposes to amend Part 71 of the Federal Aviation Regulations as hereinafter set forth:

In § 71.171 (36 F.R. 2055), the following control zone is amended to read:

#### FINDLAY, OHIO

Within a 5-mile radius of the Findlay Airport (latitude 41°00'40" N., longitude 83°40'30" W.); excluding that portion within a 1-mile radius of the Lutz Airport (latitude 40°57'42" N., longitude 83°35'43" W.); within 3 miles each side of the 179° bearing from the Findlay Airport extending from the 6½-mile-radius area to 8½ miles south of the airport; within a 5-mile radius of Bluffton Flying Service Airport (latitude 40°53'09" N., longitude 83°52'04" W.), and within 2 miles each side of the Findlay VORTAC 231° radial extending from the 5-mile-radius zone to the Findlay, Ohio, Airport 5-mile-radius zone.

In § 71.181 (36 F.R. 2140), the following transition area is amended to read:

#### FINDLAY, OHIO

That airspace extending upward from 700 feet above the surface within a 6½-mile radius of Findlay, Ohio Airport (latitude 41°00'40" N., longitude 83°40'30" W.) within 3 miles each side of the 179° bearing from the Findlay Airport extending from the 6½-mile-radius area to 8½ miles south of the airport within 2 miles each side of the Findlay VORTAC 231° radial extending from the Bluffton Flying Service Airport (latitude 40°53'09" N., longitude 83°52'04" W.), 5-mile-radius area to the 6½-mile-radius area of Findlay Airport; and that airspace extending upward from 1,200 feet above the surface bounded by a line extending from latitude 40°51'00" N., longitude 84°00'00" W., to latitude 41°18'00" N., longitude 84°07'00" W.; to latitude 41°11'00" N., longitude 83°19'00" W.; to latitude 40°50'00" N., longitude 83°30'00" W., to point of beginning.

These amendments are proposed under the authority of section 307(a) of the Federal Aviation Act of 1958 (49 U.S.C. 1348), and of section 6(c) of the Department of Transportation Act (49 U.S.C. 1655(c)).

Issued in Des Plaines, Ill., on November 23, 1971.

LYLE K. BROWN,  
Director, Great Lakes Region.

[FR Doc. 71-18595 Filed 12-20-71; 8:47 am]

### [ 14 CFR Part 71 ]

[Airspace Docket No. 71-GL-27]

### TRANSITION AREA

#### Proposed Alteration

The Federal Aviation Administration is considering amending Part 71 of the Federal Aviation Regulations so as to alter the transition area at Terre Haute, Ind.

Interested persons may participate in the proposed rule making by submitting such written data, views, or arguments as they may desire. Communications



should be submitted in triplicate to the Director, Great Lakes Region, Attention: Chief, Air Traffic Division, Federal Aviation Administration, 3166 Des Plaines Avenue, Des Plaines, IL 60018. All communications received within 45 days after publication of this notice in the FEDERAL REGISTER will be considered before action is taken on the proposed amendment. No public hearing is contemplated at this time, but arrangements for informal conferences with Federal Aviation Administration officials may be made by contacting the Regional Air Traffic Division Chief.

Any data, views, or arguments presented during such conferences must also be submitted in writing in accordance with this notice in order to become part of the record for consideration. The proposal contained in this notice may be changed in the light of comments received.

A public docket will be available for examination by interested persons in the Office of the Regional Counsel, Federal Aviation Administration, 3166 Des Plaines Avenue, Des Plaines, IL 60018.

A new public instrument approach procedure has been developed for the Sky King Airport, Terre Haute, Ind. Accordingly, it is necessary to alter the Terre Haute transition area to adequately protect the aircraft executing the new approach procedure.

In consideration of the foregoing, the Federal Aviation Administration proposes to amend Part 71 of the Federal Aviation Regulations as hereinafter set forth:

In § 71-181 (36 F.R. 2140), the following transition area is amended to read:

**TERRE HAUTE, IND.**

That airspace extending upward from 700 feet above the surface within an 8-mile radius of Hulman Field (latitude 39°27'07" N., longitude 87°18'25" W.); within 5 miles southeast and 9 miles northwest of the Terre Haute VORTAC 051° radial, extending from the VORTAC to 13 miles northeast of the VORTAC; and within 7 miles southeast and 8 miles northwest of the Terre Haute VORTAC 230° radial, extending from the VORTAC to 23 miles southwest of the VORTAC; within a 5-mile radius of the Sky King Airport (latitude 39°32'56" N., longitude 87°22'38" W.).

This amendment is proposed under the authority of section 307(a) of the Federal Aviation Act of 1958 (49 U.S.C. 1348), and of section 6(c) of the Department of Transportation Act (49 U.S.C. 1655(c)).

Issued in Des Plaines, Ill., on November 23, 1971.

**LYLE K. BROWN,**  
Director, Great Lakes Region.

[FR Doc.71-18597 Filed 12-20-71; 8:47 am]

**[ 14 CFR Part 71 ]**

[Airspace Docket No. 71-GL-28]

**TRANSITION AREA**

**Proposed Designation**

The Federal Aviation Administration is considering amending Part 71 of the

Federal Aviation Regulations so as to designate a transition area at Fairfield, Ill.

Interested persons may participate in the proposed rule making by submitting such written data, views, or arguments as they may desire. Communications should be submitted in triplicate to the Director, Great Lakes Region, Attention: Chief, Air Traffic Division, Federal Aviation Administration, 3166 Des Plaines Avenue, Des Plaines, IL 60018. All communications received within 45 days after publication of this notice in the FEDERAL REGISTER will be considered before action is taken on the proposed amendment. No public hearing is contemplated at this time, but arrangements for informal conferences with Federal Aviation Administration officials may be made by contacting the Regional Air Traffic Division Chief.

Any data, views, or arguments presented during such conferences must also be submitted in writing in accordance with this notice in order to become part of the record for consideration. The proposal contained in this notice may be changed in the light of comments received.

A public docket will be available for examination by interested persons in the Office of the Regional Counsel, Federal Aviation Administration, 3166 Des Plaines Avenue, Des Plaines, IL 60018.

A new public use instrument approach procedure has been developed for the Fairfield Municipal Airport, Fairfield, Ill. Consequently, it is necessary to provide controlled airspace protection for aircraft executing this new approach procedure by designating a transition area at Fairfield, Ill. The new procedure will become effective concurrently with the designation of the transition area.

In consideration of the foregoing, the Federal Aviation Administration proposes to amend Part 71 of the Federal Aviation Regulations as hereinafter set forth:

In § 71.181 (36 F.R. 2140), the following transition area is added:

**FAIRFIELD, ILL.**

That airspace extending upward from 700 feet above the surface within a 5½-mile radius of the Fairfield Airport (latitude 38°23'00" N., longitude 88°25'00" W.) and within 3 miles either side of the 179° bearing from the Fairfield Airport extending from the 5½-mile radius to 8 miles south of the airport.

This amendment is proposed under the authority of section 307(a) of the Federal Aviation Act of 1958 (49 U.S.C. 1348), and of section 6(c) of the Department of Transportation Act (49 U.S.C. 1655(c)).

Issued in Des Plaines, Ill., on November 23, 1971.

**LYLE K. BROWN,**  
Director, Great Lakes Region.

[FR Doc.71-18598 Filed 12-20-71; 8:47 am]

**[ 14 CFR Part 71 ]**

[Airspace Docket No. 71-GL-30]

**TRANSITION AREA**

**Proposed Alteration**

The Federal Aviation Administration is considering amending Part 71 of the Federal Aviation Regulations so as to alter the transition area at Wisconsin Rapids, Wis.

Interested persons may participate in the proposed rule making by submitting such written data, views, or arguments as they may desire. Communications should be submitted in triplicate to the Director, Great Lakes Region, Attention: Chief, Air Traffic Division, Federal Aviation Administration, 3166 Des Plaines Avenue, Des Plaines, IL 60018. All communications received within 45 days after publication of this notice in the FEDERAL REGISTER will be considered before action is taken on the proposed amendment. No public hearing is contemplated at this time, but arrangements for informal conferences with Federal Aviation Administration officials may be made by contacting the Regional Air Traffic Division Chief.

Any data, views, or arguments presented during such conferences must also be submitted in writing in accordance with this notice in order to become part of the record for consideration. The proposal contained in this notice may be changed in the light of comments received.

A public docket will be available for examination by interested persons in the Office of the Regional Counsel, 3166 Des Plaines Avenue, Des Plaines, IL 60018.

A new VOR/DME approach procedure has been developed for the Alexander Field, Southwood County Airport, Wisconsin Rapids, Wis. The present NDB approaches have been revised. Controlled airspace is required to protect these approaches. Accordingly, it is necessary to alter the Wisconsin Rapids transition area to adequately protect the aircraft executing the new VOR/DME approach procedure.

In consideration of the foregoing, the Federal Aviation Administration proposes to amend Part 71 of the Federal Aviation Regulations as hereinafter set forth:

In § 71.181 (36 F.R. 2140), the following transition area is amended to read:

**WISCONSIN RAPIDS, WIS.**

That airspace extending upward from 700 feet above the surface within a 6½-mile radius of the Alexander Field, Southwood County Airport (latitude 44°21'31" N., longitude 89°50'15" W.); and within 3 miles each side of the 193° bearing from Alexander Field, Southwood County Airport, extending from the 6½-mile-radius area to 8 miles south of the airport and within 3 miles each side of the 125° bearing from Alexander Field, Southwood County Airport, extending from the 6½-mile radius to 8 miles south-east of the airport and within 4 miles each side of the Stevens Point VORTAC 230 radial extending from the 6½-mile radius to 13 miles northeast of the airport excluding the portion that overlies the Stevens



Point, Wis., transition area; and that airspace extending upward from 1,200 feet above the surface bounded by V246, V177W, and a 30-mile radius of Volk Field, Camp Douglas, Wis. (latitude 43°56'25" N., longitude 90°15'20" W.).

This amendment is proposed under the authority of section 307(a) of the Federal Aviation Act of 1958 (49 U.S.C. 1348), and of section 6(c) of the Department of Transportation Act (49 U.S.C. 1655(c)).

Issued in Des Plaines, Ill., on November 23, 1971.

Lyle K. Brown,  
Director, Great Lakes Region.

[F.R. Doc.71-18599 Filed 12-20-71;8:47 am]

#### [ 14 CFR Part 71 ]

[Airspace Docket No. 71-NW-12]

#### CONTROL ZONE

##### Proposed Alteration

The Federal Aviation Administration (FAA) is considering an amendment to Part 71 of the Federal Aviation Regulations that would alter the North Bend, Ore., control zone.

Interested persons may participate in the proposed rule making by submitting such written data, views, or arguments as they may desire. Communications should identify the airspace docket number and be submitted in triplicate to the Director, Western Region, Attention: Chief, Air Traffic Division, Federal Aviation Administration, 5651 West Manchester Avenue, Post Office Box 92007, Worldway Postal Center, Los Angeles, CA 90009. All communications received within 30 days after publication of this notice in the FEDERAL REGISTER will be considered before action is taken on the proposed amendment. The proposal contained in this notice may be changed in the light of comments received.

An official docket will be available for examination by interested persons at the Federal Aviation Administration, Office of the General Counsel, Attention: Rules Docket, 800 Independence Avenue SW., Washington, DC 20590. An informal docket also will be available for examination at the office of the Regional Air Traffic Division Chief.

As parts of this proposal relate to the navigable airspace outside the United States, this notice is submitted in consonance with the ICAO International Standards and Recommended Practices.

Applicability of International Standards and Recommended Practices by the Air Traffic Service, FAA, in areas outside domestic airspace of the United States is governed by Article 12 of and Annex 11 to the Convention on International Civil Aviation, which pertain to the establishment of air navigation facilities and services necessary to promoting the safe, orderly, and expeditious flow of civil air traffic. Their purpose is to insure that civil flying on international air routes is carried out under uniform conditions

designed to improve the safety and efficiency of air operations.

The International Standards and Recommended Practices in Annex 11 apply in those parts of the airspace under the jurisdiction of a contracting state, derived from ICAO, wherein air traffic services are provided and also whenever a contracting state accepts the responsibility of providing air traffic services over high seas or in airspace of undetermined sovereignty. A contracting state accepting such responsibility may apply the International Standards and Recommended Practices to civil aircraft in a manner consistent with that adopted for airspace under its domestic jurisdiction.

In accordance with Article 3 of the Convention on International Civil Aviation, Chicago, 1944, state aircraft are exempt from the provisions of Annex 11 and its Standards and Recommended Practices. As a contracting state, the United States agreed by Article 3(d) that its state aircraft will be operated in international airspace with due regard for the safety of civil aircraft.

Since this action involves, in part, the designation of navigable airspace outside the United States, the Administrator has consulted with the Secretary of State and the Secretary of Defense in accordance with the provisions of Executive Order 10854.

To avoid possible pilot/controller confusion between the North Bend VORTAC and North Bend RBN, the name of the North Bend RBN has been changed to Barview RBN. The identifier has been changed from OTH to BVW. The location and frequency were not changed.

The northwest extension to the North Bend control zone is now described as "within 2 miles each side of a 337° bearing from the North Bend RBN, extending from the 5-mile-radius zone to 8 miles northwest of the RBN." The action proposed in this docket would redescribe the northwest extension as "within 3 miles each side of the 337° bearing from the Barview RBN, extending from the 5-mile-radius zone to 7 miles northwest of the RBN."

The proposed alteration to the control zone would provide controlled airspace for aircraft executing instrument approach and departure procedures in accordance with the criteria contained in Terminal Instrument Procedures (TERPS), and reflect the RBN name change.

This amendment is made under the authority of sections 307(a) and 1110 of the Federal Aviation Act of 1958 (49 U.S.C. 1348(a) and 1510), Executive Order 10854 (24 F.R. 9565), and section 6(c) of the Department of Transportation Act (49 U.S.C. 1655(c)).

Issued in Washington, D.C., on December 13, 1971.

H. B. HELSTROM,  
Chief, Airspace and Air  
Traffic Rules Division.

[F.R. Doc.71-18600 Filed 12-20-71;8:47 am]

#### [ 14 CFR Part 71 ]

[Airspace Docket No. 71-NW-22]

#### TRANSITION AREA

##### Proposed Alteration

The Federal Aviation Administration is considering an amendment to Part 71 of the Federal Aviation Regulations that would amend the description of the Portland, Ore., transition area.

Interested persons may participate in the proposed rule making by submitting such written data, views, or arguments as they may desire. Communications should be submitted in triplicate to the Chief, Operations, Procedures, and Airspace Branch, Northwest Region, Federal Aviation Administration, FAA Building, Boeing Field, Seattle, Wash. 98108. All communications received within 30 days after publication of this notice in the FEDERAL REGISTER will be considered before action is taken on the proposed amendment. No public hearing is contemplated at this time, but arrangements for informal conferences with Federal Aviation Administration officials may be made by contacting the Regional Air Traffic Division Chief. Any data, views, or arguments presented during such conferences must also be submitted in writing in accordance with this notice in order to become part of the record for consideration. The proposal contained in this notice may be changed in the light of comments received.

A public docket will be available for examination by interested persons in the office of the Regional Counsel, Northwest Region, Federal Aviation Administration, FAA Building, Boeing Field, Seattle, Wash. 98108.

The proposed alteration to the Transition Area would provide additional controlled airspace for radar vectoring of the enroute traffic in the area south of Portland, Ore.

In consideration of the foregoing, the FAA proposes the following airspace action:

In § 71.181 (36 F.R. 2140), as amended (36 F.R. 19012), is further amended as follows:

\* \* \* that airspace south of Portland extending upward from 10,000 feet MSL, bounded on the north by the 60-mile circle centered on Portland International Airport, on the east by the west edge of V-185, on the south by the north edge of V-121, and on the west by the east edge of V-23 E.

This amendment is proposed under authority of section 307(a) of the Federal Aviation Act of 1958, as amended (49 U.S.C. 1348(a)), and section 6(c) of the Department of Transportation Act (49 U.S.C. 1655(c)).

Issued in Seattle, Wash., on November 19, 1971.

C. B. WALK, JR.,  
Director.

[F.R. Doc.71-18601 Filed 12-20-71;8:47 am]



Hazardous Materials Regulations  
Board

[ 49 CFR Part 177 ]

[ Docket No. HM-95; Notice 71-31 ]

TRANSPORTATION OF BLASTING  
CAPS WITH OTHER EXPLOSIVES BY  
MOTOR VEHICLE

Notice of Proposed Rule Making

The Hazardous Materials Regulations Board of the Department of Transportation is considering amending § 177.835 of the Hazardous Materials Regulations to remove authorization for the transportation of blasting caps in the same motor vehicle with other explosives, except under certain stowage conditions. The Board proposes to continue the authorization for use of specification MC 201 containers for all types of blasting caps. It further proposes to provide for use of another type of container for electric blasting caps.

The major concern with the transportation of blasting caps in the same vehicle with other explosives is the detonation of the other explosives should the blasting caps be subjected to heat, heavy shock, or other potential initiation sources.

The Board has two basic choices to consider in addressing itself to this matter. It could prohibit the transportation of blasting caps in the same vehicle with other explosives, or it could recognize containment of the blasting caps in a manner so that they would not initiate other explosives under evaluated credible circumstances. A total prohibition does not appear justifiable if a reasonable and safe alternative is available. Under a prohibition, a separate vehicle would be required for a small quantity of blasting caps on a move to a blast site possibly several hundred miles distant. The costs of blasting operations, a vital function of the construction industry, would be greatly increased.

In considering a possible alternative to prohibition, explosives experts were contacted to obtain information and suggestions on methods that would provide for increased safety in the transportation of blasting caps with explosives.

Two major problems presented for solution were heat transfer and blast penetration. Blasting caps initiate at relatively low temperatures and their blast effects cause penetration of most ordinary packaging materials. Various persons were asked to examine different methods whereby a container could be constructed to protect packages containing blasting caps from high rates of heat input in a fashion that would preclude penetration by a cap or caps should they be initiated.

A container has been developed and tested. It is constructed of 1/2-inch plywood, 1/2-inch gypsum wallboard, 1/8-inch low carbon steel and 1/4-inch plywood put together in sandwich fashion which hereafter is described as a barrier lamination. All sides, the bottom, and the lid are constructed of this material. On October 8, 1971, a fire test on the container was witnessed by representatives of the Department. A test container was loaded with electric blasting caps and placed in a wood fire for 62 minutes before the first blasting cap initiated. During the next 20 minutes there were many detonations but the structure of the steel shell of the container was not affected. There was no indication of penetration of the steel shell whatsoever. Later the same day, a second test was performed on another type container presently in use. The results were nearly identical—66 minutes before first detonation and no penetration. Complete reports of the tests, including photographs and 8-mm. movies, are available for examination in the Board's public docket room.

The Institute of Makers of Explosives (IME) has prepared a document entitled "IME Standard for the Transportation of Electric Blasting Caps in the Same Vehicle With Other Explosives," for distribution by the IME Safety Library. It contains specific requirements for construction of containers and compartments with barrier laminate material, and diagrams to illustrate vehicle configuration. The Board is proposing to adopt the IME Standard by reference. Copies are available upon request from the Secretary, Hazardous Materials Regulations Board, or from the Institute of Makers of Explosives, 420 Lexington Avenue, New York, NY 10017.

The Board believes that, by adoption of this proposed amendment, the safe transportation of blasting caps in the same vehicle with other explosives would be better assured if the proposed method of containment is used and that adoption of a complete prohibition would not be necessary.

In consideration of the foregoing, it is proposed to amend 49 CFR Part 177 as follows:

In § 177.835, paragraphs (g) and (m) would be amended to read as follows:

§ 177.835 Explosives.

(g) No blasting cap, regardless of type, may be transported on the same motor vehicle with any other type of explosive unless it is packed in a specification MC 201 (§ 178.318 of this chapter) container except:

(1) Electric blasting caps may be transported on the same motor vehicle with other explosives, except liquid nitroglycerin, desensitized liquid nitro-

glycerin, diethylene glycol dinitrate, or any initiating explosives, if:

(i) The total explosive energy of the blasting cap does not result in the penetration of the barrier lamination described in the Standard specified in subdivision (ii) of this subparagraph when the blasting cap is fired mounted perpendicular to the lamination with the base charge end of the cap flush on the inside plywood layer of the lamination; and

(ii) The caps are packed in packagings prescribed in § 173.66(g) of this chapter which in turn are loaded into portable containers or separate compartments meeting the requirements of the Institute of Makers of Explosives' Standard entitled "IME Standard for the Safe Transportation of Electric Blasting Caps in the Same Vehicle With Other Explosives," dated November 5, 1971 (IME Safety Library Publication No. 22).

(m) *Caps or other explosives.* Any explosive, including desensitized liquid explosives as defined in § 173.53(e) of this chapter, other than liquid nitroglycerin, desensitized liquid nitroglycerin or diethylene glycol dinitrate, transported on any motor vehicle transporting liquid nitroglycerin, desensitized liquid nitroglycerin or diethylene glycol dinitrate, must be segregated, each kind from every other kind, and from tools or other supplies. Blasting caps must be packed in specification MC 201 (§ 178.318 of this chapter) containers.

Interested persons are invited to give their views on this proposal. Communications should identify the docket number and be submitted in duplicate to the Secretary, Hazardous Materials Regulations Board, Department of Transportation, 400 Sixth Street SW., Washington, DC 20590. Communications received on or before March 28, 1972, will be considered before final action is taken on this proposal. All comments received will be available for examination by interested persons at the Office of the Secretary, Hazardous Materials Regulations Board, both before and after the closing date for comments.

This proposal is made under the authority of sections 831-835 of title 18, United States Code, and section 9 of the Department of Transportation Act (49 U.S.C. 1657).

Issued in Washington, D.C., on December 16, 1971.

KENNETH L. PIERSON,  
Alternate Board Member, for the  
Federal Highway Administration.

[FR Doc.71-18631 Filed 12-20-71; 8:49 am]



# Notices

## DEPARTMENT OF THE INTERIOR

Bureau of Mines

### RESPIRABLE COAL MINE DUST SAMPLING AND NOISE SURVEYS

#### Applicable Criteria During Return to Normal Coal Production

Part 70 of Title 30, Code of Federal Regulations requires operators of underground coal mines to take, at prescribed intervals, accurate samples of the amount of respirable dust in the mine atmosphere and tests of the noise levels at the mine. The recent work stoppage in the coal fields has prevented operators of underground mines affected by the stoppage from complying with these requirements.

Since those operators affected by the stoppage could not have complied with the requirements of Part 70 during the stoppage, notice is hereby given that during the return to resumption of normal coal production following the work stoppage, the Bureau of Mines will apply the criteria set forth below in its administration of the dust sampling and noise level testing requirements of the Federal Coal Mine Health and Safety Act of 1969 (Public Law 91-173).

*Original sampling cycles; standard sampling cycles; alternating standard sampling cycles; sampling of intake air; and sampling during each production shift.* Operators of mines affected by the work stoppage who are conducting original sampling cycles in accordance with 30 CFR 70.210; standard sampling cycles in accordance with 30 CFR 70.220; alternating standard sampling cycles in accordance with 30 CFR 70.222; sampling of intake air as required by 30 CFR 70.246; and sampling during each production shift as required by section 104 (i) of the Act, shall initiate or resume such cycles and sampling, in those areas of the mine where sampling is required, on the first normal production shift (as defined in 30 CFR 70.220) after the cessation of the work stoppage at the mine.

*Sampling of individual miners.* Operators of mines affected by the work stoppage who are sampling the environments of individual miners in accordance with 30 CFR 70.250 shall not include the time period of the work stoppage at the mine in calculating the 180-day or 120-day period specified in 30 CFR 70.250. Rather, such operators shall resume calculating the 180-day or 120-day period specified in 30 CFR 70.250 on the calendar day when the miners return to work at the mine.

*Initial noise level surveys.* Operators of mines affected by the work stoppage who are conducting initial noise level surveys as required by 30 CFR 70.507 will be permitted to report and certify the re-

sults of such surveys to the Bureau of Mines no later than December 31, 1971. Failure to report and certify the results of initial noise level surveys after December 31, 1971, will result in the issuance of a Notice of Violation.

HOLLIS M. DOLE,  
Assistant Secretary of the Interior.  
DECEMBER 16, 1971.

[FR Doc.71-18612 Filed 12-20-71;8:48 am]

## DEPARTMENT OF AGRICULTURE

Consumer and Marketing Service  
POULTRY INSPECTION

### Notice of Designation of Guam Under Poultry Products Inspection Act

The Secretary of Agriculture has determined, after consultation with appropriate officials of the Territory of Guam that the Territory has not developed or activated requirements at least equal to those under sections 1-4, 6-10, and 12-22 of the Poultry Products Inspection Act (21 U.S.C. 451 et seq.) with respect to establishments within such territory at which poultry are slaughtered, or poultry products are processed for use as human food, solely for distribution within such territory. Therefore, notice is hereby given that the Secretary of Agriculture designates said territory under section 5 (c) of the Poultry Products Inspection Act (21 U.S.C. 454(c)) as a jurisdiction in which the requirements of sections 1-4, 6-10, and 12-22 shall apply to intraterritorial operations and transactions and to persons, firms, and corporations engaged therein with respect to poultry, poultry products, and other articles subject to the Act. Upon the expiration of 30 days after publication of this notice in the FEDERAL REGISTER, the provisions of sections 1-4, 6-10, and 12-22 of said Act shall apply to intraterritorial operations and transactions and to persons, firms, and corporations engaged therein, in Guam, to the same extent and in the same manner as if such operations and transactions were conducted in or for "commerce," within the meaning of the Act, and any establishment in Guam which conducts any slaughtering of poultry or processing of poultry products as described above must have Federal inspection or cease its operations, unless it qualifies for an exemption under subsection 5(c)(2) or section 15 of the Act.

Therefore, the operator of each such establishment who desires to continue or commence such operations after designation of the Territory becomes effective should immediately communicate with the Regional Director specified below:

Dr. E. M. Christopherson, Director Western Region for Meat and Poultry Inspection Program, Room 822, Appraisers Building, 630 Sansome Street, San Francisco, CA 94111, Telephone: AC 415/556-8622.

Done at Washington, D.C. on December 15, 1971.

CLAYTON YEUTTER,  
Administrator,  
Consumer and Marketing Service.

[FR Doc.71-18609 Filed 12-20-71;8:48 am]

## DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

### MULLAN, IDAHO, FLIGHT SERVICE STATION

#### Notice of Closing

Notice is hereby given that on or about December 8, 1971, the Flight Service Station at Mullan, Idaho, will be closed. Services to the general aviation public of Northern Idaho, formerly provided by this office, will be provided by the Flight Service Station in Spokane, Wash. This information will be reflected in the FAA Organization Statement the next time it is reissued.

(Sec. 313(a), 72 Stat. 752; 49 U.S.C. 1354.)

Issued in Seattle, Wash., on December 7, 1971.

C. B. WALK, JR.,  
Director, Northwest Region.

[FR Doc.71-18602 Filed 12-20-71;8:48 am]

## ATOMIC ENERGY COMMISSION

[Docket No. 50-269]

### DUKE POWER CO.

#### Notice of Availability of Applicant's Environmental Report and AEC Draft Detailed Statement on Environmental Considerations

Pursuant to the National Environmental Policy Act of 1969 and the regulations of the Atomic Energy Commission (the Commission) in 10 CFR Part 50, Appendix D, notice is hereby given that reports entitled "Environmental Quality Features of Duke Power Company's Keowee-Toxaway Project, July 1970," "Supplement to Environmental Quality Features of Keowee-Toxaway Project, October 1971," and "Revision 1 to Supplemental Report for the Oconee Nuclear Station, November 2, 1971," (collectively "the report") submitted by the Duke Power Co. are available for public inspection in the Commission's Public Document Room at 1717 H Street



NW., Washington, DC, and in the Oconee County Library, 201 South Spring Street, Walhalla, SC 29691. The report is also being made available to the public at the Office of the Governor, State Planning and Grants Division, Wade Hampton Office Building, Columbia, S.C. 29201, and at the South Carolina Appalachian Regional Planning and Development Commission, Post Office Box 4184, 11 Regency Hills Drive, Greenville, SC 29608.

This report discusses environmental considerations related to the proposed issuance of an operating license to the Duke Power Co. for the Oconee Nuclear Station Unit 1 located on the company's site in Oconee County, S.C., approximately 8 miles northwest of Seneca, S.C.

The report has been analyzed by the Commission's Division of Radiological and Environmental Protection and a draft detailed statement on the environmental considerations related to the proposed issuance of an operating license for the Oconee Nuclear Station Unit 1 has been prepared and has been made available for public inspection at the locations designated above. Copies of the Commission's Draft Detailed Statement on the environmental considerations may be obtained upon request addressed to the U.S. Atomic Energy Commission, Washington, D.C. 20545, Attention: Director, Division of Radiological and Environmental Protection.

Pursuant to sections A.6, A.7, and D.3 of Appendix D to 10 CFR Part 50, interested persons may, within thirty (30) days from date of publication of this notice in the FEDERAL REGISTER, submit comments for the Commission's consideration on the report and on the draft Detailed Statement. Federal and State agencies are being provided with copies of the report and the Draft Detailed Statement (local agencies may obtain these documents on request), and when comments thereon of the Federal, State, and local officials are received, they will be made available for public inspection at the above-designated locations. Comments on the Draft Detailed Statement on environmental considerations from interested members of the public should be addressed to the U.S. Atomic Energy Commission, Washington, D.C. 20545, Attention: Director, Division of Radiological and Environmental Protection.

Dated at Bethesda, Md., this 14th day of December 1971.

For the Atomic Energy Commission.

PETER A. MORRIS,  
Director,  
Division of Reactor Licensing.

[FR Doc.71-18572 Filed 12-20-71;8:45 am]

[Dockets Nos. 50-250, 50-251]

## FLORIDA POWER & LIGHT CO.

### Order Extending Provisional Construction Permits Completion Dates

By application dated November 19, 1971, Florida Power & Light Co. requested

extensions of the latest completion dates specified (1) in Provisional Construction Permit No. CPPR-27 as extended by Order dated June 12, 1971, and (2) in Provisional Construction Permit No. CPPR-28. The permits authorize the construction of two pressurized water nuclear power reactors designated as the Turkey Point Nuclear Generating Units Nos. 3 and 4, respectively, at the applicant's site located at Turkey Point in Dade County, Fla., about 25 miles south of Miami, Fla.

Good cause having been shown for this extension pursuant to section 185 of the Atomic Energy Act of 1954, as amended, and § 50.55(b) of 10 CFR Part 50 of the Commission's regulations: *It is hereby ordered*, That the latest completion dates specified in Provisional Construction Permits Nos. CPPR-27 and CPPR-28 are extended from January 1, 1972, to January 1, 1973.

Date of issuance: December 13, 1971.

For the Atomic Energy Commission.

PETER A. MORRIS,  
Director,

Division of Reactor Licensing.

[FR Doc.71-18573 Filed 12-20-71;8:45 am]

## CIVIL AERONAUTICS BOARD

[Docket No. 23486; Order 71-12-39]

### INTERNATIONAL AIR TRANSPORT ASSOCIATION

#### Order Regarding Free and Reduced Fares

Issued under delegated authority December 8, 1971. Agreement adopted by the Traffic Conferences of the International Air Transport Association relating to free and reduced fare transportation for passenger sales agents and tour conductors, Docket 23486, Agreement CAB 22766, R-2 through R-5.

An agreement has been filed with the Board pursuant to section 412(a) of the Federal Aviation Act of 1958 (the Act) and Part 261 of the Board's economic regulations, between air carriers, foreign air carriers, and other carriers, embodied in the resolutions of the Traffic Conferences of the International Air Transport Association (IATA). The agreement, which has been assigned the above-designated CAB agreement number, was adopted pursuant to the Fourth Meeting of the Passenger Agency Committee held August 16-21, 1971, in Geneva.

The agreement would amend resolutions governing free or reduced fare transportation for passenger sales agents and tour conductors. With respect to tour conductors, the agreement would permit a tour conductor participating in a series of tours organized by the same organizer to return later than the members of a group which he accompanied on the outbound trip, notwithstanding any minimum or maximum stay provisions governing the use of special promotional fares. Provisions governing reduced fare

concessions for passenger sales agents would, insofar as they apply to U.S.-based agents, be amended so as to (1) permit the IATA Agency Administrator to replace carriers' travel authorizations upon receipt of satisfactory evidence that a fire, theft, or disaster at an agency location led to the loss of such authorizations and (2) require an agent to return, in addition to notifying the issuing carrier, tickets and reduced fare transportation authorizations in the event that eligibility<sup>1</sup> for such transportation changes prior to commencement of travel. The carriers have also agreed to amend a resolution, which the Board has conditioned so as to preclude its application to the U.S.-based agents and which governs group familiarization and educational trips (including free or reduced transportation) for six or more agency-associated personnel, with the effect of permitting carriers to jointly sponsor such trips.

By our action herein, we propose to approve the instant resolutions, subject in all instances to conditions relating to the filing of tariffs pursuant to the Act and the Board's regulations for free or reduced rate transportation.<sup>2</sup> Our eventual approval will also be subject to a restatement of the Board's outstanding condition on the resolution governing group familiarization travel for agents,<sup>3</sup> and subject to a condition on the basic resolution governing reduced fares for U.S.-based passenger sales agents so as (1) to insure the intent of the Board's earlier condition, i.e., that fare concessions will be limited to the intended purposes set forth in such basic resolution and that certain provisions of the passenger sales agency rules will not be interpreted so as to permit carriers to provide free transportation to travel agents in the guise of instructional and educational assistance, and (2) to achieve complete conformity of Board action with respect to current cargo and passenger sales agent programs for reduced fare travel.<sup>4</sup>

Pursuant to authority duly delegated by the Board in the Board's regulations, 14 CFR 385.14, it is not found, on a tentative basis, that the following resolutions, which are incorporated in the agreement as indicated, are adverse to the public interest or in violation of the Act; *Provided*, That eventual approval thereof is subject to the provisos stated thereafter:

<sup>1</sup> Of the agent, approved location, or of the person on whose behalf an application for reduced fare transportation has been made.

<sup>2</sup> With respect to group familiarization trips for agents, specific authorizations must be obtained for such carriage, to the extent permitted in air transportation as defined by the Act, in accordance with normal Board provisions.

<sup>3</sup> See Order 69-7-77 of July 16, 1969.

<sup>4</sup> See Order 71-4-126 of April 19, 1971, for action taken in connection with cargo sales agents.



## Agreement

CAB  
22766: IATA resolutions  
R-2----- 104(PAC)203 (except U.S.A.).  
204(PAC)203 (except U.S.A.).  
304(PAC)203 (except U.S.A.).  
JT12(4 PAC)203 (except U.S.A.).  
JT23(4 PAC)203 (except U.S.A.).  
JT31(4 PAC)203 (except U.S.A.).  
JT123(4 PAC)203 (except U.S.A.).

Provided, That approval of said resolution, insofar as it is applicable in air transportation as defined by the Federal Aviation Act of 1958, shall not be construed as:

(a) An exemption from the requirements of filing tariff provisions as a condition precedent under section 403 of the Federal Aviation Act of 1958 to the issuance of passes to any person described in said resolution;

(b) A determination as to whether a violation of section 404 of the Federal Aviation Act of 1958 would result from the issuance of passes pursuant to such resolution whether or not tariff provisions applicable thereto have previously been filed with the Board; and

(c) An exemption from the provisions of the Board's Economic Regulations relating to tariffs for free or reduced rate transportation.

## Agreement

CAB  
22766: IATA resolutions  
R-3----- 104(PAC)203 (U.S.A.).  
204(PAC)203 (U.S.A.).  
304(PAC)203 (U.S.A.).  
JT12(4 PAC)203 (U.S.A.).  
JT23(4 PAC)203 (U.S.A.).  
JT31(4 PAC)203 (U.S.A.).  
JT123(4 PAC)203 (U.S.A.).

## Provided, That:

(1) Free or reduced rate transportation for U.S.-based agents shall be limited to the extent permitted by the provisions of Resolution 203 (U.S.A.) and shall not be provided under entertainment or instruction provisions of other passenger agency resolutions, e.g., Resolution 810a (U.S.A.)—Section J;

(2) Approval of said resolution, insofar as it is applicable in air transportation as defined by the Federal Aviation Act of 1958, shall not be construed as:

(a) An exemption from the requirements of filing tariff provisions as a condition precedent under section 403 of the Federal Aviation Act of 1958 to the issuance of passes to any person described in said resolution;

(b) A determination as to whether a violation of section 404 of the Federal Aviation Act of 1958 would result from the issuance of passes pursuant to such resolution whether or not tariff provisions applicable thereto have previously been filed with the Board; and

(c) An exemption from the provisions of the Board's economic regulations relating to tariffs for free or reduced rate transportation.

## Agreement

CAB  
22766: IATA resolutions  
R-4----- 104(PAC)203b.  
204(PAC)203b.  
304(PAC)203b.  
JT12(4 PAC)203b.  
JT23(4 PAC)203b.  
JT31(4 PAC)203b.  
JT123(4 PAC)203b.

## Provided, That:

(1) Approval shall not extend to United States-based agents: *Provided further*, That free or reduced rate transportation for U.S.-based agents may not be provided under entertainment or instruction provisions of other passenger agency resolutions, e.g., Resolution 810a (U.S.A.)—Section J;

(2) Approval of said resolution, insofar as it is applicable in air transportation as defined by the Federal Aviation Act of 1958, shall not be construed as:

(a) An exemption from the requirements of filing tariff provisions as a condition precedent under section 403 of the Federal Aviation Act of 1958 to the issuance of passes to any person described in said resolution;

(b) A determination as to whether a violation of section 404 of the Federal Aviation Act of 1958 would result from the issuance of passes pursuant to such resolution whether or not tariff provisions applicable thereto have previously been filed with the Board; and

(c) An exemption from the provisions of the Board's economic regulations relating to tariffs for free or reduced rate transportation.

## Agreement

CAB  
22766: IATA resolutions  
R-5----- 104(PAC)204.  
204(PAC)204.  
304(PAC)204.  
JT12(4 PAC)204.  
JT23(4 PAC)204.  
JT31(4 PAC)204.  
JT123(4 PAC)204.

Provided, That approval of said resolution, insofar as it is applicable in air transportation as defined by the Federal Aviation Act of 1958, shall not be construed as:

(a) An exemption from the requirements of filing tariff provisions as a condition precedent under section 403 of the Federal Aviation Act of 1958 to the issuance of passes to any person described in said resolution;

(b) A determination as to whether a violation of section 404 of the Federal Aviation Act of 1958 would result from the issuance of passes pursuant to such resolution whether or not tariff provisions applicable thereto have previously been filed with the Board; and

(c) An exemption from the provisions of the Board's economic regulations relating to tariffs for free or reduced rate transportation.

## Accordingly, it is ordered, That:

Action on Agreement CAB 22766, R-2 through R-5, be and hereby is deferred, with a view toward eventual approval, subject to the conditions stated herein.

Persons entitled to petition the Board for review of this order, pursuant to the

Board's regulations, 14 CFR 385.50, may, within 10 days after the date of service of this order, file such petitions in support of or in opposition to our proposed action herein.

This order will be published in the FEDERAL REGISTER.

[SEAL] PHYLLIS T. KAYLOR,  
Acting Secretary.

[FR Doc.71-18625 Filed 12-20-71;8:49 a.m.]

[Docket No. 23488; Order 71-12-30]

INTERNATIONAL AIR TRANSPORT  
ASSOCIATION

## Order Regarding Passenger Fares

Issued under delegated authority December 7, 1971. Agreement adopted by Traffic Conference 2 of the International Air Transport Association relating to passenger fare matters; Docket 23488, Agreement CAB 22663, R-50.

By Order 71-11-78, dated November 19, 1971, action was deferred, with a view toward eventual approval, on a resolution incorporated in an agreement adopted by Traffic Conference 2 of the International Air Transport Association (IATA). The agreement rescinds an earlier agreement which enabled a more flexible adjustment in rates of exchange agreed by IATA for the publishing or converting of fares, rates, and other charges specified in basic currencies (dollars and pounds sterling) into local currencies within Europe/Middle East/Africa.

In deferring action on the agreement, 10 days were granted in which interested persons might file petitions in support of or in opposition to the proposed action. No petitions have been received within the filing period, and the tentative conclusions in Order 71-11-78 will herein be made final.

## Accordingly, it is ordered, That:

Agreement CAB 22663, R-50, be and hereby is approved.

This order will be published in the FEDERAL REGISTER.

[SEAL] PHYLLIS T. KAYLOR,  
Acting Secretary.

[FR Doc.71-18626 Filed 12-20-71;8:49 am]

## FEDERAL MARITIME COMMISSION

[Docket No. 71-95]

INDONESIA/U.S. GREAT LAKES RATE  
AGREEMENT

## Order To Show Cause

Agreement No. 9417 between the member lines of the Indonesia/U.S. Great Lakes Rate Agreement was originally approved April 6, 1965.

Section 15 of the Shipping Act, 1916, reads in pertinent part, as follows:

The Commission shall disapprove any such agreement, after notice and hearing, on a finding of inadequate policing of the obligations under it \* \* \*.



On October 28, 1970, the Commission's Revised General Order 7 (46 CFR 528) was published in the FEDERAL REGISTER. The purpose of the revised General Order was to require conference and rate-fixing agreements to include specific mandatory provisions in their self-policing systems pursuant to the Court of Appeals' decision in *States Marine Lines, Inc. v. Federal Maritime Commission*, 376 F. 2d 230, 236 (1967) wherein it was held that all self-policing systems " \* \* \* must provide specific, realistic guarantees against arbitrary and injurious action." The mandatory self-policing provisions are outlined in § 528.3 of General Order 7, revised. The time for compliance expired on March 1, 1971.

To date, Agreement No. 9417 has not been modified to conform it with General Order 7, revised.

General Order 7, § 528.4, requires the filing semiannually of self-policing reports showing the nature of each complaint received during the preceding 6-month period and its disposition. The last General Order 7 report received by the Commission under the Agreement covered the period from January 1, 1966, to June 30, 1966.

General Order 14 (46 CFR Part 527), § 527.4 requires the filing of quarterly reports covering all shippers' requests and complaints received during the preceding calendar quarter. We have never received a General Order 14 report from the parties under Agreement No. 9417.

Now, therefore, pursuant to sections 15 and 22 of the Shipping Act, 1916,

*It is ordered*, That the member lines of the Indonesia/U.S. Great Lakes Rate Agreement show cause why Agreement No. 9417 should not be disapproved by the Commission pursuant to section 15 of the Shipping Act, 1916, because of the agreement's failure to comply with the requirements of section 15 of the Shipping Act, 1916, and the agreement's failure to comply with the Commission's General Orders 7 and 14.

*It is further ordered*, That the member lines of the Indonesia/U.S. Great Lakes Rate Agreement as set forth below are hereby made respondents in this proceeding.

*It is further ordered*, That the proceeding shall be limited to the submission of affidavits of fact and memoranda of law, replies, and oral argument. Should any party feel that an evidentiary hearing be required, that party must accompany any request for such hearing with a statement setting forth in detail the facts to be proven, their relevance to the issues in this proceeding, and why such proof cannot be submitted through affidavit. Requests for hearing shall be filed on or before January 7, 1972. Affidavits of fact and memoranda of law shall be filed by the respondents and served upon all parties no later than the close of business January 7, 1972. Reply affidavits and memoranda shall be filed by the Commission's Bureau of Hearing Counsel and intervenors, if any, no later than close of business January 21, 1972. Oral argument will be scheduled at a later date

if requested and/or deemed necessary by the Commission.

*It is further ordered*, That a notice of this order be published in the FEDERAL REGISTER and that a copy thereof be served upon respondents.

*It is further ordered*, That persons other than those already party to this proceeding who desire to become parties to this proceeding and to participate therein shall file a petition to intervene pursuant to Rule 5(1) of the Commission's rules of practice and procedure (46 CFR 502.72) no later than close of business December 23, 1971.

*It is further ordered*, That all documents submitted by any party of record in this proceeding shall be directed to the Secretary, Federal Maritime Commission, Washington, D.C. 20573, in an original and 15 copies as well as being mailed directly to all parties of record.

By the Commission.

[SEAL] FRANCIS C. HURNEY,  
Secretary.

Federal Commerce and Navigation Co. Ltd.,  
Stock Exchange Tower, Victoria Square,  
Montreal 115, Canada.

The Shipping Corporation of India, Ltd.,  
Norton Lilly & Co., Inc., agents, 90 West  
Street, New York, NY 10006.

Orient Mid-East Lines, Eagle Ocean Trans-  
port, Inc., agents, 29 Broadway, New York,  
NY 10006.

The Scindia Steam Navigation Co., Ltd., U.S.  
Navigation Co., Inc., agents, 17 Battery  
Place, New York, NY 10004.

[FR Doc. 71-18617 Filed 12-20-71; 8:48 am]

[Docket No. 71-96]

## MALAYSIA/U.S. GREAT LAKES RATE AGREEMENT

### Order To Show Cause

Agreement No. 9418 between the member lines of the Malaysia/U.S. Great Lakes Rate Agreement was originally approved April 6, 1965.

Section 15 of the Shipping Act, 1916, reads in pertinent part, as follows:

The Commission shall disapprove any such agreement, after notice and hearing, on a finding of inadequate policing of the obligations under it \* \* \*.

On October 28, 1970, the Commission's Revised General Order 7 (46 CFR 528) was published in the FEDERAL REGISTER. The purpose of the revised General Order was to require conference and rate-fixing agreements to include specific mandatory provisions in their self-policing systems pursuant to the Court of Appeals' decision in *States Marine Line, Inc. v. Federal Maritime Commission*, 376 F. 2d 230, 236 (1967), wherein it was held that all self-policing systems " \* \* \* must provide specific, realistic guarantees against arbitrary and injurious action." The mandatory self-policing provisions are outlined in § 528.3 of General Order 7, revised. The time for compliance expired on March 1, 1971.

To date, Agreement No. 9418 has not been modified to conform it with General Order 7, revised.

General Order 7, § 528.4, requires the filing semiannually of self-policing reports showing the nature of each complaint received during the preceding 6-month period and its disposition. The last General Order 7 report received by the Commission under the agreement covered the period from January 1, 1966, to June 30, 1966.

General Order 14 (46 CFR 527), § 527.4, requires the filing of quarterly reports covering all shippers' requests and complaints received during the preceding calendar quarter. We have never received a General Order 14 report from the parties under Agreement No. 9418.

Now, therefore, pursuant to sections 15 and 22 of the Shipping Act, 1916,

*It is ordered*, That the member lines of the Malaysia/U.S. Great Lakes Rate Agreement show cause why Agreement No. 9418 should not be disapproved by the Commission pursuant to section 15 of the Shipping Act, 1916, because of the agreement's failure to comply with the requirements of section 15 of the Shipping Act, 1916, and the agreement's failure to comply with the Commission's General Orders 7 and 14.

*It is further ordered*, That the member lines of the Malaysia/U.S. Great Lakes Rate Agreement as set forth below are hereby made respondents in this proceeding.

*It is further ordered*, That the proceeding shall be limited to the submission of affidavits of fact and memoranda of law, replies, and oral argument. Should any party feel that an evidentiary hearing be required, that party must accompany any request for such hearing with a statement setting forth in detail the facts to be proven, their relevance to the issues in this proceeding, and why such proof cannot be submitted through affidavit. Requests for hearing shall be filed on or before January 7, 1972. Affidavits of fact and memoranda of law shall be filed by the respondents and served upon all parties no later than the close of business January 7, 1972. Reply affidavits and memoranda shall be filed by the Commission's Bureau of Hearing Counsel and intervenors, if any, no later than close of business January 21, 1972. Oral argument will be scheduled at a later date if requested and/or deemed necessary by the Commission.

*It is further ordered*, That a notice of this order be published in the FEDERAL REGISTER and that a copy thereof be served upon respondents.

*It is further ordered*, That persons other than those already party to this proceeding who desire to become parties to this proceeding and to participate therein shall file a petition to intervene pursuant to Rule 5(1) of the Commission's rules of practice and procedure (46 CFR 502.72) no later than close of business December 23, 1971.

*It is further ordered*, That all documents submitted by any party of record in this proceeding shall be directed to the Secretary, Federal Maritime Commission, Washington, D.C. 20573, in an original



and 15 copies as well as being mailed directly to all parties of record.

By the Commission.

[SEAL] FRANCIS C. HURNEY,  
Secretary.

Federal Commerce and Navigation Co., Ltd.,  
Stock Exchange Tower, Victoria Square,  
Montreal 115, Canada.

The Shipping Corporation of India, Ltd.,  
Norton Lilly & Co., Inc., agents, 90 West  
Street, New York, NY 10006.

Orient Mid-East Lines, Eagle Ocean Trans-  
port, Inc., agents, 29 Broadway, New York,  
NY 10006.

The Scindia Steam Navigation Co., Ltd., U.S.  
Navigation Co., Inc., agents, 17 Battery  
Place, New York, NY 10004.

[FR Doc.71-18618 Filed 12-20-71;8:48 am]

## INDEPENDENT OCEAN FREIGHT FORWARDER LICENSES

### Applicants

Notice is hereby given that the following applicants have filed with the Federal Maritime Commission applications for licenses as independent ocean freight forwarders pursuant to section 44(a) of the Shipping Act, 1916 (75 Stat. 522 and 46 U.S.C. 841(b)).

