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# federal register

Friday
October 4, 1985

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Food and Drug Administration

**Arms and Munitions**
Alcohol, Tobacco, and Firearms Bureau

**Courts**
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**Energy Conservation**
National Highway Traffic Safety Administration

**Government Procurement**
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**Motor Carriers**
Interstate Commerce Commission

**Navigation (Water)**
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**Reporting and Recordkeeping Requirements**
Drug Enforcement Agency

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# Rules and Regulations

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This section of the FEDERAL REGISTER contains regulatory documents having general applicability and legal effect, most of which are keyed to and codified in the Code of Federal Regulations, which is published under 50 titles pursuant to 44 U.S.C. 1510.
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## DEPARTMENT OF AGRICULTURE

### Agricultural Marketing Service

### 7 CFR Part 989

### Raisins Produced From Grapes Grown in California; Changes to the Raisin Diversion Program Procedures

**AGENCY:** Agricultural Marketing Service, USDA.

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

**SUMMARY:** This interim final rule invites comments on three procedural changes in the Raisin Diversion Program (RDP). Two changes bring the procedures into conformity with two recent order changes scheduled to take affect October 4, 1985. These changes require handlers to pay certain costs in addition to harvest costs when redeeming diversion certificates and allow the Raisin Administrative Committee (Committee) to increase the weight on diversion certificates issued to RDP participants agreeing to divert through vine removal or other means established by the Committee. A third change would require handlers to redeem diversion certificates promptly after they obtain them from producers. These changes were recommended by the Committee. This action is being issued on an interim final basis because the changes are needed promptly.

**DATES:** *Effective Date:* October 4, 1985
*Comments Due:* November 4, 1985.

**ADDRESSES:** Comments must be sent in duplicate to the Docket Clerk, Fruit and Vegetable Division, AMS, USDA, Room 2069, South Building, Washington, DC 20250. Comments should reference the date and page number of this issue of the **Federal Register** and will be available for public inspection in the office of the Docket Clerk during regular business hours.

**FOR FURTHER INFORMATION CONTACT:** Frank M. Grasberger, Acting Chief, Specialty Crops Branch, Fruit and Vegetable Division, AMS, USDA, Washington, DC 20250. Telephone: (202) 477–5053.

**SUPPLEMENTARY INFORMATION:** This action has been reviewed under USDA guidelines implementing Executive Order 12291 and Secretary's Memorandum No. 1512–1 and has been determined to be a "non-major" rule under criteria contained therein.

William T. Manley, Deputy Administrator, Agricultural Marketing Service, has certified that this action will not have a significant economic impact on a substantial number of small entities.

It is found that it is impracticable, unnecessary, and contrary to the public interest to give preliminary notice and engage in public rulemaking and that good cause exists for not postponing the effective date of this action until 30 days after publication in the **Federal Register** (5 U.S.C. 553). The Committee approved a raisin diversion program for the 1985 crop to foster production cut-backs and assist growers with their current financial difficulties. The three procedural changes are expected to improve the effectiveness and operation of the RDP in 1985 and in future years. Prompt implementation of the changes on additional handler payments and the prompt redemption of diversion certificates is needed because the issuance and redemption of 1985 diversion certificates is about to commence. The change on authorizing tonnage in addition to that diverted must be effective promptly so the Committee can begin planning for the 1986 RDP.

These changes have been discussed extensively by the industry and no useful purpose would be served by delaying the effective date of these changes, especially in view of the need for prompt implementation in 1985. However, to foster public input it is appropriate to request comments on these changes.

These proposals would make changes in § 989.156 of Subpart—Administrative Rules and Regulations (7 CFR 989.102–989.176; 50 FR 3879; 33911). This subpart is operative pursuant to the marketing agreement and Order No. 989, both as amended (50 FR 1830), regulating the handling of raisins produced from grapes grown in California. The marketing agreement and order are effective under the Agricultural Marketing Agreement Act of 1937, as amended (7 U.S.C. 601–674).

The RDP, which was implemented for the 1985 crop year, gives producers the means of voluntarily reducing the quantity of grapes grown for drying, but still have raisins to sell to handlers as though a crop had been produced. Since establishment of the RDP, the raisin industry has been working to assure the success of this program to bring raisin supplies in line with demand. Section 989.156 contains the procedural and operational details of the RDP.

The first change revising § 989.156(k) would require handlers to pay receiving, storing, fumigating, handling, and inspecting costs, in addition to harvest costs, when redeeming diversion certificates under the RDP. This change would bring the provisions in paragraph (k) into conformity with the order change in § 989.56(d) bringing handlers' costs for acquisition of reserve raisins purchased under the RDP in line with costs handlers pay for other purchases of reserve raisins. The order change maintains consistency in reserve tonnage sales under the marketing order.

The second change would add authority to § 989.156(i) to recognize the order amendment in § 989.56(c) allowing the Committee to issue diversion certificates in an amount greater than the creditable fruit weight of the raisins produced on a particular production unit to an RDP applicant agreeing to divert that production unit, or partial production unit, from production through vine removal or other means established by the Committee. This will provide an incentive for more producers to use vine removal which is the most direct and effective way currently known of bringing raisin supplies in line with market needs.

The third change, independent of the order changes, would revise § 989.156(k) and require handlers to report the acquisition of diversion certificates from producers and promptly submit them to the Committee for redemption. This would assure that reserve pool equity holders are promptly paid for tonnage acquired under the RDP and would be consistent with § 989.173(b) requiring handlers to submit a weekly report of

their raisin acquisitions to the Committee.

**List of Subjects in 7 CFR Part 989**

Marketing agreements and orders, Grapes, Raisins, California.

## PART 989—RAISINS PRODUCED FROM GRAPES GROWN IN CALIFORNIA

1. The authority citation for 7 CFR Part 989 continues to read as follows:

**Authority:** Secs. 1–19, 48 Stat. 31, as amended; 7 U.S.C. 601–674.

2. Paragraphs (i) and (k) of § 989.156 are revised to read as follows:

**§ 989.156 Raisin diversion program.**

* * * * *

(i) *Issuance of certificates.* On or before October 5 of the following crop year, the Committee shall issue diversion certificates to those approved applicants who have removed grapes in accordance with this section. Such certificates shall represent an amount of reserve tonnage raisins equal to the amount of raisins diverted from the production unit(s), or portion(s) thereof, specified in the producer application, or additional quantity granted by the Committee when vines are diverted through vine removal or any other means established by the Committee, as the case may be. If, prior to issuance of a certificate, the Committee is notified by an approved applicant that that applicant's interest in the production unit(s), or portion(s) thereof, involved in the program has been transferred to another person, the Committee may substitute the transferee for the applicant provided the transferee agrees to comply with the provisions of this section.

* * * * *

(k) *Redemption of certificates.* Any handler holding diversion certificates may redeem such certificates for reserve pool raisins from the Committee. To redeem a certificate, a handler must present the diversion certificate to the Committee and pay the Committee an amount equal to the established harvest cost plus an amount equal to the payment for receiving, storing, fumigating, handling, and inspecting raisins as specified in § 989.401 for the entire tonnage shown on the certificate. Handlers who acquire diversion certificates from producers shall report acquisitions of such certificates and submit them for redemption in a manner and for the reporting periods provided in § 989.173(b) for the acquisition of raisins acquired from producers. The Committee shall then issue a reserve release entitling the handler to a specified amount of reserve pool raisins for free tonnage use equal to the multiple of the free percentage and entire tonnage shown on the certificate. The Committee shall transfer the appropriate amount of reserve tonnage raisins to satisfy any reserve pool obligation and shall release to the handler the appropriate reserve tonnage for free tonnage use. Upon receipt of the diversion certificate, the Committee shall note on the certificate that it is cancelled. Diversion certificates will only be valid and honored by the Committee if presented to it for redemption on or before February 15 of the crop year for which they were issued.

* * * * *

Dated: October 2, 1985.

**William J. Doyle,**

*Acting Deputy Director, Fruit and Vegetable Division.*

[FR Doc. 85–23868 Filed 10–3–85; 8:45 am]

BILLING CODE 3410–02–M

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**7 CFR Part 989**

**[Docket No. F&V A0–198–A13]**

## Raisins Produced From Grapes Grown in California; Order Amending Order

**AGENCY:** Agricultural Marketing Service, USDA.

**ACTION:** Final rule.

**SUMMARY:** This final rule amends the California raisin marketing agreement and order program. The amendment was favored by the required two-thirds majority of producers in the industry. The amendment would (1) Require handlers to pay certain costs in addition to harvest costs when redeeming diversion certificates under the Raisin Diversion Program (RDP); and (2) add authority to allow the Raisin Administrative Committee (Committee) to issue diversion certificates in an amount greater than the creditable fruit weight of the raisins produced on a particular production unit to an RDP participant agreeing to divert that production unit, or partial production unit, from production through vine removal or other means established by the Committee. The amendment was based on proposals submitted by the Committee which works with the USDA in administering the marketing order, and discussed at a public hearing held on September 10, 1985.

**EFFECTIVE DATE:** October 4, 1985.

**FOR FURTHER INFORMATION CONTACT:** Frank M. Grasberger, Acting Chief, Specialty Crops Branch, Fruit and Vegetable Division, AMS, USDA, Washington, DC 20250. Telephone: (202) 447–5053.

**SUPPLEMENTARY INFORMATION:** Prior documents in this proceeding: Notice of hearing—Issued September 4, 1985, and published September 6, 1985 (50 FR 36436); Final Decision—Issued September 20, 1985, and published September 24, 1985 (50 FR 38772).

This administrative action is governed by the provisions of Sections 556 and 557 of Title 5 of the United States Code, and therefore is not subject to the requirements of Exeuctive Order 12291.

William T. Manley, Deputy Administrator, Agricultural Marketing Service, has certified that this action will not have a significant economic impact on a substantial number of small entities.

*Findings and Determinations.* The findings and determinations hereinafter set forth are supplementary and in addition to the findings and determinations previously made in connection with the issuance of the aforesaid order and of the previously issued amendments thereto. Except the findings as to the base period for parity computation, and except insofar as such findings and determinations may be in conflict with the findings and determinations set forth herein, all of said prior findings and determinations are hereby ratified and affirmed.