Persons knowing of any reason why any of the following applicants should not receive a license are requested to communicate with the Director, Bureau of Certification and Licensing, Federal Maritime Commission, Washington, D.C. 20573.

United Dispatch Services, 3401 Northwest  
36th Street, Miami, FL 33142.

Officers:  
Rene Lopez, General Manager.  
David Romano, Assistant Manager.

Surface Cargo Specialists, Inc., 11 Broadway,  
New York, NY 10004.

Officers:  
Frances Zeltchick, President.  
George Karmel, Vice President, Secretary.

Phil Patterson, Inc., 306 South 15th Street,  
Omaha, NE.

Officer:  
Phil Patterson, President, Treasurer, Sole  
Director, Sole Stockholder.

McLean Cargo Specialists, Inc. (formerly Air-  
Sea Freight Systems, Inc.), Post Office Box  
60469, Houston, TX 77060.

Officers and Directors:  
Maxie J. McLean, President and Director.  
Mary Jo McLean, Secretary-Treasurer and  
Director.  
Linda Jo McLean Cubbison, Vice President  
and Director.

Dated: December 15, 1971.

By the Commission.

FRANCIS C. HURNEY,  
Secretary.

[FR Doc.71-18619 Filed 12-20-71;8:49 a.m.]

## WEST COAST OF ITALY, SICILIAN AND ADRIATIC PORTS/NORTH ATLANTIC RANGE CONFERENCE

### Notice of Agreement Filed

Notice is hereby given that the following agreement has been filed with the

Commission for approval pursuant to section 15 of the Shipping Act, 1916, as amended (39 Stat. 733, 75 Stat. 763, 46 U.S.C. 814).

Interested parties may inspect and obtain a copy of the agreement at the Washington office of the Federal Maritime Commission, 1405 I Street NW., Room 1015; or may inspect the agreement at the field offices located at New York, N.Y., New Orleans, La., and San Francisco, Calif. Comments on such agreements, including requests for hearing, may be submitted to the Secretary, Federal Maritime Commission, Washington, D.C. 20573, within 20 days after publication of this notice in the FEDERAL REGISTER. Any person desiring a hearing on the proposed agreement shall provide a clear and concise statement of the matters upon which they desire to adduce evidence. An allegation of discrimination or unfairness shall be accompanied by a statement describing the discrimination or unfairness with particularity. If a violation of the Act or detriment to the commerce of the United States is alleged, the statement shall set forth with particularity the acts and circumstances said to constitute such violation or detriment to commerce.

A copy of any such statement should also be forwarded to the party filing the agreement (as indicated hereinafter) and the statement should indicate that this has been done.

Notice of agreement filed by:

Stanley O. Sher, Esq., Bebhick, Sher & Kushnick, 919 18th Street NW., Washington, DC 20006.

Agreement No. 2846-23 modifies the basic agreement of the above named Conference to include cargo moving from points in Italy, Sicily, Sardinia, and Yugoslavia.

Dated: December 16, 1971.

By order of the Federal Maritime Commission.

FRANCIS C. HURNEY,  
Secretary.

[FR Doc.71-18620 Filed 12-20-71;8:49 am]

## WEST COAST OF ITALY, SICILIAN AND ADRIATIC PORTS/NORTH ATLANTIC RANGE CONFERENCE AND MERCHANT'S FREIGHT CONFERENCE

### Notice of Petition Filed

Notice is hereby given that the following petition has been filed with the Commission for approval pursuant to section 14b of the Shipping Act, 1916, as amended (75 Stat. 762, 46 U.S.C. 814).

Interested parties may inspect a copy of the current contract form and of the petition, reflecting the changes proposed to be made in the language of said contract, at the Washington office of the Federal Maritime Commission, 1405 I Street NW., Room 1015 or at the Field Offices located at New York, N.Y., New Orleans, La., and San Francisco, Calif. Comments with reference to the pro-

posed changes and the petition, including a request for hearing, if desired, may be submitted to the Secretary, Federal Maritime Commission, 1405 I Street NW., Washington, D.C. 20573, within 20 days after publication of this notice in the FEDERAL REGISTER. Any person desiring a hearing on the proposed modification of the contract form and/or the approved contract system shall provide a clear and concise statement of the matters upon which they desire to adduce evidence. An allegation of discrimination or unfairness shall be accompanied by a statement describing the discrimination or unfairness with particularity. If a violation of the Act or detriment to the commerce of the United States is alleged, the statement shall set forth with particularity the acts and circumstances said to constitute such violation or detriment to commerce.

A copy of any such statement should also be forwarded to the party filing the petition (as indicated hereinafter), and the statement should indicate that this has been done.

Notice of agreement filed by:

Stanley O. Sher, Esq., Bebhick, Sher & Kushnick, 919 18th Street NW., Washington, DC 20006.

Agreement No. 2846 D.R.-3 modifies the basic agreement of the above-named Conference to include cargo moving from points in Italy, Sicily, Sardinia, and Yugoslavia.

Dated: December 16, 1971.

By order of the Federal Maritime Commission.

FRANCIS C. HURNEY,  
Secretary.

[FR Doc.71-18621 Filed 12-20-71;8:49 am]

## WEST COAST OF ITALY, SICILIAN AND ADRIATIC PORTS/NORTH ATLANTIC RANGE CONFERENCE ET AL.

### Notice of Agreement Filed

Notice is hereby given that the following agreement has been filed with the Commission for approval pursuant to section 15 of the Shipping Act, 1916, as amended (39 Stat. 733, 75 Stat. 763, 46 U.S.C. 814).

Interested parties may inspect and obtain a copy of the agreement at the Washington office of the Federal Maritime Commission, 1405 I Street NW., Room 1015; or may inspect the agreement at the Field Offices located at New York, N.Y., New Orleans, La., and San Francisco, Calif. Comments on such agreements, including requests for hearing, may be submitted to the Secretary, Federal Maritime Commission, Washington, D.C. 20573, within 20 days after publication of this notice in the FEDERAL REGISTER. Any person desiring a hearing on the proposed agreement shall provide a clear and concise statement of the matters upon which they desire to adduce evidence. An allegation of discrimination or unfairness shall be accompanied by a statement describing the discrimination



or unfairness with particularity. If a violation of the Act or detriment to the commerce of the United States is alleged, the statement shall set forth with particularity the acts and circumstances said to constitute such violation or detriment to commerce.

A copy of any such statement should also be forwarded to the party filing the agreement (as indicated hereinafter) and the statement should indicate that this has been done.

The West Coast of Italy, Sicilian and Adriatic Ports/North Atlantic Range Conference; Spain/U.S. North Atlantic Westbound Freight Conference; Portugal/U.S. North Atlantic Westbound Freight Conference; Marseilles North Atlantic U.S.A. Conference.

Notice of agreement filed by:

Howard A. Levy, Esq., Kurrus and Jacobl, 2000 K Street NW., Washington, DC 20006.

Agreement No. 9976 establishes a cooperative working arrangement among the above named conferences between ports in the Mediterranean Sea and Iberian Peninsula and ports in the United States wherein they intend to confer on and discuss (1) legal questions; (2) actions of governments and others concerning the transportation of commerce in the trade; (3) standardization and other changes to tariffs and transport documents; (4) technological developments and changes affecting transportation by the involved carriers; (5) establishment and maintenance of a credit system and a common self-policing system; (6) common public relations; and (7) promotion of commerce in the trade. The parties may not take concerted action with respect to any of the matters enumerated under section 15 of the Shipping Act, 1916, without first securing the necessary approval.

Dated: December 15, 1971.

By order of the Federal Maritime Commission,

FRANCIS C. HURNEY,  
Secretary.

[FR Doc.71-18622 Filed 12-20-71; 8:49 am]

## FEDERAL POWER COMMISSION

[Docket No. G-10202 etc.]

TEXACO INC., ET AL.

### Notice of Applications for Certificates, Abandonment of Service and Petitions To Amend Certificates<sup>1</sup>

DECEMBER 9, 1971.

Take notice that each of the applicants listed herein has filed an application or petition pursuant to section 7 of the Natural Gas Act for authorization to sell natural gas in interstate commerce or to abandon service as described herein, all as more fully described in the re-

spective applications and amendments which are on file with the Commission and open to public inspection.

Any person desiring to be heard or to make any protest with reference to said applications should on or before January 3, 1972, file with the Federal Power Commission, Washington, D.C. 20426, petitions to intervene or protests in accordance with the requirements of the Commission's rules of practice and procedure (18 CFR 1.8 or 1.10). All protests filed with the Commission will be considered by it in determining the appropriate action to be taken but will not serve to make the protestants parties to the proceeding. Persons wishing to become parties to a proceeding or to participate as a party in any hearing therein must file petitions to intervene in accordance with the Commission's rules.

Take further notice that, pursuant to the authority contained in and subject to the jurisdiction conferred upon the

Federal Power Commission by sections 7 and 15 of the Natural Gas Act and the Commission's rules of practice and procedure a hearing will be held without further notice before the Commission on all applications in which no petition to intervene is filed within the time required herein if the Commission on its own review of the matter believes that a grant of the certificates or the authorization for the proposed abandonment is required by the public convenience and necessity. Where a petition for leave to intervene is timely filed, or where the Commission on its own motion believes that a formal hearing is required, further notice of such hearing will be duly given.

Under the procedure herein provided for, unless otherwise advised, it will be unnecessary for applicants to appear or be represented at the hearing.

KENNETH F. PLUMB,  
Secretary.

Docket No. and date filed	Applicant	Purchaser and location	Price per Mcf	Pressure base
G-10202 D 11-26-71	Texaco, Inc., Post Office Box 2420, Tulsa, OK 74102.	Colorado Interstate Gas Co., a division of Colorado Interstate Corp., Mocono-LaVerne Field, Beaver County, Okla.	(*)	-----
G-10665 D 11-26-71	Champion Petroleum Co. (Operator) et al., Post Office Box 9365, Fort Worth, TX 76107 (partial abandonment).	Cities Service Gas Co., acreage in Grant County, Okla.	Depleted	-----
G-11637 C 11-18-71	Gulf Oil Corp. (Operator) et al., Post Office Box 1589, Tulsa, OK 74102.	El Paso Natural Gas Co., Langley Mattix Queen Unit, Lea County, N. Mex.	11.0	14.65
G-12004 C 11-18-71	Mobil Oil Corp. (Operator) et al., Post Office Box 1774, Houston, TX 77001.	Transcontinental Gas Pipe Line Corp., West Gueydan Field, Vermilion Parish, La.	26.0	15.025
G-12825 E 11-17-71	H. L. Hawkins & H. L. Hawkins, Jr. (Operator) et al. (successor to Austral Oil Co., Inc. (Operator) et al.), Suite 207, 225 Baronne St., New Orleans, LA 70112.	United Fuel Gas Co., South Lake Arthur Field, Jefferson Davis, Cameron, and Vermilion Parishes, La.	* 22.375	15.025
CI60-328 D 11-26-71	The Superior Oil Co., Post Office Box 1521, Houston, TX 77001.	El Paso Natural Gas Co., acreage in Beaver County, Okla.	Assigned	-----
CI63-708 D 11-19-71	CRA, Inc., Post Office Box 7305, Kansas City, MO 64116 (partial abandonment).	Northern Natural Gas Co., Velox-Eldorado Field, Schleicher County, Tex.	(*)	-----
CI64-132 D 11-26-71	Monasato Co. (Operator) et al., 1300 Main St., Houston, TX 77002 (partial abandonment).	Lone Star Gas Co., North Dibble and Southeast Boyle Areas, McClain County, Okla.	(*)	-----
CI71-287 C 11-18-71	Sohio Petroleum Co., 970 First National Center North, Oklahoma City, Okla. 73102.	Oklahoma Natural Gas Gathering Co., Ringwood Field, Major County, Okla.	* 18.50	14.65
CI72-290 A 11-16-71	Texas Pacific Oil Co., Inc., 1700 1 Main Pl., Dallas, TX 75280.	Southern Natural Gas Co., High Island Field, Cameron Parish, La.	* 30.0	15.025
CI72-291 11-15-71 <sup>1</sup>	Petroleum, Inc. (Operator) et al., 300 West Douglas, Wichita, KS 67202.	Northern Natural Gas Co., Mocono-LaVerne Field, Beaver County, Okla.	* 18.27	14.65
CI72-292 A 11-19-71	Gulf Oil Corp., Post Office Box 1589, Tulsa, OK 74102.	Grand Gas Corp., Book Cliffs Field, Grand County, Utah.	15.0	15.025
CI72-293 A 11-19-71	Diamond Shamrock Corp., Post Office Box 631, Amarillo, TX 79106.	Northern Natural Gas Co., McKee Plant, Moore County, Tex.	(*)	14.65
CI72-294 A 11-19-71	Humble Oil & Refining Co., Post Office Box 2150, Houston, TX 77001.	Northern Natural Gas Co., Gomez Field, Pecos County, Tex.	* 24.5	14.65
CI72-295 A 11-19-71	Canadian Superior Oil (U.S.) Ltd., Post Office Box 1521, Houston, TX 77001.	Michigan Wisconsin Pipe Line Co., Eugene Island Area Block 296, Offshore Louisiana.	* 32.0	15.025
CI72-296 B 11-18-71	Gulf Oil Corp., Post Office Box 1589, Tulsa, OK 74102.	Truckline Gas Co., Lake Misere Field, Cameron Parish, La.	Depleted	-----
CI72-297 A 11-19-71	Shell Oil Co., 1 Shell Plaza, Post Office Box 2463, Houston, TX 77001.	Transcontinental Gas Pipe Line Corp., East Lake Decade Field, Terrebonne Parish, La.	* 26.0	15.025
CI72-298 A 11-19-71	Humble Oil & Refining Co., Post Office Box 2150, Houston, TX 77001.	Mississippi River Transmission Corp., Woodlawn Field, Harrison County, Tex.	* 23.5	14.65

Filing code: A—Initial service.  
B—Abandonment.  
C—Amendment to add acreage.  
D—Amendment to delete acreage.  
E—Succession.

See footnote at end of table.

<sup>1</sup>This notice does not provide for consolidation for hearing of the several matters covered herein.



Docket No. and date filed	Applicant	Purchaser and location	Price per Mcf	Pressure base
CI72-299 A 11-22-71	Getty Oil Co., Post Office Box 1404, Houston, TX 77001.	Colorado Interstate Gas Co., a division of Colorado Interstate Corp., Antelope Field, Sweetwater County, Okla.	" 23.16	14.65
CI72-300 B 11-22-71	Union Oil Co. of California, Union Oil Center, Los Angeles, Calif. 90017.	Mountain Fuel Supply Co., Six Mile Spring Field, Sweetwater County, Wyo.	(9)	-----
CI72-302 B 9-20-71	Harper Oil Co., 904 Hightower Bldg., Oklahoma City, Okla. 73102.	Northern Natural Gas Co., Vied Area, Woodward County, Okla.	Depleted	-----
CI72-303 B 11-19-71	Mobil Oil Corp., Post Office Box 1774, Houston, TX 77001.	Arkansas Louisiana Gas Co., Bethany Field, Panola County, Tex.	Depleted	-----
CI72-304 A 11-22-71	Sun Oil Co., Post Office Box 2880, Dallas, TX 75221.	Columbia Gas Transmission Corp., Delhi Field, Richland Parish, La.	" 25.0	18.025
CI72-305 X 11-22-71	Phillips Petroleum Co., Bartlesville, Okla. 74001.	United Gas Pipe Line Co., West Mermentau Field, Jefferson Davis Parish, La.	" 28.0	15.025
CI72-306 A 11-24-71	Texaco, Inc., Post Office Box 6622, New Orleans, LA 70160.	Southern Natural Gas Co., South Pass Block 54 Field, Offshore Louisiana. <sup>11</sup>	" 27.0	15.025
CI72-307 B 11-18-71	Mary G. Finley Lease, c/o Mr. Olin B. Wetzel, agent, West Union, W. Va. 26452.	Equitable Gas Co., Pigeon Run, Doddridge County, W. Va.	(9)	-----
CI72-308 B 11-18-71	Carrie M. Brown Lease, c/o Mr. Olin B. Wetzel, agent, West Union, W. Va. 26452.	do	(9)	-----
CI72-309 A 11-24-71	Getty Oil Co., Post Office Box 1404, Houston, TX 77001.	El Paso Natural Gas Co., Cotton Draw Field, Eddy County, N. Mex.	" 30.0	14.65
CI72-310 A 11-24-71	Edwin L. Cox, 3800 First National Bank Bldg., Dallas, Tex. 75202.	Phillips Petroleum Co., Oklahoma Panhandle Area, Texas County, Okla.	" 18.0	14.65
CI72-311 A 11-26-71	Mobil Oil Corp. (Operator) et al. (successor to Phillips Petroleum Co. (Operator) et al.), Post Office Box 1774, Houston, TX 77001.	Arkansas Louisiana Gas Co., Arkoma Area, Yell and Logan Counties, Ark.	16.0	14.65
CI72-313 B 11-26-71	Hunt Oil Co., 1461 Elm St., Dallas, TX 75292.	Texas Eastern Transmission Corp., Southwest Speaks Field, Lavaca County, Tex.	Depleted	-----
CI72-314 B 11-26-71	Sohio Petroleum Co., 970 First National Center-North, Oklahoma City, Okla. 73102.	Lone Star Gas Co., East Washington Field, McClain County, Okla.	Depleted	-----
CI72-315 B 11-29-71	Kenneth B. Valentine, 7884 Pheasant, Clarkston, MI 48016.	Equitable Gas Co., Duck Field, Clay County, W. Va.	Uneconomical	-----
CI72-316 B 11-29-71	Ashland Oil, Inc. (Operator) et al., Post Office Box 391, Ashland, KY 41101.	Champlin Petroleum Co., North Witcher Field, Oklahoma County, Okla.	Depleted	-----
CI72-317 B 11-29-71	do	do	Depleted	-----
CI72-318 B 11-29-71	Ashland Oil, Inc., Post Office Box 391, Ashland, KY 41101.	do	Depleted	-----
CI72-319 A 11-26-71	Getty Oil Co., Post Office Box 1404, Houston, TX 77001.	El Paso Natural Gas Co., La Rica Field, Lea County, N. Mex.	" 26.5	14.65
CI72-321 A 11-29-71	Pennzoil Producing Co., 900 Southwest Tower, Houston, Tex. 77002.	Sea Robin Pipeline Co., Block 225, Ship Shoal Area, Offshore Louisiana.	" 26.0	15.025
CI72-323 A 11-26-71	The Louisiana Land & Exploration Co., 225 Baronne St., Post Office Box 60350, New Orleans, LA 70160.	Florida Gas Transmission Co., Jay Field, Santa Rosa County, Fla.	" 32.5	14.65

<sup>1</sup> Leases have expired or been released.

<sup>2</sup> Includes 0.81 cent per Mcf upward B.t.u. adjustment.

<sup>3</sup> Acreage is nonproductive.

<sup>4</sup> Low production.

<sup>5</sup> For residue gas component (high pressure).

<sup>6</sup> Applicant is willing to accept a certificate pursuant to Opinions Nos. 595 and 599-A. Subject to upward and downward B.t.u. adjustment.

<sup>7</sup> Applicant proposes to continue the sale of its own gas heretofore authorized in Docket No. CI67-292.

<sup>8</sup> Includes 0.27 cent per Mcf tax reimbursement. Subject to upward and downward B.t.u. adjustment.

<sup>9</sup> Applicant proposes to exchange natural gas with Northern Natural Gas Co., certificate applicant in Docket No. CP72-51.

<sup>10</sup> Applicant is willing to accept a permanent certificate conditioned to an initial rate of 24.5 cents per Mcf, subject to upward and downward B.t.u. adjustment pursuant to Opinion No. 468; however, the contract price is 26.5 cents per Mcf, which includes 0.53 cent per Mcf downward B.t.u. adjustment.

<sup>11</sup> Subject to upward and downward B.t.u. adjustment.

<sup>12</sup> Applicant is willing to accept a certificate at an initial rate of 26 cents per Mcf; however, the contract price is 28 cents per Mcf.

<sup>13</sup> Subject to quality adjustments pursuant to Opinion No. 597. Subject to upward and downward B.t.u. adjustment.

<sup>14</sup> Excluding B.t.u. adjustment.

<sup>15</sup> The gas will be gathered and delivered by applicant onshore in Piquemine Parish, La.

<sup>16</sup> Applicant is willing to accept a certificate at an initial rate of 27 cents per Mcf; however, the contract price is 30 cents per Mcf, subject to upward and downward B.t.u. adjustment.

<sup>17</sup> Applicant is willing to accept a certificate at an initial rate of 26 cents per Mcf, subject to upward or downward B.t.u. adjustment pursuant to Opinion No. 598; however, the contract price is 30 cents per Mcf.

[FR Doc.71-18427 Filed 12-20-71; 8:45 am]

[Docket No. RP72-80]

## TEXAS GAS TRANSMISSION CORP.

### Notice of Application for Increase in Resale Rates

DECEMBER 13, 1971.

Take notice that on December 1, 1971, Texas Gas Transmission Corp. filed in Docket No. RP72-80 an application for an increase in its resale rates in the amount of \$2,981,528 annually. The company's letter of transmittal appears below.<sup>1</sup>

Any person desiring to be heard or to protest said application should file a petition to intervene or protest with the Federal Power Commission, 441 G Street NW., Washington, DC 20426, in accordance with §§ 1.8 and 1.10 of the Commission's rules of practice and procedure (18 CFR 1.8, 1.10). All such petitions or protests should be filed on or before December 21, 1971. 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 petition to intervene. The company's application is on file with the Commission and available for public inspection.

KENNETH F. PLUMB,  
Secretary.

[FR Doc.71-18591 Filed 12-20-71; 8:47 am]

## SECURITIES AND EXCHANGE COMMISSION

[File No. 7-3919 etc.]

### ACME MARKETS, INC., ET AL.

#### Notice of Applications for Unlisted Trading Privileges and of Opportunity for Hearing

DECEMBER 13, 1971.

In the matter of applications of the Boston Stock Exchange for unlisted trading privileges in certain securities.

The above-named national securities exchange has filed applications with the Securities and Exchange Commission pursuant to section 12(f) (1) (B) of the Securities Exchange Act of 1934 and Rule 12f-1 thereunder, for unlisted trading privileges in the common stocks of the following companies, which securities are listed and registered on one or more other national securities exchanges:

<sup>1</sup> Letter filed as part of the original document.



	File No.
Acme Markets, Inc.	7-3919
American General Insurance Co.	7-3920
Bankers Trust New York Corp.	7-3921
Central Illinois Light Co.	7-3922
Charter New York Corp.	7-3923
Coastal States Gas Producing Co.	7-3925
Columbus & Southern Ohio Electric Co.	7-3926
Continental Corp.	7-3927
Crocker National Corp.	7-3928

Upon receipt of a request, on or before December 28, 1971, from any interested person, the Commission will determine whether the application with respect to any of the companies named shall be set down for hearing. Any such request should state briefly the title of the security in which he is interested, the nature of the interest of the person making the request, and the position he proposes to take at the hearing, if ordered. In addition, any interested person may submit his views or any additional facts bearing on any of the said applications by means of a letter addressed to the Secretary, Securities and Exchange Commission, Washington, D.C. 20549 not later than the date specified. If no one requests a hearing with respect to any particular application, such application will be determined by order of the Commission on the basis of the facts stated therein and other information contained in the official files of the Commission pertaining thereto.

For the Commission (pursuant to delegated authority).

[SEAL] RONALD F. HUNT,  
Secretary.

[FR Doc.71-18578 Filed 12-20-71;8:45 am]

[File No. 7-3924, etc.]

#### CHRYSLER CORP. ET AL.

#### Notice of Applications for Unlisted Trading Privileges and of Opportunity for Hearing

DECEMBER 13, 1971.

In the matter of application of the Boston Stock Exchange for unlisted trading privileges in certain securities.

The above-named national securities exchange has filed applications with the Securities and Exchange Commission pursuant to section 12(f)(1)(B) of the Securities Exchange Act of 1934 and Rule 12f-1 thereunder, for unlisted trading privileges in the warrants to purchase common stock of the following companies, which securities are listed and registered on one or more other national securities exchanges:

	File No.
Chrysler Corp. (warrants expiring May 15, 1976)	7-3924
The Flying Tiger Corp. (warrants expiring December 31, 1975)	7-3932
Gulf & Western Industries, Inc. (warrants expiring January 31, 1978)	7-3934
Northwest Industries, Inc. (warrants expiring March 31, 1979)	7-3942

Upon receipt of a request, on or before December 28, 1971, from any interested person, the Commission will determine

whether the application with respect to any of the companies named shall be set down for hearing. Any such request should state briefly the title of the security in which he is interested, the nature of the interest of the person making the request, and the position he proposes to take at the hearing, if ordered. In addition, any interested person may submit his views or any additional facts bearing on any of the said applications by means of a letter addressed to the Secretary, Securities and Exchange Commission, Washington, D.C. 20549 not later than the date specified. If no one requests a hearing with respect to any particular application, such application will be determined by order of the Commission on the basis of the facts stated therein and other information contained in the official files of the Commission pertaining thereto.

For the Commission (pursuant to delegated authority).

[SEAL] RONALD F. HUNT,  
Secretary.

[FR Doc.71-18579 Filed 12-20-71;8:45 am]

[File No. 7-3929, etc.]

#### DUKE POWER CO. ET AL.

#### Notice of Applications for Unlisted Trading Privileges and of Opportunity for Hearing

DECEMBER 13, 1971.

In the matter of applications of the Boston Stock Exchange for unlisted trading privileges in certain securities.

The above-named national securities exchange has filed applications with the Securities and Exchange Commission pursuant to section 12(f)(1)(B) of the Securities Exchange Act of 1934 and Rule 12f-1 thereunder, for unlisted trading privileges in the common stocks of the following companies, which securities are listed and registered on one or more other national securities exchanges:

	File No.
Duke Power Co.	7-3929
Eli Lilly and Co.	7-3930
Florida Power Corp.	7-3931
GAC Corp.	7-3933
Idaho Power Co.	7-3935
Illinois Power Co.	7-3936
Lone Star Gas Co.	7-3937
Lucky Stores, Inc.	7-3938
Mohasco Industries, Inc.	7-3939

Upon receipt of a request, on or before December 28, 1971, from any interested person, the Commission will determine whether the application with respect to any of the companies named shall be set down for hearing. Any such request should state briefly the title of the security in which he is interested, the nature of the interest of the person making the request, and the position he proposes to take at the hearing, if ordered. In addition, any interested person may submit his views or any additional facts bearing on any of the said applications by means of a letter addressed to the Secretary, Securities and Exchange Commission, Washington, D.C. 20549 not later than the date specified.

If no one requests a hearing with respect to any particular application, such application will be determined by order of the Commission on the basis of the facts stated therein and other information contained in the official files of the Commission pertaining thereto.

For the Commission (pursuant to delegated authority).

[SEAL] RONALD F. HUNT,  
Secretary.

[FR Doc.71-18580 Filed 12-20-71;8:45 am]

[Files Nos. 7-3953-7-3961]

#### BORDEN, INC. ET AL.

#### Notice of Applications for Unlisted Trading Privileges and of Opportunity for Hearing

DECEMBER 13, 1971.

In the matter of applications of the Cincinnati Stock Exchange for unlisted trading privileges in certain securities.

The above-named national securities exchange has filed applications with the Securities and Exchange Commission pursuant to section 12(f)(1)(B) of the Securities Exchange Act of 1934 and Rule 12f-1 thereunder, for unlisted trading privileges in the common stocks of the following companies, which securities are listed and registered on one or more other national securities exchanges:

	File No.
Borden, Inc.	7-3953
Continental Air Lines, Inc.	7-3954
GAP Corp.	7-3955
Gerber Products Co.	7-3956
INA Corp.	7-3957
National Steel Corp.	7-3958
New England Electric System	7-3959
Pennsylvania Power & Light Co.	7-3960
Philip Morris, Inc.	7-3961

Upon receipt of a request, on or before December 28, 1971, from any interested person, the Commission will determine whether the application with respect to any of the companies named shall be set down for hearing. Any such request should state briefly the title of the security in which he is interested, the nature of the interest of the person making the request, and the position he proposes to take at the hearing, if ordered. In addition, any interested person may submit his views or any additional facts bearing on any of the said applications by means of a letter addressed to the Secretary, Securities and Exchange Commission, Washington, D.C. 20549 not later than the date specified. If no one requests a hearing with respect to any particular application, such application will be determined by order of the Commission on the basis of the facts stated therein and other information contained in the official files of the Commission pertaining thereto.

For the Commission (pursuant to delegated authority).

[SEAL] RONALD F. HUNT,  
Secretary.

[FR Doc.71-18583 Filed 12-20-71;8:46 am]



[Files Nos. 7-3966-7-3974]

**CHEMICAL NEW YORK CORP. ET AL.****Notice of Applications for Unlisted Trading Privileges and of Opportunity for Hearing**

DECEMBER 13, 1971.

In the matter of applications of the Philadelphia-Baltimore-Washington Stock Exchange for unlisted trading privileges in certain securities.

The above-named national securities exchange has filed applications with the Securities and Exchange Commission pursuant to section 12(f)(1)(B) of the Securities Exchange Act of 1934 and Rule 12f-1 thereunder, for unlisted trading privileges in the common stocks of the following companies, which securities are listed and registered on one or more other national securities exchanges:

	<i>File No.</i>
Chemical New York Corp.....	7-3966
Crocker National Corp.....	7-3967
Dayton Power & Light Co.....	7-3968
First National Boston Corp.....	7-3969
Idaho Power Co.....	7-3970
Illinois Power Co.....	7-3971
Indianapolis Power & Light Co.....	7-3972
IPOCO Hospital Supply Corp.....	7-3973
Kansas City Power & Light Co.....	7-3974

Upon receipt of a request, on or before December 28, 1971, from any interested person, the Commission will determine whether the application with respect to any of the companies named shall be set down for hearing. Any such request should state briefly the title of the security in which he is interested, the nature of the interest of the person making the request, and the position he proposes to take at the hearing, if ordered. In addition, any interested person may submit his views or any additional facts bearing on any of the said applications by means of a letter addressed to the Secretary, Securities and Exchange Commission, Washington, D.C. 20549 not later than the date specified. If no one requests a hearing with respect to any particular application, such application will be determined by order of the Commission on the basis of the facts stated therein and other information contained in the official files of the Commission pertaining thereto.

For the Commission (pursuant to delegated authority).

[SEAL] RONALD F. HUNT,  
Secretary.

[FR Doc. 71-18584 Filed 12-20-71; 8:46 am]

[File No. 1-4847]

**ECOLOGICAL SCIENCE CORP.****Order Suspending Trading**

DECEMBER 14, 1971.

The common stock, 2 cents par value, of Ecological Science Corp. being traded on the American Stock Exchange, the Philadelphia - Baltimore - Washington Stock Exchange and the Pacific Coast Stock Exchange, pursuant to provisions of the Securities Exchange Act of 1934 and all other securities of Ecological

Science Corp. being traded otherwise than on a national securities exchange; and

It appearing to the Securities and Exchange Commission that the summary suspension of trading in such security on such exchanges and otherwise than on a national securities exchange is required in the public interest and for the protection of investors;

It is ordered, Pursuant to sections 15(c)(5) and 19(a)(4) of the Securities Exchange Act of 1934, that trading in such securities on the above mentioned exchanges and otherwise than on a national securities exchange be summarily suspended, this order to be effective for the period December 15, 1971, through December 24, 1971.

By the Commission.

[SEAL] RONALD F. HUNT,  
Secretary.

[FR Doc. 71-18590 Filed 12-20-71; 8:46 am]

[Files Nos. 7-3975-7-3984]

**KELLOGG CO. ET AL.****Notice of Applications for Unlisted Trading Privileges and of Opportunity for Hearing**

DECEMBER 13, 1971.

In the matter of applications of the Philadelphia - Baltimore - Washington Stock Exchange for unlisted trading privileges in certain securities.

The above-named national securities exchange has filed applications with the Securities and Exchange Commission pursuant to section 12(f)(1)(B) of the Securities Exchange Act of 1934 and Rule 12f-1 thereunder, for unlisted trading privileges in the common stocks of the following companies, which securities are listed and registered on one or more other national securities exchanges:

	<i>File No.</i>
Kellogg Co.....	7-3975
Lone Star Gas Co.....	7-3976
Manufacturers Hanover Corp.....	7-3977
New England Telephone & Telegraph Co.....	7-3978
Northeast Utilities.....	7-3979
Northern Illinois Gas Co.....	7-3980
Northern Indiana Public Service Co.....	7-3981
Northern Natural Gas Co.....	7-3982
Northwest Bancorporation.....	7-3983
Oklahoma Gas & Electric Co.....	7-3984

Upon receipt of a request, on or before December 28, 1971, from any interested person, the Commission will determine whether the application with respect to any of the companies named shall be set down for hearing. Any such request should state briefly the title of the security in which he is interested, the nature of the interest of the person making the request, and the position he proposes to take at the hearing, if ordered. In addition, any interested person may submit his views or any additional facts bearing on any of the said applications by means of a letter addressed to the Secretary, Securities and Exchange Commission, Washington, D.C. 20549 not later than the date specified. If no one requests a hearing with respect to any

particular application, such application will be determined by order of the Commission on the basis of the facts stated therein and other information contained in the official files of the Commission pertaining thereto.

For the Commission (pursuant to delegated authority).

[SEAL] RONALD F. HUNT,  
Secretary.

[FR Doc. 71-18585 Filed 12-20-71; 8:46 am]

[File No. 7-3985, etc.]

**PHILIPS INDUSTRIES, INC., ET AL.****Notice of Applications for Unlisted Trading Privileges and of Opportunity for Hearing**

DECEMBER 13, 1971.

In the matter of applications of the Philadelphia - Baltimore - Washington Stock Exchange for unlisted trading privileges in certain securities.

The above-named national securities exchange has filed applications with the Securities and Exchange Commission pursuant to section 12(f)(1)(B) of the Securities Exchange Act of 1934 and Rule 12f-1 thereunder, for unlisted trading privileges in the common stocks of the following companies, which securities are listed and registered on one or more other national securities exchanges:

	<i>File No.</i>
Philips Industries, Inc.....	7-3985
Public Service Co. of Colorado.....	7-3986
Public Service Co. of Indiana, Inc.....	7-3987
Punta Gorda Isles, Inc.....	7-3988
San Diego Gas & Electric Co.....	7-3989
Texas Gas Transmission Corporation.....	7-3990
T I Corp. of California.....	7-3991
Toledo Edison Co.....	7-3992
Unionamerica, Inc.....	7-3994
Utah Power & Light Co.....	7-3995

Upon receipt of a request, on or before December 28, 1971, from any interested person, the Commission will determine whether the application with respect to any of the companies named shall be set down for hearing. Any such request should state briefly the title of the security in which he is interested, the nature of the interest of the person making the request, and the position he proposes to take at the hearing, if ordered. In addition, any interested person may submit his views or any additional facts bearing on any of the said applications by means of a letter addressed to the Secretary, Securities and Exchange Commission, Washington, DC 20549, not later than the date specified. If no one requests a hearing with respect to any particular application, such application will be determined by order of the Commission on the basis of the facts stated therein and other information contained in the official files of the Commission pertaining thereto.

For the Commission (pursuant to delegated authority).

[SEAL] RONALD F. HUNT,  
Secretary.

[FR Doc. 71-18586 Filed 12-20-71; 8:46 am]



[Files Nos. 7-3962-7-3965]

**SWIFT & CO. ET AL.****Notice of Applications for Unlisted Trading Privileges and of Opportunity for Hearing**

DECEMBER 13, 1971.

In the matter of applications of the Cincinnati Stock Exchange for unlisted trading privileges in certain securities.

The above-named national securities exchange has filed applications with the Securities and Exchange Commission pursuant to section 12(f)(1)(B) of the Securities Exchange Act of 1934 and Rule 12f-1 thereunder, for unlisted trading privileges in the common stocks of the following companies, which securities are listed and registered on one or more other national securities exchanges:

	File No.
Swift & Co.....	7-3962
Texas Utilities Co.....	7-3963
Transamerica Corp.....	7-3964
The Upjohn Co.....	7-3965

Upon receipt of a request, on or before December 28, 1971, from any interested person, the Commission will determine whether the application with respect to any of the companies named shall be set down for hearing. Any such request should state briefly the title of the security in which he is interested, the nature of the interest of the person making the request, and the position he proposes to take at the hearing, if ordered. In addition, any interested person may submit his views or any additional facts bearing on any of the said applications by means of a letter addressed to the Secretary, Securities and Exchange Commission, Washington, D.C. 20549 not later than the date specified. If no one requests a hearing with respect to any particular application, such application will be determined by order of the Commission on the basis of the facts stated therein and other information contained in the official files of the Commission pertaining thereto.

For the Commission (pursuant to delegated authority).

[SEAL] RONALD F. HUNT,  
Secretary.

[FR Doc.71-18587 Filed 12-20-71;8:46 am]

[File No. 7-3993]

**UNION OIL COMPANY OF CALIFORNIA****Notice of Application for Unlisted Trading Privileges and of Opportunity for Hearing**

DECEMBER 13, 1971.

In the matter of application of the Philadelphia-Baltimore-Washington Stock Exchange for unlisted trading privileges in a certain security.

The above-named national securities exchange has filed an application with

the Securities and Exchange Commission pursuant to section 12(f)(1)(B) of the Securities Exchange Act of 1934 and Rule 12f-1 thereunder, for unlisted trading privileges in the preferred stock of the following company, which security is listed and registered on one or more other national securities exchange:

Union Oil Company of California, \$2.50 cumulative convertible preferred stock, no par value, File No. 7-3993.

Upon receipt of a request, on or before December 28, 1971, from any interested person, the Commission will determine whether the application shall be set down for hearing. Any such request should state briefly the nature of the interest of the person making the request and the position he proposes to take at the hearing, if ordered. In addition, any interested person may submit his views or any additional facts bearing on the said application by means of a letter addressed to the Secretary, Securities and Exchange Commission, Washington 25, D.C., not later than the date specified. If no one requests a hearing, this application will be determined by order of the Commission on the basis of the facts stated therein and other information contained in the official files of the Commission pertaining thereto.

For the Commission (pursuant to delegated authority).

[SEAL] RONALD F. HUNT,  
Secretary.

[FR Doc.71-18588 Filed 12-20-71;8:46 am]

[File No. 7-3950]

**UNITED BRANDS CO.****Notice of Application for Unlisted Trading Privileges and of Opportunity for Hearing**

DECEMBER 13, 1971.

In the matter of application of the Boston Stock Exchange for unlisted trading privileges in a certain security.

The above-named national securities exchange has filed an application with the Securities and Exchange Commission pursuant to section 12(f)(1)(B) of the Securities Exchange Act of 1934 and Rule 12f-1 thereunder, for unlisted trading privileges in the warrants to purchase common stock of the following company, which security is listed and registered on one or more other national securities exchanges:

United Brands Co. (warrants expiring February 1, 1979), File No. 7-3950.

Upon receipt of a request, on or before December 28, 1971, from any interested person, the Commission will determine whether the application shall be set down for hearing. Any such request should state briefly the nature of the interest of the person making the request and the position he proposes to take at the hearing, if ordered. In addition, any interested person may submit his views or any additional facts bearing on the said ap-

plication by means of a letter addressed to the Secretary, Securities and Exchange Commission, Washington, D.C. 20549, not later than the date specified. If no one requests a hearing, this application will be determined by order of the Commission on the basis of the facts stated therein and other information contained in the official files of the Commission pertaining thereto.

For the Commission (pursuant to delegated authority).

[SEAL] RONALD F. HUNT,  
Secretary.

[FR Doc.71-18581 Filed 12-20-71;8:46 am]

[Files Nos. 7-3951, 7-3952]

**UTAH POWER & LIGHT CO. AND VIACOM INTERNATIONAL, INC.****Notice of Applications for Unlisted Trading Privileges and of Opportunity for Hearing**

DECEMBER 13, 1971.

In the matter of applications of the Boston Stock Exchange for unlisted trading privileges in certain securities.

The above-named national securities exchange has filed applications with the Securities and Exchange Commission pursuant to section 12(f)(1)(B) of the Securities Exchange Act of 1934 and Rule 12f-1 thereunder, for unlisted trading privileges in the common stocks of the following companies, which securities are listed and registered on one or more other national securities exchanges:

	File No.
Utah Power & Light Co.....	7-3951
Viacom International, Inc.....	7-3952

Upon receipt of a request, on or before December 28, 1971, from any interested person, the Commission will determine whether the application with respect to any of the companies named shall be set down for hearing. Any such request should state briefly the title of the security in which he is interested, the nature of the interest of the person making the request, and the position he proposes to take at the hearing, if ordered. In addition, any interested person may submit his views or any additional facts bearing on any of the said applications by means of a letter addressed to the Secretary, Securities and Exchange Commission, Washington, D.C. 20549 not later than the date specified. If no one requests a hearing with respect to any particular application, such application will be determined by order of the Commission on the basis of the facts stated therein and other information contained in the official files of the Commission pertaining thereto.

For the Commission (pursuant to delegated authority).

[SEAL] RONALD F. HUNT,  
Secretary.

[FR Doc.71-18583 Filed 12-20-71;8:46 am]



[Files Nos. 7-3996, 7-3997]

**WELLS FARGO & CO. AND  
WISCONSIN ELECTRIC POWER CO.****Notice of Applications for Unlisted  
Trading Privileges and of Oppor-  
tunity for Hearing**

DECEMBER 13, 1971.

In the matter of applications of the Philadelphia Baltimore Washington Stock Exchange for unlisted trading privileges in certain securities.

The above-named national securities exchange has filed applications with the Securities and Exchange Commission pursuant to section 12(f)(1)(B) of the Securities Exchange Act of 1934 and Rule 12f-1 thereunder, for unlisted trading privileges in the common stocks of the following companies, which securities are listed and registered on one or more other national securities exchanges:

File No.

Wells Fargo & Co. 7-3996  
Wisconsin Electric Power Co. 7-3997

Upon receipt of a request, on or before December 28, 1971, from any interested person, the Commission will determine whether the application with respect to any of the companies named shall be set down for hearing. Any such request should state briefly the title of the security in which he is interested, the nature of the interest of the person making the request, and the position he proposes to take at the hearing, if ordered. In addition, any interested person may submit his views or any additional facts bearing on any of the said applications by means of a letter addressed to the Secretary, Securities and Exchange Commission, Washington, D.C. 20549 not later than the date specified. If no one requests a hearing with respect to any particular application, such application will be determined by order of the Commission on the basis of the facts stated therein and other information contained in the official files of the Commission pertaining thereto.

For the Commission (pursuant to delegated authority).

[SEAL]

RONALD F. HUNT,  
Secretary.

[FR Doc. 18589 Filed 12-20-71; 8:46 am]

**SMALL BUSINESS  
ADMINISTRATION**[Declaration of Disaster Loan Area 858;  
Class B]**RHODE ISLAND****Declaration of Disaster Loan Area**

Whereas, it has been reported that during the month of October 1971, because of the effects of certain disasters damage resulted to business and residence property located in the State of Rhode Island;

Whereas, the Small Business Administration has investigated and has received

other reports of investigations of conditions in the areas affected;

Whereas, after reading and evaluating reports of such conditions, I find that the conditions in such area constitutes a catastrophe within the purview of the Small Business Act, as amended.

Now, therefore, as Associate Administrator for Operations and Investment of the Small Business Administration, I hereby determine that:

1. Applications for disaster loans under the provisions of section 7(b)(1) of the Small Business Act, as amended, may be received and considered by the office below indicated from persons or firms whose property situated in the Social District of Woonsocket, R.I., suffered damage or destruction resulting from fire on October 12, 1971.

**OFFICE**

Small Business Administration District Office, 57 Eddy Street, Providence, RI 02903.

2. Applications for disaster loans under the authority of this Declaration will not be accepted subsequent to May 31, 1972.

Dated: November 23, 1971.

A. H. SINGER,  
Associate Administrator  
for Operations and Investment.

[FR Doc. 71-18577 Filed 12-20-71; 8:45 am]

**INTERSTATE COMMERCE  
COMMISSION**

[Notice 413]

**MOTOR CARRIER TEMPORARY  
AUTHORITY APPLICATIONS**

DECEMBER 15, 1971.

The following are notices of filing of applications for temporary authority under section 210a(a) of the Interstate Commerce Act provided for under the new rules of Ex Parte No. MC-67 (49 CFR Part 1131), published in the FEDERAL REGISTER, issue of April 27, 1965, effective July 1, 1965. These rules provide that protests to the granting of an application must be filed with the field official named in the FEDERAL REGISTER publication, within 15 calendar days after the date of notice of the filing of the application is published in the FEDERAL REGISTER. One copy of such protests must be served on the applicant, or its authorized representative, if any, and the protests must certify that such service has been made. The protests must be specific as to the service which such protestant can and will offer, and must consist of a signed original and six copies.

A copy of the application is on file, and can be examined at the Office of the Secretary, Interstate Commerce Commission, Washington, D.C., and also in field office to which protests are to be transmitted.

**MOTOR CARRIERS OF PROPERTY**

No. MC 2368 (Sub-No. 32 TA), filed December 6, 1971. Applicant: BRALLEY-WILLETT TANK LINES, INC., 2212

Deepwater Terminal Road, Post Office Box 495, Richmond, VA 23204. Applicant's representative: Douglass Bralley (same address as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: Lubricating oil, from Richmond, Va., to Louisville, Ky., for 180 days. Supporting shipper: Humble Oil & Refining Co., Executive Plaza, Hunt Valley, Md. Send protests to: Robert W. Waldron, District Supervisor, Interstate Commerce Commission, Bureau of Operations, 10-502 Federal Building, Richmond, Va. 23240.

No. MC 106398 (Sub-No. 569 TA), filed December 6, 1971. Applicant: NATIONAL TRAILER CONVOY, INC., 1925 National Plaza, Box 51096, Dawson Station, Tulsa, OK 74151. Applicant's representative: Irvin Tull (same address as applicant). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: Trailers, designed to be drawn by passenger automobiles, in initial movement, from the plantsite of Champion Home Buildings Co., York, Nebr., to points in Colorado, Iowa, South Dakota, North Dakota, Montana, Wyoming, New Mexico, Missouri, Oklahoma, Utah, and Illinois, for 180 days. Supporting shipper: Rex Obermier, Division Manager, Champion Home Builders Co., Box 525, York, NE 68467. Send protests to: C. L. Phillips, District Supervisor, Interstate Commerce Commission, Bureau of Operations, Room 240, Old Post Office Building, 215 Northwest Third, Oklahoma City, OK 73102.

No. MC 106398 (Sub-No. 570 TA), filed December 6, 1971. Applicant: NATIONAL TRAILER CONVOY, INC., 1925 National Plaza, Tulsa, OK 74151. Applicant's representative: Irvin Tull (same address as applicant). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: Trailers designed to be drawn by passenger automobiles, in initial movements, from the plantsite of Bonnavilla Homes of Aurora, Nebr., to points in South Dakota, Nebraska, Colorado, Iowa, Missouri, and Kansas, for 180 days. Supporting shipper: Richard Lucht, Bonnavilla Homes, Post Office Box 127, West Highway 34, Aurora, NE 68818. Send protests to: C. L. Phillips, District Supervisor, Interstate Commerce Commission, Bureau of Operations, Room 240, Old Post Office Building, 215 Northwest Third, Oklahoma City, OK 73102.

No. MC 107295 (Sub-No. 585 TA), filed December 3, 1971. Applicant: PRE-FAB TRANSIT CO., a corporation, 100 South Maine Street, Farmer City, IL 61842. Applicant's representative: Bruce J. Kinnee (same address as applicant). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: Iron and steel pallet racks and accessories, from the plantsite and warehouse facility of Speedrack, Inc., at Quincy and Rock Island, Ill., to Enfield, Conn.; Detroit, Mich.; Los Angeles, Calif.; Danvers, Mass.; and Wilmington, Del., for 180



days. Supporting shipper: Robert E. Tofall, Traffic Manager, Speedrack, Inc., Skokie, Ill. 60076. Send protests to: Harold C. Jolliff, District Supervisor, Bureau of Operations, Interstate Commerce Commission, 325 West Adams Street, Room 476, Springfield, IL 62704.

No. MC 114106 (Sub-No. 89 TA), filed December 6, 1971. Applicant: MAYBELLE TRANSPORT COMPANY, Post Office Box 849, 1820 South Main Street, Lexington, NC 27292. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Salt*, in bulk, from Lexington, N.C., to points in South Carolina and Virginia, for 90 days. Supporting shipper: Diamond Crystal Salt Co., 916 South Riverside Avenue, St. Clair, MI 48079. Send protests to: Frank H. Wait, Jr., District Supervisor, Interstate Commerce Commission, Bureau of Operations, 316 East Morehead, Suite 417, Charlotte, NC 28202.