(a) *Findings upon the basis of the hearing record:* Pursuant to the provisions of the Agricultural Marketing Agreement Act of 1937, as amended (7 U.S.C. 601 *et seq.*), and the applicable rules of practice and procedure governing the formulation of marketing agreements and marketing orders (7 CFR Part 900), a public hearing was held upon proposed amendment of the marketing agreement, as amended, and Order No. 989, as amended (7 CFR Part 989; 50 FR 1830), regulating the handling of raisins produced from grapes grown in California.

Upon the basis of the record it is found that:

(1) The order, as amended, and as hereby further amended, and all of the terms and conditions thereof, will tend to effectuate the declared policy of the act;

(2) The order, as amended, and as hereby further amended, regulates the handling of raisins produced from grapes grown in the production area in the same manner as, and is applicable only to persons in the respective classes of commercial and industrial activity specified in, the marketing agreement and order upon which hearings have been held;

(3) The order, as amended, and as hereby further amended, is limited in its 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 are no differences in the production and marketing of raisins produced from grapes grown in the production area which make necessary different terms and provisions applicable to different parts of such areas; and

(5) All handling of raisins produced from grapes grown in the production area is in the current of interstate or foreign commerce or directly burdens, obstructs, or affects such commerce.

(b) *Additional findings.* For good cause it is necessary and in the public interest to make the amendatory provisions effective October 4, 1985. Any delay beyond that date would interfere with the timely establishment of the industry's 1985–86 crop year marketing policy, and unduly delay consideration of 1986 diversion program terms and conditions.

In view of the foregoing, it is hereby found and determined that it would be contrary to the public interest to delay the effective date of the this order for 30 days after its publication in the **Federal Register** (Section 553(d), Administrative Procedure Act, 5 U.S.C. 551–559).

(c) *Determinations.* It is hereby determined that:

(1) The "Marketing Agreement, as Amended, Regulating the Handling of Raisins Produced from Grapes Grown in California" upon which the aforesaid public hearing was held has been signed by handlers (excluding cooperative associations of producers who are not engaged in processing, distributing, or shipping covered by the said order, as amended, and as hereby further amended) who, during the period August 1, 1984 through July 31, 1985, handled not less than 50 percent of the volume of such raisins covered by the said order, as amended, and as hereby further amended; and

(2) The issuance of this amendatory order, amending the aforesaid order, as amended, is favored or approved by at least two-thirds of the producers who participated in a referendum on the question of its approval and who during the period August 1, 1984 through July 31, 1985 (which has been deemed to be a representative period), have been engaged within the State of California, in the production of grapes which were sun-dried or dehydrated by artificial means until they became raisins for market, such producers having also produced for market at least two-thirds of the volume of such commodity represented in the referendum.

**Order Relative to Handling**

*It is therefore ordered*, that on and after the effective date hereof, the handling of raisins produced from grapes grown in California shall be in conformity to and in compliance with the terms and conditions of the said order, as hereby amended, as follows:

**List of Subjects in 7 CFR Part 989**

Marketing agreements and orders, Grapes, Raisins, California.

**PART 989—[AMENDED]**

1. The authority citation for 7 CFR Part 989 continues to read as follows:

Authority: Secs. 1–19, 48 Stat. 31, as amended; 7 U.S.C. 601–674.

2. Section 989.56 (c) and (d) are revised to read as follows:

**§ 989.56 Raisin diversion program.**

* * * * *

(c) *Issuance of diversion certificates.* After the Committee announces a raisin diversion program, any producer may divert grapes of his/her own production and receive from the Committee a diversion certificate in accordance with the applicable rules and regulations. Such certificates only may be submitted by producers to handlers in accordance with applicable rules and regulations. Diversion certificates issued by the Committee shall apply to a specific production unit and shall be equal to the creditable fruit weight of such raisins produced on such unit during the prior crop year or the last prior crop year eligible for such diversion: *Provided*, That in the case of a production unit, or partial production unit, removed from production through vine removal or other means established by the Committee, it may issue a diversion certificate in an amount greater than the creditable fruit weight of the raisins produced thereon.

(d) *Redemption of diversion certificates.* Handlers may redeem diversion certificates for reserve pool raisins. To redeem a certificate, a handler must present the diverson certificate to the Committee and pay the Committee an amount equal to the harvest cost it has established, plus an amount equal to the payment for receiving, storing, fumigating, handling, and inspecting reserve tonnage raisins specified in § 989.401 for the entire tonnage represented on the certificate. Upon receipt of the diversion certificate, the Committee shall note on the certificate that it is cancelled.

* * * * *

Dated October 1, 1985, to become effective October 4, 1985.

**Raymond D. Lett,**

*Assistant Secretary, Marketing and Inspection Services.*

[FR Doc. 85–23869 Filed 10–3–85; 8:45 am]

BILLING CODE 3410–02–M

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**Animal and Plant Health Inspection Service**

**9 CFR Part 92**

**[Docket No. 85–085]**

## Importation of Horses; Testing for Contagious Equine Metritis

**AGENCY:** Animal and Plant Health Inspection Service, USDA.

**ACTION:** Final rule.

**SUMMARY:** This document amends the regulations concerning the testing requirements for the importation into the United States of certain Thoroughbred horses from the Federal Republic of Germany, the United Kingdom, Ireland, and France, countries in which contagious equine metritis (CEM) exists, and for the importation of stallions over 731 days from any country in which CEM exists, for permanent entry into the United States.