No. MC 123294 (Sub-No. 22 TA), filed December 8, 1971. Applicant: WARSAW TRUCKING CO., INC., 1102 West Winona, Post Office Box 784, Warsaw, IN 46580. Applicant's representative: Martin J. Leavitt, 1800 Buhl Building, Detroit, Mich. 48226. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Mineral wool, rock wool, slag*, plain or saturated, with or without binder, in bulk, in bags; *batts or blankets* with or without backing and/or covering, loose or in packages, from Alexandria, Ind., to points in Ohio, Indiana, Illinois, Michigan, Missouri, Kentucky, Tennessee, Wisconsin, Minnesota, North Dakota, South Dakota, Florida, Arkansas, Alabama, Delaware, Georgia, Kansas, Louisiana, Maryland, Mississippi, New Jersey, New York, Iowa, South Carolina, North Carolina, Pennsylvania, and the District of Columbia, for 180 days. Supporting shipper: Indiana Rock Wool Division, Susquehanna Corp., Alexandria, Ind. Send protests to: Acting District Supervisor John E. Ryden, Interstate Commerce Commission, Bureau of Operations, Room 204, 345 West Wayne Street, Fort Wayne, IN 46802.

No. MC 127019 (Sub-No. 6 TA), filed December 6, 1971. Applicant: LA RUE LAMB, doing business as LA RUE LAMB TRUCKING, Post Office Box 374, Myton, UT 84052. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Gilsonite* (natural asphaltum), in bulk, from Bonanza, Utah, to Arcade and Monahans, Tex., for 180 days. Supporting shipper: American Gilsonite Co., 1150 Kennecott Building, Salt Lake City, Utah 84111. Send protests to: John T. Vaughan, District Supervisor, Interstate Commerce Commission, Bureau of Operations, 5239 Federal Building, Salt Lake City, Utah 84111.

No. MC 128273 (Sub-No. 114 TA), filed December 7, 1971. Applicant: MID-

WESTERN EXPRESS, INC., Post Office Box 189, 121 Humboldt Street, Fort Scott, KS 66701. Applicant's representative: Harry Ross, 848 Warner Building, Washington, DC 20004. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Foodstuffs*, in boxes, in straight shipments and/or mixed shipments of foodstuffs and canned goods; from points in California to points in Louisiana (upper peninsula), Minnesota, Mississippi, North Dakota, South Dakota, Tennessee, Wisconsin, and Wyoming, for 180 days. Supporting shipper: Hunt-Wesson Foods, Inc., 1645 West Valencia Drive, Fullerton, CA 92634. Send protests to: M. E. Taylor, District Supervisor, Interstate Commerce Commission, 501 Petroleum Building, Wichita, Kans. 67202.

No. MC 128866 (Sub-No. 30 TA), filed December 7, 1971. Applicant: B & B TRUCKING, INC., Post Office Box 128, 9 Brady Lane, Cherry Hill, NJ 08034. Applicant's representative: J. Michael Ferrell, Federal Bar Building, Washington, D.C. 20006. Authority sought to operate as a *contract carrier*, by motor vehicle, over irregular routes, transporting: (1) *Aluminum foil and sheet*, from the plant site of Consolidated Aluminum Corp., Jackson, Tenn., to the plantsites of Penny Plate, Inc., at Cherry Hill, N.J., and Searcy, Ark.; and (2) *scrap aluminum, defective or damaged aluminum foil and sheet, skids, pallets, and aluminum cores*, from the plantsites of Penny Plate, Inc., at Cherry Hill, N.J., and Searcy, Ark., to the plantsite of Consolidated Aluminum Corp., Jackson, Tenn., for 150 days. Supporting shipper: Penny Plate, Inc., Post Office Box 458, Haddonfield, NJ 08034. Send protests to: Richard M. Regan, District Supervisor, Interstate Commerce Commission, Bureau of Operations, 428 East State Street, Room 204, Trenton, NJ 08608.

No. MC 134323 (Sub-No. 21 TA), filed December 6, 1971. Applicant: JAY LINES, INC., 720 North Grand Street, Amarillo, TX 79105. Applicant's representative: Jay Trammell (same address as above). Authority sought to operate as a *contract carrier*, by motor vehicle, over irregular routes, transporting: *Meats, meat products, meat byproducts and articles distributed by meat packing-houses*, as described in section A and C of appendix I to the report in *Descriptions in Motor Carrier Certificates*, 61 M.C.C. 209 and 766, from the plants, warehouse, and storage facilities utilized by National Beef Packing Co. at or near Kansas City, Kans., to points in Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, Pennsylvania, Maryland, Delaware, District of Columbia, West Virginia, Ohio, and Virginia, for 180 days. Supporting shipper: John Jacobson, Jr., Vice-President and General Manager, National Beef Packing Co., Inc., Post Office Box 1358, Liberal, KS.

Send protests to: Haskell E. Ballard, District Supervisor, Interstate Commerce Commission, Bureau of Operations, Box H-4395 Herring Plaza, Amarillo, TX 79101.

No. MC 134955 (Sub-No. 3 TA), filed December 6, 1971. Applicant: ROBERT WELLS, 1610 West 700 North Street, Salt Lake City, UT 84116. Applicant's representative: William J. M. Dalglish, 419 Judge Building, Salt Lake City, Utah 84111. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *New buildings*, complete or in sections, other than knocked down flat (except when mounted on wheeled undercarriages with hitchball connectors), from West Jordan, Utah, to points in Nevada, Arizona, and New Mexico, for 180 days. Supporting shipper: Boise Cascade Corp., Transportation and Distribution Department, Post Office Box 7747, Boise, ID 83707 (C. G. Wise, Manager, Transportation Commerce). Send protests to: John T. Vaughan, District Supervisor, Bureau of Operations, Interstate Commerce Commission, 5239 Federal Building, Salt Lake City, Utah 84111.

No. MC 136215 TA, filed December 8, 1971. Applicant: WEST COAST PRODUCE COMPANY, INC., 1500 South Zarzamora, San Antonio, TX 78207. Applicant's representative: Frank Sepulveda (same address as above). Authority sought to operate as a *contract carrier*, by motor vehicle, over irregular routes, transporting: *Candles*, from Laredo, Tex., to points in New Mexico, Arizona, and California, for Miracle Candle Co., for 180 days. Supporting shipper: Miracle Candle Co., Post Office Box 732, Laredo, TX 78040. Send protests to: Richard H. Dawkins, District Supervisor, Interstate Commerce Commission, Bureau of Operations, 301 Broadway, Room 206, San Antonio, TX 78205.

No. MC 136216 TA, filed December 8, 1971. Applicant: AEROLOGISTICS LTD., 9479 Aerospace Drive, St. Louis, MO 63134. Authority sought to operate as a *contract carrier*, by motor vehicle, over irregular routes, transporting: *General commodities*, restricted to or having a prior or subsequent shipment by air, from Kansas City, Mo., to St. Louis, Mo., and *refused and damaged shipment* on return, for 180 days. Supporting shipper: Airborne Freight Corp., 9477 Aerospace Drive, St. Louis, MO 63134. Send protests to: District Supervisor J. P. Werthmann, Interstate Commerce Commission, Bureau of Operations, Room 1465, 210 North 12th Street, St. Louis, MO 63101.

No. MC 136217 TA, filed December 9, 1971. Applicant: HRH TRUCKING, INC., 19-95 Linden Boulevard, Elmhurst, NY 11003. Applicant's representative: Arthur J. Piken, Suite 1515, One Lefrak City Plaza, Flushing, N.Y. 11368. Authority sought to operate as a *contract carrier*, by motor vehicle, over irregular routes, transporting: *Citrus fruit juice crystals, citrus fruit juice powder, nonalcoholic*



beverage mix and beverage dispenser, beverage preparations, aromatic bitters, flavoring syrup, rock crystal syrup, and advertising matter, from Carteret, N.J., to points in New York, N.Y., commercial zone as defined in the Fifth Supplemental Report in *Commercial Zones and Terminal Areas*, 53 M.C.C. 451, within which local operations may be conducted under the exemption provided by section

203(b)(8) of the Interstate Commerce Act (the exempt zone). Restriction: The operations authorized herein are limited to transportation service to be performed under a continuing contract or contracts with Iroquois Industries, Inc., of Greenwich, Conn., and subsidiaries and divisions thereof, for 180 days. Supporting shipper: The Angostura-Wuppermann Corp., 79-20 Barnwell Avenue, Elmhurst,

NY 11373. Send protests to: Anthony Chiusano, District Supervisor, Interstate Commerce Commission, Bureau of Operations, 26 Federal Plaza, New York, N.Y. 10007.

By the Commission.

[SEAL] ROBERT L. OSWALD,  
Secretary.

[FR Doc.71-18623 Filed 12-20-71;8:49 am]

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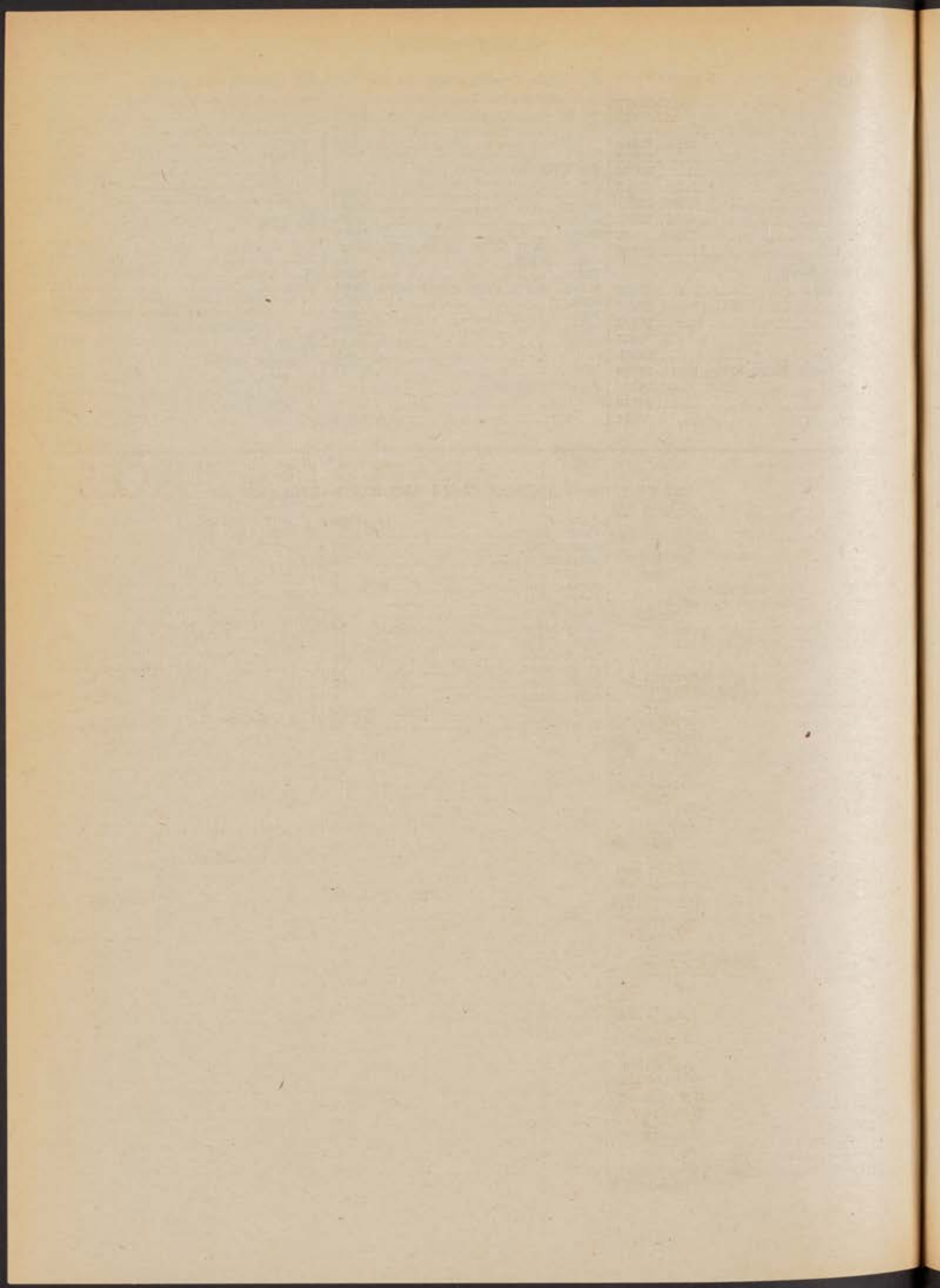


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PART II

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## WATER RESOURCES COUNCIL

Proposed Principles and  
Standards for Planning Water  
and Related Land Resources

■

Notice of Public Review and Hearing



## WATER RESOURCES COUNCIL

### PROPOSED PRINCIPLES AND STANDARDS FOR PLANNING WATER AND RELATED LAND RESOURCES

#### Notice of Public Review and Hearing

1. *Time and place.* Notice is hereby given by the Water Resources Council of a period of public review and comment commencing as of the date of this publication and terminating March 31, 1972. As part of this review, a public hearing will be held at the National Museum of History and Technology, 14th Street and Constitution Avenue NW., Washington, D.C., on March 20 and 21, 1972, commencing each day at 10 a.m. (use Constitution Avenue entrance, Conference Room to left after entering).

2. *Purpose.* The purpose of this public review and hearing is to obtain, prior to formal Council recommendation for presidential approval, the views of the interested public on Principles and Standards proposed by the Water Resources Council, pursuant to the Water Resources Planning Act of 1965 (Public Law 89-80), for Federal participation with river basin commissions, States, and others in the preparation, formulation, evaluation, review, revision, and transmission to the Congress of plans for States, regions, and river basins; and for planning of Federal and certain federally assisted water and land resource programs and projects.

A separate draft environmental statement of the proposed Principles and Standards has been prepared pursuant to section 102(2)(C) of the National Environmental Policy Act of 1969 (Public Law 91-190) and implementing guidelines, and the views of the interested public on it will be considered during the same period of public review and at the public hearing.

3. *Availability of proposal.* The texts of the proposed Principles and Standards and the draft environmental statement are published in this Part II, Volume 36, No. 245 of the FEDERAL REGISTER, as a part of this notice.

4. *Written statements.* Written views and comments will be introduced into the record if they are submitted to the Director, Water Resources Council, 2120 L Street NW., Washington, DC 20037, no later than March 31, 1972, or to the hearing officer at the public hearing. All statements should clearly indicate whether they are directed to the proposed Principles and Standards, to the separate draft environmental statement, or to both.

5. *Oral statements.* Views and comments may be presented at the hearing orally or by submitting a written statement for the record, as set out in paragraph 4 above. Notice of intention to present an oral statement should be provided to the Director, Water Resources Council, 2120 L Street NW., Washington, DC 20037, no later than March 6, 1972, with an advance copy of the statement if available. Such notice, as well as the statement itself, should clearly indicate whether it is directed to the pro-

posed Principles and Standards, to the separate draft environmental statement, or to both. Persons providing such notice will be informed of the date and approximate time of their scheduled presentation at the earliest practicable date prior to the commencement of the hearing. The Council will attempt to schedule the presentation of those persons who fail to observe the March 6, 1972, deadline as time permits. If necessary to accommodate all those wishing to present oral statements, the hearing officer may limit such statements to 30 minutes. Any person so limited may submit a written extension of his remarks for incorporation into the record, provided he does so within the deadline set out in paragraph 4 above.

6. *Availability of record.* The record of views and comments received during the public review period, including a transcript of the hearing, will be maintained for public inspection at the headquarters of the Water Resources Council, 2120 L Street NW., Washington, DC 20037. Copies of the record, or portions thereof, will be furnished by the Council to any member of the public upon payment of the cost of reproducing the copies desired.

7. *Background of proposal.* These proposed Principles and Standards are based on over 2 years of intensive effort by the Water Resources Council.

The Council appointed a special task force to review evaluation practices currently used in planning. An initial public hearing was held in January 1969 to solicit public views. A preliminary report of the special task force proposing a multiobjective approach to planning water and land resources was published by the Council in June 1969. The Council directed that the issues and the proposals

in the report be widely discussed and tested on existing projects.

Nine public hearings were held at which about 200 oral statements were presented and nearly 400 other statements were submitted for the record. The preliminary task force report, of which about 5,000 copies have been distributed, has been the subject of discussion at numerous meetings and seminars. The report has been extensively reviewed by several Federal agencies and river basin commissions. In addition, 19 field tests have been made of the proposed procedures based on the preliminary task force report. On the basis of this information and suggestions of numerous experts from Federal and State Governments, universities, and other sources the task force submitted its final recommendations to the Water Resources Council in August 1970.

After careful consideration, the Council has made certain revisions in the task force recommendations and has tentatively adopted the attached revised Principles and Standards, subject to public review and comment and presidential approval.

8. *Effect.* The Principles and Standards, when approved, will supersede the Policies, Standards, and Procedures in the Formulation, Evaluation, and Review of Plans for Use and Development of Water and Related Land Resources, approved by the President, May 15, 1962, printed as Senate Document No. 97, 87th Congress, 2d session, together with Supplement No. 1 thereto, June 4, 1964, "Evaluation Standards for Primary Outdoor Recreation Benefits," and the amendment of December 24, 1968, 18 CFR § 704.89, "Discount Rate".

W. DON MAUGHAN,  
Director,  
Water Resources Council.

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#### PRINCIPLES, STANDARDS, AND PROCEDURES FOR WATER AND LAND RESOURCE PLANNING

The *Principles* provide the broad policy framework for planning activities and include the conceptual basis for planning.

The *Standards* provide for uniformity and consistency in comparing, measuring, and judging beneficial and adverse effects of alternative plans.

The *Procedures* provide more detailed methods for carrying out the various levels of planning activities, including the selection of objectives, the measurement of beneficial and adverse effects, and the comparison of alternative plans for action. Procedures are developed within the framework of Principles and the uniformity of Standards but will vary with the level of planning, the type of program, and the state-of-the-art of planning.

As indicated by these definitions, the concepts of Principles, Standards, and Procedures will evolve and change. Principles, reflecting major public policy and basic public investment theory, will change and evolve slowly. Standards, representing the best available techniques for the application of Principles, will change more frequently than Principles, as progress in the development of planning and evaluation techniques takes place. Procedures, detailed methods for the application of the Principles and Standards, will be subject to even more frequent revisions as experience, research, and planning conditions require such revision.

#### PROPOSED PRINCIPLES FOR PLANNING WATER AND LAND RESOURCES (DECEMBER 1971)

- I. Purpose and scope.
- II. Objectives.
- III. Beneficial and adverse effects.
- IV. General evaluation principles.
- V. Plan formulation.
- VI. System of accounts.
- VII. Cost allocation, reimbursement, and cost sharing.
- VIII. National program for Federal and federally assisted activities.
- IX. Implementation of principles.

#### I. PURPOSE AND SCOPE

These Principles are established for planning the use of the water and related land (hereinafter referred to as water and land) resources of the United States to achieve objectives, determined cooperatively, through the coordinated actions of the Federal, State, and local governments; private enterprise and organizations; and individuals.

These Principles provide the basis for Federal participation with river basin commissions, States, and others in the preparation, formulation, evaluation, review, revision, and transmittal to the Congress of plans for States, regions, and river basins; and for planning of Federal and federally assisted water and land resources programs and projects and Federal licensing activities as listed in the Standards by the Water Resources Council.

Plans for the use of the Nation's water and land resources will be directed to improvement in the quality of life through

contributions to the objectives of national economic development, environmental quality, and regional development. The beneficial and adverse effects on each of these objectives will be displayed in separate accounts with a fourth account for the beneficial and adverse effects on social factors. Planning for the use of water and land resources in terms of these multiobjects will aid in identifying alternative courses of action and will provide the type of information needed to improve the public decision-making process. The regional development objective will be used in formulating alternative plans only when directed.

#### II. OBJECTIVES

Existing or projected needs and problems expressed by the people through their local, State, regional, or national institutions have created a need for water and land resource management and use. These needs and problems are of such a multigovernmental nature that their resolution requires cooperation and coordination by many levels of government and private interests.

The overall purpose of water and land resource planning is to reflect society's preferences for attainment of the objectives defined below:

A. To enhance national economic development by increasing the value of the Nation's output of goods and services and improving national economic efficiency.

B. To enhance the quality of the environment by the management, conservation, preservation, creation, restoration, or improvement of the quality of certain natural and cultural resources and ecological systems.

C. To enhance regional development through increases in a region's income; increases in employment; distribution of population within and among regions; improvements of the region's economic base and educational, cultural, and recreational opportunities; and enhancement of its environment and other specified components of regional development.

#### III. BENEFICIAL AND ADVERSE EFFECTS

For each alternative plan there will be a complete display or accounting of relevant beneficial and adverse effects.

Beneficial and adverse effects are measured in monetary terms for the national economic development objective and the regional income component of the regional development objective and for some social factors.

Other beneficial or adverse effects are measured in nonmonetary terms for components of the environmental quality, for the nonincome components of the regional development objective, and for most social factors. Estimating these beneficial and adverse effects is undertaken in order to measure the net changes with respect to particular objectives that are generated by alternative plans. For each alternative plan the beneficial and adverse effects on social factors will also be displayed in the system of accounts.



The measurement of the effects in itself, however, does not necessarily constitute an indication that such effects are beneficial or adverse. A decision on this question depends on the nature of preferences regarding each effect. One group may consider an effect beneficial while another group considers it adverse.

Effects on some objectives and components are generally regarded as favorable. These include, for example, gains in national output. For other objectives and components, however, preferences will differ. This will certainly be true of some of the components making up the environmental quality objective. For such instances, multiobjective planning provides information which should facilitate planning decisions and reduce conflict over such decisions.

Thus, there are beneficial and adverse effects for national economic development, environmental quality, and regional development objectives and beneficial and adverse effects on social factors. These are measured in quantitative units or qualitative terms appropriate to a particular effect. The multiobjectives are not mutually exclusive with respect to beneficial or adverse effects, and final decisions as to the selection of the recommended plan will be made by considering the differences among alternative plans as to all their effects.

#### A. BENEFICIAL EFFECTS ON NATIONAL ECONOMIC DEVELOPMENT

National economic development beneficial effects are increases in the value of the output of goods and services and improvements in national economic efficiency resulting from a plan. These include:

- a. The value to users of increased outputs of goods and services; and
- b. The value of output resulting from external economies.

#### B. ADVERSE EFFECTS ON NATIONAL ECONOMIC DEVELOPMENT

National economic development adverse effects of a plan include:

- a. The value of resources required for a plan; and
- b. Losses in output resulting from external diseconomies.

#### C. BENEFICIAL AND ADVERSE EFFECTS ON THE ENVIRONMENT

The beneficial and adverse effects of the proposed plan on the environmental characteristics of an area under study or elsewhere in the Nation will be evaluated. Environmental effects will be displayed in terms of relevant physical and ecological criteria or dimensions, including the appropriate qualitative aspects. Such an evaluation would include the effects of the proposed plan on:

- a. Open and green space, wild and scenic rivers, lakes, beaches, shores, mountains and wilderness areas, estuaries, and other areas of natural beauty;
- b. Archeological, historical, biological, and geological resources and selected ecological systems;

c. The quality of water, land, and air resources; and

d. Irreversible commitments of resources to future uses.

#### D. BENEFICIAL AND ADVERSE EFFECTS ON REGIONAL DEVELOPMENT

The following beneficial or adverse effects of the proposed plan on a system of relevant planning regions (States, river basins, or communities) will be displayed:

a. *Income effects*—(1) *Beneficial*. (i) The value of increased outputs of goods and services from a plan to the users residing in the region under consideration;

(ii) The value of output to users residing in the region under consideration resulting from external economies;

(iii) The value of output in the region under consideration resulting from the use of resources otherwise unemployed or underemployed; and

(iv) Additional net income accruing to the region under consideration from the construction or implementation of a plan and from other economic activities induced by operations of a plan.

(2) *Adverse*. (i) The value of resources contributed from within the region under consideration to achieve the outputs of a plan;

(ii) Payment through taxes, assessments, or reimbursement by the region under consideration for resources contributed to the plan from outside the region;

(iii) Losses in output resulting from external diseconomies to users residing in the region under consideration;

(iv) Loss of assistance payments from sources outside the region to otherwise unemployed or underemployed resources and displaced resources residing in the region under consideration;

(v) Losses in output in the region under consideration resulting from resources displaced and subsequently unemployed; and

(vi) Loss of net income in the region under consideration from other economic activities displaced by construction or operation of a plan.

b. *Beneficial and adverse effects on other components of the regional development objective*. (1) The number and types of jobs resulting from a plan in the region under consideration;

(2) Effects of the plan on population distribution within the region under consideration and among regions in the Nation;

(3) The effect of the plan on the economic base and economic stability of the region under consideration;

(4) The effect of the plan on educational, cultural, and recreational opportunities in the region under consideration;

(5) The effect of the plan on the environment in the region under consideration; and

(6) The effect of the plan on other specified components of regional development.

#### E. BENEFICIAL AND ADVERSE EFFECTS ON SOCIAL FACTORS

The beneficial and adverse effects of a proposed plan on social factors will be displayed, including:

a. *Real income distribution*. The effects of a plan on the real income of classes or groups that are relevant to the evaluation of a plan will be displayed. All effects, both monetary and income in kind, will be included in this display.

b. *Life, health, and safety*. Plan effects on life, health, and safety other than those evaluated monetarily for the national economic development objective will be included here. Measurement techniques will vary but would largely be in terms of physical units.

c. *Emergency preparedness*. The effects of the plan on reserve capacities and flexibilities in water resource systems and protection against interruption of the flow of essential goods and services at times of national disaster or critical need will be displayed.

d. *Other*. The effects on other social factors may be identified and displayed as relevant to alternative plans.

#### IV. GENERAL EVALUATION PRINCIPLES

##### A. GENERAL SETTING

Full employment will be assumed except where local areas of chronic unemployment, underemployment, or other conditions indicate otherwise. Plan formulation and evaluation will be based on national and regional projections of employment, output, and population and the amounts of goods and services that are likely to be required. Actual or projected needs for water and land resources will be related to these projections. Alternative plans will take into account established standards and goals for the quality of the environment and regional development.

##### B. MEASUREMENT OF BENEFICIAL AND ADVERSE EFFECTS

Beneficial and adverse effects of each alternative plan will be determined by comparing the conditions expected with the plan to the conditions expected without the plan. Since substantial changes may be expected even in the absence of the plan, care should be taken that this fact is properly reflected in plan formulation and evaluation.

##### C. PRICE RELATIONSHIPS

When prices are used in evaluation they should reflect the real exchange values expected to prevail over the period of analysis. For this purpose, relative price relationships and the general level of prices prevailing during the planning study will be assumed to hold generally for the future, except where specific studies and considerations indicate otherwise.

##### D. THE DISCOUNT OR INTEREST RATE

The discount rate will be established in accordance with the following concept: The opportunity cost of all Federal investment activities, including



water resource projects, is recognized to be the real rate of return on non-Federal investments. The best approximation to the conceptually correct rate is the average rate of return on private investment in physical assets, including all specific taxes on capital or the earnings of capital and excluding the rate of general inflation, weighted by the proportion of private investment in each major sector.

#### E. CONSIDERATION AND COMPARISON OF ALTERNATIVES

A range of possible alternatives to meet needs and problems, including types of measures and alternatives capable of application by various levels of government and by nongovernmental interests, should be studied. These alternatives should be evaluated or judged as to their contributions to the multiobjectives.

Plans, or increments thereto, will not be recommended for Federal development that, although they have beneficial effects on the multiobjectives, would physically or economically preclude alternative non-Federal plans which would likely be undertaken in the absence of the Federal plan and which would more effectively contribute to the multiobjectives when comparably evaluated according to these Principles.

#### F. PERIOD OF ANALYSIS

The period of analysis will be the lesser of (1) the period of time over which the plan can reasonably be expected to serve a useful purpose considering probable technological trends affecting various alternatives, or (2) the period of time when further discounting of beneficial and adverse effects will have no appreciable effects on design. Appropriate consideration will be given to long-term environmental and social factors which may extend beyond periods significant for analysis of national economic development or regional development beneficial and adverse effects.

#### G. SCHEDULING

Plans should be scheduled for implementation in relation to needs so that desired multiobjective beneficial effects are achieved efficiently. Beneficial and adverse effects occurring according to different patterns in time are affected differently by the discount process when plans are scheduled for implementation at alternative future times. Therefore, plan formulation should analyze the alternative schedules of implementation to identify the schedule that would result in the most desirable mix of contributions to the multiobjectives when the beneficial and adverse effects of a plan are appropriately discounted.

#### H. RISK AND UNCERTAINTY

Risk is characterized by a distribution of events occurring according to reasonably well-known probabilities, even though their sequence and time of occurrence cannot be determined. Frequency analysis in hydrology, where long records are available or can be mathematically simulated, is an example of

predictable risk. In such situations, it may be necessary to choose between planning for average or probable conditions and planning for extreme events. When this is done, the nature of the choice and its relationship to the multiobjectives will be clearly stated. Predictable risk; based upon past experience, should not be divorced from predictable or foreseeable trends which would alter probabilities based solely upon previous experience.

Uncertainty is characterized by the absence of any known probability distribution of events. This is often the situation in water resources planning. The nature of uncertainty associated with the planning study, strategies proposed to deal with uncertainty, and their impact on the multiobjectives should be reported. In addition, sensitivity analysis may be employed to analyze uncertain situations.

#### I. SENSITIVITY ANALYSIS

Plans should be examined to determine their sensitivity to data availability and to alternative assumptions as to future economic, demographic, environmental, and technologic trends. Selected alternative projections and assumptions that are reasonably probable and that, if realized, would appreciably affect plan design or scheduling should be analyzed.

#### J. UPDATING PLANS

Because of rapid change in social economic, environmental, technologic, physical, and other factors, a plan that is not implemented within a reasonable time after completion should be reviewed as provided in the Standards, to ascertain whether it continues to be the best alternative to achieve the multiobjectives.

#### V. PLAN FORMULATION

Plans will be directed to the improvement in the quality of life by meeting current and projected needs and problems as identified by the desires of people in such a manner that improved contributions are made to society's preferences for national economic development and environmental quality and where approved in advance for regional development. These plans should be formulated to reflect national, regional, State, and local needs or problems.

Multiobjective planning of water and land resources is a part of broader public and private planning to meet regional and local needs and to alleviate problems. Therefore, planning for water and land resources should be carefully related to other regional or local planning activities and should include active participation of all interests.

Plans for water and land resources will focus upon the specified components of the multiobjectives desired for the designated region, river basin, State, or local planning setting. These are expressed in terms of projected needs and problems identified in each planning setting.

The planning process includes the following major steps:

(1) Specify components of the multiobjectives relevant to the planning setting;

(2) Evaluate resource capabilities and expected conditions without any plan;

(3) Formulate alternative plans to achieve varying levels of contributions to the specified components of the multiobjectives;

(4) Analyze the differences among alternative plans which reflect different emphasis among the specified components of the multiobjectives;

(5) Review and reconsider, if necessary, the specified components for the planning setting and formulate additional alternative plans as appropriate; and

(6) Select a recommended plan based upon an evaluation of the trade offs among the various alternative plans.

#### A. SPECIFICATION OF COMPONENTS OF THE MULTIOBJECTIVES

At the outset and throughout the planning process, the responsible planning organization will consult appropriate Federal, regional, State, and local groups to ascertain the components of the multiobjectives that are significantly related to the use and management of the resources in the planning setting. These will be expressed in terms of needs and problems.

The objective and components selected for use in formulating alternative plans should be of concern to the Nation, and the objectives should be those that can reasonably be expected to be substantially influenced through the management and development alternatives available to the planner. The objectives for which plans are formulated can be expected to change over time and between areas of the Nation as preferences and possibilities change and differ. These changes will be reflected in the Water Resources Council's Standards.

The components of the regional development objective are to be considered explicitly in plan formulation in a particular planning activity only with advance approval.

The specified components will be defined so that meaningful alternative levels of achievement are identified. This will facilitate the formulation of alternative plans in cases where there may be technical, legislative, or administrative constraints to full achievement of objectives.

#### B. EVALUATION OF CONDITIONS WITHOUT A PLAN

The identification of the specified components of objectives will necessarily involve an appraisal of future economic, environmental, and social conditions expected without the plan as compared with those desired by people for the planning area. In addition, a sufficient inventory and appraisal of the water and land resource base of the planning area will be necessary.

#### C. FORMULATION OF ALTERNATIVE PLANS

The planning process involves an evaluation of alternative means, including both structural and nonstructural measures, to achieve desired objectives.



Based upon identified needs and problems, alternative plans will be prepared and evaluated in the context of their contributions to the multiobjectives. This involves comparisons among objectives, and it will be necessary to formulate alternative plans that reflect different relative emphasis among the objectives for the planning setting.

The number of alternative plans to be developed for each planning effort will depend upon complementarities or conflicts among specified components of the objectives, resource capabilities, technical possibilities, and the extent to which the design of additional alternative plans can be expected to contribute significantly to the choice of a recommended plan. Because planning staffs are limited, emphasis should be placed on examination of those waters and land-use plans which may have appreciable effects on objectives.

With respect to the number of alternative plans there will be a continuing dialog among the Water Resources Council, river basin commissions, and other planning groups, emphasizing on the one hand the need for national guidelines and overview of objectives for which alternative plans are formulated, and on the other the special insights into local planning situations that field level teams may develop.

Appropriate methods and techniques for estimating beneficial and adverse effects will be used to provide reliable estimates of the consequences and feasibility of each alternative plan.

In cases where the trade offs among objectives are judged to be significant in the context of either national priorities or more localized priorities, an alternative plan will be formulated to emphasize the contributions to each such objective. One such alternative plan will be formulated in which optimum contributions are made to the national economic development objective. Additionally, during the planning process at least one alternative plan will be formulated which emphasizes the contributions to the environmental quality objective. Other alternative plans reflecting significant trade offs among the national economic development and environmental quality objectives may be formulated so as not to overlook a best overall plan.

Alternative plans emphasizing contributions to specified components of the regional development objectives will be prepared only with advance approval.

Major increments proposed for addition to a plan intended to serve a single objective will be included only if the beneficial effects on that objective of the addition outweigh the adverse effects. For example, an increment to an alternative plan proposed for the national economic development objective would be added only if the additional beneficial effects exceeded the additional adverse effects, and similarly for all objectives. For plans emphasizing some combination of objectives, the incremental rule applies to the combination of objectives that is relevant.

#### D. ANALYSIS OF ALTERNATIVE PLANS

The display of beneficial and adverse effects for each alternative plan will be prepared so that the differences among alternatives can be clearly shown and accurately analyzed. The analysis will provide the rationale for the selection of a recommended plan and the underlying evaluation of the various alternative plans. This analysis will provide the information on which the planning organization and others can base judgments as to the most desirable mix of beneficial effects on objectives as compared with the adverse effects.

The trade offs among alternative plans should be displayed as fully as possible for the components of all objectives and for effects on social factors to facilitate administrative and legislative review and decision.

#### E. RECONSIDERATION OF SPECIFIED COMPONENTS OF THE MULTIOBJECTIVES

As planning proceeds, the specified components will be reviewed and reconsidered as appropriate. This reconsideration may result from new information, revised projections, changes in policy, or technological innovations. Reconsideration of components may result in modifying alternatives or developing additional alternative plans.

#### F. PLAN SELECTION

From its analysis of alternative plans, the planning organization will select a recommended plan. The plan selected will reflect the importance attached to different objectives and the extent to which different objectives can be achieved by carrying out the plan.

The recommended plan should be formulated so that beneficial and adverse effects toward objectives reflect, to the best of current understanding and knowledge, the priorities and preferences expressed by the public at all levels to be affected by the plan.

In addition to the recommended plan with supporting analysis, other significant alternative plans embodying different priorities among the desired objectives will be presented in the planning report. Included with the presentation of alternative plans will be an analysis of the trade offs among them. The trade offs will be set forth in explicit terms, including the basis for choosing the recommended plan from among the alternative plans.

#### VI. SYSTEM OF ACCOUNTS

A system of accounts will be established that displays beneficial and adverse effects of each plan to the multiobjectives and beneficial and adverse effects on social factors and provides a basis for comparing alternative plans. The display of beneficial and adverse effects will be prepared in such manner that the different levels of achievement to each objective can be readily discerned and compared, indicating the trade offs among alternative plans.

For purposes of accounting for the regional development objective, the system of accounts will display the beneficial

and adverse effects in the region under consideration in relation to the other parts of the Nation. The Water Resources Council will establish a procedure for relating regional accounts to the rest of the Nation. The use of such reporting regions will not, however, rule out the use of other regions whose delineations are important in measuring beneficial or adverse effects on specified components of the regional development objective.

#### VII. COST ALLOCATION, REIMBURSEMENT, AND COST SHARING

##### A. COST ALLOCATION

On the basis of the identification provided for in the system of accounts for beneficial and adverse effects, an allocation of appropriate costs shall be made when an allocation of costs is required for purposes of establishing reimbursement levels, pricing policies, or cost sharing between the Federal Government and non-Federal public and private interests. All objectives and components of objectives shall be generally treated comparably in cost allocation and are entitled to their fair share of the advantages resulting from a multiobjective plan.

##### B. REIMBURSEMENT AND COST SHARING

Reimbursement and cost-sharing policies shall be directed generally to the end that identifiable beneficiaries bear an equitable share of cost commensurate with beneficial effects received in full cognizance of the multiobjectives. Since existing cost-sharing policies are not entirely consistent with the multiobjective approach to planning water and land resources, these policies will be reviewed and needed changes will be recommended.

#### VIII. NATIONAL PROGRAM FOR FEDERAL AND FEDERALLY ASSISTED ACTIVITIES

The principles set forth in this document are concerned with alternative plans for individual projects, States, regions, or river basins. The evaluation, systematic display, and comparison of alternative plans for a project, State, region, or river basin provide the basis for selecting a recommended plan.

The formulation of national programs for Federal and federally assisted water and land resource activities requires that priorities be established among recommended plans for projects, States, regions, and river basins. The system of accounts, together with other criteria, such as available budget resources, national policy toward the environment or regional development, and public and private investment alternatives, will provide a basis for formulating national programs.

#### IX. IMPLEMENTATION OF PRINCIPLES

The Water Resources Council will implement these Principles by establishing Standards for planning water and land resources in accordance with the Water Resources Planning Act.

The Water Resources Council will establish procedures as necessary to carry out the established Principles and Standards.



Included in the Water Resources Council's Standards and Procedures will be provision for coordination among Federal and State agencies and among public and private interests affected by water and land resource plans.

The Council will also specify appropriate procedures for the review and transmission of planning reports to States, Federal agencies, the Office of Management and Budget, the Council on Environmental Quality, and the Congress. The Council may also provide for review of individual project studies to determine their relationships to regional and river basin plans and their conformance with the Council's evaluation standards. The Council will consider any unresolved coordination problem.

The Water Resources Council will foster needed training and development of manpower, improvements in mathematical and other planning tools, and research to increase the efficiency of planning efforts. The Principles, Standards, and Procedures should be based at any given time on the best available interpretation of conceptual and empirical bases for planning water and land resources. The Council will encourage and support needed improvements in the application of the conceptual and theoretical planning and decisionmaking framework upon which these Principles are based. The Council will also encourage and support improvement in the conceptual and theoretical framework.

The Council in its Standards and Procedures will make adjustments for deviations from the Principles that may be required by law or Executive order.

The Water Resources Council will review these Principles from time to time and after consultation with others will recommend improvements for consideration of the President.

#### PROPOSED STANDARDS FOR PLANNING WATER AND LAND RESOURCES (DECEMBER 1971)

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#### I. PURPOSE AND SCOPE

##### A. AUTHORITY

These Planning Standards implement the Principles for Planning Water and Land Resources approved by the President on \_\_\_\_\_

These standards shall apply, as appropriate, to the activities referred to in subsection B of this section except for any adjustments required by law or Executive order. Adjustments required for special situations where the application of these Standards is not practical may be made and will be developed by the

concerned agency or entity in consultation with the Water Resources Council.

Although these standards are not binding upon State and local bodies participating in water and land resources planning, it is intended that the standards be broad and flexible enough to accommodate the goals and objectives of such entities. The standards apply to Federal participation in Federal-State cooperative planning and should also provide a useful guide to State and local planning.

The Water Resources Planning Act of 1965, as amended, is found in Appendix A.

##### B. ACTIVITIES COVERED

1. *Comprehensive planning.* These standards apply to Federal participation in comprehensive framework studies and assessments and regional or river basin planning of water and land resources whether carried out—

(a) By river basin commissions established under the Water Resources Planning Act;

(b) By entities performing the functions of a river basin commission, including, but not limited to, such entities as:

- (1) Federal-interstate compact commissions;
- (2) Federal-State interagency committees;
- (3) Federal-State coordinating committees;
- (4) Federal-State development commissions;
- (5) Lead Federal agency with special authorization for comprehensive planning;
- (6) Other entities designated by the Council engaged in comprehensive water and land resource planning with coordinated Federal technical or financial assistance.

In formulating plans to meet the multiobjective all alternative means shall be considered, including, but not limited to, water and land programs to be carried out directly by the Federal Government, Federal financial and technical participation in water and land programs to be carried out by State or other non-Federal entities, and Federal licensing activities that affect the development, conservation, and utilization of water and land resources.

2. *Federal and federally assisted programs and projects.* These standards apply to the planning and evaluation of the effects of the following water and land programs, projects, and activities carried out directly by the Federal Government and by State or other entities with Federal financial or technical assistance:

- (a) Corps of Engineers civil functions;
- (b) Bureau of Reclamation projects;
- (c) Federally constructed watershed and water and land programs;
- (d) National parks and recreation areas;
- (e) Wild, scenic, and recreational rivers;
- (f) Wetland and estuary projects and coastal zones;
- (g) Federal waterfowl refuges;

(h) Tennessee Valley Authority;

(i) Federal assistance to State and local government sponsored watershed and water and land resource programs (Watershed Protection and Flood Prevention Projects and Resource Conservation and Development Projects).

The Water Resources Council will, as appropriate, with the concurrence of the Office of Management and Budget, amend these standards to add to or delete from the list of programs to be covered.

##### C. LEVELS OF PLANNING

These standards apply to all levels of planning as defined by the Water Resources Council.

Framework studies and assessments are the evaluation or appraisal on a broad basis of the needs and desires of people for the conservation, development, and utilization of water and land resources and will identify regions or basins with complex problems which require more detailed investigations and analysis, and may recommend specific implementation plans and programs in areas not requiring further study. They will consider Federal, State, and local means and will be multiobjective in nature.

Regional or river basin studies are reconnaissance-level evaluation of water and land resources for a selected area. They are prepared to resolve complex long-range problems identified by framework studies and assessments and will vary widely in scope and detail; will involve Federal, State, and local interests in plan formulation; and will identify and recommend action plans and programs to be pursued by individual Federal, State, and local entities. They will be multiobjective in nature.

Implementation studies are program or project feasibility studies generally undertaken by a single Federal, State, or local entity for the purpose of authorization or development of plan implementation. These studies are conducted to implement findings, conclusions, and recommendations of framework studies and assessments and regional or river basin studies which are found to be needed in the next 10 to 15 years. As with framework studies and regional or river basin studies, they will be multiobjective in nature.

##### D. RESPONSIBILITY FOR APPLYING STANDARDS

The Federal chairman and the representatives of the Federal agencies participating in a river basin commission established under the Water Resources Planning Act are responsible for applying these standards.

The study director provided or designated by the Water Resources Council or by river basin commissions (in their areas) and Federal members of coordinating bodies established or designated by the Council to carry out framework studies and assessments and regional or river basin planning studies are responsible for applying these standards.

The administrator of each Federal program or federally assisted program



covered under this section is responsible for applying these standards to his program. Each Federal administrator shall follow these standards in establishing agency procedures for evaluation of programs and projects for conservation, development, and utilization of water and land resources.

The Board of Directors of the Tennessee Valley Authority, responsible for framework studies and assessments, regional and river basin planning studies and implementation studies for the Tennessee River Basin, and the Federal representatives of other entities performing the functions of a river basin commission shall apply these standards except for any adjustments required by law or Executive order or for special situations where the application of these standards is not practical.

Proposed Federal agency procedures, and revisions thereto, to implement these standards will be referred to the Water Resources Council for review for consistency with these standards.

#### E. SCHEDULE FOR APPLYING STANDARDS

After approval of the Principles by the President, the principles and standards will apply to all levels of planning studies except projects which have been authorized or have been submitted to the 92d Congress for authorization prior to the approval date. The principles and standards shall be applied to ongoing planning studies, provided that the responsible agency or entity may request an exception from the Water Resources Council for those studies nearing completion. Plans, programs, or projects which have been authorized by the Congress and on which actual construction or other similar activity has not commenced within 5 years after authorization will be reviewed in accordance with these principles and standards.

### II. OBJECTIVES

#### A. INTRODUCTION

The Principles for Planning Water and Land Resources define the objectives of national economic development, environmental quality, and regional development. These multiobjectives provide the basis for the formulation of project, State, region, and river basin plans for the use of water and land resources to meet foreseeable short- and long-term needs and have been explicitly stated or implied in numerous congressional enactments and Executive actions. The most notable of these actions in water and related areas are summarized below.

In the Flood Control Act of 1936, the Congress declared that benefits of Federal projects should exceed costs. Interpretation of this statute has resulted in development of various analytical procedures to evaluate the benefits and costs of proposed projects. These procedures have centered around a national economic efficiency analysis and were first published as "Proposed Practices for Economic Analysis of River Basin Projects" in May 1950 and revised in May 1958. Budget Bureau Circular No. A-47 was issued on December 31,

1952, informing the agencies of considerations which would guide the Bureau of the Budget in its evaluations of projects and requiring uniform data that would permit comparisons among projects.

On October 6, 1961, the President requested the Secretaries of Interior, Agriculture, Army, and Health, Education, and Welfare to review existing evaluation standards and to recommend improvements. Their report, "Policies, Standards, and Procedures in the Formulation, Evaluation, and Review of Plans for Use and Development of Water and Related Land Resources," was approved by the President on May 15, 1962, and published as Senate Document No. 97, 87th Congress, 2d Session. This document replaced Budget Bureau Circular No. A-47 and in turn has been superseded by the "Principles for Planning Water and Land Resources," approved by the President on \_\_\_\_\_, and these "Standards for Planning Water and Land Resources."

By enacting the laws enumerated below and others, the Congress has broadened the objectives to be considered in water and land resources planning.

The multiobjectives as defined in the principles and set forth in more detail in these standards provide a flexible planning framework that is responsive to and can accommodate changing national needs and priorities.

The statement of the objectives and specification of their components in these standards is without implication concerning priorities to be given to them in the process of plan formulation and evaluation. These standards, nonetheless, do recognize and make provision for a systematic approach by which the general public and decisionmakers can assess the relative merits of achieving alternative levels of satisfaction to several objectives where there may be conflict, competition, or complementarity among them. This will provide the type of information needed to improve the public decisionmaking process.

#### B. MAJOR CONGRESSIONAL DIRECTIVES

Many laws that give new or more definitive directions to Federal participation in planning for water and land resources have been passed in recent years. Some major enactments are:

The Appalachian Regional Development Act of 1965 (Public Law 89-4), authorizes the preparation of a comprehensive plan for development of water and related land resources of the region as a means of expanding economic opportunities. The plan for water and land resources is to be an integral and harmonious component of the regional economic development program authorized by the Act.

The Federal Water Project Recreation Act of 1965 (Public Law 89-72), provides for full consideration of opportunities for recreation and fish and wildlife enhancement in Federal projects under specified cost allocation and cost-sharing provisions.

The Water Resources Planning Act of 1965 (Public Law 89-80), establishes a comprehensive planning approach to the conservation, development, and use of water and related land resources. The Act emphasizes joint Federal-State cooperation in planning and consideration of the views of all public and private interests. Section 103 of the Act provides that "The Council shall establish, after such consultation with other interested entities, both Federal and non-Federal, as the Council may find appropriate, and with the approval of the President, principles, standards, and procedures for Federal participants in the preparation of comprehensive regional or river basin plans and for the formulation and evaluation of Federal water and related land resources projects."

The Act further provides in section 102(b) that "The Council shall \* \* \* maintain a continuing study of the relation of regional or river basin plans and programs to the requirements of larger regions of the Nation and of the adequacy of administrative and statutory means for the coordination of the water and related land resources policies and programs of the several Federal agencies; it shall appraise the adequacy of existing and proposed policies and programs to meet such requirements; and it shall make recommendations to the President with respect to Federal policies and programs."

The Act also provides in section 301(b) that "The Council, with the approval of the President, shall prescribe such rules, establish such procedures, and make such arrangements and provisions relating to the performance of its functions under this title, and the use of funds available therefor, as may be necessary in order to assure (1) coordination of the program authorized by this title with related Federal planning assistance programs, including the program authorized under section 701 of the Housing Act of 1954 and (2) appropriate utilization of other Federal agencies administering programs which may contribute to achieving the purpose of this Act."

The Water Resources Planning Act, as amended, is attached as Appendix A.<sup>1</sup>

The Public Works and Economic Development Act of 1965 (Public Law 89-136) establishes national policy to use Federal assistance in planning and constructing public works to create new employment opportunities in areas suffering substantial and persistent unemployment and underemployment. The Act provides for establishing Federal-State regional commissions for regions that have lagged behind the Nation in economic development.

The Water Quality Act of 1965 (Public Law 89-234) and subsequent amendments provides for establishing water quality standards for interstate waters. These water quality standards provide requirements and goals that must be incorporated into planning procedures.

<sup>1</sup> Appendix A filed as part of the original document.



In authorizing the Northeastern Water Supply Study in 1965 (Public Law 89-298), Congress recognized that assuring adequate supplies of water for the great metropolitan centers of the United States has become a problem of such magnitude that the welfare and prosperity of this country require the Federal Government to assist in solution of water supply problems.

The Clean Water Restoration Act of 1966 (Public Law 89-753) provides assistance for developing comprehensive water quality control and abatement plans for river basins.

The Department of Transportation Act of 1966 (Public Law 89-670) provides standards for evaluating navigation projects and provides for the Secretary of Transportation to be a member of the Water Resources Council.

The Wild and Scenic Rivers Act of 1968 (Public Law 90-542) provides that in planning for the use and development of water and related land resources consideration shall be given to potential wild, scenic, and recreational river areas in river basin and project plan reports, and comparisons are to be made with development alternatives which would be precluded by preserving these areas.

The National Flood Insurance Act of 1968 (title XIII, Public Law 90-448) provides that States, to remain eligible for flood insurance, must adopt acceptable arrangements for land use regulation in flood-prone areas. This provision, together with Executive Order 11296, August 10, 1966, places increased emphasis on land use regulations and administrative policies as means of reducing flood damages. Planning policies must include adequate provision for these new enactments and directives in an integrated program of flood-plain management.

The Estuary Protection Act of 1968 (Public Law 90-454) outlines a policy of reasonable balance between the conservation of the natural resources and natural beauty of the Nation's estuarine areas and the need to develop such areas to further the growth and development of the Nation.

The National Environmental Policy Act of 1969 (Public Law 91-190) authorizes and directs Federal agencies in the decision-making process to give appropriate consideration to environmental amenities and values, along with economic and technical consideration. The results of this analysis are to be included in proposals for Federal action.

The Environmental Quality Improvement Act of 1970 (title II of Public Law 91-224) further emphasizes congressional interest in improving the environment and the major responsibility that State and local governments have for implementing this policy.

The Flood Control Act of 1970 (Public Law 91-611) includes the following statement: "It is the intent of Congress that the objectives of enhancing regional economic development, the quality of the total environment, including its protection and improvement, the well-being of the people of the United States, and the

national economic development are the objectives to be included in federally financed water resource projects, and in the evaluation of benefits and costs attributable thereto, giving due consideration to the most feasible alternative means of accomplishing these objectives."

#### C. RELATIONSHIPS OF PROGRAM MEASURES TO OBJECTIVES

Formulating courses of action that effectively contribute to the attainment of the multiobjectives is the paramount task of water and land resources planning. These actions are only the means by which multiobjectives can be attained. For instance, providing flood control or preserving a scenic river is meaningful only to the extent that such actions contribute to specific needs that can be related to the multiobjectives. Thus, plans are to be evaluated in terms of their beneficial or adverse effects on the multiobjectives.

These standards relate primarily to the planning of water and land resource programs that contribute to specified components of the multiobjectives. It is recognized that other programs may also contribute to these objectives. In some instances, water and land programs are the only means or are the most effective means to achieve the objectives. In the usual case, however, it is likely that a combination of water and land program and other programs will be the most effective means to achieve the desired objectives. In the formulation of plans, therefore, these standards provide for the consideration of the full range of alternatives relevant to the needs for water and land resources.

A given plan formulated for one or several components of the multiobjectives may affect components of other objectives in a beneficial or adverse manner. This joint effect relationship is a common occurrence in plan formulation. Its presence necessitates that the full range of effects of plans be shown in terms of specified components of objectives regardless of the size of the effect or the component for which an alternative plan has been formulated.

#### D. OBJECTIVES

1. *National Economic development.* The national economic development objective is enhanced by increasing the value of the nation's output of goods and services and improving national economic efficiency.

National economic development reflects increases in the Nation's productive output, an output which is partly reflected in a national product and income accounting framework designed to measure the continuing flows of goods and services into direct consumption or investment.

In addition, national economic development is affected by beneficial and adverse externalities stemming from normal economic production and consumption, imperfect market conditions, and changes in productivity of resource inputs due to investment. National eco-

omic development is broader than that the availability of public goods which are not accounted for in the national product and income accounting framework. Thus, the concept of national economic development is broader than that of national income and is used to measure the impact of governmental investment on the total national output. The gross national product and national income accounts do not give a complete accounting of the value of the output of final goods and services resulting from governmental investments because only government expenditures are included. This is especially true in those situations where governmental investment is required to overcome imperfections in the private market. Therefore, national economic development as defined in these standards is only partially reflected in the gross national product and national income accounting framework.

A similar situation prevails where a private investment results in the production of final public goods or externalities that are not exchanged in the market.

Components of the national economic development objective include:

(a) The value to users of increased outputs of goods and services resulting from a plan. Developments of water and land resources result in increased production of goods and services which can be measured in terms of their value to the user. Increases in crop yields, expanding recreational use, and peaking capacity for power systems are examples of direct increases in the Nation's output which result from water and related land resources developments. Moreover, such developments often result in a change in the productivity of natural resources and the productivity of labor and capital used with these resources. Increased earnings from changes in land use, reduced disruption of economic activity due to droughts, floods and fluctuating water supplies, and removal of constraints on production through increased water supplies are examples of direct increases in productivity from water and land development that contribute to national output.

(b) The value of output resulting from external economies. In addition to the value of goods and services derived by users of outputs of a plan, there may be external gains to other individuals or groups.

2. *Environmental quality.* The environmental objective is enhanced by the management, conservation, preservation, creation, restoration, or improvement of the quality of certain natural and cultural resources and ecological systems in the area under study and elsewhere in the Nation. This objective reflects society's concern and emphasis for the natural environment and its maintenance and enhancement as a source of present enjoyment and a heritage for future generations.

Explicit recognition should be given to the desirability of diverting a portion of the Nation's resources from production of more conventional market-oriented goods and services in order to



accomplish environmental objectives. As incomes and living levels increase, society appears less willing to accept environmental deterioration in exchange for additional goods and services in the market place.

Responsive to the varied spiritual, psychological, recreational, and material needs, the environmental objective reflects man's abiding concern with the quality of the natural physical-biological system in which all life is sustained. However, to the extent that man's environmental concerns are expressed in terms of population dispersion, urban-rural balance, urban congestion, and the like, these aspects are contained in the regional development objective.

Components of the environmental objective include the following:

(a) Management, protection, enhancement, or creation of areas of natural beauty and human enjoyment such as open and green space, wild and scenic rivers, lakes, beaches, shores, mountain and wilderness areas, and estuaries;

(b) Management, preservation, or enhancement of especially valuable or outstanding archeological, historical, biological (including fish and wildlife habitat), and geological resources and ecological systems;

(c) Enhancement of quality aspects of water, land, and air by control of pollution or prevention of erosion and restoration of eroded areas embracing the need to harmonize land use objectives in terms of productivity for economic use and development with conservation of the resource;

(d) Avoiding irreversible commitments of resources to future uses: While all forms of development and use affect and sometimes change the tenuous balance of fragile aquatic and terrestrial ecosystems, the implication of all possible effects and changes on such systems is imperfectly understood at the present time. In the absence of absolute measures or standards for reliably predicting ecological change, these planning standards emphasize the need for a cautionary approach in meeting development and use objectives in order to minimize or preclude the possibility of undesirable and possible irreversible changes in the natural environment;

(e) Others: Given its broad and pervasive nature, it is not practical to specifically identify in these standards all possible components of the environmental quality objective. If other components are recognized, they should be explicitly identified and accommodated in the planning process.

3. *Regional development.* Enhancement of regional development comes about through increases in a region's income, increases in employment, and improvement of the economic base, environment, and other specified components of the regional development objective. Water and land resource plans contribute in a variety of ways to a given regional economy. These effects can include the contribution to regional development objectives resulting from plans formulated

to meet other objectives as well as contributions to one or more of the explicit regional development objectives.

Components of the regional development objective include:

(a) *Increases in regional income.* As a part of the national economy, analysis of the increase in income for a designated region reflects several parallel components of the national economic development objective. Consequently, increases in regional income embrace the following components of that objective:

(1) The value of increased outputs of goods and services from a plan to the users residing in the region under consideration; and

(2) The value of output to users residing in the region under consideration resulting from external economies caused by a plan.

In addition to the parallel components, regional income includes the value of output in the region under consideration resulting from the use of resources otherwise unemployed or underemployed and net income accruing to the region under consideration from the construction or implementation of a plan and from other economic activities induced by operations of a plan.

(b) *Effects on other components of the regional development objective.* (1) Achieving desirable population dispersal and urban-rural balance through distribution of population and employment opportunities.

The rapid and anticipated continued urbanization of the Nation portends an enormous agenda of social, economic, and environmental problems. Society's current problems of noise, congestion, crime, housing, physical and mental health, education, lack of open space, and general environmental deterioration will be greatly intensified. In view of the diverse and widespread effects of population concentration on society generally, a national policy toward accommodating and better rationalizing the urbanization process including a better urban-rural balance in population and employment is a major component of regional development. Water and land resource programs and projects through the goods and services they provide, as well as the economic expansion opportunities or environmental setting they create, can effectively contribute, together with other programs, to a more desirable distribution of population and employment within each region and throughout the Nation.

(2) *Increases in regional employment.*

Since employment and employment opportunities provide the means to hold and increase the base population and to otherwise contribute to attainment of a viable economic and social community, they are of concern to all regions. Although there will be exceptions, in general it may be anticipated that increases in regional income discussed above will be compatible with programs for increasing regional employment.

(3) *Enhancement of the regional economic base and stability.*

A major component of the regional development objective is the attainment of a flexible and responsive economic posture that enables it to withstand the changing composition of the economy over time due to advances in technology, changes in consumer behavior affecting intermediate and final demands, and related changes in production. Where the existing economic base of a region may be too narrow and specialized, public investments in water and land resources can be effective toward broadening its economic base.

(4) *Enhancing educational, cultural, and recreational opportunities.*

With better distribution of income, population, and employment, the enjoyment of life is enhanced by improved community services, better schools, and more cultural and recreational opportunities in the region.

(5) *Enhancement of environmental conditions of concern to the region.*

Consistent with the components of environmental objectives set forth above, water and land resource plans can make positive contributions to enhancing components of the environmental objectives that have special significance for the region under consideration.

(6) *Enhancement of other specified components of the regional development objective.*

### III. BENEFICIAL AND ADVERSE EFFECTS

#### A. INTRODUCTION

For each alternative plan there will be a complete display or accounting of relevant beneficial and adverse effects.

Beneficial and adverse effects are measured in nonmonetary terms for conditional economic development objective, for the regional income component of the regional development objective, and for some social factors.

Other beneficial or adverse effects are measured in nonmonetary terms for components of the environmental quality objective, for the nonincome components of the regional development objective, and for most social factors. Estimating these beneficial and adverse effects is undertaken in order to measure the net changes with respect to particular objectives that are generated by alternative plans. For each alternative plan the beneficial and adverse effects on social factors will also be displayed in the system of accounts.

The measurement of the effects in itself, however, does not necessarily constitute a statement that such effects are beneficial or adverse. A decision on this question depends on the nature of preferences regarding each effect. One group may consider an effect beneficial while another group considers it adverse.

Effects on some objectives and components are generally regarded as favorable. These include, for example, gains in national output. For other objectives and components, however, preferences will differ. This will certainly be true of some of the components making up the environmental quality objective. For such



instances, multiobjective planning provides information which should facilitate planning decisions and reduce conflict over such decisions.

1. *Relationship of beneficial and adverse effects to objectives.* Since beneficial and adverse effects have meaning only when identified with an objective, there are beneficial and adverse effects for national economic development, environmental quality, and regional development. Effects of alternative plans on social factors will also be displayed. Also, since beneficial and adverse effects may be of a monetary or nonmonetary nature, they may be measured in dollars or in physical, biological, or other quantitative units or qualitative terms appropriate to the objective.

The objectives are not mutually exclusive with respect to beneficial and adverse effects. Comparisons and evaluations of plans require measurement or quantification of similar effects in terms of common standards. The selected standards may be in terms of dollars, acres of land, acre-feet or cubic-feet-per-second of water, miles of trails or streams, number of people, and so on. The nonmonetary measures must include appropriate qualitative dimensions.

2. *Incidence of beneficial and adverse effects.* The distribution in place and time of beneficial and adverse effects to the multiobjectives is an important consideration in the evaluation of plans. Those who are benefited or adversely affected by a plan may be located within the planning area or region, or they may be in an area or region immediately adjacent, or they may be in distant regions which are noncontiguous with the planning area. The beneficial and adverse effects may also occur immediately or in the future in any of the areas or regions.

3. *With and without analysis.* In planning water and land resources, beneficial and adverse effects of a proposed plan should be measured by comparing the estimated conditions with the plan with the conditions expected without the plan. Thus, in addition to projecting the beneficial and adverse effects expected with the plan in operation, it is necessary to project the conditions likely to occur in the absence of a plan. Economic, social, and environmental conditions are not static, and changes will occur even without a plan. Only the new or additional changes that can be anticipated as a result of a proposed plan should be attributed as beneficial and adverse effects of the plan.

4. *Monetary beneficial effects.* For many goods and services the conventional market mechanism or simulation thereof provides a valid measure of exchange values, expressed in monetary terms. The values determined by the market may need adjustment to account for imperfect market conditions. Contributions to national economic development and the income component of regional development are of the monetary type of beneficial effects. In addition, certain components of the environmental objective can be analyzed in terms of

monetary values as can effects on social factors.

5. *Monetary adverse effects.* Adverse effects toward the multiobjective result, just as beneficial effects do, from the implementation of a particular plan. Values for some adverse effects can be based on or derived from actual or simulated market prices. For example, the costs of goods and services used in constructing and operating a project or payment for damages even though no goods or services are being acquired can be derived from actual market prices. The prices determined by the market may need adjustment to account for imperfect market conditions. Some adverse effects are not represented by actual cash expenditures; but market prices can be used to estimate or derive the appropriate monetary values by use of a simulated market price or by observing market prices for similar goods and services.

6. *Nonmonetary beneficial effects.* There are many effects which cannot or should not be expressed in monetary values. This is true of many contributions to the environmental quality objective and to several of the components of the regional development objective as well as effects on social factors.

When effects cannot or should not be expressed in monetary terms, they will be set forth, insofar as is reasonably possible, in appropriate quantitative and qualitative physical, biological, or other measures reflecting the enhancement or improvement of the characteristics relevant to the components of the objective under consideration.

When specified minimum technical or institutional standards related to environmental quality and regional development objectives will be met or otherwise exceeded, they will be explicitly identified.

If particular nonmonetary beneficial effects or services are not amenable to quantitative measurement, they should be described as fully as possible in appropriate qualitative terms.

7. *Nonmonetary adverse effects.* There are adverse effects that cannot be valued by market prices and direct compensation for these adverse effects may not be possible. Nevertheless, they should be accounted for by use of appropriate nonmonetary values or described as carefully as possible. The nonmonetary values may be expressed in terms of a physical, biological, or other quantitative units or qualitative terms.

The adverse effects of a nonmonetary nature will generally be related to the environmental quality objective and to several of the components of the regional development objective. Adverse effects on social factors may also be expressed in nonmonetary terms.

#### B. BENEFICIAL EFFECTS OF NATIONAL ECONOMIC DEVELOPMENT

Beneficial effects of national economic development are the increases of the value of the output of goods and services and improvements in national economic efficiency.

1. *General measurement concepts.* There are two basic sources of increased output of goods and services that contribute toward enhancing national economic development. First, additional resources may be employed using normal production techniques, as, for example, in the application of irrigation water and other associated resources to land for the production of agricultural commodities or in the use of electric power and other associated resources for the production of aluminum. Second, resource productivity changes may be induced by the plan, resulting in more efficient production techniques to be used to achieve a higher level of output from the same resources or the same level of a specific output with fewer resources than would be achieved without the plan. In the latter case, the release of productive resources which can be employed elsewhere in the economy for the production of other goods and services ultimately results in an increase in national output as a consequence of a plan. These two sources of increased output may apply to situations in which the plan results in the production of final consumer goods or intermediate producer goods utilized by direct users; and they may also apply in situations in which firms are indirectly affected through economic interdependence with firms which utilize the intermediate producer goods from the plan.

For convenience of measurement and analysis, beneficial effects of national economic development are classified as follows:

- The value to users of increased outputs of goods and services from a plan; and
- The value of output resulting from external economies caused by a plan.

In each case, with and without analysis must be applied to ascertain that with a plan there is a net increase in the production of goods and services, regardless of source, over those that would be obtained in the absence of the plan.

The general measurement standard for increases in the national output of goods and services will be the total value of the increase, where total value is defined as the willingness of users to pay for each increment of output from a plan. Such a value would be obtained if the "seller" of the output was able to apply a flexible unit price and charge each user (consumer) an individual price to capture the full value of the output to the user. This concept is illustrated in figure 1.

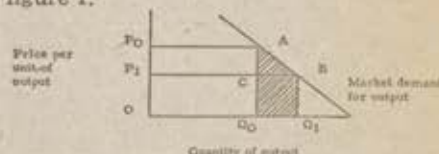


FIGURE 1.—Total value or willingness to pay for increased output.

Assuming the normal demand-output relationship, additional plan output will be taken by users as the unit price of output falls. If, as a result of the plan, output is increased by an amount  $Q_1 - Q_0$ , the total value of this additional output



to the users is measured by the entire shaded area on the chart. This is a larger amount than would be reflected by the market value. It is the sum of market price times increased quantity (represented by the rectangle CBQ<sub>0</sub>Q<sub>1</sub>) plus the consumer surplus for that increase (represented by the triangle ABC).

Since, in most instances, it is not possible for the planner to measure the actual demand situation, three alternative techniques can be used to obtain an estimate of the total value of the output of the plan—willingness to pay, change in net income, and the most likely alternative.

If the additional output from a plan is not expected to have a significant effect on price, actual or simulated market prices will closely approximate the total value of the output. This is true because there would be no consumer's surplus. If the additional output is expected to significantly influence market price (as in figure 1), a price midway between that expected with and without the plan may be used to estimate the total value. This would approximate the willingness to pay, including consumer surpluses, in most cases.

When outputs of a plan are intermediate goods or services the net income of the (producer) uses may be increased. Where changes in net income of each individual user can be estimated, a close approximation of the total value of the output of the plan (including consumer surpluses) will be obtained.

The cost of the most likely alternative means of obtaining the desired output can be used to approximate total value when the willingness to pay or change in net income methods cannot be used. The cost of the most likely alternative means will generally mistake the total value of the output of a plan. This is because it merely indicates what society must pay by the next most likely alternative to secure the output, rather than estimating the real value of the output of a plan to the users. This assumes, of course, that society would in fact undertake the alternative means. Because the planner may not be able to determine whether alternative means would be undertaken in the absence of the project, this procedure for benefit estimation must be used cautiously.

Application of these general measurement standards will necessarily vary, depending upon the source by which output is increased (that is, via direct increases in production or through subsequent employment of released resources), upon the type of good or service produced (whether the output is an intermediate or final good), and upon the type and nature of available alternatives. General measurement standards for each type of situation as well as an indication of the water and land resource plan outputs to which these Standards are applicable are presented below.

a. *Direct output increases.* Direct outputs of water and land resource plans may be in the form of either final consumer goods or intermediate goods. An effective direct or derived demand must

exist for the final and intermediate goods, respectively, to include the increased output as a contribution to national economic development.

Certain consumer goods and services may result directly from water projects and be used with no additional production resulting therefrom. Recreation, municipal water, and electric power for residential use are examples of this type of good or service. Most goods and services produced by water projects are not directly consumed, however, but are intermediate products that serve as inputs for producers of final goods or producers of other intermediate goods. The development of irrigation water for use in producing food and fiber or supplying electric power and water for industry are examples.

The value of increased output resulting directly from plans that produce final consumer goods or services is properly measured as the willingness to pay by final users for such output. When a competitive market price is not directly available, and the increased output will not be large enough to affect prices, total value of output may be estimated by simulated market prices or the use of the cost of the most likely alternative means of producing such final output. Examples of types of outputs to which this standard may be applied include:

- a. Community and residential water supply;
- b. Electric power provided for community and residential use; and
- c. Recreation enhancement.

The value of increased output of intermediate goods and services is measured by their total value as inputs to producers of final consumer products. The intermediate product from the plan may enable the producers to increase production of final consumer goods, or reduce costs of production which in effect releases resources for use elsewhere in the economy. In either case, the total value of the intermediate goods or services to the producer is properly measured as the increase in net income received by the producers with a plan as compared with the net income received in the absence of a plan. Net income is defined as the market value of producers' outputs less the market value of producers' inputs exclusive of the cost of the intermediate goods or services resulting from a plan. Examples of types of plan outputs to which this standard may be applied include:

- a. Agricultural water supply; and
- b. Agricultural flood damage alleviation, land stabilization, drainage, and related activities.

Where net income changes cannot be directly determined, however, the value of the intermediate goods and services to producers will be measured either in terms of competitive market values, when competitive conditions exist, or approximated by the cost of the likely alternative that the producers would utilize in the absence of a plan to achieve the same level of output. Examples of types of plan outputs to which this standard may be applied include:

- a. Industrial and commercial water supply;
- b. Urban flood damage alleviation;
- c. Electric power provided for industrial, commercial, and agricultural uses;
- d. Transportation; and
- e. Commercial fishery enhancement.

b. *Increases in output resulting from external economies.* Increased output of individual firms or industries directly affected by the plan may create situations in which related firms or industries are able to take advantage of more efficient production techniques; or consumers may be indirectly affected by a project (such as through favorable environmental changes). Such productivity changes or technological external economies can be attributed as a benefit to a plan. For example, higher levels of output by directly affected firms may enable subsequent processing firms to use more efficient processing techniques and thereby release resources for use in producing other goods and services or permit the higher level of output to be processed with no additional resources.

Present techniques are not well developed for measuring the beneficial effects accruing from external economies. However, in situations where it is thought that the increased output of final consumer goods or intermediate goods used by direct users can be expected to increase the productivity or output of related firms, an attempt should be made to measure the net income change resulting from such externalities. When this is done the methodology should be carefully documented in the report.

2. *Measurement of the value to users of increased outputs—*a. *Water supply.* Plans for the provision of water supply are generally designed to satisfy requirements for water as a final good to domestic and municipal users and as an intermediate good to agricultural and industrial users. Provision of water supply to satisfy requirements in these uses generally requires, either separately or in combination, an increase in water quantity, an improvement in water quality, and an improvement in the reliability of both quantity and quality.

Where it is necessary to use alternative costs for approximation of total value for water supply, as provided herein, the alternative selected must be a likely and realistic alternative directly responsive to achievement of this particular category, namely the additional output of water as an input to industrial, agricultural, and municipal uses or as a final good for community and individual uses. Moreover, the alternative must be a viable one in terms of engineering and financing and must be institutionally acceptable. It must be more than a hypothetical project. It must be a real alternative that could and would likely be undertaken in the absence of the proposed program, for instance, the reuse or recycling of existing water supplies or the use of available groundwater, including the improvement of its quality, if necessary.

Although water supply can often be considered as a final good, there usually does not exist a market value in terms of



price that directly expresses users' valuation of water supply for community and individual use. When this is the case, the total value of the water may be derived using the cost of the alternative that would provide essentially a comparable water supply service, in both quantity and quality, that would in fact be utilized in the absence of the water supply provided by the plan. Where such an alternative source is not available or would not be economically feasible, a market value for the water may be derived on the basis of the price paid by other like users or the average cost of a comparable water service from municipal water supply projects planned or recently constructed in the general region.

The total value of water to the producers using increased supplies is reflected in the change in their net income with a plan for the provision of water supply compared with their net incomes without the plan. It is recognized that for many planning studies it is not possible to either specifically identify net income changes accruing to firms using water supply for productive purposes or always possible to determine what part of a municipal supply is used for productive pursuits or for general community or individual uses as set forth below. In these cases, total value to the users can be approximated by use of the cost of the alternative that would be employed to achieve the same production that would be utilized in the absence of the water supply provided by a plan.

Water supply for irrigation is an input to the production of food and fiber. This may result in a net increase in production of specified products, the reduction in production cost, or a combination of both. Beneficial effects from the application of irrigation water supplies will be based upon total value to agricultural producers and will be measured as the increase in net farm income with and without a plan for providing irrigation water. This may be measured directly as the sum of net incomes of farm enterprises benefiting from a plan for irrigation.

Gross farm income comprises total annual receipts from the sale of crops, livestock, livestock products, and the value of perquisites, such as the rental value of the farm dwelling and the value of farm products consumed by the farm family.

Farm expenses are the costs necessary by produce and market farm products and maintain and replace all depreciable items.

Increased net income is measured as the difference between the increase in gross farm income minus the increase in farm expenses analyzed with and without a plan. Changes in net farm income may be estimated by analyzing changes in gross farm income and expenses for each separate enterprise or by the use of representative farm budgets.

b. *Flood control, land stabilization, drainage, and related activities.* A number of activities, such as flood control and prevention, flood-plain management, drainage, prevention of sedimentation, land stabilization, and erosion

control, contribute to multiobjectives through improving the productivity, use, and attractiveness of the Nation's land resources. From the viewpoint of their contribution to the objective of national economic development, the effect of these activities on the output of goods and services is manifested by increasing the productivity of land or by reducing the costs of using the land resources, thereby releasing resources for production of goods and services elsewhere. These activities affect land resources in the following manner:

a. Prevention or reduction of inundation arising from stream overflow, overland waterflow, high lake stages, and high tides, and prevention of damage from inadequate drainage;

b. Prevention or reduction of soil erosion, including sheet erosion, gully, flood-plain scouring, streambank cutting, shore or beach erosion, and prevention of sedimentation; and

c. Prevention or limitation of the uses to which specified land resources will be put.

There are essentially three types of effects on use that may occur as a benefit from including these activities in a plan. The first is an increase in the productivity of land without a change in land use. The second is a shift of land resources to a more intensive use than would occur in the absence of a plan. The third is a shift of land resources to less intensive use than would occur in the absence of a plan. In each case, the general benefit standard is applicable. The distinction is made only to facilitate the application of the general standard in different settings and as a means of providing criteria for the use of alternative techniques for estimating net income changes for the three classes of land utilization under the with and without analysis.

The general standard to be applied in measuring effects for these and any other activities that result in a change in net productivity or a reduction in the cost of using land resources involves the measurement of the difference in net income accruing to users of land resources benefiting from such activities compared with what these users would earn in the absence of such a plan. This generally defines and establishes the limit of the willingness of users to pay for a plan that results in a change in productivity or reduction in the cost of using land resources.

Willingness to pay of the users, which is the basis for approximating the value of output from these activities, whether it be in the form of increased production of intermediate or final goods or release of resources, may be obtained by the following approaches.

(1) *Productivity increase.* In this situation, analysis with and without the plan indicates that the current and future enterprises employing given land resources are essentially the same with the plan as they would be without the plan. Further, it is more profitable for the given enterprise to continue to use the given land resource even without the

beneficial effect of the plan than to locate at the next most efficient location. Net income change can then be measured as the difference in net income accruing to the enterprise on the specified land resource without the plan compared with what that enterprise would receive as net income with the plan on the same land resource.

(2) *Changes in land use.* Two situations are covered by changes in land use. These are:

(a) The situation in which the landowner benefiting from the change in land use would only utilize the land resource affected by such activity once the plan has become operative. In other words, it would not be as profitable for the benefiting landowner to utilize the affected land resource unless improved through one of the activities in this category as compared with the next most efficient location. Without such a plan the improved enterprise would occur at an alternative location. Net income change to the landowner will be measured as the difference in net income from the enterprise at an alternative location that would be utilized without the plan compared with the net income received from the enterprise at a new location which is improved or enhanced as a result of the plan.

(b) The situation in which enterprises that would otherwise employ a given land resource would be precluded from using the given land resources with implementation of the plan. Other enterprises less prone to incur flood damages or other adverse consequences would be allowed to use the given land resources.

Beneficial effects to the enterprises from activities in this category would be evaluated by measuring the net income change for the enterprise precluded from using the given land resources with the plan as compared with the without situation, plus the net income change for the enterprise that would be allowed to use the given land resource with the plan as compared with the without situation.

(3) *Estimates of damage prevention and other measures.* In the above cases, where it is not possible to directly employ net income changes to derive benefits, the estimate of actual or prospective damages to the physical properties of the enterprises involved can be employed as an approximation of net income change.

In the case of productivity change, where development will be the same with and without the plan, benefits attributable will equal total damages reduced. For the intensive land use cases, where development or use of land will be different with and without the plan, benefits can be approximated as equal to the damages these enterprises could sustain in the absence of protection if located on the affected land.

As a check on benefits derived in the form of net income change or damages prevented, observations of changes in land values for all lands may be employed.

c. *Power.* With respect to the computation of beneficial and adverse effects



of increases in output of electric power, it is emphasized that where appropriate, these should be viewed and evaluated as increments to planned or existing systems. Power supplied for general community and residential use can be considered as a final consumer good. Its value as a final good is generally reflected by the satisfaction of individual residents or in terms of improved community services and facilities. Electric power provided to industrial, commercial, and agricultural uses is viewed as an energy input to the production of goods and services from these activities, resulting in an increase in the output, reduction in the cost of production, or a combination thereof. The total value of electric power to the producers using such power is reflected in their willingness to pay. Where the identification and measurement of willingness to pay and satisfactions accruing to activities using electric power for industrial, municipal, and residential purposes are not possible, total value to the users will be approximated by taking account of the cost of power from the most likely alternative source and using this as the measure of the value of the power creditable to the plan. The alternative selected must be a viable one in terms of engineering, and the financing should be that most likely to the constructing entity. The costs should include any required provisions for protection of the environment. However, since the addition of a hydroelectric project to an electric system in lieu of an alternative power source usually will either increase or decrease the unit cost of producing power by existing generating facilities of the system, this cost differential must be taken into account in determining the power value of the hydroelectric project.

Normally, electric power is evaluated in terms of two components—capacity and energy. The capacity value is derived from a determination of the fixed costs of the selected alternative source of supply. The energy value is determined from those costs of the alternative which relate to and vary with the energy output of the alternative plan. These capacity and energy components of power value are usually expressed in terms of dollars per kilowatt per year of dependable capacity and mills per kilowatt-hour of average annual energy.

d. *Transportation (navigation)*. Plans for the provision of transportation through inland waterways and harbors are established to complement or extend the overall national transportation system within and among regions to achieve an improved movement of goods from the producer to the consumer.

(1) *Movement of intermediate or final goods*. Transportation as applied to industrial, commercial, and agricultural activities is viewed as an essential service input resulting in savings and creation of utilities in the distribution of intermediate and final goods and services.

The beneficial effects from the movement of traffic are related to the improvements in the transportation services provided, enabling the widespread dis-

tribution of goods and services, and are measured as:

a. The savings in the movement of commodities on the waterway when compared with movement via existing alternative modes; and

b. The expressed willingness to pay by the shippers (producers) of commodity or traffic flow newly induced by a navigation improvement as reflected in the change in their net income.

(2) *Where traffic will move in the absence of the waterway improvement*. In this situation, navigation studies would include an estimate of the savings to shippers via the considered navigation improvement, measured as the product of the estimated traffic and the estimated unit savings to shippers from the movement of that traffic via the proposed navigation improvement. The unit savings would be measured as the difference between the charges shippers actually incur for transportation at the time of the study and the charges they would likely incur for transportation via the improvement.

The traffic that is estimated to move via the proposed waterway will be based on a thorough analysis of the existing traffic movements in the tributary area. The potential traffic will be carefully screened to eliminate those movements that are not, for a variety of reasons, susceptible to movement on the waterway. The traffic available for water movement after the screening process is completed will be subject to an analysis of savings as discussed immediately below, and, based on the magnitude of the indicated savings, a decision will be made as to whether or not the movement would be directed to the waterway. Only traffic for which the differences in savings is judged sufficiently large to divert the traffic to the waterway will be included in the estimated waterway traffic. Moreover, as a practical matter, it will be deemed realistic to assume a sharing of the total traffic movement among alternative modes rather than to assume complete diversion to the lower cost mode.

The estimate of savings will ordinarily be developed by comparing the full charges for movement from origin to destination via the prevailing mode of transportation with the charges via the waterway being studied, where these charges encompass all applicable handling, switching, assessorial charges, and net differences in inventory, storage, or other charges due to the change in transportation mode. The alternative modes of transportation to be used in estimating savings to shippers are those actually in use at the time of the study for moving the traffic in question, or, where there are no existing movements, those modes that would most likely be used for such movements. In the latter case, the alternative mode will be chosen on the basis that the shipper would take advantage of the mode affording him the lowest total charges. The competitive, or complementary, effects of existing and authorized waterways not yet constructed, includ-

ing joint land-waterway routes, should also be taken into account.

(3) *Where additional flow of traffic is induced by the plan*. By making new sources of supply, or by increasing the net demand for a commodity, the navigation improvement may induce more traffic movement than would be the case in the absence of such improvement. Beneficial effects creditable to the plan for such new traffic are the differences between the cost of transportation by the waterway and the value to shippers, that is, the maximum cost they would be willing to pay for moving the various units of traffic involved.

Where data are available for estimating the value at which various increments of the new traffic could be moved economically, the difference between such values and the charges for transportation by the waterway provides a measure of the estimated beneficial effects attributable to the plan.

In the absence of such data, the probable average charge that could be borne by the induced traffic may be assumed to be half way between the highest and the lowest charges at which any part of it would move. On this basis, the difference between this average and the cost by the waterway applied to the volume of new traffic is the beneficial effect of the plan.

(4) *Basis for evaluation*. Congress has provided the standard for computing the beneficial effects of navigation in section 7(a) of the Department of Transportation Act of 1966, as follows:

... the primary direct navigation benefits of a water resource project are defined as the product of the savings to shippers using the waterway and the estimated traffic that would use the waterway; where the savings to shippers shall be construed to mean the difference between (a) the freight rates or charges prevailing at the time of the study for the movement by the alternative means and (b) those which would be charged on the proposed waterway; and where the estimate of traffic that would use the waterway will be based on such freight rates, taking into account projections of the economic growth of the area.

Consistent with the approach above outlined, these criteria are the basis on which beneficial effects for waterway plans will be evaluated.

e. *Recreation*. As national living standards continue to rise, the average person, with basic needs provided for, uses an increasing percentage of rising real income to satisfy a demand for leisure time and outdoor recreational activities such as swimming, picnicking, boating, hunting, and fishing. With general ownership of automobiles and improvement in highways, travel to distant public recreational areas has become commonplace. Consequently, a large and increasing portion of recreational demand, especially that portion which is water-oriented, is accommodated by development of Federal lands and multipurpose reservoirs which include specific provision for enhancing recreation activities. This is consistent with the requirements of the Federal Water Projects Recreation Act of 1965 (Public



Law 89-72), providing for recreation and fish and wildlife as full and equal partners with all other purposes in Federal water projects.

For the most part, outdoor recreation is produced publicly and distributed in the absence of a viable market mechanism. While the private provision of recreation opportunities has been increasing in recent years, analysis of recreation needs is conducted in the absence of any substantial amount of feedback from effectively functioning markets to guide the evaluation of publicly produced recreation goods and services. Under these conditions—and based on a with and without analysis—the increase in recreation provided by a plan, since it represents a direct consumption good, may be measured or valued on the basis of simulated willingness to pay. In computing the projected recreation demand, however, the analysis should take explicit account of competition from recreation opportunities within the area of influence of the proposed plan.

There are in existence a number of methods, or approaches, to approximating demand and what people are willing to pay for outdoor recreation. A generalized methodology encompassing the travel-distance approach is set forth below.

(1) *An analytical approach relating travel cost to distance.* Using marginal travel costs (i.e., variable costs of automobile operation directly related to the number of miles driven) taken as a measure of what people are willing to pay for water-oriented recreation and how price affects use, the relationship between price and per capita attendance can be established for recreation sites and market areas. This relationship, the conventional demand curve having a negative slope, sums up the response of users' demand to alternative prices of the recreational product (or experience). Separate demand curves are constructed to reflect each kind of recreation use, whether day-use travel, camping-use travel, or other. If there is no entrance charge at the project, per capita rates for each distance or travel cost would be consistent with the constructed demand curves.

If a fee is charged, however, the cost to the recreationist would then be equal to the fee plus his travel cost, thus diminishing the per capita use rate. Applying a range of reasonable entrance fee charges to the constructed demand schedules, additional separate day-use and camping-use demand curves for sites are constructed to determine respective attendance which may be expected under such conditions. Following this, initial project year day-use and camping-use values are computed by measuring the area under their respective demand curves. These values can be compared with market projections and existing capacities to determine if actual site demand will materialize. The initial year values are then projected throughout the life of the project consistent with the calculated recreational use predictions. The resultant figures, total values for

day use and camping use over the life of the project, are separately discounted at the prevailing discount rate established by these standards to obtain average annual equivalent values.

(2) *Other approaches.* A variety of other approaches may be taken toward the evaluation of recreation goods and services. In general, however, no one method is completely satisfactory to the exclusion of all others. The applicable rule to follow, taking cognizance of the unique circumstances or setting of a particular setting, including the availability of actual market data and experience, is to use that procedure which appears to provide the best measure or expression of willingness to pay by the actual consumer of the recreation good or service provided by the plan.

In the interim, while recreation evaluation methodology is being further developed, the following schedule of monetary unit values may be used in the preparation of plans.

(3) *Simulated prices per recreation day.* A single unit value will be assigned per recreation day regardless of whether the user engages in one activity or several. The unit value, however, may reflect both the quality of activity and the degree to which opportunities to engage in a number of activities are provided.

Type of Outdoor Recreation Day	Range of Unit Day Values
General (A recreation day involving primarily those activities attractive to the majority of outdoor recreationists and which generally require the development and maintenance of convenient access and adequate facilities.)	\$0.75-\$2.25
Specialized (A recreation day involving those activities for which opportunities, in general, are limited, intensity of use is low, and often may involve a large personal expense by the user.)	3.00- 9.00

Two classes of outdoor recreation days, general and specialized, are differentiated for evaluation purposes. Estimates of total recreation days of use for both categories, when applicable, will be developed.

The general class constituting the great majority of all recreation activities associated with water projects embraces the more usual activities, such as for example, swimming, picnicking, boating, and most warm water fishing.

In view of the fewer alternatives available and the likelihood that higher total costs are generally incurred by those engaged in hunting and fishing activities compared with those engaged in other types of outdoor recreation, it may be anticipated that the monetary unit values applicable to fish and wildlife recreation will ordinarily be larger than those applied to other types of recreation.

The special class includes activities less often associated with water projects, such as big game hunting and salmon fishing.

A separate range of values is provided for each class in order that informed

judgment may be employed in determining the applicable unit values for each individual project under consideration. Where considered appropriate, departure from the range of values provided is permissible if a full explanation is given.

f. *Commercial fishing and trapping.* Water and land resource plans may include specific measures designed for the purpose of enhancing the fish and wildlife resources and associated opportunities for the direct harvesting of fish and game as a commercial product. Beneficial effects to commercial fishing, hunting, and trapping consist of the value of an increase in the volume or quality of the products expected to be marketed. This increase is determined by comparing values of future production with and without the plan.

The beneficial effects from the increase in output of fish and wildlife products resulting from a plan is measured as the total value to the final users of the output reflected by the applicable market price, minus the expenditures incurred to obtain the fish or game.

g. *Other program outputs.* In addition to the more common outputs which have been dealt with in the preceding sections, plans may produce other goods and services which contribute to national economic development. Proper application of the measurement standards to these additional outputs should be guided by analogy to the outputs which have been discussed. Care must be exercised in defining types of outputs to assure that overlapping categories are not used which lead to duplication in the estimates of beneficial effects.

3. *Measurement of increases in output resulting from external economies.* Technological external economies are the beneficial effects or individuals, groups, or industries that may or may not benefit from the direct output of the project. They result from a plan if an increase in the output of final consumer goods or intermediate goods takes place beyond that which would be obtained in the absence of the plan and over and above direct outputs of the plan. This increased output may result from firms which are economically related to the plan taking advantage of more efficient production techniques and thereby releasing resources for use in producing other goods and services. The change in net income of the economically related firms will be used as an indicator of the value of this type of national economic development effect. Changes in the total value of consumer goods due to externalities because of a plan can be accounted for by using measurement techniques like those described above.

If society would obtain the project output of final consumer goods or the output of firms that utilize the intermediate goods of the project from some other source in the absence of the project, then the net income position of the related firms would be unaffected by the plan.

Some examples of potential situations for the occurrence of external economies associated with final consumer goods and



intermediate produced goods are presented below.

a. *Final consumer goods.* Provision of additional recreation opportunities and fish and wildlife enhancement for the direct enjoyment of individuals may enable merchants of sporting goods and other suppliers of recreation equipment and services to increase their sales and net income. However, to the extent that the increased expenditures for outdoor sporting equipment and other outdoor recreation services substitute for some other consumer expenditures, there is no real gain in the Nation's output.

The provision of either water supply or electric power for community and residential use will not generally stimulate external economies to enhance national economic development. It is usually assumed that the necessary quantities of these outputs will be provided by some alternative means in the absence of the plan. As a consequence, firms that are economically related to consumers through the consumption of these products will experience the same economic conditions and have the same net income without the plan as compared with the plan.

b. *Intermediate producer goods.* The utilization of intermediate goods and services from the plan by direct users may enable them to expand their output. Increased levels of output by direct users of the output of a plan may, in turn, enable economically related firms to improve the efficiency of their operation and/or expand their output and, as a result, increase their net income. Measurement of the change in the net income position of related firms should be made, if it can be definitely established that a change in output by the direct users will generate a corresponding income change for the related firms.

An evaluation should be made of the output levels that will be achieved by the direct users with the plan and without the plan. If the direct users would obtain the same good or service from some other source in the absence of the plan, no external economies occur and the net income position of the related firms would be unaffected by the plan. Some examples of types of plan outputs to which this standard may be applied are presented below.

In situations where water supply is an intermediate good, its utilization by direct users may stimulate more inputs to be acquired from supplying firms, and if there is an increased output from the enterprise of the direct user additional output will be processed by related processing firms. Except for irrigation water supplies and a few industries with high water requirements, water represents a relatively small consideration in the management decision of firms. If firms or industries with relatively small water requirements would obtain their necessary water from some other source in the absence of the plan, no external economies should be included in the calculation of water supply benefits.

The provision of flood control, land stabilization, drainage, and related pro-

grams may affect the productivity of land resources resulting in increased levels of output by firms directly affected by the plan. Net income changes may also occur in economically related firms. Measurement of the net income change of the related firms should be made if it can be definitely established that a change in output by the direct users will generate a corresponding income change for the related firms. However, if the plan merely enables economic activities to shift to new locations resulting in more efficient production but no change in total output, then no external economies occur and no attempt should be made to measure net income changes of related input supply or output processing firms.

Electric power provided for industrial, commercial, and agricultural uses will frequently result in higher levels of output from these economic sectors. However, if alternative electric power or alternative energy sources would be utilized in the absence of the plan, the level of output would be unaffected and no external economies would accrue as a benefit to the plan.

To the extent that navigational facilities provide alternative transportation services that would otherwise be provided in the absence of the project, no external economies occur. In situations where the navigational facility provides a unique service, such as providing movement of bulky raw materials that would not otherwise be made available, external economies may occur to the firms economically related to the shippers.

#### C. ADVERSE EFFECTS ON NATIONAL ECONOMIC DEVELOPMENT

Achievement of beneficial effects of national economic development, environmental quality, or regional development requires resources to be diverted from alternative uses. The adverse effects on national economic development are the economic value that these resources would have in their alternative uses. Generally, market prices provide a valid measure of the values of goods and services foregone in alternative uses. Both public and private costs associated with the plan will be measured to indicate the total adverse effect on national economic development incurred to realize the desired objectives.

1. *Sources of adverse effects.* Water and land resource plans result in adverse effects to national economic development in two ways.

a. *Resource requirements to produce final or intermediate goods and services.* In situations where a physical structure is necessary to obtain the desired objective, the adverse effects on national economic development include all explicit cash expenditures for goods and services necessary to construct and operate a project throughout a given period of analysis. They consist of actual expenditures for construction; transfers from other projects, such as costs for reservoir storage; development costs; and interest during construction. If the output of the plan is an intermediate good or service, the associated costs incurred by the

intermediate product user in converting it into a marketable form will be measured. These associated costs are borne by the user of the plan output but, nevertheless, represent resource requirements necessary to convert the project output into a product demanded by society. Examples are production costs incurred by users of plan outputs, and costs to other producers or to processors that arise in conjunction with the physical flow of the output of the plan. Associated costs should be deducted from the value of gross outputs to obtain net beneficial effects to be compared with the national economic development adverse effects of a plan.

In situations where nonstructural measures are used to obtain the desired objective, the adverse effects on national economic development will include payments to purchase easements or rights-of-way and costs incurred for management arrangements or to implement and enforce necessary zoning. In some cases, actual cash expenditures will not be involved as when local communities are required to furnish lands, easements, and rights-of-way.

b. *Decreases in output resulting from external diseconomies.* External diseconomies are adverse economic effects of a plan that are not reflected in market prices of project inputs. They result when provision of goods and services for one group necessarily results in an undesirable effect or disservice for another group. For example, the return flow from an irrigation project may create a salinity condition for downstream water users, forcing them to adopt higher cost water treatment practices. These adverse effects (external diseconomies) are not compensated, yet they should be taken into account when deciding on the desirability of a plan.

Another type of external diseconomy may occur if the plan has the direct effect of reducing the output of some firms in the project area, and this reduction causes firms that are linked to the directly affected firms to become less efficient in their operation. For example, the reduction in output by a group of firms which have their output processed by another firm may result in an inefficient operation by the processing firm.

A third type of external diseconomy may occur if the plan has an adverse direct effect on the consumption by individual consumers. For example, if a plan is instrumental in increasing congestion or pollution which results in increased costs to the consumers, this effect should be taken into account in plan evaluation.

2. *Measurement of adverse effects—*a. *Resource requirements of the plan.* Resource requirements of the plan are the sum of the market values of the goods and services used for installations; interest during construction; operation, maintenance, and replacement; and induced costs as defined below.

Installation costs are the market values of goods and services necessary to implement a plan and place it in operation, including management and organizational



arrangements, technical services, land, easements, rights-of-way, and water rights; initial and deferred construction; capital outlays to relocate facilities or to prevent or mitigate damages; transfers of installation costs from other projects; and all other expenditures for investigating, surveying, planning, designing, and installing a plan after its authorization.

Operation, maintenance, and replacement costs are the market values of goods and services needed to operate an installed plan and to make repairs and replacements necessary to maintain the physical features in sound operating condition during their economic life.

b. *Decreases in output resulting from external diseconomies.* While external diseconomies are difficult to measure and the effects are incidental to the project, they are nevertheless recognized adverse effects.

Induced costs are all significant adverse effects caused by the construction and operation of a plan expressed in terms of market prices and whether or not compensation is involved. Compensation for some induced costs is neither required nor possible. Induced costs include estimated net increases in the cost of government services directly resulting from the project and net adverse effects on the economy, such as increased transportation costs.

#### D. BENEFICIAL AND ADVERSE EFFECTS ON THE ENVIRONMENTAL OBJECTIVE

A water and land use plan may have a variety of effects—beneficial and adverse—on the environmental objective. While effects on the environmental objective are characterized by their non-market, nonmonetary nature, they provide important evidence for judging the value of proposed plans.

Environmental quality beneficial effects are contributions resulting from the management, preservation, or restoration of one or more of the environmental characteristics of an area under study or elsewhere in the Nation. Such contributions generally enhance the quality of life.

Adverse environmental effects—generally the obverse of beneficial environmental effects—are consequences of the proposed plan that result in the deterioration of relevant environmental characteristics of an area under study or elsewhere in the Nation, for example, acres of open and green space, wilderness areas, estuaries, or wildlife habitat inundated or altered, or of lands experiencing increased erosion. Such adverse effects generally detract from or diminish the quality of life.

Often, however, an environmental impact of a plan cannot be easily labeled as being beneficial or adverse, since that decision will vary with the perceptions of the individual concerned. In any case, the effect itself should be quantified and displayed for purposes of decisionmaking.

1. *Measurement standards.* Whether subjectively perceived or objectively measured, the criteria used to describe or evaluate the beneficial or adverse effects

of a plan will vary—consistent with the relevant components of the environmental objective under consideration. To the extent possible, however, beneficial or adverse effects will be displayed in terms of relevant physical and ecological criteria or dimensions, including the appropriate qualitative dimensions. For example, where the effects of a plan will be visibly evident, quantitative, and qualitative descriptions may be made in terms of established or accepted water and land classification or ecological criteria and related measures.

Where significant physical effects are less easily perceived, it may be necessary to determine their extent through instrumentation or symptomatically by the presence or absence of commonly expected characteristics. As an example, eutrophication of fresh water lakes exemplifies a less easily perceived process that is reflected symptomatically, and which is subject to measurement by instrumentation with statistical analysis of data collected over time. Therefore, its rate of change is measured by reference to previous dates or periods, with projected rates of future change based on probability analysis. As explicit an account as possible of these effects and supporting analysis should be provided.

Notwithstanding the physical or ecological criteria terms available, certain environmental effects can be presented most effectively by reference to their qualitative dimensions. For instance, it may be necessary to use this approach to show the importance of a reduction in use or availability for use of areas of natural beauty, archeological, or historical significance. Consequently, the analysis should be supported by an appropriate descriptive-qualitative interpretation and evaluation of the effects of the plan on the relevant components of the environmental objective.