The regulations previously required that the last of three negative cultures for CEM be conducted within 30 days of the date of exportation. The regulations are amended to require, instead, that the last of the sets of specimens be collected within 30 days of the date of exportation. This action is necessary in order to reduce the likelihood of a horse becoming infected with CEM after the last collection and prior to exportation. The effect of this action is to add an additional precaution against the introduction of CEM into the United States.

With respect to female Thoroughbred horses from the Federal Republic of Germany, the United Kingdom, Ireland, and France, the regulations previously required three negative cultures from test specimens collected from the mucosal surface of the uterus, one of which was required to be collected at the time of estrus. The regulations are amended to require, instead, only one such negative culture at the time of estrus. It has been determined that one such negative culture at the time of estrus, in combination with certain other requirements, would be adequate to determine the animal's freedom from

CEM. The effect of this action is to delete unnecessary restrictions on the importation into the United States of certain horses.

**EFFECTIVE DATE:** November 4, 1985.

**FOR FURTHER INFORMATION CONTACT:** Dr. Allan A. Furr, VS, APHIS, USDA, Room 846, Federal Building, 6505 Belcrest Road, Hyattsville, MD 20782, 301–436–8170.

**SUPPLEMENTARY INFORMATION:**

### Background

The regulations in 9 CFR Part 92 (referred to below as the regulations), among other things, impose prohibitions and restrictions on the importation of horses into the United States in order to prevent the introduction of exotic diseases, such as contagious equine metritis (CEM). CEM is a veneral disease of horses that affects fertility and breeding.

A document published in the **Federal Register** on May 22, 1985 (50 FR 21070–21072), proposed to amend the regulations concerning the testing requirements for the importation into the United States of certain Thoroughbred horses from the Federal Republic of Germany, the United Kingdom, Ireland, and France, countries in which contagious equine metritis (CEM) exists, and for the importation of stallions over 731 days from any country in which CEM exists, for permanent entry into the United States.

Comments were solicited concerning the proposal for a 60-day period ending July 22, 1985. The one comment received was in favor of the proposal. Based on the rationale set forth in the proposal, the regulations are amended as proposed. These amendments are explained below.

### Timing of Collections of Specimens and Tests

Prior to the effective date of this rule, the testing requirements for CEM included a requirement that the last of three negative cultures for CEM be conducted within 30 days of the date of exportation. This requirement was applicable to Thoroughbred horses imported for permanent entry from the Federal Republic of Germany, the United Kingdom, Ireland, and France, and to any stallions over 731 days of age imported for permanent entry from any country in which CEM exists. This document amends the 30-day testing requirement an requires, instead, that the last of the sets of specimens be collected within 30 days of the date of exportation.

### Testing for Certain Female Horses

The regulations in § 92.2(i)(2)(iii) provide, among other things, that Thoroughbred horses imported for permanent entry from the Federal Republic of Germany, the United Kingdom, Ireland, and France must be accompanied by a certificate stating that since reaching 731 days of age the horses have not been on any premises where breeding is carried out and stating that certain negative cultures have been conducted. With respect to such Thoroughbred horses, this document amends the previous requirement for female horses for three negative cultures from test specimens collected from the mucosal surface of the uterus, one of which was required to be collected at the time of estrus, and instead requires only one such negative culture at the time of estrus.

### Executive Order 12291 and Regulatory Flexibility Act

This action has been reviewed in conformance with Executive Order 12291 and has been determined to be not a major rule. The Department has determined that this action will not have a significant effect on the economy; will not cause a major increase in costs or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions; and should have no significant adverse effects on competition, employment, investment, productivity, innovation, or the ability of United States-based enterprises to compete with foreign-based enterprises in domestic or export markets.

For this action, the Office of Management and Budget has waived its review process required by Executive Order 12291.

It is not anticipated that this rule will have any significant effect on the cost of testing horses imported into the United States from countries in which CEM exists or on the number of such horses imported into the United States.

Under these circumstances, the Administrator of the Animal and Plant Health Inspection Service has determined that this action will not have a significant economic impact on a substantial number of small entities.

### Executive Order 12372

This program/activity is listed in the Catalog of Federal Domestic Assistance under No. 10.025 and is subject to the provisions of Executive Order 12372 which requires intergovernmental consultation with State and local officials. (See 7 CFR Part 3015, Subpart V, 48 FR 29112, June 24, 1983; 49 FR 22675, May 31, 1984; 50 FR 14088, April 10, 1985).

### List of Subjects in 9 CFR Part 92

Animal diseases, Canada, Imports, Mexico, and Poultry and poultry products, Quarantine, Transportation, Wildlife.

## PART 92—IMPORTATION OF CERTAIN ANIMALS AND POULTRY AND CERTAIN ANIMAL AND POULTRY PRODUCTS; INSPECTION AND OTHER REQUIREMENTS FOR CERTAIN MEANS OF CONVEYANCE AND SHIPPING CONTAINERS THEREON

Accordingly, 9 CFR Part 92 is amended as follows:

1. The authority citation for Part 92 continues to read as follows:

**Authority:** 7 U.S.C. 1622; 19 U.S.C. 1306; 21 U.S.C. 102–105, 111, 134a, 134b, 134c, 134d, 134f, and 135; 7 CFR 2.17, 2.51, and 371.2(d).