2. *With and without analysis.* Existing environmental conditions will be described and presented in terms that best characterize the planning perceptions and ecology of the affected area as conditions would exist without any plan. Similar descriptions will be prepared for the time sequence of the conditions to be expected with and without the plan throughout the period of analysis. The conditions before planning is initiated will provide the data from which to evaluate environmental effects—or prediction of change—under alternative proposals, including the consequence of failure to adopt a plan for development and use of resources in the area under study. It should be clear that environmental conditions will not remain static but will, in fact, tend to change over time regardless of whether a plan is adopted.

3. *Limitations.* It is not presently possible to anticipate or identify, much less measure, all environmental effects or change. Nor are there in existence evaluation standards that permit full and direct quantitative comparisons and ranking of the conditions of identifiable environmental effects that might be expected to result from a plan. Consequently, reasoned judgments by multidisciplinary

teams will be required in many situations. When this is necessary, a frank expression of the state of knowledge and the limitations thereof, as well as the limitations of the analysis in each instance, is essential.

4. *Classes of environmental effects.* Environmental effects of plans toward the complex of conditions encompassed by the environmental objective are best understood and their significance interpreted by evaluating them as separable components of the overall objective. While these are stated in terms of beneficial effects, adverse effects should be read as the converse of each statement. Beneficial effects (and adverse effects) of plans as related to components of the environmental objective are classified and evaluated relevant to:

A. Beneficial effects resulting from the protection, enhancement, or creation of open and green space, wild and scenic rivers, lakes, beaches, shores, mountain and wilderness areas, estuaries, or other areas of natural beauty.

With regard to these kinds of resources, beneficial effects on this component of the environmental objective are evaluated on the basis of data such as follows, though these are not all inclusive:

1. *Open and green space.* These are essentially undeveloped, visually attractive natural areas strategically located where most needed to ameliorate intensifying urbanization patterns.

a. Size and measure:

(1) Total acreage (woods, fields, meadows, etc.);

(2) Pattern and distribution;

(3) Juxtaposition to community and urban areas (effect on urban sprawl).

b. A descriptive-qualitative interpretation, including an evaluation of the effects of a plan on the designated or affected open and green space.

c. Improvements: (1) Accessibility (mileage of public roads or trails provided; easements);

(2) Public amenities (provision for limited facilities, if any);

(3) Other (specify or describe).

d. Protection and preservation:

(1) Physical (fire, bioenvironmental, etc.);

(2) Legal (dedication, easements, institutional, etc.);

(3) Special.

2. *Wild and scenic rivers.* These are free-flowing streams, with shorelines or watershed essentially or largely undeveloped, which possess outstandingly remarkable scenic, recreational, geological, fish and wildlife, historic, cultural, and other features.

a. Size and measure, including characterization of adjacent primitive or near natural setting:

(1) Total mileage;

(2) White water mileage;

(3) Water quality;

(4) Character and extent or acreage of streamside land;

(5) Juxtaposition to community.

b. A descriptive-qualitative interpretation, including an evaluation of the



effects of a plan on the designated or affected wild or scenic river.

c. Improvements:

(1) Accessibility (trails, infrequent roads, or other minimum public access provided; easements);

(2) Public amenities (provision for limited facilities as boat launching, picnic areas, if any);

(3) Other (specify or describe).

d. Protection and preservation:

(1) Physical (bioenvironmental);

(2) Legal (dedication or withdrawal, institutional, water quality standards, etc.);

(3) Special.

3. *Lakes*. Where their clarity, color, scenic setting, or other characteristics are of special interest, aesthetically pleasing lake contribute to the quality of human experience.

a. Size and measure:

(1) Surface acreage;

(2) Shoreline mileage;

(3) Depths;

(4) Water quality.

b. A descriptive-qualitative interpretation, including an evaluation of the effects of a plan on the designated or affected lake or lakes.

c. Improvements:

(1) Accessibility (public roads and trails; easements);

(2) Drainage;

(3) Cleaning;

(4) Shoreline management, including public amenities

(5) Other (specify or describe).

d. Protection and preservation:

(1) Physical (bioenvironmental);

(2) Legal (institutional, pollution standards, etc.);

(3) Special.

4. *Beaches and shores*. The juxtaposition of attractive beaches, distinctive, scenic shorelines, and adjacent areas of clean offshore water provides positive public aesthetic values and recreational enjoyment.

a. Size and measure:

(1) Mileage;

(2) Acreage;

(3) Marshland acreage;

(4) Embayments.

b. A descriptive-qualitative interpretation, including an evaluation of the effects of a plan on designated or affected beaches and shores.

c. Improvements:

(1) Accessibility (public roads and trails; easements);

(2) Public amenities;

(3) Nourishment;

(4) Other (specify or describe).

d. Protection and preservation:

(1) Physical (jettys, bulkheads, etc.);

(2) Legal (dedication, institutional, etc.);

(3) Special.

5. *Mountains and wilderness areas*. Generally occurring at higher altitudes, these pristine areas of natural splendor and scientific interest embrace a very special category of land use. Such areas are designated for the purpose of preserving primeval conditions, as nearly as possible, for aesthetic enjoyment and for

limited forms of recreation and other scientific uses.

a. Size and measure:

(1) Acreage;

(2) Biological diversity;

(3) Pattern and distribution;

b. A descriptive-qualitative interpretation, including an evaluation of the effects of a plan on the designated or affected mountain and wilderness area.

c. Improvements:

(1) Accessibility (limited public roads and trails);

(2) Public amenities (limited facilities provided, if any);

(3) Other (specify or describe).

d. Protection and preservation:

(1) Physical (fire, bioenvironmental, etc.);

(2) Legal (dedication, institutional, etc.);

(3) Special.

6. *Estuaries*. Beyond their critical importance in man's harvest of economically useful living marine resources, many estuaries, coves, and bays merit special consideration as visually attractive settings that support diverse life forms of aesthetic value and as marine ecosystems of special interest.

a. Size or measure:

(1) Surface acreage;

(2) Shoreline mileage;

(3) Marshland acreage and shoreline mileage;

(4) Water quality.

b. Biological significance as a nursery, breeding, and feeding ground (name species involved).

c. A descriptive-qualitative interpretation, including an evaluation of the effects of a plan on the designated or affected estuary.

d. Improvements:

(1) Accessibility;

(2) Public amenities (facilities provided, if any);

(3) Other (specify or describe).

e. Protection and preservation:

(1) Physical;

(2) Legal;

(3) Special.

7. *Other areas of natural beauty*. These include any other examples of nature's visual magnificence and scenic grandeur, not accommodated in the above-specified classes, which have special appeal to the aesthetic faculties of man.

a. Size or measure:

(1) Acreage;

(2) Mileage.

b. A descriptive-qualitative interpretation, including an evaluation of the effects of a plan on designated or affected areas of natural beauty.

c. Improvements:

(1) Accessibility (public roads and trails; easements);

(2) Screening;

(3) Plantings (seedlings, grassed cover, etc.);

(4) Public amenities (scenic overlooks, if any);

(5) Other (specify or describe).

d. Protection and preservation:

(1) Physical (fire, bioenvironmental, etc.);

(2) Legal;

(3) Special.

Conversely, and in a generally parallel manner, adverse effects of a plan result from the inundation, adverse alteration, or decreases in the availability, use, and aesthetic quality of these resources.

B. Beneficial effects resulting from the preservation or enhancement of especially valuable archeological, historical, biological, and geological resources and selected ecological systems.

Excluding ecological systems which are separately evaluated below, beneficial effects on this component of the environmental objective are evaluated on the basis of data such as follows, though these are not all inclusive:

1. *Archeological resources*. Preservation of these resources provides a continuing opportunity for studying the development of human settlements and understanding man's cultural heritage.

a. Size or measure:

(1) Acreage;

(2) Square footage;

(3) Height or depth from ground level.

b. A descriptive-qualitative interpretation, including an evaluation of the effects of a plan on the designated or affected archeological resource areas.

c. Educational:

(1) General education;

(2) Special and scientific.

d. Improvements:

(1) Accessibility (public roads and trails; easements);

(2) Interpretation and monumentation;

(3) Other (specify or describe).

e. Protection and preservation:

(1) Physical;

(2) Legal (dedication, other);

(3) Special.

2. *Historical resources*. Preservation of these resources provides for the study, understanding, and appreciation of the Nation's origins and the evolution of its institutions as well as its scientific and technical progress.

a. Size and measure:

(1) Acreage;

(2) Number of units (of whatever kind).

b. A descriptive-qualitative interpretation, including an evaluation of the effects of a plan on the designated or affected historical resource area.

c. Educational values:

(1) General education;

(2) Specialist.

d. Improvements:

(1) Accessibility (public roads and trails; easements);

(2) Availability (as appropriate to particular site or materials preserved);

(3) Interpretation and monumentation;

(4) Other (specify or describe).

e. Protection and preservation:

(1) Physical;

(2) Legal (dedication, other);

(3) Special.

3. *Biological resources*. The opportunity to observe and study biological resources—terrestrial and aquatic—leads



to an enlarged understanding and appreciation of the natural world as the habitat of man.

a. Size and measure (wide-variation depending on characteristics of particular animal or plant):

(1) Total land and surface acreage and shoreline mileage:

(a) Land acreage (forest, woodland, grassland, etc.);

(b) Water surface acreage and shoreline mileage;

(c) Marshland acreage and shoreline mileage.

(2) Population estimates and characteristics of fish and wildlife to include as nearly as possible:

(a) Age and size classes;

(b) Sex ratios;

(c) Distribution (density).

b. A descriptive-qualitative interpretation, including an evaluation of the effects of a plan on the designated or affected biological resource or resources.

c. Educational:

(1) General;

(2) Special and scientific.

d. Improvements:

(1) Accessibility (public roads and trails; easements);

(2) Habitat enhancement or site improvement:

(a) Sanitation;

(b) Stabilization;

(c) Increasing edges;

(d) Harvesting (to maintain balance with environmental food supply);

(e) Cover planting (species, including number or acreage);

(f) Stocking;

(i) Wildlife (species and number);

(ii) Fish (species and number);

(3) Other (specify or describe):

e. Protection and preservation:

(1) Physical;

(2) Legal (dedication, other);

(3) Special.

4. *Geological resources.* When of outstanding geologic or geomorphologic significance, preservation of these resources contributes to man's knowledge and appreciation of his physical environment.

a. Size and measure:

(1) Surface acreage;

(2) Subsurface acreage (estimated);

(3) Quantity (estimated in appropriate units).

b. A descriptive-qualitative interpretation, including an evaluation of the effects of a plan on the designated or affected geological resources.

c. Educational:

(1) General education;

(2) Special and scientific.

d. Improvements:

(1) Accessibility (public roads and trails; easements);

(2) Interpretation and monumentation;

(3) Other (specify and describe).

e. Protection and preservation:

(1) Physical;

(2) Legal (dedication, other);

(3) Special.

Conversely, and in a generally parallel manner, adverse effects result from the

inundation, deterioration, or disruption of like kinds of resources.

5. *Ecological systems.* Apart from the contributions which use of the natural resource base makes to man's basic needs for food, shelter, clothing, and employment opportunities, covered elsewhere, the environmental objective embraces the concept and appreciation of the values inherent in preservation of ecological systems per se.

Each natural area, such as a watershed, a vegetation and soil type, a tidal salt marsh, a swamp, a lake, or a stream complex, represents an ecosystem, an interdependent physical and biotic environment that functions as a continuing dynamic unit, possessing not only intrinsic values but also contributing to the enrichment of the general quality of life in a variety of subtle ways. Conversely, when such natural areas are lost or otherwise diminished in size or quality, there are corresponding adverse environmental effects borne by society.

Beneficial effects resulting from preservation of ecological systems include:

1. The maintenance of a natural environment in a state of equilibrium as an intrinsic value to society;

2. The provision of the purest form of aesthetic contact with nature;

3. Contributions to the development, appreciation, and integration of a "land ethic" or environmental conscience as a part of man's culture; and

4. Scientific understanding derived from the preservation and study of natural ecological systems which contributes to the conservation of natural resources in general, the most important practical application of ecology.

Conversely, adverse effects are the reduction or loss of opportunity to society as a result of a plan.

C. Beneficial effects resulting from the enhancement of selected quality aspects of water, land, and air by control of pollution.

1. *Water quality.* The beneficial effects of water quality improvements will be reflected in increased value to water users and will be recorded under the national economic development or regional development objectives. For example, increases in the value of the Nation's output of goods and services from improvements in water quality will be accommodated under the national economic development objective. A great deal of improvement is needed in the methods of measuring these values.

There will be other water quality beneficial effects, however, that cannot be measured in monetary terms but are nonetheless of value to the Nation. Examples of such benefits are usually in the aesthetic and ecological areas so important to mankind. Beneficial effects from these kinds of improvements are contributions to the environmental objective and are identified, measured, and described in nonmonetary terms.

Beneficial effects to the environmental objective from water quality control may be defined in relation to the State standards established under the Water Quality Act of 1965. Reservoir storage and flow

regulation for water quality may be utilized where it is the least-cost way of meeting these standards.

Consistent with water quality standards established for the affected planning area, water quality control beneficial effects are identified, measured, and described by methods and terms such as:

a. Physical and chemical tests including but not limited to:

(1) Dissolved oxygen;

(2) Dissolved solids;

(3) Temperature;

(4) Acidity/alkalinity;

(5) Nutrients.

b. Biological indicators including but not limited to:

(1) Coliform;

(2) Macro and micro organisms;

(3) Algae.

c. Description: By a descriptive-qualitative interpretation, including an evaluation of the effects of a plan on the aquatic community as a whole.

Conversely, adverse effects will be reflected as departures from the established water quality standards, including related damages, as a result of a plan.

2. *Air quality.* Air pollution is primarily a regional problem stemming principally from urban centers containing concentrations of people, industry, and transportation. In addition to its diverse social impacts, air pollution causes direct injury to natural environments, including ground cover, trees, and wildlife. In its purely physical dimensions, air pollution is accommodated within the environmental objective.

Beneficial effects to the environmental objective from air quality control may be defined in relation to regional air quality standards established under the Air Quality Act of 1967.

Consistent with air quality standards established for the affected planning area, air quality control beneficial effects are identified, measured, and described by:

a. The amount and use of open space between sources of air pollution and concentrations of people to assist in the process of atmospheric dispersion and dilution.

b. Reductions in the use of fossil fuels.

c. Reductions in damages to:

(1) Wildlife;

(a) Species;

(b) Number or density;

(c) Distribution;

(d) A descriptive-qualitative interpretation and evaluation of effects as appropriate.

(2) Ground cover:

(a) Species;

(b) Acreage and density;

(c) Distribution;

(d) A descriptive-qualitative interpretation and evaluation of effects as appropriate.

(3) Forests:

(a) Species or types;

(b) Acreage;

(c) Growth rates;

(d) Distribution;

(e) A descriptive-qualitative interpretation and evaluation of effects as appropriate.



d. Enhancement of possibilities for visual enjoyment and aesthetic appeal of natural settings and scenic landscapes.

Conversely, adverse effects will be reflected as departures from established air quality standards, including related damages, as a result of a plan.

3. *Land quality.* Where erosion is prevalent or spreading—largely because of inadequate land use planning and management—it, among other things, seriously detracts from the general use, appreciation, and enjoyment of terrestrial and aquatic environments.

As encompassed by the environmental objective, soil is valued as a basic national resource rather than for its more traditional role as a primary production factor contributing to increases in national output.

Beneficial erosion control effects improving the visual attractiveness of the natural landscape include:

- a. Reductions in sediment on beaches and public recreation areas;
- b. Reductions in turbidity and sediment pollution of water in rivers, streams, and lakes;
- c. Restoration of cull banks from strip mines and other eroded sites;
- d. Bank stabilization on mainline and secondary roads.

Conversely, adverse effects will reflect any increases in sedimentation, bank sloughing, or other kinds of erosion resulting from a plan.

D. Beneficial effects resulting from the preservation of freedom of choice to future resource users by actions that minimize or avoid irreversible or irretrievable effects or, conversely, the adverse effects resulting from failure to take such actions.

While the previous discussion and outline of effects of the various components has been organized essentially in terms of programs or actions affecting environmental conditions, it may also be useful to view environmental effects of a plan in broad categories emphasizing the predominant considerations of each, whether aesthetic, ecological, or cultural. Following such a classification, aesthetic values in the environment generally encompass lakes, estuaries, beaches, shores, open and green space, wild and scenic rivers, wilderness areas, and other areas of natural beauty; ecological values in the environment generally embrace the physical quality of water, air, and land (erosion), biological resources, and interrelated ecological systems; and cultural values in the environment are generally accommodated by historical, archeological, and geological resources. As this system of classification is not mutually exclusive, however, it is possible for multiple public values to be reflected within each of the components.

#### E. BENEFICIAL AND ADVERSE EFFECTS ON THE REGIONAL DEVELOPMENT OBJECTIVE

Through its effects—both beneficial and adverse—on a region's income, employment, population, economic base, environment, social development, and other components of the regional development objective, a plan may exert a significant

influence on the course and direction of regional development.

Given its broad and varied nature, the regional development objective embraces several types of goals and related classes of beneficial effects. These are (a) increased regional income; (b) increased regional employment; (c) population distribution; (d) diversification of the regional economic base; (e) enhancement of educational, cultural, and recreational opportunities; (f) enhancement of environmental conditions of special regional concern; and (g) other specified components of the regional development objective. Because of this variability, several approaches or methodologies are required for the measurement of effects on the regional development objective.

As a first step, the beneficial effects for achieving the regional development objective should be set forth in terms of the specified components of the objective affected by the plan. Where beneficial effects of accomplishing national economic development and environmental quality objectives are synonymous with specified components of the regional development objective, these beneficial effects to the regional development objective will be measured and evaluated in a manner consistent with that established for the national objectives. However, care must be exercised to include only that portion of the national beneficial effects that actually accrue within the region of concern.

The evaluation of various components of the regional development objective and related classes of beneficial and adverse effects is discussed below.

1. *Regional income—*a. *Beneficial effects.* The objective to increase regional income is attained to the extent that water resource investment, together with other complementary investments, increases output and provides additional regional income flows than would otherwise occur in the absence of the plan. Increases in regional output and related income are evaluated in a manner paralleling computation of net income to the various purposes—water supply, power, etc.—discussed under the national economic development objective. However, in evaluating these and other elements of the regional development objective, a distinction should be made between identifying and measuring benefits to specified components of the regional development objective of the designated region and other regional impacts which may occur incidentally. Where the regional development objective relates to increases in regional income, four classes of beneficial effects occur. These are:

- (1) The value of increased output of goods and services from a plan to the users residing in the region under consideration;
- (2) The value of output to users residing in the region under consideration resulting from external economies;
- (3) The value of output in the region under consideration resulting from the use of resources otherwise unemployed or underemployed; and

(4) Additional net income accruing to the region under consideration from the construction or implementation of a plan and from other economic activities induced by operations of a plan.

b. *Adverse effects.* The adverse effects of a plan upon a particular region include the adverse effects on a region's income; employment; population distribution; economic base; educational, cultural, and recreational opportunities; environmental quality; or other components of the regional development objective.

Where the regional development objective relates to regional income, the regional adverse effects include:

- (1) The value of resources contributed from within the region under consideration to achieve the outputs of a plan.
- (2) Payment through taxes, assessments, or reimbursement by the region under consideration for resources contributed to the plan from outside the region;
- (3) Losses in output resulting from external diseconomies to users residing in the region under consideration;
- (4) Loss of assistance payments from sources outside the region to otherwise unemployed or underemployed resources and displaced resources residing in the region under consideration;
- (5) Losses in output in the region under consideration resulting from resources displaced and subsequently unemployed; and
- (6) Loss of net income in the region under consideration from other economic activities displaced by construction or operation of a plan.

c. *Regional incidence of national economic development.* Measurement of the beneficial and adverse effects of national economic development follows the same methods outlined under B and C above and is a matter of determining the geographic incidence of such beneficial and adverse effects in the regions under consideration and the rest of the Nation.

Special measurement techniques are needed for effects from use of unemployed resources and location effects.

d. *Measurement of output from use of unemployed or underemployed resources.* Increased output resulting from the utilization of resources that would be unemployed or underemployed in the absence of the plan is a third category of regional development beneficial effects.

Beneficial effects from the utilization of unemployed or underemployed resources may occur as a result of the plan through employment in construction and operation by direct users of the output of the plan or by firms that are economically related to the direct user.

Where the planning region has unemployed or underemployed resources and it can be shown that these resources will in fact be employed or more effectively employed as a result of the plan, the net additional payments to the unemployed or underemployed resources should be measured as a beneficial effect.

An important concept in identifying the presence of unemployed resource utilization benefits is the presumption that



generally full employment conditions will prevail throughout the economy over the relevant period of analysis.

Under a rigorous definition of full employment all resources are employed in their highest use, resources are generally mobile, and the economy is in general equilibrium. Under these conditions, many analysts have concluded water resource investments would not result in achieving additional beneficial effects from use of unemployed or underemployed resources, since in the absence of a water and land resource plan economic forces would continuously bring about readjustments toward full employment.

With respect to future development, the OBERS projection series, which is used as the economic baseline for evaluation of future needs for water resource development, makes the assumption that "The Government will implement the policies needed to maintain full employment under a free enterprise economy." Furthermore, implicit within the projections is the assumption that the levels of future development are predicated upon an orderly and reasonable development of water resources. The availability and use of these projections does not obviate the need on a case-by-case basis to properly interpret the full employment implications to determine the particular conditions where that assumption should be modified. Moreover, an area or regional economy must satisfy certain preconditions as a basis for clearly demonstrating the possibility of beneficial effects arising from the utilization of unemployed or underemployed resources. These conditions and the estimate of beneficial effects related thereto are stated below.

1. *Resource immobilities.* Otherwise unemployed or underemployed resources (labor, fixed capital, and natural resources) may be used or better employed as a result of the economic activities generated by a plan. For this condition to apply it must reasonably be demonstrated that in the absence of the water resource plan the unemployed or underemployed resources to be affected by the plan would remain immobile (would not be productively employed or employed in higher uses anywhere in the economy) over all or part of the period of analysis.

While recognizing that many resource immobilities tend to be of a long-run nature, there is a special class of resource immobilities that occur only periodically and for relatively short durations. They are usually associated with unusual weather or hydrologic conditions in terms of flooding, low flows, droughts, adverse drainage conditions, and the reliability of water supply.

In such situations, without a plan, losses in output result through the denial of access to business establishments, prevention of the processing and movement of supplies and products, losses in the values of public services, loss of opportunity for provision of personal services, and the like. To the extent that such losses cannot be compensated for by

postponement of activity or through transfer of such activity to business establishments not affected, prevention of such loss is clearly identifiable as a contribution to regional development and is not offset by losses elsewhere in the economy. The proper measurement reflecting these short-term resource immobilities is the estimate of net incomes foregone or increased costs for provision of services without the plan occasioned by unusual and periodic conditions such as those listed above.

(2) *Other conditions and requirements.* A determination of the region or regions within which the major impact of unemployed resource utilization effects will take place as a result of the plan is required. It can generally be assumed that the major share of such effects will take place in relative close geographic proximity to the location of the direct users or beneficiaries of the goods and services resulting from the plan.

An analysis of the key economic factors within the affected region or regions is required and will be made as a basis for determining the likelihood that a chronic unemployment or underemployment situation will prevail in the future. The analysis should include the past performance, current situation, and projected situation. The most critical factors to be analyzed should include the following: (1) Labor force participation rates by age, sex, and race; (2) unemployment rates by age, sex, and race; and (3) average earnings of workers or product per man-hour.

The purpose of this analysis will be twofold. First, it will be necessary to have an accurate description of the unemployed and underemployed resources so they may be linked to possible beneficial effects of water and land resource plans. Second, it will be necessary to determine from the analysis the probable duration of the adverse employment situation (the immobility factor) in the absence of the plan. This latter analysis will require an evaluation of the source of unemployment or underemployment.

The above analyses should indicate whether they are unemployed or underemployed resources of significant dimensions and duration which can be employed through the water and land resource plan.

(3) *Measurement of beneficial effects of using unemployed resources.* Identifying and measuring beneficial effects of using unemployed or underemployed resources presents major difficulties at the present time. At the request of the Council, the Office of Business Economics and the Economic Research Service are engaged in studies of operational techniques for the identification and measurement of national and regional income effects resulting from water and land resource plans.

Each planning study should include an analysis of the problem. Planning reports will show whether the area to be influenced by the plan has an unemployment problem of significant magnitude and whether the plan under evaluation

will make a positive contribution to reducing unemployment.

e. *Location effects.* Location or transfer effects of a plan can be beneficial or adverse depending on the region being considered. In any case, these effects are real and important to a region even though from the national view they sum to zero across all regions in the Nation. For this reason (as well as others), regional evaluations should proceed within the framework of a system of regional accounts.

Location effects are generally estimated as a multiplier factor of the more direct project outputs on the region being considered. Several alternative means of calculating such a multiplier value are available. They include input-output studies, economic base studies, and the application of Keynesian multiplier concepts to regions. Recent studies have indicated that all three approaches provide comparable values for the same region. The Water Resources Council will provide information on the appropriate multiplier values to use for specific planning studies.

2. *Regional employment.* Elimination or substantial reduction of high rates of unemployment—and related underemployment—in particular geographical areas and among particular segments of the population has long been a national concern, and a concern of affected regions. Water and land resource plans undertaken in designated areas characterized by significant economic and employment problems are generally harmonious with the regional development objective to increase employment per se. When this is the case—and under with and without analysis—beneficial effects are identified and measured as the increase in the number and types of jobs resulting from the plan.

To the extent possible, planning reports will provide reasonable estimates indicating the composition of the increased employment by the relevant service, trade, and industrial sectors, including a separate estimate for agriculture. The nature of the employment increase to each sector will be classified with regard to the level of skills required—unskilled, semiskilled, and highly skilled.

Where practicable, the estimates within each of the sectors will be further classified by other pertinent attributes to the projected employment mix, such as age classes, sex, average wages, and labor force participation rates.

Where the regional development objective relates to regional employment, adverse effects are any decrease in the numbers and types of jobs resulting from the development.

3. *Population distribution.* Contributions toward achieving specified goals for population dispersal and urban-rural balance through improved distribution of population and employment opportunities are included as beneficial effects.

Although the historic movement of the Nation toward urbanization has resulted in much social, cultural, technical,



and economic progress, the evidence of recent years suggests—at least for some areas—that the increasing social and economic costs attendant on attainment of high population densities in cities and suburbs are becoming unduly burdensome. The Nation is thus confronted with the task of channeling economic growth in new directions, while significantly reducing social and economic costs.

Maintaining the rural population base while drawing some people back into outlying areas with more opportunities for employment, recreation, more and better living space, and an amenable social environment represents a responsive approach toward redirecting geographic distribution of the population while providing for economic growth and development.

Public investment programs, especially those embracing plans for water and land development and use, contribute toward this component of the regional development objective by providing the water and land supplies—in both quantity and quality—which are an essential prerequisite to creating new settlement opportunities or expanding upon existing rural developments and by assisting in the provision of better social services and improved cultural opportunities at reduced community costs.

These beneficial effects will occur when populations of affected planning areas are stabilized or otherwise increased through in-migrations resulting from implementation of a plan.

Beneficial effects to this component can be measured as the improvement or increase in population and related employment toward attainment of specified distributional goals.

Conversely, adverse effects are identified and measured as increases in the concentration of population and employment contrary to specified objectives.

4. *Regional economic base and stability.* The economic base of a region consists of those activities which provide the basic employment and income on which the rest of the regional economy depends.

For some regions the mix of the existing economic base may be too narrow and specialized, thus restricting the region's development potential. Over an extended period such a region is likely to be subject to extensive cyclical instability with attendant adverse economic and social consequences. When a region wishes to offset the likelihood of such cyclical instability over the long run, diversification of the economic base may be specified as a development objective.

Water and land resource plans contribute to this regional objective when they provide needed inputs—particularly water supply, power, and transportation—that contribute to or assist in creating the essential conditions that enable an improvement in the industrial mix over time leading to a broader production base by which the region can provide a larger portion of the Nation's outputs of goods and services.

When the region under study has too great a concentration or specialization in its economic base and the water and land resource plan being evaluated would have

a significant effect in promoting greater diversity, the following information should be shown in planning reports: (1) A statistical description of the area's current economic base, highlighting the employment concentrations which are of concern; (2) projections of future employment both with and without the plan; and (3) the percentage reduction in the area's expected dependence on its specialized type of employment, with as compared to without the water plan. The latter statistic will be shown in tabular displays of plan benefits.

Beneficial effects to this component include contributions to (1) balanced local and regional economies; (2) regularizing market activity and employment fluctuations; (3) offsetting effects of climatic vagaries and accompanying uncertainty; and (4) reversal in decline of community growth.

These beneficial effects may be measured or described in a variety of ways, with primary emphasis on comparative indices relating to fluctuations in output, employment, and prices.

Conversely, adverse effects are identified and measured or described as negative effects on economic stability.

5. *Educational, cultural, and recreational opportunities.* Beneficial effects to this component include contributions to (1) improved opportunities for community services such as utilities, transportation, schools, and hospitals; and (2) more cultural and recreational opportunities such as historic and scientific sites, lakes and reservoirs, and recreation areas.

Beneficial effects to improved community services may be described in appropriate quantitative and qualitative terms, while increased cultural and recreational opportunities will be set forth as the numerical increase in the relevant facilities, otherwise accounting for size, use potential, and quality.

Conversely, adverse effects are identified and measured or described as detrimental effects on educational, cultural, and recreational opportunities.

6. *Environmental conditions of special regional concern.* Where their impact is likely to have special reference to a region's perception of its future development needs, the special concern of a region toward particular elements of the overall environmental quality objective may be given expression through specific incorporation in the regional development objective.

As discussed above, beneficial effects toward improving, preserving, or achieving one or more of the diverse and varied components of the environmental quality objective are identified and measured in a variety of physical dimensions, or otherwise qualitatively described. When such benefits are applicable to the regional development objective, they will be measured and evaluated in a manner consistent with that followed in the above referenced section.

#### F. EFFECTS ON SOCIAL FACTORS

In addition to their effects on the three objectives described above, most water and land resource plans have beneficial and adverse effects on social factors.

These effects reflect a highly complex set of relationships and interactions between inputs and outputs of a plan and the social and cultural setting in which these are received and acted upon. These effects will be fully reported in the system of accounts for each alternative plan.

With emphasis on their incidence or occurrence, beneficial social effects are contributions to the equitable distribution of real income and employment and to other social opportunities. Since they are integrally related to the basic values and goals of society, these effects are usually not subject to monetary evaluation. The normal market exchange process, however, produces monetary values which can be utilized to aid in measuring the distributional impacts of plans on real income.

Adverse social effects of a plan have detrimental impacts on the equitable distribution of real income and employment or otherwise diminish or detract from the attainment of other social opportunities. Additionally, such adverse effects include not only those incurred in the designated planning area, but also include adverse consequences elsewhere in the Nation resulting from implementation of the plan.

1. *Measurement standards.* Criteria used to evaluate or describe the beneficial or adverse effects of a plan will vary with the relevant social factor under consideration. Where appraisal of such diverse social and economic characteristics as income distribution, health and safety conditions, and so forth, is relevant to a proper evaluation of a plan, the measurement standards to be applied must necessarily be broad and variable. Measures used to describe social effects may be expressed in dollars, other quantitative units, and qualitative terms.

2. *With and without analysis.* Existing conditions encompassed by the relevant social factors will be described and presented in terms that best characterize the planning perceptions and social setting of the affected area in the situation without the plan. Planners will also prepare similar descriptions for future social conditions to be expected with and without the plan throughout the period of analysis. The situation existing before the initiation of planning will provide the data from which to evaluate significant social effects under alternative plans.

3. *Limitations.* In evaluating social effects the obtaining of detailed breakdowns and analytically useful correlations relating to various indicators, index numbers, and similar comparative statistical indicators, as well as dollar values where possible, presents many complex definitional, data, and measurement problems. Consequently, planning studies should explicitly recognize the limitations of present methods and explore innovative approaches to the identification and measurement of the social effects. Such procedures should be carefully documented in the report.

4. *Classes of social effects.* Social effects of a plan are more clearly understood and their significance interpreted by evaluating them as separable classes of social effects. While these are stated



in terms of beneficial effects, adverse effects should be read as the converse of each statement. Beneficial effects (and adverse effects) of a plan include:

a. *Effects on real incomes.* Beneficial effects to this component occur when designated persons or groups receive income generated as a result of the plan.

The income distribution effect can be measured as the net amount of total and per capita income accruing to designated persons or groups.

Current guidelines or yardsticks defining the family poverty line may be used as the data from which to measure and portray the estimated absolute and percentage increase toward meeting or exceeding this standard for specific geographic planning areas.

Conversely, adverse effects are identified and measured as the reduced real income of such persons or groups due to taxes, reimbursement costs, and other adverse economic effects.

b. *Effects on security of life, health, and safety.* Beneficial effects to this component include contributions to (1) reducing risk of flood, drought, or other disaster affecting the security of life, health, and safety; (2) reducing the number of disease-carrying insects and related pathological factors; (3) reducing the concentration and exposure to water and air pollution; and (4) providing a year-round consumer choice of foods that contribute to the improvement of national nutrition.

In those limited situations where historical experience is sufficiently documented to provide confidence in projecting likely future hazards, an estimate of the number of lives saved or the number of persons affected may be provided. In most instances, however, a descriptive-qualitative interpretation and evaluation of the improvement and expected results will be applicable.

Conversely, adverse effects are identified and measured or described as increases in hazards to life, health, and safety.

c. *Effects on emergency preparedness.* Beneficial effects to this component include contributions to (1) extending, maintaining, and protecting major components of the national water transportation system; (2) provision of flexible reserves of water supplies; (3) provision of critical power supplies (ample, stable, quickly responsive); (4) provision of reserve food production potential; (5) provision for the conservation of scarce fuels; (6) provision for dispersal of population and industry; and (7) supplying international treaty requirements.

While these beneficial effects will be measured in appropriate quantitative units where readily practicable, they will be largely characterized in descriptive-qualitative terms.

Conversely, adverse effects are identified and measured or described as overloading capacities of water resource systems and increasing the risk of interruption in the flow of essential goods and services needed for special requirements of national security.

d. *Other.* The effects on other social factors may be identified and displayed as relevant to alternative plans.

IV. GENERAL EVALUATION STANDARDS

To assure consistency in the application of planning principles, uniform evaluation guides are necessary. The following general evaluation standards are to be used, to the extent applicable, in considering all objectives in planning of water and land resources. Deviation in the application of these evaluation standards and the reasons therefor should be fully reported.

A. GENERAL SETTING

Plan formulation and evaluation shall be based upon national and regional projections of employment, output, and pop-

ulation and the amounts of goods and services that are likely to be required. The Water Resources Council has arranged for preparation and periodic revision of a set of national and regional economic projections as a guide to project, regional, and river basin planning. These projections reflect the Council's current views as to probable rates of growth in population, the gross national product, employment, productivity, and other factors. The projections also include expected rates of regional growth in relation to the level of projected national growth. The following table shows the selected national projections adopted by the Water Resources Council reflecting the expected rates of national growth. The Council may change these national projections by amending these standards.

WATER RESOURCES COUNCIL PROJECTIONS SELECTED NATIONAL DATA HISTORICAL AND PROJECTED<sup>1</sup>

Year	Total population (census)	Population 14 and over (census)	Labor force participation rates (computed)	Labor force (BLS)	Civilian labor force (BLS)	Unemployment rate (BLS)	Civilian employment (BLS)
	Thousands	Thousands		Thousands	Thousands		Thousands
1950.....	152,271	113,438	0.571	64,749	63,999	.05314	59,746
1955.....	165,931	119,449	.577	68,896	65,847	.04412	62,942
1960.....	180,684	127,335	.574	73,126	70,612	.03567	66,081
1965.....	194,592	138,299	.567	78,358	75,635	.03459	72,179
1966.....	196,920	140,565	.570	80,164	77,041	.03863	74,065
1967.....	199,118	142,961	.575	82,179	78,724	.03958	75,808
1968.....	201,166	145,405	.576	83,667	80,152	.03671	77,210
Rate, 1950-68 (percent).....	1.6	1.4		1.4	1.3		1.4
	Census C	Census C					
1960.....	235,212	174,294	.584	101,753	98,753	.04000	94,803
2000.....	307,803	227,470	.592	134,662	131,662	.04000	126,306
2020.....	400,053	295,029	.598	176,427	173,427	.04000	169,490
Rate, 1968-2020 (percent).....	1.3	1.4		1.4	1.5		1.5

	Civilian government employment (BLS)	Civilian private employment (BLS)	Private economy hours per man-year (BLS)	Private economy product per man-hour (computed) (1958 dollars)	Private economy gross product (OBE) (1958 dollars)	Gross national product (OBE) (1958 dollars)	Total manpower civilian plus military (BLS)
	(Thousands)	(Thousands)		(Millions)	(Millions)		(Thousands)
1950.....	5,792	53,954	2,127	2.78	319,410	355,288	61,396
1955.....	6,805	56,137	2,091	3.34	392,907	437,903	65,991
1960.....	7,943	58,738	2,027	3.68	438,523	487,682	69,195
1965.....	9,623	62,656	2,020	4.43	559,808	617,709	74,902
1966.....	10,346	63,719	2,018	4.64	596,292	658,067	77,188
1967.....	11,183	64,425	1,996	4.74	609,100	674,628	79,954
1968.....	11,627	65,583	1,977	4.93	638,998	707,608	80,745
Rate, 1950-68 (percent).....	3.9	1.1	-0.4	3.2	3.9		1.5
1960.....	15,514	79,289	1,918	7.02	1,069,090	1,153,873	97,803
2000.....	23,466	102,930	1,826	12.60	2,383,782	2,505,894	129,396
2020.....	34,572	131,918	1,736	22.92	5,248,901	5,423,135	169,490
Rate, 1968-2020 (percent).....	2.1	1.4	-0.25	3.0	4.1	4.0	1.4

	Product per man (computed) (1958 dollars)	Product per capita (computed) (1958 dollars)	Total personal income (OBE) (1958 dollars)	Personal income per capita (OBE) (1958 dollars)	Domestic personal income (OBE) (1958 dollars)	Domestic earnings (OBE) (1958 dollars)	Domestic private earnings (OBE) (1958 dollars)
			Millions		Millions	Millions	Millions
1950.....	5,787	2,333	274,571	1,805	275,876	225,104	199,478
1955.....	6,537	2,639	335,010	2,019	332,183	277,590	240,925
1960.....	7,048	2,699	389,653	2,157	387,489	317,575	271,551
1965.....	8,245	3,175	468,306	2,545	492,600	395,969	334,938
1966.....	8,420	3,242	426,651	2,674	523,613	424,260	350,438
1967.....	8,534	3,388	550,196	2,783	556,800	440,239	365,923
1968.....	8,763	3,518	580,030	2,883	576,477	462,600	383,933
Rate, 1950-68 (percent).....	2.3	2.3	4.2	2.6	4.2	4.1	3.7
1960.....	11,798	4,906	979,439	4,164	975,373	770,545	631,887
2000.....	19,366	8,141	2,230,156	7,245	2,222,627	1,722,563	1,376,826
2020.....	31,997	13,556	4,967,314	12,467	4,973,521	3,799,770	2,958,438
Rate, 1968-2020 (percent).....	2.3	2.6	4.2	2.8	4.2	4.1	4.0

<sup>1</sup> The sources of the historical data are indicated in the column headings. The projections of population are from the Bureau of the Census. All other projections were prepared for the Council by the Office of Business Economics, Department of Commerce.



The projections presented here and elaborated in a separate Council publication may also serve as a convenient basis for preparing alternative projections for use in sensitivity analysis.

While a relatively high rate of employment has been assumed in national projections, it is recognized that chronic unemployment and underemployment are problems in many regions. The assumption of a high rate of employment nationally does not preclude consideration of the occurrence of short-run or cyclical fluctuations in the national economy or special analyses of regions with relatively low economic activity and high rates of unemployment.

Planning will also take account of national and State environmental and social standards such as water quality standards, air quality standards, or minimum health standards.

The Water Resources Council will, as necessary, designate areas where special consideration should be given to these values.

#### B. MEASUREMENT OF BENEFICIAL AND ADVERSE EFFECTS

In planning water and related land resources, beneficial and adverse effects of a proposed plan should be measured by comparing the estimated conditions with the plan with the conditions expected without the plan. Thus, in addition to projecting the beneficial and adverse effects expected with the plan in operation, it is necessary to project the conditions likely to occur in the absence of the plan. Since economic, social, and environmental conditions are dynamic, changes will occur without the plan in a variety of factors, including regional economic activity, rates of unemployment or underemployment, and environmental conditions. Consequently, only new or additional beneficial and adverse effects resulting from the proposed plan should be attributed to it.

#### C. PRICE RELATIONSHIPS

The prices of goods and services used for evaluation should reflect the real exchange values expected to prevail over the period of analysis. For this purpose, relative price relationships and the general level of prices for outputs and inputs prevailing during or immediately preceding the period of planning generally will be used as representing the price relationships expected over the life of the plan. Exceptions to the general rule will occur when the output or input of the plan affects prices, abnormal weather or other factors have temporarily affected prices, or governmental or other institutional arrangements have temporarily affected prices.

The Water Resources Council will publish periodically data on prices of agricultural and other goods and services that can be furnished efficiently for all planning activities. Included in these publications may be special analyses of price problems and simulated prices for recreation and other project outputs or effects for which market prices are not readily available.

#### D. THE DISCOUNT RATE

The discount rate will be established in accordance with the following concept:

The opportunity cost of all Federal investment activities, including water resource projects, is recognized to be the real rate of return on non-Federal investments. The best approximation to the conceptually correct rate is the average rate of return on private investment in physical assets, including all specific taxes on capital or the earnings of capital and excluding the rate of general inflation, weighted by the proportion of private investment in each major sector.

The difference between the interest rate paid on Federal borrowings and the opportunity cost rate in the private sector is due in part to the fact that private rates of return must be sufficient to pay taxes on earnings of capital. When investments are made by the Federal Government, these tax revenues are foregone. Use of the opportunity cost rate in evaluating Federal investments is necessary therefore to achieve equity from the standpoint of the Federal taxpayer who must finance Federal investments. The Federal Government should not displace funds in the private sector unless its return on investment is equal to or larger than that in the private sector.

1. *The opportunity cost of government investment.* Abstracting from income distribution considerations, the total value of the Nation's resources is maximized by expanding or contracting any specific activity to a level such that the marginal value of resources in that activity is equal to their marginal value in other feasible uses. Alternatively, the marginal value of resources in any activity is equated with the marginal cost of that activity, where cost represents the highest value foregone use of those resources in alternative activities. This general principle also applies to the Federal Government. For given total Federal outlays, the net benefit generated by the Federal Government is maximized by expanding or contracting individual Federal activities to a level for which the marginal value of resources is equal to the marginal cost of resources in all activities. If all Federal activities involved only a single time period, the prices of resources purchased by the Federal Government (including any specific excise taxes or subsidies to which other institutions are subject), would be a sufficient basis for estimating the cost of Federal activities. For those Federal activities that involve a distribution of costs over time, however, some estimate of the marginal value of resources in present uses relative to their value in future uses is necessary to estimate the cost of government activities, and this value is reflected by the selection of an appropriate interest rate for evaluating Federal investment activities. For any given Federal budget, the net benefit generated by the Government is maximized only if the marginal rate of return on all Federal activities is equal. However, the net benefit generated by Government is

maximized only when the marginal rate of return on Federal investments is equal to the marginal rate of return on investments by other institutions in this Nation. Only this second condition assures a maximization of the net benefits of the Nation's investment activities and the appropriate division of investment activities between the Federal Government and other institutions.

The establishment of an interest rate for evaluation of Government investments is derived from this second condition. Once this rate is determined, individual Government investment activities should be expanded or contracted to a level such that the marginal rate of return equals this rate. The conceptually correct rate for Federal investments, assuming that the non-Federal sector will allocate additional investment funds among alternative uses in roughly the same manner as the present distribution, is the average of the marginal real rates of return in each part of the non-Federal sector, weighted by the proportion of present investment in each part.

2. *Estimating the discount rate for Government investments.* Estimating the appropriate real interest rate for Federal investments involves several problems: First, the critical assumption must be made that the different observed rates of return within the non-Federal sector represent equilibrium differences (reflecting different risks, taxes, and subsidies) or that the Federal Government does not systematically channel resources into a specific part of the non-Federal sector in its investment activities. If the Federal Government could effectively channel resources into those parts of the non-Federal sector with the highest rates of return, the opportunity cost of Federal investments would be higher than the average of the marginal returns. Second, there are conceptual difficulties in estimating the marginal rate of return on investments in State and local governments, and no comprehensive estimate of this rate has been made. Third, the available data provide a basis for estimating only the average rate of return in the private sector. If the average rate of return is constant (as a function of the level of investment), this is not a problem as the average and marginal rates are equal and, in the long run, this appears to be a good approximation. In the short run, the rate of return on private investment displaced by additional government investment is probably higher than the average rate.

The best approximation to the conceptually correct rate that can be made is the average of the average rates of return on private investment, weighted by the proportion of investment in different parts of the private sector. This rate has been calculated in J. A. Stockfish, "Measuring the Opportunity Cost of Government Investment," Institute for Defense Analyses, P-490, March 1969. Stockfish first estimates the average rate of return on physical assets (exclusive of cash holdings), including the specific (corporate and property) taxes on capital, for the period from the Korean war



to the Viet Nam war. He then weights these average rates by the proportion of investment in the different parts of the private sector during the later part of this period. Finally, he reduces this aggregate average rate by the average rate of inflation in the longer period. The resulting estimate of the real average rate of return in the private sector is 10.4 percent; for this concept, this estimation procedure is probably accurate within a  $\pm 1$  percent range. Recognizing the two conceptual problems discussed above, inclusion of the rate of return on State and local government investments would somewhat lower this rate and a reduction in non-Federal investment displaced by additional Federal investment would lead to a marginal rate somewhat above the average. On net, it appears that the average of the marginal returns on physical investment in the non-Federal sector is around 10 percent, and additional evidence also suggests that the marginal return on investment in education is approximately equal to the rate of return on physical investment.

Moreover, there is strong reason to believe that the real rate of return in the non-Federal sector has been roughly constant over the entire period since the Korean war. The structural conditions that determine this rate are the long-run investment prospects in the U.S. economy and the levels of taxes on capital or the earnings on capital. The long-run investment prospects appear to be roughly constant. Although the corporate income tax has been reduced slightly since the Korean war, property taxes have been increased by a roughly equal magnitude. A significant redistribution of investment activities within the non-Federal sector would also change the average of the rates of return, but this has not been observed. This suggests that a frequent recalculation of the Stockfish estimate need not be made unless there is evidence of a significant change in these structural conditions.

It is important to recognize that the stability of the real rate of return in the non-Federal sector is not inconsistent with the observed variance of the rates on marketed debt instruments. Changes in the yields on Government bonds and other debt instruments primarily reflect conditions—such as changes in the anticipated inflation, monetary policy, and the distribution between equity and debt financing—that are unrelated to the real rate of return on investment.

In summary, the conceptual and empirical issues are not fully resolved. The above discussion, however, suggests that the appropriate rate for evaluating Government investment decisions is approximately 10 percent and is substantially invariant to short-term changes in economic and money market conditions.

3. *Selection of a specific rate for water resource projects.* The revealed preferences of the Federal political process clearly indicate a desire to transfer income to the people in specific regions by subsidizing water resource projects. In

the past, these subsidies have been implemented in several ways but most importantly by the use of an interest rate to evaluate these projects that is lower than that for alternative Federal and non-Federal investments. Accepting the legitimacy of the political process in determining income transfers and subsidies, the use of a low interest rate, unfortunately, is often an inefficient instrument for these purposes because it also biases the design of these projects toward those with higher near-term costs and lower near-term benefits.

Recognizing both the objectives of subsidizing water resource projects and the objective of an efficient combination among and between Federal and non-Federal investment activities, a 7-percent rate will be used for evaluating water resource projects during the next 5 years. Use of a 7-percent rate will facilitate implementation of one of the basic purposes of multiple objectives planning by allowing more comparable consideration of environmental quality objectives. Less capital intensive projects, scaled mainly to meet near-term needs, will result in relatively more efficient use of Federal and non-Federal investment toward meeting increasing critical water needs, given current budgetary constraints.

It is sometimes argued that the discount rate to be used in evaluating Federal investment opportunities should be based on the cost of Federal borrowing (the cost of money to the Treasury). It should be noted that, properly calculated, the cost of Federal borrowing includes not only the yield rate on Treasury obligations but also tax revenues foregone on returns to private borrowing displaced by Federal borrowing, commissions paid on sales of bonds, and administrative costs of borrowing. After the yield rate, the most significant of these is foregone tax revenues.

The full cost of Federal long-term borrowing, for generally prevailing economic considerations, is at least 7 percent and can be as high as 10 percent. The exact figure depends on how much tax revenue is foregone. This, in turn, depends on the distribution of income from foregone investment among corporations, individuals, and State/local governments.