2. In § 92.2, paragraphs (i)(2)(iii)(B), (i)(2)(iii)(C), and (i)(2)(iv)(C) are revised as follows:

**§ 92.2 General prohibitions; exceptions.**

* * * * *

(i) * * *

(2) * * *

(iii) * * *

(B) For female horses over 731 days of age, that negative cultures for CEM were conducted from one set of specimens collected during estrus consisting of one specimen from the endometrium, one specimen from the mucosal surface of the urethra, one specimen from the mucosal surface of the clitoral fossa, and one specimen from the mucosal surface of the cervix, and that negative cultures for CEM were conducted from two additional sets of specimens consisting of one specimen from the mucosal surface of the urethra, one specimen from the mucosal surface of the clitoral fossa, and one specimen from the mucosal surface of the cervix; that the sets of specimens were collected at intervals of no less than 7 days; and that the last of these sets of specimens was collected within 30 days of exportation.

(C) For stallions over 731 days of age, that three negative cultures were conducted from specimens collected from each of the surfaces of the urethral fossa, the urethra, and the penile sheath for each culture at intervals of no less than 7 days, and that the last of the sets of specimens was collected within 30 days of the date of exportation; and

* * * * *

(iv) * * *

(C) The last of the three sets of specimens collected in paragraph

(i)(2)(iv)(B) was collected and cultured negative within 30 days of the date of export of the stallion described on the certificate; and

* * * * *

Done at Washington, DC, this 1st day of October 1985.

J. K. Atwell,

*Deputy Administrator, Veterinary Services.*

[FR Doc. 85-23799 Filed 10-3-85; 8:45 am]

BILLING CODE 3410-34-M

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

### 14 CFR Part 71

**[Airspace Docket Number 85-ACE-07]**

### Designation of Transition Area—Minneapolis, KS

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** The nature of this Federal action is to designate a 700-foot transition area at Minneapolis, Kansas, to provide controlled airspace for aircraft executing a new instrument approach procedure to the Minneapolis City County Airport, Minneapolis, Kansas, utilizing the Salina, Kansas, VORTAC as a navigational aid. The intended effect of this action is to ensure segregation of aircraft using the new approach procedure under Instrument Flight Rules (IFR) and other aircraft operating under Visual Flight Rules (VFR). This action will change the airport status from VFR to IFR.

**EFFECTIVE DATE:** November 21, 1985.

**FOR FURTHER INFORMATION CONTACT:** Dale L. Carnine, Airspace Specialist, Operations, Procedures and Airspace Branch, Air Traffic Division, ACE-540, FAA, Central Region, 601 East 12th Street, Kansas City, Missouri 64106, Telephone (816) 374-3408.

**SUPPLEMENTARY INFORMATION:** To enhance airport usage, a new instrument approach procedure is being developed for the Minneapolis, Kansas, City County Airport utilizing the Salina, Kansas, VORTAC as a navigational aid. The establishment of an instrument approach procedure based on this approach aid entails designation of a transition area at Minneapolis, Kansas, at or above 700 feet above the ground within which aircraft are provided air traffic control service. Transition areas are designed to contain IFR operations in controlled airspace during portions of the terminal operation and while transiting between the terminal and enroute environment. The intended effect of this action is to ensure segregation of aircraft using the new approach procedure under Instrument Flight Rules (IFR) and other aircraft operating under Visual Flight Rules (VFR). This action will change the airport status from VFR to IFR. Section 71.181 of Part 71 of the Federal Aviation Regulations was republished in Handbook 7400.6A, dated January 2, 1985.

### Discussion of Comments

On pages 30276 and 30277 of the **Federal Register** dated July 25, 1985, the Federal Aviation Administration published a Notice of Proposed Rulemaking which would amend § 71.181 of Part 71 of the Federal Aviation Regulations so as to designate a transition area at Minneapolis, Kansas. Interested persons were invited to participate in this rulemaking proceeding by submitting written comments on the proposal to the FAA. No comments were received as a result of the Notice of Proposed Rulemaking.

The FAA has determined that this regulation only involves an established body of technical regulations for which frequent and routine amendments are necessary to keep them operationally current. It, therefore—(1) is not a "major rule" under Executive Order 12291; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979); and (3) does not warrant preparation of a regulatory evaluation as the anticipated impact is so minimal. Since this is a routine matter that will only affect air traffic procedures and air navigation, it is certified that this rule will not have a significant economic impact on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

### List of Subjects in 14 CFR Part 71

Aviation safety, Transition areas.

### Adoption of the Amendment

### PART 71—[AMENDED]

Accordingly, pursuant to the authority delegated to me, the Federal Aviation Administration (FAA) amends Part 71 of the FAR (14 CFR Part 71) as follows:

1. The authority citation for Part 71 continues to read as follows:

**Authority:** 49 U.S.C. 1348(a), 1354(a), 1510; Executive Order 10854; 49 U.S.C. 106(g) (Revised Pub. L. 97-449, January 12, 1983); 14 CFR 11.69.

2. By amending § 71.181 as follows:

**Minneapolis, Kansas**

That airspace extending upward from 700 feet above the surface within a 6.5 mile radius of the Minneapolis City County Airport (Latitude 39°05'41" N; Longitude 97°43'13" W); within five miles either side of the Salina, Kansas VORTAC 341° radial extending from 11.5 miles southeast of the airport to the 6.5 mile radius area, excluding that portion which overlies the Salina, Kansas, transition area.

This amendment becomes effective at 0901 G.m.t., November 21, 1985.

Issued in Kansas City, Missouri, on September 26, 1985.

Jerold M. Chavkin,

*Acting Director, Central Region.*

[FR Doc. 85-23688 Filed 10-3-85; 8:45 am]

BILLING CODE 4910-13-M

## SECURITIES AND EXCHANGE COMMISSION

### 17 CFR Parts 200, 239, 249, 259, 269, 270 and 274

**[Release Nos. 33-6604, 34-22446, 35-23838, 39-1034, IC-14733; File No. S7-42-85]**

### Temporary Rule and Form Amendments for the Pilot Electronic Disclosure System; Related Amendment of Organizational Rule

**AGENCY:** Securities and Exchange Commission.

**ACTION:** Adoption of temporary rule and form amendments; adoption of related amendment of the Commission's organizational rules.

**SUMMARY:** The Commission announces the adoption of temporary rule and form amendments to facilitate the use of the Commission's electronic disclosure system, Edgar, by registered investment companies. The Commission is also adopting a related amendment to the organizational rule governing the delegation of authority to the Director of the Division of Investment Management.

**EFFECTIVE DATE:** October 4, 1985.

Comment Date: Interested persons will have until December 1, 1985, to comment on the temporary rule and form amendments. The Commission will review the comments and make any changes in the rules or forms which it considers necessary or appropriate.

**ADDRESSES:** Comments should be submitted in triplicate to John Wheeler, Secretary, Securities and Exchange Commission, 450 5th Street, NW., Washington, DC 20549. All comment letters should refer to File No. S7-42-85. All comments received will be available

for public inspection and copying inthe Commission's Public Reference Room, 450 5th Street, NW., Washington, DC 20549.

**FOR FURTHER INFORMATION CONTACT:** With respect to filing form N-SAR, Carolyn A. Uberman, Senior Financial Analyst, or Gene A. Gohlke, Chief Financial Analyst, Office of Financial Analysis and Inspections, (202) 272-2024; with respect to other filings, Anthony A. Vertuno, Senior Special Counsel, (202) 272-2079; with respect to the temporary rules and forms, Elizabeth M. Knoblock, Special Counsel, (202) 272-2048, or Elizabeth K. Norsworthy, Chief, Office of Regulatory Policy, (202) 272-2048, Division of Investment Management, Securities and Exchange Commission, 450 5th Street, NW., Washington, DC 20549.

**SUPPLEMENTARY INFORMATION:** The Securities and Exchange Commission ("Commission") announces the adoption of temporary rule and form amendments to facilitate the participation of registered investment companies in the Commission's electronic disclosure system ("Edgar"). A pilot program ("Pilot"), now underway, is engaged in developing and testing Edgar with actual filings. To enables a group of volunteer investment companies to file their registration statements and reports through Edgar, the Commission is adopting temporary rule 0-11 [17 CFR 270.0-11] under the Investment Company Act of 1940 [15 U.S.C. 80a-1 *et seq.*] ("Investment Company Act"). This rule adopts various definitions and procedures to accommodate electronic filings under the Investment Company Act. The Commission is also adopting an amendment to rule 30-5 [17 CFR 200.30-5] of the Commission's organizational rules to give the Director of the Division of Investment Management delegated authority to adjust the filing date of an electronic filing when the Commission's acceptance of the filing is delayed because of equipment malfunction or technical problems. In addition, the Commission is adopting the following temporary forms under the Investment Company Act: Form ET (17 CFR 274.401), form ID (17 CFR 274.402) and form SE (17 CFR 274.403). These forms have already been adopted on a temporary basis under the Securities Act of 1933 (15 U.S.C. 77a-77aa) ("Securities Act"), the Securities Exchange Act of 1934 (15 U.S.C. 78a-78jj) ("Exchange Act"), the Public Utility Holding Company Act of 1935 (15 U.S.C. 79-79z-6) ("Holding Company Act") and the Trust Indenture Act of 1939 (15 U.S.C. 77aaa-77bbbb) ("Trust Indenture Act"), for use by Pilot participants. The Commission is adopting amendments to forms ET, ID and SE under the the Securities Act and under the Exchange Act so that investment companies may use them to make electronic filings under those statutes. In addition, the amendment to form ET, the form used to submit filings on magnetic tapes or diskettes under the Securities Act, the Exchange Act, the Holding Company Act and the Trust Indenture Act, will make it clear that more than one filing may be submitted on the same tape or diskette. The Commission is also adopting temporary amendments to form N-SAR (17 CFR 249.330; 17 CFR 274.101), the periodic reporting form for registered investment companies under the Exchange Act and Investment Company Act, to further adapt that form for electronic use so that management investment companies may file their periodic reports through Edgar. The Commission is also annoucing the availability of the Edgar User Manual for use by investment company registrants, as well as an Appendix to that Manual describing the procedures that investment companies should follow when filing form N-SAR electronically.