Thus, the 7-percent rate established above, approaches both the opportunity cost and the total cost of Federal borrowing.

#### E. CONSIDERATION AND COMPARISON OF ALTERNATIVES

A range of possible alternatives to meet needs and problems, including types of measures and alternatives capable of application by various levels of government and by nongovernmental interests, should be studied. These alternatives should be evaluated or judged as to their contribution to the multiobjectives.

Plans, or increments thereto, will not be recommended for Federal development that, although they have positive contributions to the multiobjectives,

would physically or economically preclude alternative non-Federal plans which would likely be undertaken in the absence of the Federal plan and which would more effectively contribute to the multiobjectives when comparably evaluated according to the principles.

The alternative non-Federal plan that would likely be physically displaced or economically precluded with development of the Federal plan, or increments thereto, will be evaluated for purposes of this determination on a comparable basis with the proposed Federal plan with respect to their beneficial and adverse effects on the multiobjectives, including the treatment of national economic development effects and the discount rate used in the evaluation. Taxes foregone on the proposed Federal plan and taxes paid on the non-Federal alternative will be excluded in such comparisons for the evaluation of the national economic development objective.

#### F. PERIOD OF ANALYSIS

The period of analysis will be the lesser of: (1) The period of time over which the plan will serve a useful purpose considering probable technological trends affecting various alternatives; or (2) the period of time when further discounting of beneficial and adverse effects will have no appreciable result on design. Where pertinent, however, appropriate consideration will be given to long-term environmental factors which may extend beyond periods significant for analysis of effects for national or regional economic development.

Salvage value remaining at the end of the period of analysis should be taken into account for income-producing features of the plan.

For the environmental objectives, the goal may be to achieve a level of environmental quality during or at the end of the period of analysis and to maintain this level into the indefinite future.

One hundred years will normally be considered the upper limit of the period of analysis, and shorter periods will be used whenever appropriate for any of the considerations described above.

#### G. SCHEDULING

Plans should be scheduled for implementation in relation to needs so that desired multiobjective beneficial effects are achieved effectively. Beneficial and adverse effects occurring according to different patterns in time, are affected differently by the discount process when plans are scheduled for implementation at alternative future times. Therefore, plan formulation should analyze the alternative schedules of implementation to identify the schedule that would result in the most desirable mix of contributions to the multiobjectives when the beneficial and adverse effects of a plan are appropriately discounted.

While beneficial and adverse effects toward the multiobjectives will accrue over different time frames for the alternative implementation schedules, the discontinued equivalent of such beneficial and adverse effects to be considered



in the comparison of the alternative implementation schedules should represent the present value of the beneficial and adverse effects toward the multiobjectives for each alternative implementation schedule at a common point in time.

#### H. RISK AND UNCERTAINTY

Since future events cannot be predicted with certainty, beneficial and adverse effects actually realized in the future may differ from the values expected of them at the present. In some cases, the range of variation can be anticipated and the sensitivity of proposed plans or projects to future contingencies can be evaluated.

Risk may be characterized as being reasonably predictable, since bases are available to calculate the probability or frequency of losses associated with its occurrence. For example, average losses from fires, storms, pests, and diseases can be estimated with reasonable assurance. Thus, the value attached to risk may be converted into a reasonably certain annual allowance. The net returns of a project should exclude all predictable risk, either by deducting the allowance therefor from the beneficial effects or adding such allowance to the project costs. The basis for making a risk allowance in estimating the beneficial and adverse effects of a program or project should be clearly stated.

Uncertainty is characterized by the absence of a basis for predicting the probability of occurrences. Uncertainties may result in estimating beneficial and adverse effects from such factors as fluctuations in the levels of economic activity, technological changes or innovations, and unforeseeable developments. Allowances for uncertainties must be based largely upon judgment, since information is not available for calculating a value. The nature of the uncertainty thought to surround beneficial and adverse effects should be discussed in planning reports, and specific strategies, such as flexibility in project designs, recommended to cope with it. In addition, sensitivity analysis may be employed to analyze uncertain situations.

#### I. SENSITIVITY ANALYSIS

Planning organizations should examine the sensitivity of plans to data availability and to key items for which alternative assumptions might be appropriate. Examples of such items include prices; discount rates; and economic, demographic, and technological trends. Selected alternative projects and assumptions that are likely and that, if realized, would appreciably affect plan design or scheduling should be analyzed.

#### J. UPDATING PLANS

Because of rapid change in social, economic, technologic, physical, and other factors, a plan for a project prepared under these standards that is not implemented within 10 years after completion should be reviewed to ascertain whether it continues to be the best alternative to achieve the multiobjectives.

Plans for regions and river basins prepared under these Standards will be continually updated as implementing actions are considered. In addition, such plans should be completely reviewed at least every 20 years.

### V. PLAN FORMULATION

#### A. INTRODUCTION

As set forth in principles, the formulation of plans will be directed to meeting current and projected needs and problems as identified by the desires of people in such a manner that improved contributions are made to society's preferences for national economic development and environmental quality and where approved in advance for regional development.

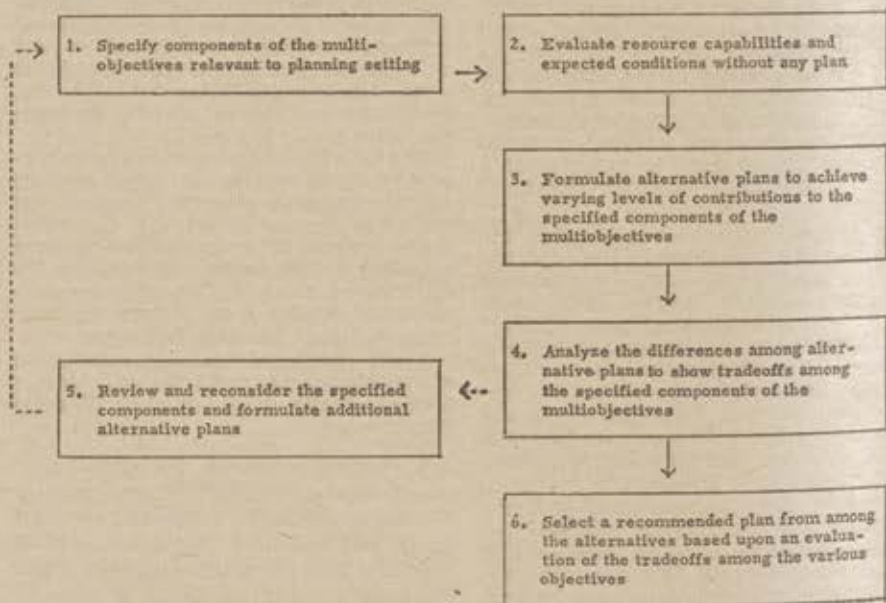
1. *Major steps in plan formulation.* Plan formulation is a series of steps starting with the identification of needs and problems and culminating in a recommended plan of action. The process involves an orderly and systematic approach to making determinations and decisions at each step so that the interested public and decisionmakers in the planning organization can be fully aware of the basic assumptions employed, the data and information analyzed, the reasons and rationales used, and the full range of implications of each alternative plan of action. This process should be described in enough detail in the report of the study so that it may be replicated by others.

The plan formulation process consists of the following major steps:

1. Specify components of the multiobjectives relevant to the planning setting;
2. Evaluate resource capabilities and expected conditions without any plan;
3. Formulate alternative plans to achieve varying levels of contributions to the specified components of the multiobjectives;
4. Analyze the differences among alternative plans to show tradeoffs among the specified components of the multiobjectives;
5. Review and reconsider, if necessary, the specified components for the planning setting and formulate additional alternative plans as appropriate; and
6. Select a recommended plan from among the alternatives based upon an evaluation of the tradeoffs among the various objectives.

In the subsequent parts of this section each of these steps is described in more detail. The major steps involved in this process are shown schematically at the end of this subsection. It should be noted that the plan formulation process described herein is not just a one-through process but may be reiterated several times, with each reiteration being somewhat more detailed than the previous one. The plan formulation process must be tailored to fit a given planning situation and the detail and depth of analysis will necessarily vary with each level of planning.

#### THE PLANNING PROCESS



2. *Levels of planning.* The standards for plan formulation apply to the preparation of framework studies and assessments, regional or river basin studies, and implementing studies. The important differences in the application of these plan formulation standards to different levels of planning are the relevant com-

ponent needs, the level of detail with respect to beneficial and adverse effects in the decision process, and the types of alternative courses of action that are considered.

a. *Framework studies and assessments.* Framework studies and assessments will evaluate or appraise on a



broad basis the needs and desires of people for the conservation, development, and utilization of water and land resources; will identify regions or basins with complex problems which require more detailed investigations and analysis; and may recommend specific implementation plans and programs in areas not requiring further study. They will consider Federal, State, and local means and will be multiobjective in nature.

Framework studies and assessments of major regions are designed to: (1) Determine the extent of water and land problems and needs; (2) indicate the general approaches that appear appropriate for their solution; and (3) identify specific geographic areas where regional, river basin, or implementation planning studies are needed. For framework studies and assessments, the information to be assembled should be consistent with the level of detail as outlined in guidelines for framework studies and assessments to be issued by the Water Resources Council. The framework studies and assessment should identify the complementarities and conflicts among components of the multiobjectives. Alternative courses of action will be considered for each of the specified subbasins. Framework studies and assessments usually do not provide a basis for recommending specific action for water resource development. However, comparisons should be made between alternative courses of action to indicate potential complementarities and conflicts that may exist as relative emphasis is shifted from one objective to another. This information will provide a basis for a decision as to which areas require more detailed regional, river basin, or implementation studies.

*b. Regional or river basin studies.* Regional or river basin studies are reconnaissance-level evaluation of water and land resources for a selected area. They are prepared to resolve complex long-range problems identified by framework studies and assessments and will vary widely in scope and detail; will focus on middle term (15 to 25 years) needs and desires; will involve Federal, State, and local interests in plan formulation; and will identify and recommend action plans and programs to be pursued by individual Federal, State, and local entities.

Regional or river basin planning studies are concerned with a broad array of component needs of multiobjectives. Alternate plans will consider effects on many components of multiobjectives, and the analysis of tradeoffs among alternatives will be quite complex. Scheduling for implementation of the various elements of the recommended plan will be presented to indicate how each element relates to projected needs and the urgency and priority associated with meeting the needs.

The identification of the more urgent elements of the plan that require early action will guide subsequent implementation studies.

*c. Implementation studies.* Implementation studies are program or project feasibility studies generally undertaken

by a single Federal, State, or local entity for the purpose of authorization or initiation of plans. These studies are conducted to implement findings, conclusions, and recommendations of framework studies and assessments and regional or river basin studies.

Plan formulation for implementation studies will focus on the preparation of a recommended plan of action to follow in the next 10 to 15 years. Long-range projections of the need for and use of water and land resources will be considered, however, primary attention should be directed toward the formulation of a plan to meet near-term needs and alleviate problems. Such plans will be oriented toward an identified set of specific components of multiobjectives for the planning area. The complexity of the plan formulation process will depend on the extent of the needs and problems in the area and the variety of planning functions that may be employed to meet the needs. In some cases, the array of competent needs to consider may be large. Other implementation studies may be oriented toward a single objective and, hence, will be concerned with only a few needs and alternatives. In either case, the multiobjective planning standards will be applied.

#### B. SPECIFICATION OF COMPONENTS

At the outset and throughout the planning process the specific components of the multiobjectives that are significantly related to the use and management of the resources in the planning setting must be ascertained and identified. These will be expressed in terms of needs and problems in the context of multiobjectives.

The term "specific component of the multiobjectives" refers to the desired achievement of types of goods, services, environmental conditions, or regional developments that are being sought as contributions to the multiobjectives. These components can be considered and expressed in terms of units of the effects desired. The term "component needs" as used herein refers to the type, quantity, and quality of desired beneficial effects. The components of the regional development objective are to be considered in plan formulation in a particular planning activity only with advance approval.

Reference should be made to the definition and description of objectives and benefits presented in sections II and III as the basis to determine the full range of components of multiobjectives, only a few of which are presented in this section as examples to illustrate the plan formulation process.

*1. National economic development.* For the national economic development objective, the components will usually be expressed at two levels.

The first level directly relates to the objective in the sense of the specification of the actual outputs of goods and services desired. Hence, the first level of specified components of this objective will generally be depicted in terms of increased outputs of goods and services or

their more efficient production such as the following:

1. Increased or more efficient output of food and fiber;
2. Increased or more efficient output of recreational services;
3. Increased or more efficient production of energy;
4. Increased or more efficient production of transportation services;
5. Increased productivity of land for residential, agricultural, commercial, and industrial activities;
6. Increased or more efficient production of necessary public services such as municipal and domestic water supply; and
7. Increased or more efficient industrial output.

The second level of specification of the components of the national economic development objective follows from the translation of the first level specification of needs for goods and services into specific needs for water and land resources. In the context of the above, the second level specification of components would be established in terms such as the following:

1. Water and land for irrigation;
2. Water and land related recreation opportunities in terms of user days;
3. Hydroelectric power needs;
4. Inland navigation or deep draft harbor needs;
5. Provision of flood-free land or provision of stabilized lands;
6. Water supplies for municipal and domestic use; and
7. Water supply for industrial use.

The above examples are not intended to exhaust either the wide variety of outputs of goods and services that can become specific components or the total range of specific water and land needs into which the first level of components is translated. The major point is that to determine the specific components of the national economic development objective, it will usually be necessary to approach the problem, first, at the general level of the types of national outputs of goods and services and then translate these into specific water and land needs or problems.

It should further be noted that the specification of components of the national economic development objective at either level should always be stated in terms of outputs (which are the beneficial effects of a plan), but never in terms of the inputs to a plan. This also holds true in the specification of the components of the other objectives as well.

*2. Environmental quality.* The components of the environmental quality objective may be directly expressed as the achievement of specific environmental conditions such as the following:

1. Miles of scenic river of specified characteristics;
2. Acres of ecological areas of specified type preserved or enhanced;
3. Reach of river meeting specified water quality standards; and
4. Number of open space areas of specified type.



3. *Regional development.* The specified components of the regional development objective are identified from the regional point of view. Thus, early consideration must be given to the delineation of the region or regions.

A single delineation of a planning region may not be satisfactory for the purpose of examining hydrologic problems, economic and demographic pressures on resource use, and political considerations of plan implementation. To resolve this difficulty two types of regions may be utilized: (1) Formulation regions for the identification of component needs for resource use and physical resource problems; and (2) an evaluation region for use in evaluating the beneficial and adverse effects of alternative plans.

Formulation regions will be used to determine the component needs in the general planning area and to identify limitations and constraints to water and land resource use. These regions will vary in their geographic coverage, depending on which component need is being considered. For example, a recreation service area will depend on the extent and distribution of population as it may affect the water and land resources under study and may not be identical with the hydrologic area. Similarly, an electric power market area will likely encompass a larger geographic area than the hydrologic area or the power needs may be supplied from one or more hydrologic areas. In cases where the commodity or service need, such as agricultural commodities, metals, or services, can be supplied from a large number of hydrologic areas, interregional projections should be used to determine the probable level of the total need to be met from the planning area.

Formulation regions for physical problems may be based on hydrologic considerations and should be sufficiently large to include the identification and measurement of all significant effects of proposed actions. For example, a formulation region for a flood control problem should extend downstream from the probable location of a reservoir to include the measurement of significant reductions in flood damages. Similarly, the full hydrologic area of the basin or sub-basin should be included to identify the full range of water and related land problems and their potential solutions.

The evaluation region consists of the geographic area for which a plan for the use and management of water and related land resources is to be designed. This region should be large enough to encompass all areas that will be physically affected by the plan, and include contiguous economic areas which may be significantly affected by the plan. The plan evaluation region will thus include one or more economic accounting areas as specified in section VI. The total consequences of the plan will be shown in national economic development, environmental quality, and social accounts, indicating the beneficial and adverse effects that accrue both within the plan evaluation region and to the rest of the Nation. All beneficial and adverse effects

that accrue within the plan evaluation region and in the rest of the Nation will be identified in the system of regional development accounts.

If the plan evaluation region is composed of two or more States, the portion of the plan relating to each State should be shown separately.

4. *Participation.* The actual derivation and identification of components require several different approaches. An initial point of departure is the national and regional economic analyses and projections provided by OBERS. These will be useful in a first-cut definition of the economic parameters of the components of the multiobjectives. More detailed definitions will require in-depth consultation with Federal, State, and local officials familiar with the planning setting. Direct input from the public involved at the local and regional level is paramount in view of multiobjectives and should be pursued vigorously through appropriate means of public hearings, public meetings, information programs, citizens committees, etc.

Definition and specification of the components of the environmental quality objective will require direct consultation with groups identified with environmental concerns as well as with those groups within a planning setting whose actions have significant impacts on the environment. Similarly, for the regional development objective, consultation will be needed with established regional development organizations. A broad spectrum of groups and interests must be considered and consulted in the identification of the components.

5. *Projected Conditions.* The components of the multiobjectives will be drawn for both current and future conditions. Projections should be made for selected years over a specified planning period to indicate how changes in population and economic conditions are likely to impact on the components over time.

Economic and demographic projections should be consistent with national baseline projections (OBERS projections) which reflect differential regional growth patterns and probable future population and economic conditions of all regions of the Nation. Additional projections which reflect a regional point of view and which are required for identification of components of the regional development objective should also be made. Such projections, however, should be made on a comparable basis with the OBERS projections to enable valid comparisons to be made between alternative national and regional plans based on these different projections. Because demands for commodities and services are a function of price, the future needs are also affected by price. Therefore, the assumptions relating to prices used to determine the future needs must be stated.

Environmental needs of the future should be identified in terms of specific features of the natural environment of the area that will assure a continuance of sources with limitations alleviated or a healthful, scenic, and aesthetically satisfying experience to all citizens. For

instance, unique archeological, historical, and biological features of the area that are desired for preservation for future generations should be identified. Desired environmental conditions for the future should be explicitly stated. These environmental component needs should reflect not only current preferences but should attempt to reflect the preferences likely to prevail in the future.

6. *Sensitivity tests.* In view of the uncertainty, with respect to both economic and demographic change as well as the uncertainty of future preferences for the components of the environmental objective, it will be necessary in projecting the needs associated with these components to show alternative levels in the future as the basis for testing the sensitivity of alternative plans when evaluated against different levels of needs for a given component in the future.

7. *Preferences.* The specification of the components of the multiobjectives must reflect the specific effects that are desired by groups and individuals of the planning area as well as the specific components declared to be in the national interest by the Congress or by the executive branch through the Water Resources Council. In this way the components of multiobjectives will reflect local, State, and national preferences and priorities as well as the extent of complementarity and conflict among components.

In this regard, the identification and detailing of the components of the multiobjectives should be viewed as the process of making explicit the range of preferences and desires of those affected by resource development in terms of reference that can form the basis for the formulation of plans. Rather than a single level of achievement being set forth for any specified component, a range of possible levels should be set forth so that the relevant preferences can be seen for a given component. It should be anticipated that the initial specification of components will be modified (expanded or reduced) during subsequent steps in plan formulation to reflect the capability of alternative plans to satisfy component needs and to reflect technical, legislative, or administrative constraints.

#### C. EVALUATION OF RESOURCE CAPABILITIES

In very broad terms, the first step of specification of the components of multiobjectives can be viewed as establishing the boundaries of demand (needs or problems) in the context of each objective. In the next step, evaluation of resource capabilities, the initial evaluation is made of the supply (availability) of the resources that can be employed to satisfy the current and future levels of demand.

Resources of the planning area shall be evaluated in terms of their ability to meet the current and projected needs identified for each component under two sets of conditions: (1) Capability of resources without any planned action; and (2) capability of water and land productivity enhanced through management plans. An analysis of the capability of resources to meet the projected needs without any planned action will reveal



the extent and magnitude of unsatisfied component needs and indicate the requirement for some specific plan of action to assure their satisfaction. To the extent that the water and land resources without any planned action are unable to meet current and projected needs or to the extent that resource management enables the needs to be met more efficiently, there is an evident justification for formulating alternative plans.

In this formulation step, the first task is to undertake a selective inventory of the quantity and characteristics of water and land resources of the planning area and an appraisal of opportunities for further use of these resources. Problems limiting the use of resources should also be identified.

The resources inventory should include data on all physical factors appropriate to the investigation. Examples of the type of information needed include:

1. Hydrologic data such as rainfall and runoff characteristics, frequencies of high and low flows, availability of groundwater, natural lakes, marshes, and estuaries;
2. Water quality data, including dissolved oxygen temperature, turbidity, and mineralization;
3. Geology and topography of the planning area;
4. Land capability and use classifications;
5. Archeological, historical, cultural, scenic, or unique areas;
6. Biological resources; and
7. Current and planned water uses.

Based on an analysis of the inventory, the next step requires that an appraisal be made of the capability of the resources to support further use for the component needs. This would provide guidance as to the possible scope and magnitude of plans to meet the needs for each component. This appraisal would require identification of possibilities for management, development, and other opportunities for action such as:

1. Reservoir sites cataloged as to possible ranges of storage capacities;
2. Preservation of scenic streams;
3. Stream channel improvement possibilities;
4. Land treatment and enhancement measures;
5. Preservation or enhancement of fish and wildlife; and
6. Preservation or enhancement of a cultural or archeological area.

These possibilities for management, development, or other actions will indicate the resources capabilities relative to specific commodities, services, or environmental amenities desired by society. By proper selection of these development possibilities, plans may be formulated to meet the needs for each component of the objectives.

Problems likely to present impediments to the attainment of the desired levels of national or regional output of goods and services, environmental amenities, or social opportunities for the planning period should be identified. Problems may take the form of physical constraints that limit resource use, conflicts in resource use, legislation that in-

hibits desired use or development, or other limitations.

At this point, it should be possible to generally outline the total development and resource use programs that are needed to meet current and projected needs for each component of the multi-objectives. An examination of these potential programs may reveal conflicts and complementarities among them. In addition, other programs may also be available. These may include such alternatives as changes in production processes for increased efficiency, meeting needs by shifting demand to other areas, or encouraging more rapid rates of technological progress.

#### D. FORMULATION OF ALTERNATIVE PLANS

In the first two steps in the plan formulation process, the components of the multiobjectives were specified in terms of needs and problems, the resource capability within the planning areas were evaluated, and the broad outlines of management, development, and other actions were identified. The next step is to undertake the actual design and scaling of alternative plans.

Ideally, in the presence of a situation where there are few or no constraints on planning and where the components of the multiobjectives are essentially complementary (the satisfaction of one component need does not preclude the satisfaction of the other component needs), the formulation of a single plan would be sufficient. The only test required would be that the plan was the most efficient plan to satisfy the specified level of component needs. Although in only a few instances will this situation occur, the case does help to establish the guidelines and criteria to judge the range of alternative plans that should be formulated and the tests to be applied in formulating any given plan.

The requirement for the formulation of alternative plans in the presence of multiobjectives derives from the basic characteristics of the multiobjective approach. First, instead of the component needs of all objectives being complementary, it is more likely they will be in conflict—the satisfaction of one will reduce the satisfaction of others. Second, given uncertainty with respect to future economic and demographic changes and the general uncertainty with respect to future preferences for the environmental quality objective, a single specified level of achievement or need satisfaction for any given component is not likely to be acceptable through time. Other factors contributing to the necessity for formulation of alternative plans include limited resources, technical planning constraints, and legal and administrative constraints.

Suggestions as to the determination of the general nature and types of alternative plans which should be formulated and the number of alternatives which should be developed within each general type are given below.

A first requirement is to determine the general types of alternatives to be developed under alternative assumptions concerning the level and magnitude of component needs in the future. Given alter-

native assumptions concerning future economic and demographic trends for the planning setting and the total range of component needs related thereto, a set of alternative plans should be prepared for each major assumption concerning the future. In those planning situations where there does not exist a strong linkage between water and land development and major shifts in economic and demographic trends, the OBERS baseline projections will generally be used as a single set of assumptions about the future level of component needs required. Where the linkage is sufficiently strong so that water and land development may materially alter future economic or demographic trends, this relation should be reflected in alternative assumptions. Where the planning area may be unusually susceptible to other factors that could easily change in the future, it will be appropriate to establish a basis for a different set of alternative plans based on alternative assumptions concerning future change. In this instance, a sensitivity check should be made to ascertain the extent to which component needs will vary significantly given different assumptions concerning the future. If no significant variation is found, only one set of alternative plans will have to be developed.

Within a given set of assumptions concerning future change and the component needs associated thereto, the number and types of alternative plans to be developed will be determined by applying the following:

1. On a first approximation basis, array component needs that are essentially complementary—that is, the satisfaction of one of these component needs does not preclude satisfaction of the other component needs or does not result in materially adding to the cost of satisfying the other component needs in the array; and

2. From the above approximation, it should be possible to group component needs and the elements of a plan to satisfy those needs that are essentially in harmony, each set representing the nucleus for an alternative plan.

At this step, relevant alternative means of meeting each of the component needs to be included in an alternative plan should be identified. All relevant means should be considered. An analysis should be made for each alternative means, including an identification of the beneficial and adverse consequences to other component needs. The assembly of information on alternative means of meeting the component needs will provide a basis for selecting the most effective means, or combination of means, of satisfying all component needs. The significance of this step is threefold: (1) It provides information on the effectiveness of alternative means of satisfying a component need; (2) it provides information on the extent of complementarity or conflict among component needs in relation to a particular means; and (3) it provides a basis for selecting alternative means for satisfying a component need in the formulation of an alternative plan.

At this point, it should be possible to formulate alternative plans built upon



the set of complementary component needs and plan elements. These essentially are the building blocks for the formulation of alternative plans. In formulating a given alternative plan, initial consideration will be given to its orientation toward fulfilling the component needs for one of the multiobjectives. Further additions should be made for the component needs of other multiobjectives, provided that their addition to a given plan does not significantly diminish the contributions of the overall plan to that multiobjective toward which the plan is oriented. An analysis of the alternative plan, in terms of beneficial and adverse effects, will reveal the extent of any shortfalls against other multiobjectives. The process is then repeated until sufficient numbers of alternative plans have been formulated so that there is at least one plan that generally satisfies each specified component need of the multiobjectives. This does not mean that there must be a plan for each multiobjective that excludes plan elements that significantly contribute to the component needs of other multiobjectives nor does it mean that a given alternative plan cannot appropriately satisfy the component needs of several multiobjectives. Additional alternative plans may be required where there are possible conflicts among the component needs within a given multiobjective.

A precise number of alternative plans cannot be specified in advance but will be governed by the relevancy of the multiobjectives to a given planning setting, the extent of component needs and their complementarity, the available alternative means, and the overall resource capabilities of the area under study.

To facilitate comparisons and tradeoffs among alternative plans and comparisons of beneficial and adverse effects measured in nonmonetary terms with beneficial and adverse effects measured in monetary terms, one alternative plan should be formulated in which optimum contributions are made to the component needs of the national economic development objective. Additionally, during the planning process at least one alternative plan will be formulated which emphasizes the contribution to the environmental quality objective. Other alternative plans reflecting significant tradeoffs among the national economic development and environmental quality objectives may be formulated so as not to overlook a best overall plan.

Alternative plans emphasizing contributions to specified components of the regional development objective will be prepared only with advance approval.

In formulating alternative plans, tests of acceptability, effectiveness, efficiency, and completeness should be applied.

The acceptability test refers to the workability and viability of the plan in the sense of acceptance of the public and compatibility within known institutional constraints.

The effectiveness test refers to technical performance of the plan and the level of contribution to the components of the multiobjectives.

The efficiency test requires that among all acceptable alternatives, Federal and non-Federal, water and nonwater, structural or nonstructural, the given alternative plan should be the least costly considering all adverse effects to the multiobjectives when comparably evaluated according to these standards.

The completeness test requires that a given alternative plan provide and account for all necessary investments or other actions that will be needed to assure the full realization of the contributions provided by the plan to the components of multiobjectives specified for the planning area. This may require relating the water and land resources plan to other types of public or private plans where they are crucial to the full realization of the contributions to the multiobjectives. The rule to follow is that beneficial and adverse effects must be treated comparably when relating water and land resource plans to other plans.

In formulating alternative plans to satisfy the component needs of the environmental quality objective, consideration may be given to an alternative which explicitly precludes any significant forms of physical construction or development. Where such a "no development" alternative is considered, it must be recognized that positive action is nonetheless required to assure that the "no development" concept can be realized and, further, that the particular environmental characteristics that it is desired to maintain or enhance through the "no development" alternative may change through time as a result of changing conditions within a planning setting. Positive actions, such as zoning or public land acquisition, may be necessary to accomplish the "no development" alternative. The test of plan completeness must be very carefully applied for this type of alternative plan.

#### E. ANALYSIS OF ALTERNATIVE PLANS

In the previous formulation step, a series of alternative plans were formulated and their beneficial and adverse effects evaluated and measured in accordance with the definitions and measurement standards set forth in section III of these standards. A display of the beneficial and adverse effects will be developed for each alternative plan in a form similar to that shown and discussed in section VI, System of Accounts.

In this formulation step, an analysis and comparison of alternative plans is outlined to make the following determinations:

1. The effectiveness of given alternative plans in meeting the component needs of the multiobjectives;
2. The differences among alternative plans in terms of their contributions to the multiobjectives and their effects on social factors; and
3. The relative value of those beneficial and adverse effects that are essentially presented in nonmonetary terms, in terms of what is given up or traded off among plans with varying degrees of contributions to the multiobjectives.

These determinations are essential to the subsequent step for selection from among the alternatives of a recommended plan.

The first determination involves the analysis of how well each alternative plan performs against the component needs that served as the basis for its formulation. The analysis should include an appraisal of any shortfalls against component needs for which the plan was formulated and the extent of shortfall against other component needs. For instance, if a given alternative has been formulated with emphasis on the component needs for the national economic development objective, the analysis should indicate the performance of the plan in terms of those needs and further indicate the degree to which the component needs for the other multiobjectives have been fulfilled or remain unmet. For this purpose, measures of performance should be developed that characterize how a particular plan performs against the component needs of the multiobjectives.

The second determination involves the systematic comparison of the performance of given alternatives with each other. The purpose for these comparisons is to portray the extent of difference among alternative plans as a basis for reducing the number of alternative plans to be considered in the selection of a recommended plan. The comparisons should be carried out to display the type of information on beneficial and adverse effects shown in section VI.

These comparisons will facilitate the evaluation of the significance of the differences among alternative plans. While all alternative plans will tend to differ, the degree and extent of difference is critical in reducing the number of alternative plans to be seriously considered for recommendation.

The third determination involves a special analysis designed to provide an approximation of relative monetary values to those effects to multiobjectives that are generally characterized and displayed in nonmonetary terms. It is not the purpose of the analysis, however, to convert such effects to monetary equivalents but to gain an insight with respect to the relative value of such effects by understanding their impact upon monetary values which, as a practical matter, is a generally understood common denominator for decisionmakers.

This analysis involves extracting information from the previous evaluation involved in comparison of plans. For the purposes of the special analysis, the alternative plan that optimizes the national economic development objective is compared with the alternative plans that emphasize the environmental quality or regional development objectives. Enhancement of environmental quality, for example, can be related to beneficial effects foregone or increased adverse effects in national economic development. Likewise, an increase in national economic development can be compared with adverse effects on environmental quality or regional development. From this analysis, it should be possible to develop an array of relative values for the nonmonetary effects.

While not designed to provide a basis for conversion of nonmonetary beneficial and adverse effects to monetary terms, this analysis does provide the range of



monetary tradeoffs involved for the non-monetary effects for a particular planning setting and will serve to point out that any final evaluation of the worth of nonmonetary effects must be seen in the context of the alternative way of using a particular resource.

#### F. RECONSIDERATION OF COMPONENTS AND ALTERNATIVE PLANS

As indicated in the introduction to this section, plan formulation should be viewed as a continuous process that must be reiterated during the overall planning process based upon the results of the initial consideration of plan formulation described above. Further, it should be noted that the level of analysis probably should not be detailed until the results of the initial or subsequent reiterations more clearly indicate the relevancy of the components of multiobjectives to the planning setting and the range and number of alternatives that should be considered as the basis for selecting a recommended plan. It should be stressed, with respect to alternative plans, that in the last formulation step, the selection of a recommended plan, only alternatives that could be favorably recommended for various mixes of the components of the multiobjectives will be considered.

The basis for reiteration of the plan formulation process at this point or for modifying certain steps in that process should be based upon the following considerations:

1. Level of detail inadequate as basis for selection of a recommended plan;
2. Alternatives considered result in significant shortfalls in meeting the component needs of one or more of the multiobjectives;
3. Resource capability and alternatives considered suggest that the initial specification of component needs was in error and requires modification;
4. Public policy changes occurring during the planning study suggest change in emphasis for the multiobjectives; and
5. Additional information obtained on resource capabilities or the technical aspects of alternative plans.

The above considerations are only suggestive of the conditions requiring reappraisal and reiteration of the plan formulation process. As a general guide, however, in determining the extent and number of reiterations that should be undertaken, a judgment must be made as to whether or not new information, further detail, or other change in the conditions listed above are likely to result in either significant changes in the component needs or in the alternatives considered.

#### G. PLAN SELECTION

The culmination of the plan formulation process is the selection of a recommended plan from among the alternative plans. Based upon the analysis of alternative plans and the results of reiterations of the plan formulation process, a set of alternative plans should be developed—each one of which, given the relevant mix of multiobjectives, could be selected on its own merits as a recommended plan or recommended course of

action. It is from among these alternatives that a recommended plan will be selected.

The previous formulation steps should effectively screen the number and types of alternatives that are to be considered as candidates for a recommended plan. In general, these alternatives should possess the following characteristics:

1. For the given set of component needs, each alternative plan should be most efficient means to achieve those needs.
2. The plans should be significantly differentiated from each other, primarily in terms of emphasis on multiobjectives; that is, each alternative plan makes a unique contribution to one or more multiobjectives not provided for by any of the other alternatives under consideration. Using the analysis of alternatives, those alternatives that may have been formulated with essentially similar characteristics in terms of component needs with only minor differences should be screened to select the alternative that provides the best mix of contributions to the specific set of component needs.
3. Without regard to assigning priorities or weights to the component needs of a particular alternative to differentiate such alternative in terms of the other alternatives, each alternative must be "justified" in the sense that in the judgment of the planning organization the total beneficial effects (monetary and nonmonetary) to the objectives relevant to the alternative are equal to or exceed the total adverse effects (monetary and nonmonetary) to those objectives.

Given the above screening process, the choice of a recommended plan from among the remaining alternatives is essentially a choice governed by a reasonable and rational perception of priorities and preferences about the mix of multiobjectives. It is not a choice predicated upon an analysis of the most justified plan, since each alternative to be considered at this step of the overall formulation process can be justified on its own merits in terms of its contributions to the given mix of multiobjectives relevant to each alternative.

If explicit priorities or weights were assigned to the beneficial and adverse effects to each component need of the multiobjectives, it would be possible to select a best plan to be recommended with a minimum of judgment. In most cases, however, such priorities or weights will not be available and, as set forth in Principles, selection of a recommended plan will be based upon an appraisal so that the beneficial and adverse effects to the mix of objectives, to the best of current understanding and knowledge, reflect the priorities and preferences expressed by the public at all levels to be affected by the plan.

The basis of selection will be fully reported upon indicating all considerations made in the selection process.

An explicit presentation will be shown of the comparisons and resulting tradeoffs of the recommended plan to other alternative plans considered for recommendation. This will be shown in accordance with the system of accounts in section VI.

#### VI. SYSTEM OF ACCOUNTS

The system of accounts is an information system that displays beneficial and adverse effects of each plan on the multiobjectives and on social factors and provides a basis for comparing alternative plans. The display of beneficial and adverse effects on each objective and on social factors will be prepared in such manner that the different levels of achievement to each objective and effects on social factors can be readily discerned and compared, indicating the tradeoffs between alternative plans.

The system of accounts calls attention to the important aspects of information which must be generated and displayed if the decisionmaking process is to be effective. The evaluation framework through the system of accounts provides for a systematic investigation of the full range and extent of effects of a plan and provides for a display of this information in a format which is clear and useful to all participants in the decision process.

Four accounts will be used for displaying beneficial and adverse effects on each objective and on social factors and for showing and analyzing the tradeoffs among plans. The four accounts to be used are national economic development, environmental quality, regional development, and an account for social factors.

Two series of displays will be prepared. In the first, gross beneficial and gross adverse effects and net beneficial effects where appropriate will be displayed for each objective and on social factors in an account for each alternative plan. The second series of displays will be used to provide a ready comparison of the alternative plans.

In the first series of displays, beneficial and adverse effects to be shown in each account will be in accordance with the definition and discussions of beneficial and adverse effects by components of the objectives and on social factors contained in section III. Values for the national economic development account will be expressed in monetary units; values for the environmental quality account will be expressed in appropriate quantitative units or qualitative terms; and the regional development account and account for social factors will include a combination of monetary units and other appropriate quantitative units or qualitative terms. Tables 1, 2, 3, 4, and 5 illustrate the nature and the content of the first series of displays.

Table 1 is a schematic diagram of the system of accounts and illustrates the basis for summarizing beneficial and adverse effects on objectives and on social factors. Table 1 indexes the detailed display of beneficial and adverse effects by components in tables 2, 3, 4, and 5. The components of the national economic development account appear in table 2. The components of the environmental quality account appear in table 3. The components of the regional development account appear in table 4. The components of the account for social factors appear in table 5. The tables include hypothetical data on beneficial and adverse effects as examples only. These should not be considered necessarily inclusive



as to specification of components or coverage.

For the purposes of accounting for the regional development objective, the standard set of economic accounting areas designated on the attached map will be used. The Council will maintain a set of economic projections for these economic accounting areas and a capacity to provide additional analysis for planning studies on request. The economic area projections will be compatible with the Council's projections of national growth.

A plan may have effects on one or more of the economic accounting areas. As many economic accounting areas as necessary will be included in order to cover the geographic area relevant to the evaluation of the regional development objective. The effects of a plan upon the individual economic accounting areas comprising this geographic area should be identified in the planning report in order to take account of the plan in subsequent evaluations of problems and needs.

The system of accounts will also display the beneficial and adverse effects for the geographic area relevant to the evaluation of the regional development objective in relation to the other parts of the Nation. The number of economic accounting areas to be used will vary, dependent on the information available and the extent of the effects of the plan. It is not proposed that the effects of a plan be identified across all of the individual economic accounting areas shown on the attached map. The evaluation will, however, as a minimum, analyze the effects of a plan upon the geographic area relevant to the evaluation of the regional development objective and the rest of the Nation. If a plan results in substantial effects upon other regions of the Nation, the regions should be identified and the effects evaluated.

The incidence of national economic development adverse and beneficial effects across the system of regional accounts must sum to the total national economic development adverse and beneficial effects evaluated for the plan. The incidence of locational effects, both beneficial and adverse, across the system of regional accounts must sum to zero for beneficial effects and must sum to zero for adverse effects. In cases when an effect category includes both national economic development effects and locational effects, the sum of the effects for that category across the system of regional accounts will equal the total national economic development effects included in the category.

Beneficial and adverse effects on the regional development objective arising from the use of resources otherwise unemployed or underemployed and from resources displaced and subsequently unemployed represent special categories of effects in the regional development account. The incidence of these effects, both beneficial and adverse, across the system of regional accounts does not sum to zero for each category but will sum to the total value of such effects for each category evaluated for all regions identified.

The use of the standard set of economic accounting areas will not, however, rule out the use of other regions such as hydrologic regions or States whose delineations are important in measuring beneficial or adverse effects on specified components of the regional development objective. However, in such cases, the evaluation should also include an analysis of the effects of a plan utilizing the standard set of economic accounting areas.

Table 4 shows information for region 1, region 2, and the rest of the Nation to illustrate that the system of regional accounts is to show the major incidence of the plan and the relation to the rest of the Nation.

The second series of displays (table 6) will be used to provide a ready com-

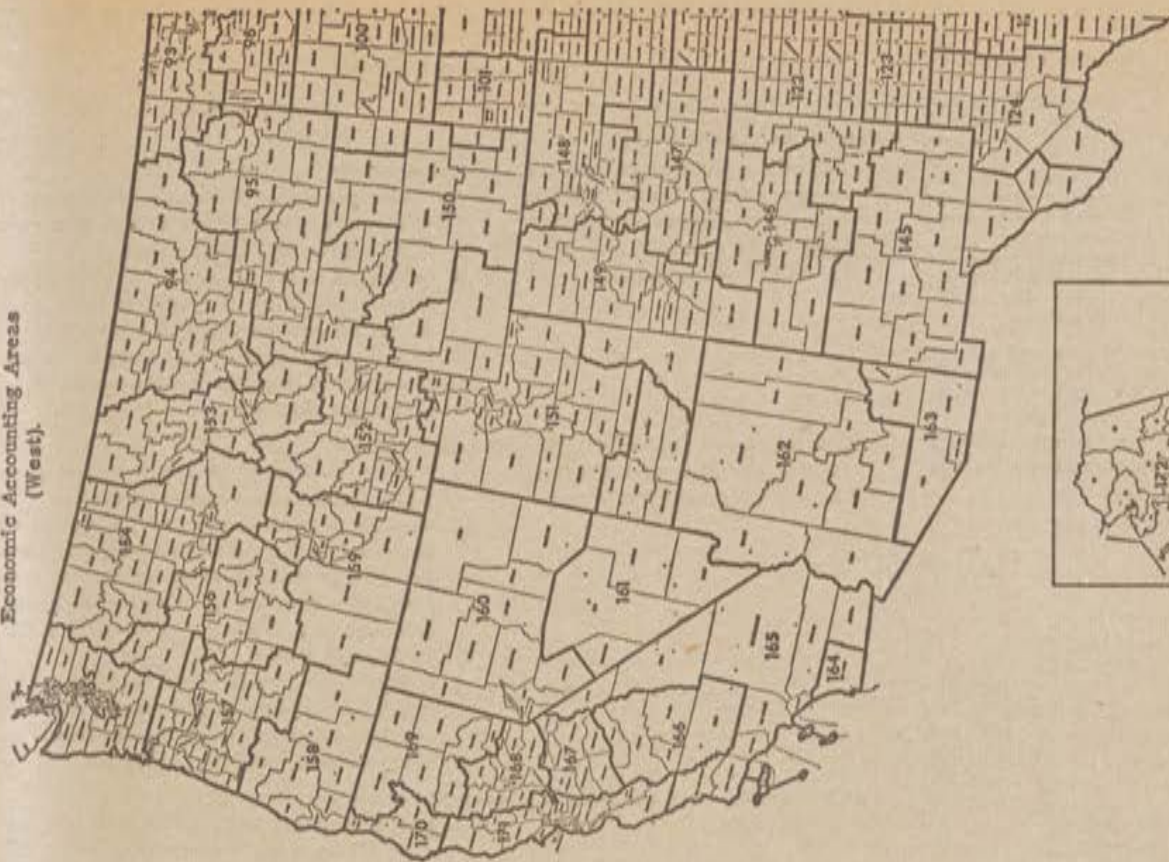
parison of alternative plans. Each of the alternative plans will be paired with the recommended plan so that the advantages and disadvantages of each can be compared. Other comparisons between alternative plans may be displayed where relevant. The information needed for this second series of displays will be taken from the first series. The information should be summarized and condensed to make it as brief and yet as meaningful as possible. Differences between the recommended plan and alternatives should be set forth in a consistent manner so that positive and negative differences in beneficial and adverse effects are readily discernible. Table 6 illustrates the nature and content of this series of displays.

Economic Accounting Areas  
(East)





Economic Accounting Areas  
(West)



Economic Accounting Areas  
(Central)





TABLE 1.—SCHEMATIC DIAGRAM OF SYSTEM OF ACCOUNTS

Account	Beneficial and adverse effects
National economic development.	(See table 2 for example display of effects by component.)
Environmental quality.	(See table 3 for example display of effects by component.)
Regional development. Region 1. Region 2. Rest of Nation.	(See table 4 for example display of effects by component.)
Social factors.....	(See table 5 for example display of effects by component.)

TABLE 2.—BENEFICIAL AND ADVERSE EFFECTS FOR A PLAN (USE ADDITIONAL TABLES FOR EACH ALTERNATIVE PLAN)

NATIONAL ECONOMIC DEVELOPMENT	
Components	Measures of effects
<b>Beneficial effects:</b>	
A. The value to users of increased outputs of goods and services. Examples include:	
(1) Flood control.....	\$1,000,000
(2) Power .....	1,000,000
(3) Water supply.....	1,000,000
(4) Irrigation .....	1,000,000
(5) Recreation .....	1,000,000
B. The value of output resulting from external economies. Examples include:	
(1) Economies of scale in subsequent processing....	1,000,000
(2) Reduced transportation costs as result of road relocation .....	1,000,000
Total beneficial effects....	7,000,000
<b>Adverse effects:</b>	
A. The value of resources required for a plan. Examples include:	
(1) Project construction and OM&R.....	3,000,000
(2) Project pumping power .....	1,000,000
B. Losses in output resulting from external diseconomies. Examples include:	
(1) Diseconomies of scale in subsequent processing for displaced activities.....	1,000,000
(2) Increased transportation costs as result of road relocation .....	1,000,000
Total adverse effects.....	6,000,000
Net beneficial effects.....	1,000,000

TABLE 3.—BENEFICIAL AND ADVERSE EFFECTS FOR A PLAN (USE ADDITIONAL TABLES FOR EACH ALTERNATIVE PLAN)

ENVIRONMENTAL QUALITY	
Components	Measures of effects
<b>Beneficial and adverse effects:</b>	
A. Open and green space, wild and scenic rivers, lakes, beaches, shores, mountains and wilderness areas, estuaries, and other areas of natural beauty.	
Examples include:	
1. Create lake with 3,500 surface acres, 70 miles of shoreline, and depth of 80 feet, with high quality water and excellent access.	
2. Create 600 acres of open and green space along creek, 1,000 to 1,500 feet wide, with good access and located 4 miles from city.	
3. Inundate 3,500 acres of open and green space, 10 miles long and 1/2-mile wide, located along stream and near city.	
B. Archeological, historical, biological, and geological resources and selected ecological systems.	
Examples include:	
1. Preserve recognized historical archeological feature and enhance access to feature.	
2. Enhance wildlife habitat by acquisition of 500 acres mixed forest, pastureland; construction of three small ponds with 50 surface acres expected to maintain duck and pheasant population of 5,000 and 10,000 birds, respectively.	
3. Disrupt 3,000 acres of wildlife habitat due to interior access roads and adjacent picnicking and camping sites, with possible decrease in deer, pheasant, and duck population.	
C. The quality of water, land, and air resources.	
Examples include:	
1. Meet State water quality standards over 200 miles of stream below reservoir.	
2. Enhance esthetic appeal of lands adjacent to reservoir by selected clearing and enhance visual enjoyment by unique design and location of access roads.	
3. Prevent erosion by provision of 500 acres of grassed waterways and implementation of crop rotation practices on 5,000 acres of land.	
4. Increase salt concentration over 50 miles of stream from X p.p.m. to Y p.p.m. due to salt load in return flows.	
5. Increase erosion over 2,000 acres due to access road borrow pits and denuded recreation sites as a result of expected concentrated use; silt load downstream of reservoir estimated to increase X tons per year.	
D. Irreversible commitments of resources to future uses.	
Examples include:	
1. Preserve low cost reservoir site by recommending development of well field for municipal water supply at slightly greater cost to the national economic development objective.	
2. Reservoir is to be located at site with some unique species of plants and wilderness qualities due to limited access but which is a very efficient reservoir site.	