## I. Background

The Pilot is designed to develop and test Edgar with filings under the various Federal securities laws. On June 27, 1984, the Commission announced the adoption of temporary rules and forms to enable an initial group of volunteer participants to file disclosures documents through Edgar.[1] An Edgar Pilot branch was established in the Division of Corporation Finance, and over the past year, the volunteer registrants have assisted that branch in developing and testing Edgar with filings under the Securities Act, the Exchange Act and the Trust Indenture Act. In July of 1985, registered public utility holding companies and their subsidiaries ("system companies") joined the group of Pilot participants, and the staff of the Office of Public Utility Regulation on the Division of Investment Management has been reviewing Edgar filings under the Holding Company Act of the volunteer system companies.[2]

Edgar filings are submitted electronically by direct transmission over telephone lines or by delivery of diskette or magnetic tape.[3] The Edgar User Manual contains a list of equipment, including diskettes from over 85 word processors and personal computers, that is accommodated by the Edgar system. Filings made by diskette or magnetic tape are delivered to the Commission in the manner currently used for paper filings, *i.e.*, by mail or hand delivery. Once in the possession of the Commission, the tapes or diskettes are entered into the Edgar system using equipment capable of reading and translating a large variety of electronic formats. Thereafter, the Edgar filings are screened and reviewed in the same manner as other filings,[4] and are available to the public in the Commission's Public Reference Rooms (Washington, Chicago and New York City) on microfiche and on viewing terminals.

As the next step in implementing Edgar, certain investment company registrants have volunteered to participate in the Pilot. The Division of Investment Management is setting up a Pilot Edgar disclosure branch and the Pilot participants will be filing their registration statements and reports through that branch. In addition, all management investment companies (with the exception of small business investment companies ("SBICs")) will be encouraged to file their periodic reports on form N-SAR through Edgar.[5] The rule and form changes discussed below are intended to facilitate those filings.

## II. Discussion

As stated above, a set of temporary rules and forms are now in place to govern Edgar filings under the Securities Act, the Exchange Act, the Holding Company Act and the Trust Indenture Act.[6] The Commission is amending and supplementing these temporary rules and forms to permit investment companies to file their registration statements and reports through Edgar.

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[1] *See* Securities Act Release No. 6539 (June 27, 1984) (49 FR 28044).

[2] *See* Holding Company Act Release No. 23704 (May 23, 1985) (50 FR 23287), amending the Edgar temporary rules and forms to accommodate filings under the Holding Company Act. The Edgar Pilot branch in the Division of Corporation Finance processes electronic filings under the Securities Act, the Exchange Act and the Trust Indenture Act of the volunteer system companies.

[3] For purposes of this release, the term "Edgar filing" encompasses filings made by direct transmission and on diskette or magnetic tape.

[4] As with all filings, certain verification procedures are followed with respect to all Edgar filings. For example, registration statements under the Securities Act are verified for fee payment and signatures.

[5] The Commission also intends to propose temporary rule and form amendments in the near future so that institutional investors filing form 13-F under the Exchange Act will be able to file those forms electronically.

[6] *See supra* note 1.

*A. Adoption of temporary definitional and procedural rule under the Investment Company Act*

The Commission is adopting a new rule (0–11) under the Investment Company Act to modify certain definitions and procedures as they relate to Edgar filings. The new rule incorporates the definitions and procedural provisions of rule 499 under the Securities Act and adds certain definitions and procedural provisions that are unique to the Investment Company Act and the rules and regulations thereunder.[7]

1. Definitions

Paragraph (b)(3) of new rule 0–11 under the Investment Company Act defines the words "written" or "in writing" to include documents in an electronic format as well as on paper. By incorporating rule 499(b) under the Securities Act by reference, the new rule also defines or supplements the definitions of the following terms:

a. *Electronic format.* The term "electronic format" is used to refer to the computerized format of a document that is submitted to the Commission by direct transmission, magnetic tape or diskette.

b. *Graphic Communication.* The term "graphic communication" is defined to include magnetic impulse or other form of computer data compilation.

c. *Original.* The term "original" is defined to include a writing or any counterpart intended to have the same effect by a person executing or issuing it. If data is stored in a computer or similar device, any printout or other output readable by sight that is shown to reflect the data accurately would be considered an "original."[8]

d. *Received.* The term "received," as it is used to determine the filing date, is defined to mean the date when a direct transmission, diskette or magnetic tape is accepted by the Commission. Currently, Edgar receives direct transmissions from 8:30 a.m. to 7:00 p.m. (Washington, DC time). The date of filing will be determined by the hours during which the Commission is in operation.[9] In other words, a direct transmission commenced after 5:30 p.m., the current closing time for the Commission, would be considered as received the following business day. This definition also allows the Commission to adjust the filing date in case of any equipment malfunction or technical problem.[10]

e. *Signatures.* To accommodate the development of technology and law in the area of electronic signatures, the terms "signed" or "signature" are defined to include the entry in the form of a magnetic impulse or other form of computer data compilation of any symbol or series of symbols executed, adopted or authorized by a person as his or her signature.

Filings made on diskette or magnetic tape are accompanied by an executed paper signature page which identifies and attests to the statement or report being signed. Because it is not possible to provide a paper signature page contemporaneously with a direct transmission, the Pilot requires Personal Identification Numbers ("PINs") as signature symbols for filings made by direct transmission. Individuals required to provide signatures such as officers, directors, accountants and other experts, are issued PINs upon application to the Commission. As discussed below, form ID has been developed for this purpose.

f. *Bold-face type and red ink.* Since the viewing screens and printout facilities in Edgar do not produce bold-face type, capital letters must be substituted. Similarly, the presentation of any legend, statement or caption in red ink is satisfied in an electronic format if the legend, statement or caption is in a prominent position and set off from the rest of the text by a box or a similar form of border.