TABLE 4.—BENEFICIAL AND ADVERSE EFFECTS FOR A PLAN—Continued

Components	Measures of effects		
	Region 1 (Project area)	Region 2 (Adjacent area)	Rest of Nation
<b>Adverse effects:</b>			
a. The value of resources contributed from within the region under consideration to achieve the outputs of a plan. Examples include: Lands, easements, rights-of-way.... General taxes..... Payment through taxes, assessments, or reimbursement by the region under consideration for resources contributed to the plan from outside the region. Examples include: Power reimbursement..... Water supply reimbursement..... Irrigation repayment..... Ad valorem taxes.....	800,000 250,000	250,000 <sup>0</sup>	1,000,000 <sup>0</sup>
b. Losses in output resulting from external diseconomies to users residing in the region under consideration. Examples include: Diseconomies of scale in subsequent processing..... Increased transportation costs as a result of road relocations..... Loss of assistance payments from sources outside the region to otherwise unemployed or underemployed resources and displaced resources residing in the region under consideration. Examples include: Loss of State unemployment compensation..... (a) Employment for project construction by OMA&E..... (b) Employment in activities induced by and stemming from project operation..... (c) Induced unemployment in displaced activities.....	0 0	500,000 1,000,000	500,000 <sup>0</sup>
c. Losses in net income to the region under consideration from other economic activities displaced by construction or operation of a plan. An example is: Loss of net income in displaced activities induced by and stemming from agricultural operations inundated by project.....	+500,000 +200,000	0 +200,000	-500,000 -500,000
d. Additional net income accruing to the region under consideration from the construction or implementation of a plan and from other economic activities induced by operations of a plan. Examples include: Expenditures by imported recreationists and subsequent net regional income impacts.....	-200,000	-200,000	+500,000
<b>Total adverse effects.....</b>	<b>+500,000</b>	<b>+500,000</b>	<b>-1,000,000</b>
<b>Net beneficial effects.....</b>	<b>\$ 750,000</b>	<b>\$ 200,000</b>	<b>-1,400,000</b>

TABLE 4.—BENEFICIAL AND ADVERSE EFFECTS FOR A PLAN  
(USE ADDITIONAL TABLES FOR EACH ALTERNATIVE PLAN)

Regional Development

Components	Measures of effects		
	Region 1 (Project area)	Region 2 (Adjacent area)	Rest of Nation
<b>A. Income:</b>			
<b>Beneficial effects:</b>			
a. This value of increased outputs of goods and services from a plan to the users residing in the region under consideration. Examples include: Food control..... Power..... Water supply..... Irrigation..... Recreation.....	\$400,000 300,000 300,000 1,000,000 500,000 400,000	\$300,000 500,000 0 500,000 300,000	\$300,000 <sup>0</sup> 0 <sup>0</sup> 0 <sup>0</sup> 300,000
b. The value of output to users residing in the region under consideration resulting from external economies. Examples include: Economies of scale in subsequent processing..... Reduced transportation costs as result of road relocations.....	300,000 1,000,000	500,000 0	0 <sup>0</sup>
c. The value of output in the region under consideration resulting from the use of resources otherwise unemployed or underemployed. Examples include: Employment for project construction and OMA&E..... Employment in activities induced by and stemming from project operation.....	1,000,000 500,000	0 500,000	0 <sup>0</sup>
d. Additional net income accruing to the region under consideration from the construction or implementation of a plan and from other economic activities induced by operations of a plan. Examples include: Expenditures by imported construction workers and subsequent net regional income impacts..... Expenditures by imported recreationists and subsequent net regional income impacts.....	+1,000,000 +500,000	0 +500,000	-1,000,000 -1,000,000
<b>Total beneficial effects.....</b>	<b>7,300,000</b>	<b>\$ 100,000</b>	<b>-1,400,000</b>



TABLE 4.—BENEFICIAL AND ADVERSE EFFECTS FOR A PLAN—Continued

Components	Measures of effects		Rest of Nation	
	Region 1 (Project area)	Region 2 (Adjacent area)		
<p><b>B. Employment:</b>  <b>Beneficial effects:</b>                      Increases in the number and types of jobs resulting from a plan in the region under consideration. Examples include:                      Employment for project construction...                      Employment for project O&amp;M &amp; R...                      Employment in service and trade activities induced by and stemming from project operation.</p> <p><b>Total beneficial effects:</b>.....</p> <p><b>Adverse effects:</b>                      Decreases in the numbers and types of jobs resulting from a plan in the region under consideration. An example is:                      Employment in displaced activities induced by and stemming from agricultural operations inundated by project.</p> <p><b>Net beneficial effects:</b>.....</p>	<p>200 semiskilled jobs for 4 years                      50 permanent semiskilled jobs                      900 permanent semiskilled jobs</p> <p>100 semiskilled jobs for 4 years                      5 permanent semiskilled jobs                      58 permanent semiskilled jobs</p> <p>200 semiskilled jobs for 4 years                      50 permanent semiskilled jobs</p> <p>50 permanent semiskilled jobs</p> <p>200 semiskilled jobs for 4 years                      900 permanent semiskilled jobs</p> <p>100 semiskilled jobs for 4 years                      100 permanent semiskilled jobs</p> <p>200 semiskilled jobs for 4 years                      900 permanent semiskilled jobs</p>	<p>100 semiskilled jobs for 4 years                      5 permanent semiskilled jobs                      58 permanent semiskilled jobs</p> <p>100 semiskilled jobs for 4 years                      5 permanent semiskilled jobs                      58 permanent semiskilled jobs</p> <p>100 semiskilled jobs for 4 years                      5 permanent semiskilled jobs                      58 permanent semiskilled jobs</p> <p>100 semiskilled jobs for 4 years                      5 permanent semiskilled jobs                      58 permanent semiskilled jobs</p>	<p>-200 semiskilled jobs for 4 years                      -5 permanent semiskilled jobs                      -45 permanent semiskilled jobs</p> <p>-200 semiskilled jobs for 4 years                      -50 permanent semiskilled jobs</p> <p>-50 permanent semiskilled jobs</p> <p>-200 semiskilled jobs for 4 years                      -900 permanent semiskilled jobs</p> <p>-200 semiskilled jobs for 4 years                      -900 permanent semiskilled jobs</p>	
<p><b>C. Population distribution</b>  <b>Beneficial and adverse effects:</b>                      Population distribution within the region under consideration and among regions in the Nation.</p>	<p>200 semiskilled jobs for 4 years                      900 permanent semiskilled jobs</p> <p>Examples include:                      1. Create 1,000 permanent jobs supporting a population of 3,500 people in a region which historically has had a high rate of out migration.                      2. ....</p>	<p>100 semiskilled jobs for 4 years                      100 permanent semiskilled jobs</p> <p>Induced traffic as result of reduced transportation costs estimated to increase production of steel by 1 ton, involving 7 employment and 1 population in city which is highly industrialized presently.</p>	<p>-200 permanent jobs and population of 1,700 people</p> <p>-7 permanent jobs and 1 population</p>	
<p><b>D. Regional economic base and stability:</b>  <b>Beneficial and adverse effects:</b>                      Economic base and economic stability of the region under consideration.</p>	<p>Examples include:                      1. Create 500 permanent jobs in a new industry offering high income stable year-around employment resulting in diversification of employment base.                      2. Create 300 permanent jobs in concentrated industry with seasonal employment.</p>	<p>Examples include:                      1. Create diversity of recreational opportunity by provision of (a) 10,000 man-days boating; (b) 8,000 man-days fishing; and (c) 20,000 man-days picnicking.                      2. Influx of 800 construction workers will place severe burden on educational facilities over 4-year construction period.</p>	<p>Examples include:                      1. Meet State water quality standards over 20 miles of stream below reservoir.                      2. ....</p>	<p>-100 permanent jobs</p> <p>-75 permanent jobs                      -25 permanent jobs</p>
<p><b>E. Educational, cultural, and recreational opportunities:</b>  <b>Beneficial and adverse effects:</b>                      Educational, cultural, and recreational opportunities in the region under consideration.</p>	<p>Examples include:                      1. Create diversity of recreational opportunity by provision of (a) 10,000 man-days boating; (b) 8,000 man-days fishing; and (c) 20,000 man-days picnicking.                      2. Influx of 800 construction workers will place severe burden on educational facilities over 4-year construction period.</p>	<p>Examples include:                      1. Meet State water quality standards over 20 miles of stream below reservoir.                      2. ....</p>	<p>Examples include:                      1. Meet State water quality standards over 20 miles of stream below reservoir.                      2. ....</p>	<p>Reduce excessive use of recreational facilities on peak days and thereby improving aesthetic quality of recreation experience at existing facilities.</p>
<p><b>F. Environmental conditions of special regional concern:</b>  <b>The quality of water resources:</b></p>	<p>Examples include:                      1. Meet State water quality standards over 20 miles of stream below reservoir.                      2. ....</p>	<p>Examples include:                      1. Meet State water quality standards over 20 miles of stream below reservoir.                      2. ....</p>	<p>Examples include:                      1. Meet State water quality standards over 20 miles of stream below reservoir.                      2. ....</p>	<p>Meet State water quality standards over 20 miles of stream below reservoir.                      Increase in salt content over 25 miles of stream from point x to point y due to salt load in return flow.</p> <p>Meet State water quality standards over 20 miles of stream below reservoir.                      Increase in salt content over 25 miles of stream from point x to point y due to salt load in return flow.</p>

TABLE 4.—BENEFICIAL AND ADVERSE EFFECTS FOR A PLAN—Continued

Components	Measures of effects		Rest of Nation
	Region 1 (Project area)	Region 2 (Adjacent area)	
<p><b>B. Employment:</b>  <b>Beneficial effects:</b>                      Increases in the number and types of jobs resulting from a plan in the region under consideration. Examples include:                      Employment for project construction...                      Employment for project O&amp;M &amp; R...                      Employment in service and trade activities induced by and stemming from project operation.</p> <p><b>Total beneficial effects:</b>.....</p> <p><b>Adverse effects:</b>                      Decreases in the numbers and types of jobs resulting from a plan in the region under consideration. An example is:                      Employment in displaced activities induced by and stemming from agricultural operations inundated by project.</p> <p><b>Net beneficial effects:</b>.....</p>	<p>200 semiskilled jobs for 4 years                      50 permanent semiskilled jobs                      900 permanent semiskilled jobs</p> <p>100 semiskilled jobs for 4 years                      5 permanent semiskilled jobs                      58 permanent semiskilled jobs</p> <p>200 semiskilled jobs for 4 years                      50 permanent semiskilled jobs</p> <p>50 permanent semiskilled jobs</p> <p>200 semiskilled jobs for 4 years                      900 permanent semiskilled jobs</p> <p>100 semiskilled jobs for 4 years                      100 permanent semiskilled jobs</p> <p>200 semiskilled jobs for 4 years                      900 permanent semiskilled jobs</p>	<p>100 semiskilled jobs for 4 years                      5 permanent semiskilled jobs                      58 permanent semiskilled jobs</p> <p>100 semiskilled jobs for 4 years                      5 permanent semiskilled jobs                      58 permanent semiskilled jobs</p> <p>100 semiskilled jobs for 4 years                      5 permanent semiskilled jobs                      58 permanent semiskilled jobs</p> <p>100 semiskilled jobs for 4 years                      5 permanent semiskilled jobs                      58 permanent semiskilled jobs</p>	<p>-200 semiskilled jobs for 4 years                      -5 permanent semiskilled jobs                      -45 permanent semiskilled jobs</p> <p>-200 semiskilled jobs for 4 years                      -50 permanent semiskilled jobs</p> <p>-50 permanent semiskilled jobs</p> <p>-200 semiskilled jobs for 4 years                      -900 permanent semiskilled jobs</p> <p>-200 semiskilled jobs for 4 years                      -900 permanent semiskilled jobs</p>
<p><b>C. Population distribution</b>  <b>Beneficial and adverse effects:</b>                      Population distribution within the region under consideration and among regions in the Nation.</p>	<p>200 semiskilled jobs for 4 years                      900 permanent semiskilled jobs</p> <p>Examples include:                      1. Create 1,000 permanent jobs supporting a population of 3,500 people in a region which historically has had a high rate of out migration.                      2. ....</p>	<p>100 semiskilled jobs for 4 years                      100 permanent semiskilled jobs</p> <p>Induced traffic as result of reduced transportation costs estimated to increase production of steel by 1 ton, involving 7 employment and 1 population in city which is highly industrialized presently.</p>	<p>-200 permanent jobs and population of 1,700 people</p> <p>-7 permanent jobs and 1 population</p>



TABLE 6.—SUMMARY COMPARISON OF TWO ALTERNATIVE PLANS (USE ADDITIONAL TABLE FOR EACH RELEVANT COMPONENT)

Objective/Account	Plan B	Recommended plan	Difference (recommended plan minus plan B)
<b>Beneficial and Adverse Effects:</b>			
<b>A. Open and green spaces, lakes.</b>	A. Create lake with 3,800 surface acres, 70 miles of shoreline and depth of 80 feet with high quality water and excellent access. Immitate 3,800 acres of open and green space, 10 miles long and 1/2 mile wide, located along stream and near city.	A. Create larger lake by 500 surface acres, 10 miles of shoreline, and 10 miles of shoreline, and 10 feet of depth. Either plan would have high quality water and excellent access. Immitate 3,800 acres open and green spaces, 10 miles long and 1/2 mile wide, located along stream and near city.	
<b>B. Archeological resources.</b>	B. Immitate recognized historical archeological feature.	B. Do not immitate recognized historical archeological feature.	
<b>Regional Development:</b>			
<b>A. Income:</b>			
Beneficial effects.....	\$5,000,000	\$7,200,000	+\$2,200,000
Adverse effects.....	4,000,000	2,750,000	+1,250,000
Net beneficial effects.....	2,000,000	4,450,000	+2,450,000
<b>B. Employment:</b>			
Beneficial effects:			
Project construction employment.....	1,300 semiskilled jobs for 4 years.	1,300 semiskilled jobs for 4 years.	0
Project O&M employment in services and trade activities shared by and stemming from project operations.....	40 permanent semiskilled jobs.	50 permanent semiskilled jobs.	+10 permanent semiskilled jobs.
Employment in activities initiated by and stemming from displaced agricultural operations.....	380 permanent semiskilled jobs.	300 permanent semiskilled jobs.	+80 permanent semiskilled jobs.
Adverse effects:			
Employment in activities initiated by and stemming from displaced agricultural operations.....	15 permanent semiskilled jobs.	15 permanent semiskilled jobs.	0
Net beneficial effects.....	1,300 semiskilled jobs for 4 years.	1,200 semiskilled jobs for 4 years.	+100 semiskilled jobs per year for 4 years, less +200 semiskilled jobs for 1 year.
<b>C. Population distribution:</b>			
Regional economic base and stability.....	1,300 semiskilled jobs for 4 years.	1,200 semiskilled jobs for 4 years.	+100 semiskilled jobs per year for 4 years, less +200 semiskilled jobs for 1 year.
Education, cultural and recreational opportunities.....	2,575 permanent semiskilled jobs.	2,900 permanent semiskilled jobs.	+325 permanent semiskilled jobs.
<b>D. Environmental conditions of special regional concern:</b>			
Beneficial and adverse effects by component evaluated in table 4 would be compared for the alternative plans and differences between plans noted.			

TABLE 5.—BENEFICIAL AND ADVERSE EFFECTS FOR A PLAN (USE ADDITIONAL TABLES FOR EACH ALTERNATIVE PLAN)

Components	Measures of effects												
<b>Beneficial and adverse effects:</b>													
<b>A. Real income distribution.</b>	Examples include: 1. Create 1,000 low to medium income permanent jobs for unskilled and semiskilled workers. 2. Plan has distribution of benefits by income class over first 20 years of operation as follows:												
	<table border="1"> <thead> <tr> <th>Income class (Dollars)</th> <th>Percentage of adjusted gross income in class</th> <th>Percentage of benefits in class</th> </tr> </thead> <tbody> <tr> <td>Less than \$3,000.....</td> <td>11</td> <td>22</td> </tr> <tr> <td>3,000-10,000.....</td> <td>42</td> <td>44</td> </tr> <tr> <td>More than 10,000.....</td> <td>27</td> <td>14</td> </tr> </tbody> </table>	Income class (Dollars)	Percentage of adjusted gross income in class	Percentage of benefits in class	Less than \$3,000.....	11	22	3,000-10,000.....	42	44	More than 10,000.....	27	14
Income class (Dollars)	Percentage of adjusted gross income in class	Percentage of benefits in class											
Less than \$3,000.....	11	22											
3,000-10,000.....	42	44											
More than 10,000.....	27	14											
	3. Reimbursement, taxes, and lands, easements, and rights-of-way contributed by region 1 total \$2.35 million. These contributions have a distribution by income class as follows:												
	<table border="1"> <thead> <tr> <th>Income class (Dollars)</th> <th>Percentage of adjusted gross income in class</th> <th>Percentage of contributions in class</th> </tr> </thead> <tbody> <tr> <td>Less than \$3,000.....</td> <td>11</td> <td>25</td> </tr> <tr> <td>3,000-10,000.....</td> <td>42</td> <td>40</td> </tr> <tr> <td>More than 10,000.....</td> <td>27</td> <td>15</td> </tr> </tbody> </table>	Income class (Dollars)	Percentage of adjusted gross income in class	Percentage of contributions in class	Less than \$3,000.....	11	25	3,000-10,000.....	42	40	More than 10,000.....	27	15
Income class (Dollars)	Percentage of adjusted gross income in class	Percentage of contributions in class											
Less than \$3,000.....	11	25											
3,000-10,000.....	42	40											
More than 10,000.....	27	15											
<b>B. Life, health and safety.</b>	Examples include: 1. Provision of 100-year flood protection to city. 2. Protection of 1 ton of fresh vegetables during winter months. 3. Create 10 small ponds with drawdown of reservoir with attendant increase in musquillo population.												
<b>C. Emergency preparedness.</b>	Examples include: 1. Provide 100 mw hydroelectric power centrally located in region not dependent upon importation and movement of fuel. 2. Proposed plan for preservation of scenic river will require using optimum sustained yield of groundwater resources to serve anticipated population over next 20 years.												

TABLE 6.—SUMMARY COMPARISON OF TWO ALTERNATIVE PLANS (USE ADDITIONAL TABLE FOR EACH RELEVANT COMPONENT)

Objective/Account	Plan B	Recommended plan	Difference (recommended plan minus plan B)
<b>National Economic Development:</b>			
Beneficial effects.....	\$5,000,000	\$7,000,000	+\$2,000,000
Adverse effects.....	3,000,000	6,000,000	+3,000,000
Net beneficial effects.....	0	1,000,000	+1,000,000
<b>Environmental Quality Components:</b>			
(Use same component criteria for beneficial and adverse effects as illustrated in table 3 Examples follow.)			



TABLE 5.—SUMMARY COMPARISON OF TWO ALTERNATIVE PLANS (USE ADDITIONAL TABLE FOR EACH RELEVANT COMPARISON)—Continued

Objective/Account	Plan B	Recommended plan	Difference (recommended plan minus plan B)
<b>Region 3—Components</b>			
A. Income:			
Beneficial effects.....	\$2,500,000	\$3,100,000	+600,000
Adverse effects.....	2,000,000	2,250,000	+250,000
Net beneficial effects.....	-100,000	-150,000	-50,000
B. Employment:			
Project construction employment.....	1,300 semiskilled jobs for 3 years.	1,100 semiskilled jobs for 4 years.	1. Same number of semiskilled jobs per year for 3 years. 2. -200 semiskilled jobs for 1 year.
Project O&M employment.....	2.....	2, 5 permanent semiskilled jobs.....	2. +3 permanent semiskilled jobs.
Employment in service and trade activities induced by and stemming from project operation.....	3, 80 permanent semiskilled jobs.	3, 96 permanent semiskilled jobs.....	2. +16 permanent semiskilled jobs.
Adverse effects:			
Employment in activities induced by and stemming from displaced agricultural operations.....	1, 5 permanent semiskilled jobs.	.....	1. -5 permanent semiskilled jobs.
Net beneficial effects.....	1, 100 semiskilled jobs for 3 years.	1, 100 semiskilled jobs for 4 years.....	1. Same number of semiskilled jobs per year for 3 years. 2. +100 semiskilled jobs per year for 1 year.
2, 75 permanent semiskilled jobs.....	2, 100 permanent semiskilled jobs.....	2, 28 permanent semiskilled jobs.	
<b>Region 4—Components</b>			
A. Income:			
Beneficial effects.....	-800,000	-81,400,000	-800,000
Adverse effects.....	700,000	-700,000	-700,000
Net beneficial effects.....	-1,500,000	-1,400,000	-100,000
B. Employment:			
Project construction employment.....	1, -300 semiskilled jobs for 3 years.	1, -200 semiskilled jobs for 4 years.....	1. +100 semiskilled jobs for 3 years but -200 semiskilled jobs for 1 year.
Project O&M employment.....	2, .....	2, -5 permanent semiskilled jobs.....	2. -5 permanent semiskilled jobs.
Employment in service and trade activities induced by and stemming from project operation.....	3, -25 permanent semiskilled jobs.	3, -45 permanent semiskilled jobs.....	2. -20 permanent semiskilled jobs.
<b>East of Natick—Components</b>			
A. Income:			
Beneficial effects.....	-800,000	-81,400,000	-800,000
Adverse effects.....	700,000	-700,000	-700,000
Net beneficial effects.....	-1,500,000	-1,400,000	-100,000
B. Employment:			
Project construction employment.....	1, -300 semiskilled jobs for 3 years.	1, -200 semiskilled jobs for 4 years.....	1. +100 semiskilled jobs for 3 years but -200 semiskilled jobs for 1 year.
Project O&M employment.....	2, .....	2, -5 permanent semiskilled jobs.....	2. -5 permanent semiskilled jobs.
Employment in service and trade activities induced by and stemming from project operation.....	3, -25 permanent semiskilled jobs.	3, -45 permanent semiskilled jobs.....	2. -20 permanent semiskilled jobs.

TABLE 5.—SUMMARY COMPARISON OF TWO ALTERNATIVE PLANS (USE ADDITIONAL TABLE FOR EACH RELEVANT COMPARISON)—Continued

Objective/Account	Plan B	Recommended plan	Difference (recommended plan minus plan B)
<b>Adverse effects:</b>			
Employment in activities induced by and stemming from displaced agricultural operations.....	1, -15 permanent semiskilled jobs.	1, -50 permanent semiskilled jobs.....	1. -35 permanent semiskilled jobs.
Net beneficial effects.....	1, -300 semiskilled jobs for 3 years.	1, -200 permanent semiskilled jobs.....	1. +100 semiskilled jobs for 3 years, but -200 semiskilled jobs for 1 year.
2, -10 permanent semiskilled jobs.....	2, 0 permanent semiskilled jobs.....	2, +10 permanent semiskilled jobs.	
<b>Population distribution:</b>			
Regional economic base and stability.....	Essential and adverse effects by component evaluated in table 4 would be compared for the alternative plans and differences between plans noted.		
Educational, cultural and recreational opportunities.....			
Environmental conditions of special regional concern.....			
<b>Social Factors—Components</b>			
(Use same component status for beneficial and adverse effects as illustrated in table 4. Examples follow.)			
<b>Beneficial and Adverse Effects:</b>			
A. Real income distribution.....	A. Plan is neutral in distribution of benefits by income class over first 20 years of operation as follows:	A. Increases distribution of real income to low income persons.	
	Income class (dollars)	Percentages of adjusted gross income in class	Percentages of adjusted gross income in class
	Less than \$1,000.....	11	22
	\$1,000-5,000.....	62	64
	More than \$10,000.....	27	14
B. Life, health and safety.....	B. Provide 100-year flood protection to city.	B. Provide 50-year flood protection to city.	B. Do not provide 100-year flood protection to city; provide 50-year flood protection to city.
C. Emergency preparedness.....	C. Plan would require existing orthoquin system to maintain existing yield of ground-water reserves to serve anticipated population over next 30 years with potential for overloading capacities of water resources systems.	C. Provide X kilowatts hydroelectric power, increasing capacity existing located in region requiring importation of coal for conventional thermal plants.	C. Do not require use of optimum installed yield of ground-water reserves; provide X kilowatts hydroelectric power generating capacity.



## VII. COST ALLOCATION, REIMBURSEMENT, AND COST SHARING

On the basis of the identification provided for in the system of accounts for beneficial and adverse effects, an allocation of appropriate costs shall be made when an allocation of costs is required for purposes of establishing reimbursement levels, pricing policies, or cost sharing between the Federal Government and non-Federal public and private interests. All objectives and components of objectives shall be generally treated comparably in cost allocation and are entitled to their fair share of the advantages resulting from a multiobjective plan.

Reimbursement and cost-sharing policies shall be directed generally to the end that identifiable beneficiaries bear an equitable share of costs commensurate with beneficial effects received in full cognizance of the multiobjectives. Since existing cost-sharing policies are not entirely consistent with the multiobjective approach to planning water and land resources, these policies will be reviewed and needed changes will be recommended.

### A. COST ALLOCATION

1. *Introduction.* The existence of joint contributions toward objectives and their components requires that an allocation of appropriate costs of a multiobjective plan be made for purposes of establishing reimbursement levels, pricing policies, or cost sharing between the Federal Government and non-Federal interests. Thus, when legislative or administrative policies regarding reimbursement, pricing levels, or cost sharing apply to a proposed multiobjective plan an allocation of appropriate costs shall be made. If such policies do not apply, no allocation of costs is necessary unless required for other administrative reasons.

For purposes of cost allocation, only the costs included in the national economic development account will be allocated among objectives and their components. Appropriate costs comprising the allocation of national economic development costs to the multiobjectives and their components will be identified for purposes of applying specific reimbursement and cost-sharing policies.

Objectives and their components will generally be treated comparably in the cost allocation with respect to the identification of alternatives, the evaluation of alternatives, and the determination of incremental and/or separable costs. However, the national economic development objective serves as the baseline for cost allocation since only national economic development costs are allocated.

2. *Summary of the cost allocation method.* The cost allocation method described herein is a modification and extension of the separable costs-remaining benefits method of cost allocation which has been used to allocate costs of a multi-purpose project to purposes served by the project.

In the multiobjective setting, cost allocation becomes a two-stage process involving the allocation of costs among

objectives and then the further allocation of costs among components of objectives. The system of accounts showing beneficial and adverse effects for alternative plans will usually provide much of the information needed in this process. This is particularly true for incremental and separable costs which may be determined by comparing the appropriate alternatives including the alternative of no plan.

Under the first stage, the method provides for the allocation of national economic development costs among the several objectives. For cases when features of a plan are included to serve the environmental quality or the regional development objective and at the same time contribute incidentally to the national economic development objective, the method provides that the incremental costs of such features be allocated among the objective served and the national economic development objective. Cases 1 and 2 attached are examples relating to this circumstance.

For cases when features of a plan are designated to serve the environmental quality or the regional development objective at the loss of net beneficial effects on the components of the national economic development objective served by the plan, and for cases when the entire plan is designated to serve the environmental quality or the regional development objective at the loss of net beneficial effects on national economic development, the method provides that costs equivalent to the net national economic development beneficial effects foregone be allocated to the objective served. Cases 3 and 4 attached are examples relating to these circumstances.

Under the second stage the method provides for the further allocation of national economic development costs allocated to objectives in stage 1 among the components of the objectives. In the case of the environmental quality and regional development objectives, this would be done by allocating to each component of those objectives a share of the national economic development cost based on the costs, comparably evaluated, of the alternative means most likely to be undertaken in the absence of the plan of obtaining the beneficial effects attributable to each component. In the case of the national economic development objective, costs would be allocated among the components of the objective using the separable costs-remaining benefits method of cost allocation essentially as applied in the past.

3. *The cost allocation method—*a.* Cost allocation among objectives.* When features of a plan are included to serve the environmental quality or the regional development objective or their components which are not economically justified, each objective shall be allocated—

Not less than the incremental national economic development costs net of any incidental incremental national economic development beneficial effects of achieving the beneficial effects attributable to each objective determined by identifying on a last added basis, the na-

tional economic development costs and beneficial effects of increments of scale of a plan intended primarily to serve each objective.

Nor more than the lesser of (1) gross incremental national economic development costs of achieving the beneficial effects attributable to each objective determined as discussed above, or (2) the costs, comparably evaluated, of the alternative means most likely to be undertaken in the absence of the plan of obtaining the beneficial effects attributable to each objective, or (3) the value of the beneficial effects attributable to each objective in the judgment of the recommending official.

Remaining joint national economic development costs (the total national economic development costs of the plan less the sum of the net incremental national economic development costs determined for each of the above objectives) shall be allocated among all objectives in proportion to: (1) The lesser of beneficial effects or the costs, comparably evaluated, of the alternative means most likely to be undertaken in the absence of the plan of obtaining the beneficial effects attributable to the national economic development objective in the case of that objective; and (2) the ceiling established under the procedures set forth above for the environmental quality and regional development objectives less any net incremental costs previously allocated to the environmental quality and regional development objectives.

When features of a plan are designated to serve the environmental quality or the regional development objective or their components at the loss of net beneficial effects on the components of the national economic development objective served by the plan, or when the entire plan is designated to serve the environmental quality or the regional development objective or their components at the loss of net beneficial effects on national economic development, costs equivalent to the net national economic development beneficial effects foregone shall be allocated to the objective served.

Following is an example table illustrating how the national economic development costs allocated to the multiobjectives may be displayed for the major alternative plans.

TABLE 1.—A DISPLAY OF NATIONAL ECONOMIC DEVELOPMENT COSTS ALLOCATED TO THE MULTIOBJECTIVES FOR THE MAJOR ALTERNATIVE PLANS

	NED	EQ	RD	Total allocated
Plan A:				
Plan element:				
1.....				
2.....				
3.....				
N.....				
Plan B:				
Plan element:				
1.....				
2.....				
3.....				
N.....				
Plan C:				
Plan element:				
1.....				
2.....				
3.....				
N.....				



b. *Cost allocation among components*—(1) *Of the national economic development objective.* National economic development costs allocated to the national economic development objective under the procedures discussed above for stage 1 shall be further allocated among components of that objective in the following manner:

Each component of the national economic development objective served by a plan shall be allocated—

Not less than the separable national economic development costs of achieving the beneficial effects attributable to each component determined under the assumption that each component is in turn omitted last from the plan, adjusted downward by an amount equivalent to the national economic development costs allocated to the environmental quality or regional development objective in the first stage of the cost allocation method in cases when a desired contribution to such objective stems directly from the provision of service to a national economic development component,

Nor more than the lesser of the beneficial effects or the costs, comparably evaluated, of the alternative means most likely to be undertaken in the absence

of the plan of obtaining the beneficial effects attributable to each component.

Remaining joint national economic development costs (the total national economic development costs allocated to the national economic development objective in stage 1 less the sum of the separable national economic development costs determined for each component of that objective) shall be allocated among all components in proportion to the lesser of beneficial effects or alternative costs less any separable costs previously allocated to each component of the national economic development objective.

(2) *Of other objectives.* When required for establishing reimbursement levels, pricing policies, or cost sharing, the costs allocated to the environmental quality or the regional development objective in stage 1 will be further allocated among components of each objective in proportion to the costs, comparably evaluated, of the alternative means most likely to be undertaken in the absence of the plan of obtaining the beneficial effects attributable to each component.

Following is an example table illustrating how the national economic development costs allocated to the components of the multiobjectives may be displayed for the major alternative plans.

TABLE 2.—A DISPLAY OF NATIONAL ECONOMIC DEVELOPMENT COSTS ALLOCATED TO THE MULTIOBJECTIVES AND THEIR COMPONENTS FOR THE MAJOR ALTERNATIVE PLANS

	Allocated to		
	NED	EQ	RD
<b>Plan A:</b>			
Plan element 1.....	Water supply. Power. Flood control. Recreation. External economies. Et cetera.	Water quality. Open and green space. Wild rivers. Wetlands. Archeological features. Et cetera.	Regional output. Employment. Economic stability. Cultural opportunities. Historical sites. Et cetera.
	Total	Total	Total
<b>Plan element:</b>			
2.....			
3.....			
N.....			
<b>Plan B:</b>			
Plan element:			
1.....			
2.....			
3.....			
N.....			
<b>Plan C:</b>			
Plan element:			
1.....			
2.....			
3.....			
N.....			

4. *Definitions*—a. *Components.* Components of the environmental quality and regional development objectives comprise the specific beneficial contributions toward these objectives desired in a particular planning setting. For purposes of cost allocation, components of the national economic development objective include the more traditional purposes such as power, water supply, flood control, recreation, irrigation, etc., and one new component which encompasses the category of beneficial effects for external economics.

b. *Alternatives.* The costs of selected alternative means of obtaining the contributions to an objective or component of an objective provide a limit on the costs to be allocated to an objective or

component of an objective. The costs of selected alternative means of obtaining the contributions to one or more objectives or components are also determined to identify the incremental costs for the environmental quality or the regional development objective or their components and the separable costs for the components of the national economic development objective.

A range of possible alternatives to meet needs and problems, including types of measures and alternatives capable of application by various levels of government and by nongovernmental interests, should be considered. The alternative means of obtaining the relevant contributions to the multiobjectives to be selected for the above determina-

tions should be those which would be physically displaced or economically precluded by the proposed plan and those which would likely be undertaken in the absence of the proposed plan.

The alternative means selected for the above determinations which would likely be physically displaced or economically precluded with implementation of the proposed plan, or increments thereto, will be evaluated on a comparable basis with the proposed plan with respect to their beneficial and adverse effects on the several objectives, including the treatment of national economic development costs and the discount rate used in the evaluation.

Taxes foregone on Federal alternatives and taxes paid on non-Federal alternatives will be excluded from such evaluations for the national economic development objective.

c. *Incremental costs.* For purposes of cost allocation, incremental costs are defined as the national economic development costs of including features in a plan intended primarily to serve an objective other than the national economic development objective. Such incremental costs will be determined under the assumption that each such objective is served in turn last. Gross incremental costs for the environmental quality or the regional development objective are the total incremental costs of features included in a plan primarily for that objective. Net incremental costs represent the gross incremental cost for one of these objectives less any incidental incremental national economic development beneficial effects that accrue as a result of including features in a plan for the same objective.

d. *Separable costs.* Separable costs are defined as the differences between the national economic development costs of a plan and the national economic development costs of the national economic development objective in turn omitted, adjusted downward by an amount equivalent to the national economic development costs allocated to the environmental quality or regional development objective in the first stage of the cost allocation method in cases when a desired contribution to such objective stems directly from the provisions of service to a national economic development component.

e. *Remaining joint costs.* Remaining joint costs are defined below as they apply to stage 1 and stage 2 of the cost allocation method described herein.

For allocation of costs among objectives, remaining joint costs are defined as the difference between the total national economic development costs of a multiobjective plan and the sum of the net incremental costs determined for the environmental quality and regional development objectives.

For allocation of costs among components of the national economic development objective, remaining joint costs are defined as the difference between the total national economic development costs allocated to the national economic development objective in the first



stage of the cost allocation method and the sum of the separable costs determined for the components of the national economic development objective.

5. *Application of the cost allocation method.* The cost allocation method described herein shall be applied to all multiobjective reservoir projects or plans. In the case of other types of projects or plans where currently some variation of the separable costs-remaining benefits method of cost allocation is used, or another procedure to allocate project economic costs among project purposes is used, national economic development costs allocated to the national economic development objective under stage 1 of the method described herein, may continue to be allocated among components of the national economic development objective following those procedures.

6. *Review of cost allocations.* Cost allocations will be reviewed to the extent appropriate when new contributions are made to objectives or their contributions cease, or when there is a material change in the level of contributions made toward the objectives and their components served by a project or plan. A revised cost allocation or a modification of the existing allocation will be made if, as the result of such review, it appears that a significant inequity may result if the existing allocation is not revised or modified. Due consideration will be given, in the event of a revision or modification of an existing allocation, to the relative periods of time over which contributions are made to the various objectives and their components.

The standards followed for the existing allocation will generally be followed in the revised allocation.

In the case of minor modifications, such as the withdrawal of water for municipal water supply from existing storage space, costs may be assigned to the new component in proportion to some comparable measure of use such as storage capacity, or on the basis of the value of the contributions made. If contributions to the new component result in a reduction in the contributions made to an existing reimbursable component, the cost assigned to the new component should be no less than the loss in revenues for the existing component.

7. *Case examples.* Attached to this section are five case examples illustrating the use of the cost allocation method described herein.

#### B. REIMBURSEMENT AND COST SHARING

1. *General.* Current reimbursement and cost-sharing policies will be reviewed in their entirety at an early date in light of experience gained from actual application of the new planning principles and standards. At that time, the basis for reimbursement and cost sharing now required, the need for adjustment of these policies, the need for new reimbursement and cost-sharing policies for other objectives and their components or entirely new approaches and appropriate repayment arrange-

ments and interest rates for repayment will be extensively reviewed. Until this comprehensive review is completed, all current reimbursement and cost-sharing policies are considered to be in full force and effect.

Until such a review is completed interim reimbursement and cost-sharing arrangements may be recommended for consideration in individual authorization reports when the plan involves an objective or component for which no reimbursement or cost-sharing policy has yet been established.

2. *Cost sharing for enhancement of water quality.* A cost-sharing policy for enhancement of water quality is hereby adopted for Federal and federally assisted projects or plans. Until general legislation as necessary is approved to implement this policy, authorization reports when appropriate will make recommendations consistent with this policy.

When storage or facilities to augment, divert, retain, or otherwise regulate streamflow in addition to those provided for water supply, recreation, and other uses, are included in a plan for the purpose of meeting water quality standards, the value of the provision of such storage or facilities for this purpose shall be taken into account in determining the total beneficial effects of the entire plan of which they may be a part.

The total investment costs of the plan allocated to the environmental quality objective for such streamflow regulation to meet water quality standards shall be borne equally by the Federal Government and non-Federal entities. The total operation, maintenance, and replacement costs of the plan allocated to the environmental quality objective for this purpose shall be a non-Federal responsibility.

The non-Federal share of the investment costs of the plan allocated to the environmental quality objective for this component shall be borne by non-Federal interests, under any one or a combina-

tion of the following methods as may be determined appropriate by the head of the Federal agency having jurisdiction over the plan: (1) Cash payment upon completion of construction of major features of a project or plan providing streamflow augmentation, in an amount equivalent to the present worth of such costs discounted as appropriate using the interest rate in effect under the provisions of these Standards for the fiscal year in which the cash payment is made; (2) repayment in kind by provision of goods or services needed for the plan valued at fair market value under the same terms and conditions as discussed above for a cash payment; or (3) repayment within a 50-year repayment period of an amount equivalent to the present worth of such costs discounted as above, with interest based upon the interest rate in effect under the provisions of these standards for the fiscal year in which the repayment contract is signed.

The non-Federal share of the plan operation, maintenance, and replacement costs allocated to the environmental quality objective for this component shall be borne by non-Federal interests, under either or both of the following methods as may be determined appropriate by the head of the Federal agency having jurisdiction over the plan: (1) cash payment annually to the Federal Government, or (2) operate and administer storage or facilities provided for the purpose of meeting water quality standards and bear all the costs of operation, maintenance, and replacement incurred therefor but not to exceed the total of such costs allocated to the environmental quality objective for this component.

#### ILLUSTRATION OF COST ALLOCATION METHOD

Case 1—Incremental scale included in plan intended primarily to serve only one objective other than the national economic development objective.

##### A. Project Data:

	NED Plan A	Recommended Plan B
<b>NED objective:</b>		
<b>Beneficial effects:</b>		
FC.....	\$50	\$50
Recreation.....	20	30
Power.....	30	40
<b>Total.....</b>	<b>100</b>	<b>120</b>
<b>Adverse effects:</b>		
Project construction and OM&R....	50	90
<b>Net beneficial effects.....</b>	<b>50</b>	<b>30</b>
<b>EQ objective:</b>		
Beneficial and adverse effects.....	1.....	1. Meet State water quality standards over 100-mile stream.
	2. 3,000 acres flat water.....	2. 3,500 acres flat water.
	3. Inundate 10 miles free flowing stream.	3. Inundate 11 miles free flowing stream.
<b>RD objective:</b>		
<b>Income:</b>		
<b>Beneficial effects:</b>		
FC.....	\$50	\$50
Recreation.....	15	15
Power.....	30	40
Additional net income accruing to region.	10	30
<b>Total.....</b>	<b>105</b>	<b>135</b>
<b>Adverse effects:</b>		
Reimbursement.....	25	35
<b>Net beneficial effects.....</b>	<b>80</b>	<b>100</b>
<b>Employment:</b>		
Beneficial and adverse effects.....	1. Create 300 jobs.	1. Create 300 jobs.
<b>Regional economic base and stability:</b>		
Beneficial and adverse effects.....	1. Create 300 low paid seasonal jobs.	1. Create 300 low paid seasonal jobs.



## NED Plan A

## Recommended Plan B

EQ objective:  
Beneficial and adverse effects.

## Recreational opportunities:

Beneficial and adverse effects..... 1. Create diversity of recreational opportunity including:  
a. 7,500 man-days boating;  
b. 3,800 man-days fishing;  
c. 20,000 man-days picnicking.

1. Create diversity of recreational opportunity including:  
a. 7,500 man-days boating;  
b. 3,800 man-days fishing;  
c. 20,000 man-days picnicking.

## EQ of special regional concern:

Beneficial and adverse effects..... 1. ....  
2. 3,000 acres flat water.  
3. Inundate 10 miles free flowing stream.

1. Meet State water quality standards over 60 miles stream.  
2. 3,500 acres flat water.  
3. Inundate 11 miles free flowing stream.

## Social factors:

Beneficial and adverse effects..... 1. 50-year flood protection to city.  
2. Provision of 50 MW hydro-power capacity centrally located in region not dependent upon importation and movement of fuel.

1. 50-year flood protection to city.  
2. Provision of 50 MW hydro-power capacity centrally located in region not dependent upon importation and movement of fuel.

## B. Allocation of NED Costs Among Objectives.

1. Incremental NED costs and incidental incremental NED benefits associated with incremental scale included in Plan B intended to serve the environmental quality objective (reservoir capacity for downstream low flow augmentation):

	NED Plan A	Recommended Plan B	Difference
NED objective:			
Benefits.....	\$100	\$120	\$20
Costs.....	50	90	40

## Thus:

Gross incremental NED costs = \$40

Net incremental NED costs = \$20

## 2. Remaining joint NED costs of Plan B:

Total NED costs of Plan B..... \$90  
Less net incremental NED costs of Plan B..... -20

Remaining joint NED costs of Plan B... 70

## 3. NED cost allocation table for Plan B for objectives:

	Objective			Total
	NED	EQ	RD	
1. Benefits.....	\$120	(?)	\$135	(?)
2. Alternative NED costs...	\$90	\$50	\$90	(?)
3. Benefits limited.....	\$90	\$40	(?)	\$130
4. Net incremental NED costs.....	(?)	\$20	(?)	\$20
5. Remaining benefits.....	\$90	\$30	(?)	\$110
Percent distribution.....	82	18	(?)	100
6. Remaining joint NED costs.....	\$57	\$13	(?)	\$70
7. Total allocated NED costs.....	\$57	\$33	(?)	\$90

<sup>1</sup> WQ standards 100 miles.

<sup>2</sup> Not applicable.

<sup>3</sup> NED costs of treatment at the source adequate to meet water quality standards over 100 miles of stream.

<sup>4</sup> Benefits limited by amount of gross incremental NED costs. In this case it is assumed the environmental quality benefits associated with meeting water quality standards over 100 miles of stream is worth at least \$40 NED costs.

<sup>5</sup> Benefits to the RD objective incidental to Plan B, thus no NED costs to be allocated to this objective.

## C. Allocation of NED Costs Among Components of the NED Objective.

## 1. Separable NED costs for NED components:

	Plan B	Plan B with FC omitted	Plan B with recreation omitted	Plan B with power omitted
Total NED costs.	\$90	\$80	\$85	\$65

	Separable NED costs
Flood control.....	\$10
Recreation.....	5
Power.....	25
Total.....	40

## 2. Remaining joint NED costs of NED objective:

Total NED costs allocated to NED objective..... \$57  
Less total separable NED costs for NED components..... -40

Remaining joint NED costs of NED objective..... 17

## 3. NED cost allocation table for Plan B for NED components:

	NED components			Total
	FC	Recreation	Power	
1. Benefits.....	\$50	\$30	\$40	\$120
2. Alternative NED costs.....	\$20	\$50	\$30	\$100
3. Benefits limited.....	\$20	\$30	\$30	\$80
4. Separable NED costs.....	\$10	\$5	\$25	\$40
5. Remaining benefits.....	\$10	\$25	\$5	\$40
Percent distribution.....	25	63	12	100
6. Remaining joint NED costs.....	\$4	\$11	\$2	\$17
7. Total allocated NED costs.....	\$14	\$16	\$27	\$57

Case 2—Increments of scale included in plan intended primarily to serve more than one objective other than the national economic development objective.

## A. Project Data:

NED objective:	Recommended Plan C
Beneficial effects:	
FC.....	\$50
Irrigation.....	10
Recreation.....	30
Power.....	40
Total.....	130
Adverse effects:	
Project construction and OM&R.....	110
Net beneficial effects.....	20

## RD objective:

## Income:

Beneficial effects	
FC.....	\$50
Irrigation.....	10
Recreation.....	15
Power.....	40
Additional net income accruing to region.....	45
Total.....	160

Adverse effects:	
Reimbursement.....	40
Net beneficial effects.....	120

## Employment:

Beneficial and adverse effects. 1. Create 65 farm operation jobs.  
2. Create 400 other jobs.

## Regional economic base and stability:

Beneficial and adverse effects. 1. Create 65 new family sized farms.  
2. Create 100 full-time medium income jobs.  
3. Create 300 low paid seasonal jobs.

## Recreational opportunities:

Beneficial and adverse effects. 1. Create diversity of recreational opportunity including:  
a. 7,500 man-days boating;  
b. 3,800 man-days fishing;  
c. 20,000 man-days picnicking.

## EQ of special regional concern:

Beneficial and adverse effects. 1. Meet the State water quality standards over 50 miles stream.  
2. 3,500 acres of flat water.  
3. Create 10,000 acres green space.  
4. Inundate 11 miles free flowing stream.  
5. Inundate 1 mile free flowing stream periodically.  
6. Destroy 10,000 acres of desert.



Social factors:

- Beneficial and adverse effects.
  1. 50-year flood protection to city.
  2. Provision of 50 MW hydropower capacity centrally located in region not dependent upon importation and movement of fuel.

B. Allocation of NED Costs Among Objectives.

1. Incremental NED costs and incidental incremental NED benefits associated with incremental scale included in Plan C intended to serve the environmental quality objective (reservoir capacity for downstream low flow augmentation):

	Recommended plan with service to EQ objective deleted	Recommended Plan C	Difference
NED objective:			
Benefits.....	\$110	\$130	\$20
Costs.....	70	110	40

Thus:  
Gross incremental NED costs=\$40  
Net incremental NED costs=\$20

2. Incremental NED costs and incidental incremental NED benefits associated with incremental scale included in Plan C intended to serve the regional development objective (reservoir capacity and associated distribution facilities for irrigation):

	Recommended plan with service to RD objective deleted	Recommended Plan C	Difference
NED objective:			
Benefits.....	\$120	\$130	\$10
Costs.....	90	110	20

Thus:  
Gross incremental NED costs=\$20  
Net incremental NED costs=\$10

3. Remaining joint NED costs of Plan C:  
Total NED costs of Plan C..... \$110  
Less net incremental NED costs for low flow augmentation..... -20  
Less net incremental NED costs for service to irrigation lands..... -10

Remaining joint NED costs of Plan C..... 80  
4. NED cost allocation table for Plan C for objectives:

	Objective			Total
	NED	EQ	RD	
1. Benefits.....	\$120	(0)	(0)	(0)
2. Alternative NED costs.....	\$110	\$50	\$25	(0)
3. Benefits limited.....	\$110	\$40	\$20	\$170
4. Net incremental NED costs.....	(0)	\$20	\$10	\$30
5. Remaining benefits.....	\$110	\$20	\$10	\$140
6. Present distribution.....	70	14	7	100
7. Remaining joint NED costs.....	\$63	\$11	\$6	\$80
8. Total allocated NED costs.....	\$63	\$31	\$16	\$110

<sup>1</sup> WQ standards 100 miles.  
<sup>2</sup> Increased benefits from \$135 to \$160.  
<sup>3</sup> Not applicable.  
<sup>4</sup> NED costs of treatment at the source adequate to meet water quality standards over 100 miles of stream.  
<sup>5</sup> NED costs of direct transfer equivalent to increase in regional income.  
<sup>6</sup> Benefits limited by amount of gross incremental NED costs. In this case it is assumed the environmental quality benefits associated with meeting water quality standards over 100 miles of stream is worth at least \$40 NED cost.  
<sup>7</sup> Benefits limited by amount of gross incremental NED costs. In this case it is assumed the regional development benefit associated with providing service to irrigation lands is worth at least \$30 NED cost.

C. Allocation of NED Costs Among Components of NED Objective.

1. Separable NED costs for NED components:

	Plan C	Plan C with FC omitted	Plan C with irrigation omitted	Plan C with recreation omitted	Plan C with power omitted
Total NED costs.....	\$110	\$100	\$90	\$105	\$85
<i>Separable NED costs</i>					
Flood control.....					\$10
Irrigation (20-16) <sup>1</sup> .....					4
Recreation.....					5
Power.....					25
Total.....					44

<sup>1</sup> Note: In cases when the desired contribution to the EQ or RD objective stems directly

2. Remaining joint NED costs of NED objective:

Total NED costs allocated to NED objective.....	\$63
Less total separable NED costs for NED components.....	-44

Remaining joint NED costs of NED objective..... 19

3. NED cost allocation table for Plan C for NED components:

from the provision of service to a NED component, the separable costs for the NED component must be adjusted downward by an amount equivalent to the NED costs allocated to the EQ or RD objective in the first stage of the cost allocation method.

	NED components				Total
	FC	Irrigation	Recreation	Power	
1. Benefits.....	\$50	\$10	\$30	\$40	\$130
2. Alternative NED costs.....	\$20	\$25	\$50	\$30	\$125
3. Benefits limited.....	\$20	\$10	\$30	\$30	\$90
4. Separable NED costs.....	\$10	\$4	\$5	\$25	\$44
5. Remaining benefits.....	\$10	\$6	\$25	\$5	\$46
Percent distribution.....	22	13	54	11	100
6. Remaining joint NED costs.....	\$4	\$3	\$10	\$2	\$19
7. Total allocated NED costs.....	\$14	\$7	\$15	\$27	\$63

Case 3—Increment of scale in plan operated to serve an objective other than the national economic development objective.

A. Project Data:

	Recommended plan with service to non-NED objective deleted	Recommended Plan D
NED objective:		
Beneficial effects:		
FC.....	\$50	\$50
Recreation.....	30	20
Power.....	40	30
Total.....	120	100
Adverse effects:		
Project construction and OM&R.....	90	80
Net beneficial effects.....	30	20

EQ objective:  
Beneficial and adverse effects..... 1.....  
2. 3,500 acres flat water.....  
3. Inundate 11 miles free flowing stream.

1. Meets State water quality standards over 100 miles stream.  
2. 3,000 acres flat water.  
3. Inundate 10 miles free flowing stream.

	Recommended plan with service to non-NED objective deleted	Recommended Plan D
RD objective:		
Income:		
Beneficial effects:		
FC.....	\$50	\$50
Recreation.....	15	15
Power.....	40	30
Additional net income accruing to region.....	30	10
Total.....	127	105
Adverse effects:		
Reimbursements.....	35	25
Net beneficial effects.....	100	80

Employment:  
Beneficial and adverse effects..... 1. Create 300 jobs. 1. Create 300 jobs.

Regional economic base and stability:  
Beneficial and adverse effects..... 1. Create 300 low paid seasonal jobs. 1. Create 300 low paid seasonal jobs.

Recreational opportunities:  
Beneficial and adverse effects..... 1. Create diversity of recreational opportunity including:  
    a. 7,500 man-days boating;  
    b. 3,800 man-days fishing;  
    c. 20,000 man-days picnicking.

1. Create diversity of recreational opportunity including:  
    a. 7,500 man-days boating;  
    b. 3,800 man-days fishing;  
    c. 20,000 man-days picnicking.

EQ of special regional concern:  
Beneficial and adverse effects..... 1.....  
2. 3,500 acres flat water.  
3. Inundate 11 miles free flowing stream.

1. Meets State water quality standards over 50 mile stream.  
2. 3,000 acres flat water.  
3. Inundate 10 miles free flowing stream.

Social factors:  
Beneficial and adverse effects..... 1. 50-year flood protection to city. 1. 50-year flood protection to city.  
2. Provision of 50 MW hydro-power capacity centrally located in region not dependent upon importation and movement of fuel. 2. Provision of 45 MW hydro-power capacity centrally located in region not dependent upon importation and movement of fuel.



**Objectives.**

1. Incremental NED costs and incidental incremental NED benefits associated with feature included in recommended plan operated to serve the environmental quality objective (reservoir capacity for downstream low flow augmentation):

	Recommended plan with service to EQ objective deleted	Recommended Plan D	Difference
NED objective:			
Benefits.....	\$120	\$100	-\$20
Costs.....	90	80	-10
Net benefits.....	30	20	-10

Note: In this case example it has been assumed that in the absence of providing service to the EQ objective the power and recreation components would be scaled within the plan to maximize net NED benefits. As shown above, additional incremental NED costs for specific power and recreation facilities to maximize these net benefits is assumed to be \$10 under an alternative operating plan where no provision is made for low flow releases. Incremental NED benefits for power and recreation is assumed to be \$20 under such an alternative operating arrangement.

A further implied assumption in this case example is that it is more efficient to forego power and recreation net benefits than it would be to add additional capacity in the reservoir to make low flow releases beyond that which maximizes power and recreation net NED benefits. This may frequently be the case, i.e. to increase reservoir capacity beyond that assumed for either alternative operating arrangement would be very costly due to, for example, major road, railroad, or bridge relocations.

In this situation where the recommended multiobjective plan does not represent the inclusion of increments of scale for the EQ or the RD objective to a plan which has been scaled to maximize net NED benefits, but rather because of efficiency considerations involves a tradeoff between net NED benefits and contributions to the EQ or the RD objective, the concept of gross incremental costs and net incremental costs has to be viewed in terms of net NED benefits foregone.

**Thus:**

Gross incremental NED costs = \$10  
Net incremental NED costs = \$10

**2. Remaining joint NED costs of Plan D:**

Total NED costs of Plan D..... \$80  
Less net incremental NED costs Plan D... -10

Remaining joint NED costs of Plan D... 70

**3. NED cost allocation table for Plan D for objectives:**

	Objective			Total
	NED	EQ	RD	
1. Benefits.....	\$100	(?)	\$105	(?)
2. Alternative NED costs.....	\$80	\$15	\$95	(?)
3. Benefits limited.....	\$80	\$10	\$90	
4. Net incremental NED costs.....	(?)	\$10	(?)	\$10
5. Remaining benefits.....	\$80	0	(?)	\$80
Percent distribution.....	100	0	(?)	100
6. Remaining joint NED costs.....	\$70	0	(?)	\$70
7. Total allocated NED costs.....	\$70	\$10	(?)	\$80

<sup>1</sup> WQ standards 100 miles.

<sup>2</sup> Not applicable.

<sup>3</sup> NED costs of treatment at the source adequate to meet water quality standards over 100 miles of stream.

<sup>4</sup> Benefits limited by amount of gross incremental NED costs which are the same as net incremental NED

**C. Allocation of NED Costs Among Components of NED Objective.****1. Separable NED costs for NED components:**

	Plan D	Plan D with FC omitted	Plan D with recreation omitted	Plan D with power omitted
Total NED costs.	\$80	\$70	\$75	\$60

	Separable	NED costs
Flood control.....		\$10
Recreation.....		5
Power.....		20
Total.....		35

**2. Remaining joint NED costs of NED objective:**

Total NED costs allocated to NED objective.....	\$70
Less total separable NED costs for NED components.....	-35

Remaining joint NED costs of NED objective..... 35

**3. NED cost allocation table for Plan D for NED components:**

	NED components			Total
	FC	Recreation	Power	
1. Benefits.....	\$50	\$20	\$30	\$100
2. Alternative NED costs.....	\$30	\$40	\$25	\$95
3. Benefits limited.....	\$30	\$20	\$25	\$75
4. Separable NED costs.....	\$10	\$5	\$20	\$35
5. Remaining benefits.....	\$20	\$15	\$5	\$40
Percent distribution.....	50	38	12	100
6. Remaining joint NED costs.....	\$15	\$13	\$4	\$32
7. Total allocated NED costs.....	\$28	\$18	\$24	\$70

Case 4—The plan is unjustified in terms of the national economic development objective, and no alternative formulation can be developed that is justified in terms of this objective but the plan is recommended in view of net contributions to another objective.

**A. Project Data:**

	Recommended Plan E
NED objective:	
Beneficial effects:	
Irrigation.....	\$50
Recreation.....	20
Power.....	30
Total.....	100

Adverse effects:	
Project construction and OM&R.....	130
Net beneficial effects.....	-30

EQ objective: Beneficial and adverse effects.

1. 3,000 acres flat water.
2. Create 50,000 acres green space.
3. Inundate 10 miles free flowing stream.
4. Destroy 50,000 acres of desert.

costs. In this case it is assumed the environmental quality benefits associated with meeting water quality standards over 100 miles of stream is worth at least \$10 NED costs.

<sup>1</sup> Benefits to RD objective incidental to Plan D, thus no NED costs to be allocated to this objective.

**RD objective:****Income:**

Beneficial effects:	
Irrigation.....	\$ 50
Recreation.....	15
Power.....	30
Additional net income accruing to region.....	80

Total..... 175

**Adverse effects:**

Reimbursement.....	60
Net beneficial effects.....	115

**Employment:**

- Beneficial and adverse effects.
1. Create 320 farm operation jobs.
  2. Create 800 other jobs.

**Regional economic base and stability:**

- Beneficial and adverse effects.
1. Create 320 new family sized farms.
  2. Create 500 full-time medium income jobs.
  3. Create 300 low paid seasonal jobs.

**Recreational opportunities:**

- Beneficial and adverse effects.
1. Create diversity of recreational opportunity including:
    - a. 7,500 man-days boating;
    - b. 3,800 man-days fishing;
    - c. 20,000 man-days picnicking.

**EQ of special regional concern:**

- Beneficial and adverse effects.
1. 3,000 acres flat water.
  2. Create 50,000 acres green space.
  3. Inundate 10 miles free flowing stream.
  4. Destroy 50,000 acres of desert.

**Social factors:**

- Beneficial and adverse effects.
1. Plan has distribution of net regional income beneficial effects by income class over first 20 years of operation as follows:

Income class (dollars)	Percentage of adjusted gross income in class	Percentage net benefits in class
Less than 3,000...	11	22
3,000-10,000.....	62	54
More than 10,000..	27	14

2. Provision of 50 MW hydropower capacity centrally located in region not dependent upon importation and movement of fuel.

**B. Allocation of NED Costs Among Objectives.**

1. Incremental NED costs and incidental incremental NED benefits associated with



scale included in Plan E intended to serve the regional development objective:

	Marginal benefits and costs of alternative uses of resources required for Plan E	Recommended Plan E	Difference
NED objective:			
Benefits.....	\$130	\$100	-\$30
Costs.....	130	130	0
Net benefits.....	0	-30	-30

Thus:  
Gross incremental NED costs=\$30  
Net incremental NED costs=\$30

2. Remaining joint NED costs of Plan E:  
Total NED costs of Plan E..... \$130  
Less net incremental NED costs of Plan E..... -30

Remaining joint NED costs of Plan E... 100

3. NED cost allocation table for Plan E for objectives:

	Objective			Total
	NED	EQ	RD	
1. Benefits.....	\$100	(Qual- Itive)	\$175	(1)
2. Alternative NED costs.....	\$130	\$130	\$130	(1)
3. Benefits limited.....	\$100	(2)	\$30	\$130
4. Net incremental NED costs.....	(1)	(1)	\$30	\$30
5. Remaining benefits.....	\$100	(1)	0	\$100
6. Remaining joint NED costs.....	\$100	(1)	0	\$100
7. Total allocated NED costs.....	\$100	(1)	\$30	\$130

<sup>1</sup>Not applicable.  
<sup>2</sup>Benefits to the EQ objective incidental to Plan E, thus no NED costs to be allocated to this objective.  
<sup>3</sup>Benefits limited by amount of gross and net incremental NED costs. In this case it is assumed the regional development net benefits associated with Plan E are worth at least \$30 NED costs.

C. Allocation of NED Costs Among Components of NED Objective.

1. NED cost allocation table for Plan E for NED components:

	NED component			Total
	Irrigation	Recreation	Power	
1. Benefits.....	\$50	\$20	\$30	\$100
Percent distribution.....	50	20	30	100
2. Total allocated NED costs.....	\$50	\$20	\$30	\$100

Case 5—Incremental scale included in plan intended primarily to serve the environmental quality objective and incremental scale included in plan intended primarily to serve the regional development objective.

A. Project Data:

NED objective:	Recommended Plan F
Beneficial effects:	
Flood control.....	\$50
Irrigation.....	70
Recreation.....	30
Power.....	40
External economies.....	10
Total.....	200

Adverse effects:  
Adverse effects:  
Project construction and OM&R..... 145  
External diseconomies..... 5  
Total..... 150  
Net beneficial effects..... 50

- EQ objective:  
Beneficial and adverse effects.
1. Meets State water quality standards over 100 miles stream.
  2. 5,000 acres flat water.
  3. Create 50,000 acres green space.
  4. Inundate 16 miles free flowing streams.
  5. Inundate 6 miles free flowing streams periodically.
  6. Destroy 50,000 acres of desert.

RD objective:  
Income:  
Beneficial effects:  
FC..... \$50  
Irrigation..... 70  
Recreation..... 15  
Power..... 40  
External economies..... 10  
Unemployed resources..... 40  
Additional net income accruing to region..... 130  
Total..... 355

Income:  
Adverse effects:  
Reimbursement..... \$ 70  
External diseconomies..... 5  
Loss of assistance payments..... 15  
Loss of net income in region..... 20  
Total..... 110  
Net beneficial effects..... 245

- Employment:  
Beneficial effects.
1. Create 320 farm operation jobs.
  2. Create 1,500 other jobs.
  3. Create 400 jobs for 4 years.
- Adverse effects...
1. Loss of 200 jobs.
  1. Create 320 farm operation jobs.
  2. Create 1,300 other jobs.
  3. Create 400 jobs for 4 years.

- Regional economic base and stability:  
Beneficial and adverse effects.
1. Create 320 new family size farms.
  2. Create 1,200 full-time medium income jobs.

Recreational opportunities:  
Beneficial and adverse effects.

1. Create diversity of recreational opportunity including:
  - a. 7,500 man-days boating;
  - b. 3,800 man-days fishing;
  - c. 20,000 man-days picnicking.

EQ of special regional concern:  
Beneficial and adverse effects.

1. Meets State water quality standards over 50 miles stream.
2. 5,000 acres flat water.
3. Create 50,000 acres green space.
4. Inundate 16 miles free flowing stream.
5. Inundate 6 miles free flowing stream periodically.
6. Destroy 50,000 acres of desert.

Social factors:  
Beneficial and adverse effects.

1. 42-year flood protection to city.
2. Provision of 50 MW hydropower capacity centrally located in region not dependent upon importation and movement of fuel.

B. Allocation of NED Costs Among Objectives.

1. Incremental NED costs and incidental incremental NED benefits associated with incremental scale included in Plan F intended to serve the environmental quality objective (reservoir capacity for downstream low flow augmentation):

	Recommended plan with services to EQ objective deleted	Recommended Plan F	Difference
NED objective:			
Benefits:			
Recreation.....	\$20	\$30	.....
Power.....	30	40	.....
Other.....	130	130	.....
Total.....	180	200	\$20
Costs.....	110	150	40

Thus:  
Gross incremental NED costs=\$40  
Net incremental NED costs=\$20

2. Incremental NED costs and incidental incremental NED benefits associated with incremental scale included in Plan F intended to serve the regional development objective (reservoir capacity, distribution system and pump lift to serve benchlands not incrementally economically justified):



	Recommended plan with service to RD objective deleted	Recommended Plan F	Difference
NED objective:			
Benefits:			
Irrigation.....	\$50	\$70	
Other.....	130	130	
Total.....	180	200	\$20
Costs.....	110	150	40

Thus:  
Gross incremental NED costs = \$40  
Net incremental NED costs = \$20

### 3. Remaining joint NED costs of Plan F:

Total NED costs of Plan F.....	\$150
Less net incremental NED costs for low flow augmentation.....	-20
Less net incremental NED costs for benchland irrigation.....	-20
Remaining joint NED costs of Plan F.....	110

### 4. NED cost allocation table for Plan F for objectives:

	Objective			Total
	NED	EQ	RD	
1. Benefits.....	\$200	(7)	(7)	(7)
2. Alternative NED costs.....	\$150	\$50	\$50	(7)
3. Benefits limited.....	\$150	\$40	\$40	(7)
4. Net incremental NED costs.....	(7)	\$30	\$30	\$40
5. Remaining benefits.....	\$150	\$30	\$30	\$190
Percent distribution.....	78	11	11	100
6. Remaining joint NED costs.....	\$90	\$12	\$12	\$110
7. Total allocated NED costs.....	\$86	\$32	\$32	\$150

<sup>1</sup> WQ standards 100 miles.

<sup>2</sup> Increased benefits from \$305 to \$355.

<sup>3</sup> Not applicable.

<sup>4</sup> NED costs of treatment at the source adequate to meet water quality standards over 100 miles of stream.

<sup>5</sup> NED costs of direct transfer equivalent to increased regional income.

<sup>6</sup> Benefits limited by amount of gross incremental NED costs. In this case it is assumed the environmental quality benefits associated with meeting water quality standards over 100 miles of stream is worth at least \$90 NED cost.

<sup>7</sup> Benefits limited by amount of gross incremental NED costs. In this case it is assumed the regional development benefit associated with providing service to benchlands is worth at least \$40 NED cost.

### C. Allocation of NED Costs Among Components of NED Objective.

#### 1. Separable NED costs for NED components:

	Plan F with FC omitted	Plan F with irrigation omitted	Plan F with recreation omitted	
Total NED costs.....	\$150	\$140	\$98	\$148

	Plan F with lower omitted	Plan F with external economies omitted	
Total NED costs.....	\$150	\$125	\$150

Separable NED costs	
Flood control.....	\$10
Irrigation (53-32).....	20
Recreation.....	5
Power.....	25
External economies.....	0
Total.....	60

#### 2. Remaining joint NED costs of NED objective:

Total NED costs allocated to NED objective.....	\$86
Less total separable NED costs for NED components.....	-60

Remaining joint NED costs of NED objective.....	26
3. NED cost allocation table for Plan F for NED components:	

	NED components					Total
	FC	Irrigation	Recreation	Power	External economies	
1. Benefits.....	\$50	\$70	\$50	\$40	\$10	\$200
2. Alternative NED costs.....	\$50	\$100	\$50	\$30	\$10	\$240
3. Benefits limited.....	\$50	\$70	\$30	\$30	\$10	\$190
4. Separable NED costs.....	\$10	\$20	\$5	\$25	0	\$60
5. Remaining benefits.....	\$40	\$50	\$25	\$5	\$10	\$130
Percent distribution.....	31	38	19	4	8	100
6. Remaining joint NED costs.....	\$5	\$10	\$5	\$1	\$2	\$25
7. Total allocated NED costs.....	\$15	\$30	\$10	\$26	\$2	\$86

<sup>1</sup> Alternative NED costs assumed to be equal to NED benefits for this component.

## VIII. NATIONAL PROGRAM FOR FEDERAL AND FEDERALLY ASSISTED ACTIVITIES

### A. INTRODUCTION

With an ideally developed system of multiobjective planning in which national priorities and budget constraints were integrated with local and regional priorities, the approaches in the principles and standards would result in a national program of the appropriate emphasis and size. In the ideally developed system, there would be no necessity for a second round where national priorities and budget constraints are imposed on plans developed according to other priorities.

Since we are far from the ideal multiobjective system of planning, an interim approach is described below.

Up to this point, these standards have been concerned with alternative plans for projects, States, regions, or river basins. The evaluation, systematic display, and comparison of alternative plans provide an indication of the priorities given the various objectives in selecting a recommended plan whether for projects, States, regions, or river basins. Such plans include both Federal and non-Federal activities and are of concern to all levels of government.

In formulating a national program of Federal and federally assisted activities for water and land resources, national priorities must be established among recommended project, State, region, or river basin plans. The system of accounts for beneficial and adverse effects for recommended plans, together with other criteria such as available budget resources, national policy toward the environmental quality, or regional development objectives, social effects, and public and private investment alternatives, will provide information needed for formulating a national program.

The Council will develop and put into operation a national programing system to support decisions as to long-range priorities for water and land resource activities. While the elements of such a system already exist in the member departments, what is needed is a common system to bring the information together and to insure that future field studies in multiobjective planning are consonant with the national system.

It is essential that the planning process not only articulate the full range of choice available for meeting any given

level of needs, but that it also provide information which would be a basis for determining the order in which needs are to be fulfilled. Criteria for such selections should flow from the decisions made in regard to the priorities assigned to the multiobjectives.

Clearly, a choice exists as to which of the multiobjectives are to be emphasized. However, having assigned priorities to these respective objectives, these decisions must then be related to the instruments available for policy implementation—the most important being the annual budget within which national priorities are reflected for all Federal and federally assisted activities.

The appropriation of funds to implement a particular plan represents the termination of one planning cycle and the initiation of another. For this reason, priorities established in the planning process may be reinforced or altered by subsequent budgeting decisions. Different types of priority decisions are required in each level of planning. Priority decisions in formulating plans for projects are responsive to the kinds and quantities of project outputs expected. In formulating plans for regions or river basins, priorities are established among alternative courses of action. In formulating national programs, priorities may be assigned among the various river basin plans which are in competition for the same limited funds.

### B. PRIORITIES IN PLAN FORMULATION

Formulation of plans for projects can be viewed as the process of selecting specific measures for meeting identified problems and needs. Since combinations of individual measures generate different effects in a geographic area and since a multitude of such combinations is possible, formulation of plans for projects requires that priorities be established not only in regard to the objectives which are to be emphasized in each alternative formulation, but also in regard to which of the alternative formulations are to be recommended. Therefore, it should be clear that priorities are necessarily established, either explicitly or implicitly, during the process of formulating project plans.

A plan for a region or river basin is a sequence of actions or measures which upon implementation will result in meeting the problems and needs for water and land resource development. The project



level of planning accords priorities and subsequently selects (assigns a priority to) that formulation which makes the most beneficial contribution to those objectives considered to be most important. However, it is not until regional or river basin level of planning is undertaken that the resulting projects are accorded a priority in terms of their time phasing or sequence of implementation.

The problems and needs for water and land resource development vary among the different regions of the Nation, a major reason for this variance being the economic, social, and environmental conditions uniquely associated with different geographic areas. It is for this reason that water and land resource plans are formulated for and apply to well-defined geographic areas, either river basins or other designated regions.

Recognizing the existence of budget constraints, a choice must be made as to whether or not each plan is to progress toward completion at the same rate or whether plans for some regions are to progress at accelerated rates. Whatever the choice, it represents a priority decision in formulating a national program.

Since plans are directed toward meeting problems and needs in designated geographic areas, choosing priorities among regional or river basin plans reflects, in practical terms, the assignment of priorities to geographic areas. Therefore, in the budgetary sense, national program formulation is the allocation of a multiyear budget among geographic areas.

#### C. ESTABLISHING PRIORITIES

The President and the Congress, through the authorization, budgetary, and appropriation process, are ultimately responsible for assigning priorities for implementation of Federal activities. At an earlier stage, however, the Water Resources Council has certain responsibilities with regard to priorities. These standards amplify upon those responsibilities by requiring member agencies to formulate long-range national and regional programs for water and land resource activities.

1. *Project plans.* To assure that adequate data are available for subsequent steps in the process of national programming for water and land resource activities, it is essential in the process of formulating plans for a project that sufficient information with respect to the contributions that alternative plans make to the multiobjectives be clearly developed and reported.

2. *Basin plans.* With respect to basin or regional plans, it is necessary to establish priorities among the various activities in a plan and to present a clear statement of their most effective sequence of implementation. Many basin plans have contained early action programs which single out the projects for more immediate needs. However, the criteria for this choice generally are not related to national priorities for water and land resource activities.

Under existing procedures, priorities for Federal and federally assisted activ-

ities are usually established by agency recommendations to the President and by specification in the President's annual budget messages to the Congress. Public review of these priorities is generally limited to testimony before the various congressional subcommittees which are considering the budget requests for a particular agency.

Since the priorities set forth in the Federal budget are usually limited to actions to be undertaken within an ensuing fiscal year, State and local planning groups are forced to make highly uncertain projections in regard to the future activities of Federal water and land programs. These standards provide that river basin commissions and entities designated by the Water Resources Council to perform the functions of a river basin commission recommend long-range schedules of priorities for the collection and analysis of basic data and for the investigation, planning, and construction of projects. State members of river basin commissions have a responsibility to participate in establishing the long-range schedule of priorities. These standards require that each Federal agency that is a member of a river basin commission or entity performing the functions of a commission participate in the preparation of such a long-range schedule of priorities. Such a schedule is to reflect priorities to be accorded to previously authorized projects, as well as those recommended for authorization during each 5-year period in the schedule. The recommended schedule of priorities should accompany all requests for congressional authorization and funding. A copy of the schedule should also be forwarded to the Governors of the appropriate States for review and comment.

3. *National programs.* The single most perplexing problem in water and land resource programming is the integration of regional and river basin plans into a national program of Federal and federally assisted activities for the management and use of the Nation's water and land resources. In order that the Council may make a continuing study of the relation of regional or river basin plans to the requirements of larger regions of the Nation and to the Nation as a whole, these standards require that each member of the Council prepare a 5-year national program of water and land resource activities for submission through the Council to the President. The 5-year program is to include an identification of priority activities for collection and analysis of basic data and for the investigations, planning, and construction of projects which are to be initiated in each region during the period. The amount of program funds to be allocated to a particular region or basin is not to be based upon a rigid mathematical formula but, consistent with the level of funds prospectively available, upon an assessment of the relative needs for water resource activities in the respective regions. The national program and its regional allocations is to be continually reviewed and modified periodically to reflect the changing needs for water resource activities.

## IX. COORDINATION AND REVIEW OF PLANNING STUDIES

### A. INTRODUCTION

The success of multiobjective planning depends on meaningful participation of interests concerned with each objective at each step in the planning process. The leaders for water and land resource planning have the challenging responsibility of achieving such participation while managing effective planning studies and facilitating decisionmaking. This responsibility will require an aggressive program to involve all concerned interests in identifying an area's problems and needs, in planning alternative solutions, and in decisions as to action.

Federal planning and participation in planning will be carried out on a coordinated basis from the earliest consideration of planning needs and priorities, through initiation of an investigation or survey and the entire process of planning and review. When warranted, joint Federal agency-State planning for regions or river basins will be arranged by the Council. Full advantage is to be taken of existing field organizations and arrangements for coordination, such as river basin commissions, other regional agencies or commissions, Federal-State interagency committees, interstate bodies, and State and local agencies. When any Federal agency initiates an investigation, it shall follow the Water Resources Council's standards for appropriate coordination and consideration of problems of mutual concern with other Federal agencies and with interested regional, State, and local public agencies and private interests.

### B. NATIONAL PROGRAM OF PLANNING STUDIES

The Water Resources Council will prepare and keep up to date a national program of water and land resource planning studies. This program will include a long-range schedule of priorities for:

1. Framework studies and assessments;
2. Regional or river basins studies; and
3. Implementation studies.

1. *Framework studies and assessments.* In accordance with section 102 of the Water Resources Planning Act, the Council will maintain a continuous study of water requirements and the adequacy of water supplies to meet them. The Council will publish periodically an assessment of the Nation's water and land resources, and will publish as needed framework studies and assessments for the major regions of the country.

The reports on framework studies and assessments will be prepared by the regional entities designated by the Council. The Council shall review such reports as to the adequacy of water supplies to meet requirements in the region; the relation of the regional programs to the larger regions of the Nation; the adequacy of administrative and statutory means for coordination among Federal agencies; the adequacy of existing policy and programs to meet such requirements; and other regional and national problems in the conservation, development, and utilization of water and land resources as the Council may determine.



Framework studies and assessments will be included in the periodic national assessment reports and as appropriate may be transmitted separately by the Council to the Congress.

2. *Regional or river basin studies.* As part of its comprehensive planning responsibilities, each river basin commission is directed under the Water Resources Planning Act to recommend long-range schedules of priorities for the collection and analyses of basic data and for investigation, planning, and construction of projects. Where commissions have adopted such long-range schedules, the Council and Federal departments and agencies shall use the commissions' recommendations in establishing priorities for regional or river basin planning studies. Study leaders shall be provided by or designated by river basin commissions in their respective areas.

Where a river basin commission has not been established under title II of the Water Resources Planning Act, the Council may designate some other regional entity to perform the function of a river basin commission in recommending priorities for planning studies. Study leaders shall be provided by or designated by the Council in these areas.

For multiobjective regional or river basin planning studies, the Council will have prepared and will submit budgets with suitable statements of justifications for consideration in establishing the President's budget. These statements will outline a brief plan of study, including arrangements for study coordination and management.

When a budget for a regional or river basin study has been approved, the Council will prepare terms of reference for the study, provide or designate the study manager, and prepare the coordination arrangements, including designation of participating Federal agencies and States. The study manager shall submit a detailed plan of study, prepared in accordance with the Council's Handbook for Regional or River Basin Studies, for review and approval of the Council. The study manager will be responsible for the efficient management of the study and for organizing the study so that all concerned interests may participate in the planning process. When the objectives of the regional or river basin planning study have been identified, as provided in section V, Plan Formulation, the study manager will prepare a statement of the specified components of the multi-objective and the probable effects of the plan on such objectives. A copy of this statement will be sent to the Water Resources Council and to the Council on Environmental Quality as a preliminary report under section 102(2)(C) of the National Environmental Policy Act of 1969.

The study manager will submit completed reports of regional or river basin planning studies to the Water Resources Council for review. Copies shall be furnished to the Council on Environmental Quality.

The procedure for processing of reports from river basin commissions is pre-

sented below. For reports of studies in other areas, the Council will prepare its review report which may include modifications of the plan and after clearance with the Office of Management and Budget will transmit its report and the plan to the Congress for appropriate action.

a. *River Basin Commission plan reports.* These reports will be submitted to the Water Resources Council for review in accordance with the Water Resources Planning Act. Copies will be furnished to the Council on Environmental Quality. The Water Resources Council will prepare a report of its review which may include revision of plans for Federal projects included in the commission's plan.

The Council will review each plan prepared by a river basin commission with special regard to:

1. The efficacy of such plan in achieving optimum use of the water and land resources in the area involved;

2. The effect of the plan on the achievement of other programs for the development of agricultural, urban, energy, industrial, recreational, fish and wildlife, and other resources of the Nation; and

3. The contributions which such plan will make in achieving the Nation's economic and social goals.

The Council will formulate such recommendations as it deems desirable in the national interest and transmit them, together with the plan or revision of the river basin commission and the views, comments, and recommendations with respect to such plan or revision submitted by any Federal agency, Governor, interstate commission, or U.S. section of an international commission, to the President for his review and transmittal to the Congress with his recommendations in regard to authorization of Federal projects.

b. *Coordinated State plans.* Federal agencies administering programs of Federal assistance to States and other public bodies shall report to the Council on pending applications the information required to carry out the Council's responsibility for coordination of Federal assistance programs and other Federal programs under the Water Resources Planning Act.

In carrying out its coordination function, the Council will encourage State planning agencies to submit a program for planning water and land resources which shows how Federal assistance from various sources is to be used with resources from State and other public bodies to accomplish State objectives. The Council will coordinate such State program proposals with proposed Federal planning to avoid duplication and to facilitate effective use of planning resources.

When a State program for use of Federal assistance has been approved by the Council, Federal agencies will be guided by the State program in approving applications for grants and other Federal assistance.

Copies of reports resulting from federally assisted planning shall be distributed

for information by the Federal agency responsible for the program to the Water Resources Council, to the appropriate river basin commission, and to designated offices in member agencies. The Council will include a distribution list in its Handbook for Coordination of Planning Studies and Reports. These reports will be used for information in preparing the national planning program.

c. *Handbook for regional and river basin studies.* The Council will issue and keep up to date a Handbook for Regional or River Basin Studies. This handbook will set forth procedures for preparing work plans, establishing study management, preparing budgets, and the application of principles and standards in regional or river basin studies.

3. *Implementation studies—*a. *Council coordination.* To facilitate the coordination of water and land resources planning studies among the agencies represented on the Water Resources Council, the Federal agencies, on or before July 1 of each year, will exchange, through the Council, lists of implementation studies which are under consideration as proposed new planning starts for the fall budget submissions. The lists will include information concerning the type of study, study name, purpose, location, estimated duration, and a preliminary estimate of total cost. Information will be included on the relation of the proposed implementation study to priorities established by the Council on the basis of recommendations by river basin commissions or other regional entities and to State planning programs. On the basis of this information and the information on applications for federally assisted programs, the Council will prepare its recommendations, for "administrative use only," as to a national program of implementation studies that should be considered for initiation in the succeeding fiscal year.

Each Federal agency will (on an "administrative use only" basis) keep the Council informed of action on implementation studies included in the Council's recommended national program during the budgetary and appropriation process. When the appropriations have been approved, each Federal agency will advise the Water Resources Council which implementation studies have been funded, the assignment of study management, and any special coordination arrangements.

b. *Field coordination of implementation studies.* River basin commissions established under the Water Resources Planning Act serve as the principal agency for the field level coordination of Federal, State, interstate, local, and non-governmental planning efforts for the development of water and land resources in their areas of responsibility. Procedures to accomplish this will be developed by the commissions consistent with the Water Resources Planning Act and applicable rules, regulations, and guidelines of the Water Resources Council.

Where a river basin commission has not been established under title II of



the Water Resources Planning Act, other entities may be requested by the Water Resources Council to coordinate planning studies.

The following are the minimum procedures for field level coordination and shall apply in those regions where a river basin commission has not been established, and may be used or adapted for use by a commission in the area where one has been established:

(1) *Initiation of implementation studies.* When any implementation study has been funded, the field office responsible for its initiation will inform the corresponding field offices of the other Federal departments and agencies, river basin commissions, States, and concerned local agencies of this action. This written communication will request a statement, within a specified period of time, as to what interests they may have in the proposed study, what pertinent data they may have or know about that can be made available, and what preliminary comments and suggestions on these subjects they may care to make.

(2) *Coordination during studies.* When the objectives for an implementation study have been identified, as provided in section V, Plan Formulation, the planning organization will prepare a public statement of the specified components of the objectives and probable effects of the plan on such objectives. A copy of this statement will be sent to the Water Resources Council and to the Council on Environmental Quality for a preliminary report under section 102(2)(C) of the National Environmental Policy Act.

As the plan which is to be incorporated in the report is being formulated, the head of the field office responsible for the report will periodically communicate and arrange for mutually desired conferences with the corresponding field offices of Federal departments or agencies, river basin commissions, States, and concerned local agencies which have indicated an interest. The purpose of these communications and conferences are to determine what pertinent data are in existence, to arrange schedules for obtaining assistance and for obtaining additional data without duplication, to interchange information, to discuss the proposed plan and report, and to identify areas where there may be complementary or competitive effects.

(3) *Field review of reports.* When the report by the responsible field office has been completed, it will be submitted prior to official transmission to higher authority, to the other interested field offices of Federal departments and agencies, river basin commissions, States, and concerned local agencies for review and comment. Reports will be revised as may be necessary to reflect mutually acceptable changes. Suggestions on which agreement is not reached and which are not otherwise resolved will be recorded in the field office comments.

c. *Review of Federal implementation study reports.* The following types of final reports will be referred by the responsible agency head to the heads of other de-

partments or agencies in Washington, D.C., and States for review and comment and to the Water Resources Council office for information; and the Council on Environmental Quality in accordance with section 102(2)(C) of the National Environmental Policy Act:

1. Reports required to be submitted to other departments or agencies and States in accordance with existing law;

2. Reports prior to project authorization in which other agencies have participated, have an interest, or on which the originating agency desires comments or views; and

3. Reports following project authorization when, in the opinion of the head of the responsible agency, the comments or views of other departments or agencies are necessary or desirable prior to initiation of construction activities.

The Water Resources Council will review and comment on reports of implementation studies in areas covered by regional or river basin plans. The Council will also review reports that contain innovations in planning procedures or cost-sharing arrangements, or which have unresolved evaluation or coordination problems. Federally assisted studies that are submitted for Congressional approval shall be reviewed in the same manner. The Council's comments shall be included when reports on implementation studies are transmitted to the Congress.

Copies of final reports or plans not subject to headquarters review in accordance with the foregoing shall be furnished for information purposes to (a) the heads of other concerned Federal departments or agencies, (b) the Governor of the State(s) in which the project is located, (c) the Water Resources Council, and (d) the Council on Environmental Quality.

Reports or plans requiring congressional approval for project authorization shall be forwarded to the Office of Management and Budget for clearance before transmittal to the Congress. Copies of the reports will be forwarded to the Office of Management and Budget by the responsible department or agency head, together with copies of comments received from the Water Resources Council, other concerned Federal departments or agencies, and States. The responsible agency shall also determine that all statutory requirements have been met and that there is no apparent conflict with other water and land resource projects or programs.

d. *Handbook for Coordination of Implementation Studies and Reports.* The Water Resources Council has prepared and will keep up to date a Handbook for Coordination of Implementation Studies and Reports for the use of agencies represented on the Council and others concerned with implementation studies of water and land resources. The handbook will provide a summary of coordination policies, a description of agency areas of interest and responsibility, designation of agency offices and representatives which are to receive information regarding planning activities, and reports for review.

C. *Notification of planning clearinghouse.* The designated field office of Federal departments or agencies responsible for federally assisted programs shall inform potential applicants for assistance in planning water and land resource development projects of the need for them to notify the planning and development clearinghouse of the State(s) and the region, or, if applicable, the metropolitan area clearinghouse of their intention to apply for assistance (Bureau of the Budget Circular A-95 and Intergovernmental Cooperation Act of 1968).

Applicants for project assistance are to include with their applications:

1. Comments made by or through clearinghouses, along with a statement that such comments have been considered prior to submission of the application; or

2. A statement that the procedures for informing clearinghouses of an intention to apply have been followed and that no comments have been received.

The responsible field offices of Federal departments or agencies are responsible for establishing working relations with the appropriate clearinghouses. The clearinghouses shall be notified when the agency initiates planning activities and a conference arranged to discuss coordination needs and arrangements. At such conferences, arrangements should be made to obtain available and pertinent base data, statistics, or other information from the clearinghouse. The need and arrangements for further consultation to assure coordination should also be discussed and agreed on.

#### I. SUMMARY OF PROPOSAL

1. *Purpose.* The proposed principles and standards are to be established for planning the use of the water and land resources of the United States to achieve objectives, determined cooperatively, through the coordinated actions of the Federal, State, and local governments; private enterprise and organizations; and individuals.

Plans for the use of the Nation's water and land resources would be directed to improvement of the quality of life through contributions to the objectives of national economic development, environmental quality, and regional development. The regional development objective will be used in formulating alternative plans only when directed.

The beneficial and adverse effects of alternative plans on each of these objectives will be displayed in separate accounts with a fourth account for effects on social factors.

2. *Objectives.* Planning for the use of water and land resources would be conducted to reflect society's preferences for attainment of the objectives defined below:

a. To enhance national economic development by increasing the value of the Nation's output of goods and services and improving national economic efficiency.

b. To enhance the quality of the environment by the management, conservation, preservation, creation, restoration, or improvement of the quality of



certain natural or cultural resources and ecological systems.

c. To enhance regional development through increases in a region's income; increases in employment; distribution of population within and among regions; improvements of the region's economic base and educational, cultural, and recreational opportunities; and enhancement of its environment and other specified components of regional development.

Components of these multiobjectives refer to the types of outputs, environmental conditions, or regional development that are being sought as contributions to the multiobjectives. The term "component need" is used to refer to the type, quantity, and quality of the desired effect now and in the future.

3. *Beneficial and adverse effects.* For each alternative plan there will be a complete display or accounting of relevant beneficial and adverse effects.

Beneficial and adverse effects are measured in monetary terms for the national economic development objective and the regional income component of the regional development objective.

Other beneficial or adverse effects are measured in nonmonetary terms for components of the environmental quality and for the nonincome components of the regional development objective. Estimating these beneficial and adverse effects is undertaken in order to measure the net changes with respect to particular objectives that are generated by alternative plans. For each alternative plan the beneficial and adverse effects on social factors will also be displayed in the system of accounts.

Thus, there are beneficial and adverse effects for national economic development, environmental quality, and regional development objectives, and beneficial and adverse effects on social factors. These would be measured in monetary or quantitative units or qualitative terms appropriate to a particular effect. The multiobjectives are not mutually exclusive with respect to beneficial or adverse effects, and final decisions as to the selection of the recommended plan would be made by considering the differences among alternative plans as to all their effects.

a. *National economic development objective.* Beneficial effects to the national economic development objective would include all effects on national output regardless of the reason a plan may be formulated. These beneficial effects include the value to users of increased outputs of goods and services and the value of output resulting from external economies. National economic development adverse effects are resources required for a plan and losses in output resulting from external diseconomies.

b. *Environmental quality objective.* The beneficial and adverse effects of the proposed plan on the environmental characteristics of an area under study or elsewhere in the Nation would be evaluated. Environmental effects will be displayed in terms of relevant physical and ecological criteria or dimensions, including the appropriate qualitative aspects. Such an evaluation would in-

clude the effects of the proposed plan on (a) open and green space, wild and scenic rivers, lakes, beaches, shores, mountains and wilderness areas, estuaries, and other areas of natural beauty; (b) archeological, historical, biological, and geological resources and selected ecological systems; (c) the quality of water, land, and air resources; and (d) irreversible commitments of resources to future uses.

Effects under the environmental quality objective are expressed in various quantitative units or in qualitative terms. In some instances, the effects can be expressed in terms of meeting legally established standards.

c. *Regional development objective.* The beneficial and adverse effects of a proposed plan on relevant planning regions (States, river basins, or communities) would be displayed, including income effects and effects on other components of the regional development objective, including (1) the number and types of jobs resulting from a plan in the region; (2) the effects of the plan on population distribution within the region and among regions; (3) the effects of the plan on the regional economic base and economic stability; (4) the effect of the plan on educational, cultural, and recreational opportunity in the region; and (5) the effect of the plan on environmental quality in the region under consideration.

d. *Effects of the plan on social factors.* The beneficial and adverse effects of a proposed plan on social factors will be displayed, including the effects of a plan on the real income of classes or groups that are relevant to the evaluation of the plan; effects of the plan on life, health, and safety; effects of the plan on reserve capacities and flexibilities in water resource systems and protection against interruption of the flow of essential goods and services at times of national disaster or critical needs; and effects of a plan on other relevant social factors.

4. *System of accounts.* A system of accounts would be established that displays beneficial and adverse effects of each plan to the multiobjectives and beneficial and adverse effects on social factors and provides a basis for comparing alternative plans. The display of beneficial and adverse effects would be prepared in such manner that the different levels of achievement to each objective could be readily discerned and compared indicating the tradeoffs among alternative plans. The system of accounts will display the beneficial and adverse effects in the region under consideration in relation to other parts of the Nation.

5. *The planning process.* Plans will be directed to improvements in the quality of life by meeting current and projected needs and problems as identified by the desires of people in such a manner that improved contributions are made to society's preferences for national economic development, environmental quality, and regional development. Plans for water and land resources will focus upon the specified components of the multiobjec-

tives desired for the designated region, river basin, State, or local planning setting.

The planning process would include the following major steps:

(1) Specify components of the multiobjectives relevant to the planning setting;

(2) Evaluate resource capabilities and expected economic and environmental conditions without any plan;

(3) Formulate alternative plans to achieve varying levels of contributions to the specified components of the multiobjectives;

(4) Analyze the differences among the alternative plans which reflect different emphases among the specified components of the multiobjectives;

(5) Review and reconsider if necessary the specified components for the planning setting and formulate additional alternative plans as appropriate; and

(6) Select a recommended plan based upon an evaluation of the tradeoffs among the alternative plans.

Essential to this process is the formulation of alternative plans to achieve varying levels of contributions to the multiobjectives and the active participation of all interests.

During the planning process one alternative plan will be formulated in which optimum contributions are made to the national economic development objective. Additionally, during the planning process at least one alternative plan will be formulated which emphasizes the contributions to the environmental quality objective. Other alternative plans reflecting significant tradeoffs among the national economic development and environmental quality objectives may be formulated.

Other alternative plans emphasizing contributions to specified components of the regional development objectives would be formulated only when specifically directed.

Four tests would be applied in the formulation of any given alternative plan:

(1) The acceptability of the alternative plan to the public and compatibility with institutional constraints;

(2) The effectiveness of the alternative plan in meeting component needs of the multiobjectives;

(3) The efficiency of the plan in meeting component needs of the multiobjectives and a demonstration that the plan represents the least-cost means of achieving such component needs; and

(4) The completeness of the plan in accounting for all investments and other required inputs or actions.

As alternative plans are developed and subjected to these tests, the basic steps in the planning process may be reiterated as necessary with each iteration more detailed than the last.

Each alternative plan screened for final consideration should be "justified" in the sense that in the judgment of the planning organization the total beneficial effects to all objectives exceed the total adverse effects to all objectives.



From its analysis of alternative plans the planning organization will select a recommended plan. The plan selected will reflect the importance attached to different objectives and the extent to which different objectives can be achieved by carrying out the plan.

The recommended plan should be formulated so that beneficial and adverse effects toward objectives reflect, to the best of current understanding and knowledge, the priorities and preferences expressed by the public at all levels to be affected by the plan.

In addition to the recommended plan with supporting analysis, other significant alternative plans embodying different priorities among the desired objectives would be presented in the planning report. Included with the presentation of alternative plans would be an analysis of the tradeoffs among them. The tradeoffs would be set forth in explicit terms, including the basis for choosing the recommended plan from among the alternative plans.

6. *Cost allocation and reimbursement.* When necessary to establish reimbursement or cost-sharing policies an allocation of appropriate costs would be made among the objectives and among components of the objectives in such a manner to insure that all objectives and components are treated comparably and receive their fair share of the advantages from a multiobjective plan.

Reimbursement and cost-sharing policies would be directed generally to the end that identifiable beneficiaries bear an equitable share of costs commensurate with benefits received in full cognizance of the multiobjectives. Since existing cost-sharing policies are not entirely consistent with the proposed multiobjective approach to planning water and land resources, these policies will be reviewed and needed changes will be recommended.

7. *The discount rate.* The discount rate will be established in accordance with the following concept: The opportunity cost of all Federal investment activities, including water resource projects, is recognized to be the real rate of return on non-Federal investments. The best approximation to the conceptually correct rate is the average rate of return on private investment in physical assets, including all specific taxes on capital or the earnings of capital and excluding the rate of general inflation, weighted by the proportion of private investment in each major sector. The average rate of return on non-Federal investments is estimated at 10 percent.

Recognizing both the objective of subsidizing water resource projects and the objective of an efficient combination among and between Federal and non-Federal investment activities, the discount rate to be established on approval of the proposed principles and standards is 7 percent for the next 5 years.

8. *National program development.* The Council will formulate a national program for Federal and federally assisted water and land resource activities, including a long-range schedule of priori-

ties among plans for projects, States, regions, and river basins.

9. *Water and land planning activities covered.* The principles and standards would apply to Federal participation with river basin commissions, States, and others in the preparation, formulation, evaluation, review, revision, and transmission to the Congress of plans for States, regions, and river basins; and for planning of Federal and certain federally assisted water and land resource programs and projects as listed in the standards by the Water Resources Council.

## II. EVALUATION

(Environmental Impact, Unavoidable Adverse Environmental Effects, and Irreversible and Irrecoverable Commitments of Resources)

The evaluation system and system of accounts provide for the full and systematic display of effects, including those which are generally regarded as favorable or beneficial, those which are generally regarded as unfavorable or adverse, and those for which preferences differ and may be considered either beneficial or adverse depending upon the value judgments of those expressing the preference. The effects of an alternative plan on the environmental characteristics of an area under study or elsewhere in the Nation would be evaluated for each alternative plan formulated. Thus, environmental effects would be displayed for each alternative plan whether formulated to achieve optimum contributions to the national economic development objective, or formulated to emphasize contributions to the environmental quality objective, or, when specifically directed, formulated to emphasize contributions to specified components of the regional development objective. Environmental effects would also be displayed for alternative plans formulated to reflect various levels of contributions to the national economic development, environmental quality, or regional objectives. The display of environmental effects and the effects on the other multiobjectives for all alternative plans formulated would provide information which should facilitate planning decisions and reduce conflict over such decisions.

The proposed principles and standards conform fully with the intent and the spirit of the National Environmental Policy Act of 1969 by providing for full and systematic evaluation and display of environmental effects for all alternative plans.

## III. FORMULATION

(Alternatives and the Relationship Between Short-Term Uses of the Environment and Enhancement of Long-Term Productivity)

The explicit consideration of the environmental quality objective in formulating plans for the use of the Nation's water and land resources provides opportunity for consideration of significant enhancement of the quality of the environment. Rather than simply display-

ing environmental impacts the planning process proposed in the Principles and Standards would require that plans be directed to meeting current and projected needs and problems as identified by the desires of people in such a manner that improved contributions are made to society's preferences for national economic development, environmental quality, and regional development. Social impacts are also considered. At the outset and throughout the planning process responsible planning organizations would consult appropriate Federal, regional, State, and local groups to ascertain the components of the multiobjectives that are significantly related to the use and management of the water and land resources in the planning setting. The identification of the specific components of objectives to be considered explicitly in plan formulation will necessarily involve an appraisal of future economic, environmental, and social conditions expected without the plan as compared with those desired by people for the planning area.

The proposed principles and standards would be applied at all levels of planning as defined by the Water Resources Council. At the broadest level of planning, that is, framework studies and assessments, specification of the components of the environmental quality objective would be directed toward the alternative choices that should be considered and evaluated in the study responsive to the needs and aspirations of the people. These alternative choices relate to various views of the desires of people in the mix of objectives to be served in planning for the use of the Nation's water and land resources and reflect the alternative parameters and assumptions upon which the planning is based, including but not necessarily limited to alternative assumptions regarding the levels of future economic and population growth and environmental quality.

At the next more detailed level of planning defined by the Water Resources Council, that is, regional or river basin planning, specifications of the components of the environmental quality objective would generally be concerned with alternative courses of action that should be considered and evaluated in planning for the use of water and land resources of an entire region or river basin as this is the level of consideration of alternative at which the environmental issues and tradeoffs are most likely to be relevant to decisionmaking.

At the most detailed level of planning defined by the Water Resources Council, that is, implementation studies, specification of the components of the environmental quality objective will generally be concerned with groups of interrelated or individual plan elements where environmental issues and tradeoffs are likely to be significant in the decisionmaking process.

The success of multiobjective planning will depend on meaningful participation of interests concerned with each objective at each step in the planning process.



Under the proposed principles and standards when the objectives of a framework study or assessment or regional or river basin study have been identified the study leader responsible for the management of the study will prepare a statement of the specified components of the multi-objectives and the probable effects of the plan on such objectives. A copy of this

statement will be sent to the Water Resources Council and to the Council on Environmental Quality as a preliminary report under section 102(2)(C) of the National Environmental Policy Act of 1969. The study manager will submit completed reports of framework studies and assessments and regional or river basin planning studies to the Water Re-

sources Council for review. Copies of such reports shall be furnished to the Council on Environmental Quality.

It is concluded that promulgation of the proposed Principles and Standards for Planning Water and Land Resources will further the purposes of the National Environmental Policy Act of 1969.

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