2. Procedures

Paragraph (c) of new rule 0–11 addresses procedural requirements that are suspended or replaced, in whole or in part for electronic documents.[11] This paragraph is modeled after rule 499(c) under the Securities Act and provides as follows:

a. *Paper.* Certain rules that prescribe the quality and size of paper or type size, do not apply to electronic formats and are therefore suspended for electronic filers.[12] The Edgar User Manual designates analogous standards which may change as experience with the Pilot grows and technology evolves. Registrants participating in the Pilot must, however, continue to distribute to investors and shareholders paper documents, such as prospectuses and proxy statements, that comply with the rules governing paper filings.

b. *Number of copies.* The rules relating to the number of copies that must be filed with the Commission are suspended for documents submitted in an electronic format. Only one electronically formatted document need be filed because the nature of a computer allows anyone, with an output device and proper authorization access, to produce a copy of the document as needed.

c. *Binding.* "Binding" is also a term specific to paper, but the purpose of keeping together the different documents comprising a single filing applies to electronically formated documents as well. Electronically formatted documents that are required to be bound and filed together must therefore be submitted together in or with a single electronic submission. This single submission may be comprised of more than one diskette or magnetic tape, where necessary.

d. *Fees.* In order to facilitate the payment of fees, Edgar filers may pay their fees by mail or wire transfer to a lockbox at Mellon Bank, N.A., in Pittsburgh, Pennsylvania, the depository currently designated by the U.S. Treasury Department.[13]

e. *Exhibits and other materials incorporated by reference.* Where an Edgar filer determines that it is impracticable to file an exhibit or other material incorporated by reference into the electronic filing, that material may be submitted in paper format under cover of form SE and incorporated by reference into the electronically formatted document.[14] The submission

[7] The rule is modeled after rule 12b–37 under the Exchange Act (17 CFR 240.12b–37) and rule 0–12 under the Trust Indenture Act (17 CFR 260.0–12) which also incorporate rule 499 under the Securities Act (17 CFR 230.499) and include additional provisions unique to those statutes and the rules and regulations thereunder.

[8] This definition is similar to the definition of "original" in the Federal Rules of Evidence.

[9] *See, e.g.*, Business hours of the Commission, 17 CFR 230.110.

[10] *See* discussion *infra* re: amendment of rule 30–5 delegating authority to the Director of the Division of Investment Management to make such filing date adjustments.

[11] Investment company registrants should also be aware of the specific procedural rules under the Securities Act and the Exchange Act that have been modified by section (c) of rules 499 and 12b–37, respectively. For example, any requirement that a copy of a document be filed with the Commission in the form in which it was circulated (*see, e.g.*, rule 424 under the Securities Act) may be satisfied by transmitting the copy in an electronic format. However, the electronically formatted copy must contain a detailed explanation which describes any differences between the circulated document and the document which is electronically submitted including, but not limited to, colors, type size, type style, and descriptions of photographs or other images.

[12] The term "paper" is also defined to include the term "electronic format," so that any rule that specifies paper may be read to include information in an electronic format.

[13] *See* Securities Act Release No. 6540 (June 27, 1984; 49 FR 27306).

[14] The existing rules concerning incorporation by reference need no modification and are not changed

Continued

must, however, be filed with the Commission prior to or on the same day that the electronic filing is received by the Commission. The electronic filing will not be accepted until the Commission receives all of the materials that have been incorporated by reference.

*B. Adoption of amendment to rule governing delegation of authority to the Director of Investment Management*

The Commission is amending rule 30–5 to delegate authority to the Director of the Division of Investment Management to adjust the date of an Edgar filing to a date not earlier than the registrant's initial attempt to file where the Commission's acceptance of the filing is delayed because of equipment malfunction or other technical problems. These cases include, but are not limited to, problems with respect to hardware or software, transmission or reception, communication network, line or wire unavailability or diskette or magnetic tape damage.

*C. Adoption of temporary forms under the Investment Company Act*

The Commission is adopting temporary forms ID, ET and SE under the Investment Company Act. These forms, which have already been adopted on a temporary basis under the other Federal securities laws, are being adopted under the Investment Company Act to enable investment companies to file electronically under that statute as well.[15]

1. Form ID

Form ID is a uniform application form used by individuals to request assignment of a PIN, and by all registrants to request assignment of a password and registrant identification number ("CIK"). The CIK, in combination with the password, enables the registrant to protect against other parties filing data under its name and enables the Commission to ensure that the materials received are from the registrant. For the same reasons, each individual signing a document submitted to the Commission by direct transmission should request and receive a unique PIN. In order to obtain a PIN, the individual must provide certain identifying information and attest to his or her signature.

2. Form ET

Form ET accompanies any magnetic tape or diskette used to make an Edgar filing. The form is intended to identify the registrant(s) and contact person and to provide technical data to enable the Commission to transfer the filing(s) from the tape or diskette to the Edgar computer system. As discussed below, form ET is modified to make clear that multiple filings may be submitted on the same magnetic tape or diskette. For example, a unit investment trust registered under the Investment Company Act may submit a magnetic tape containing post-effective amendments to multiple registration statements for the securities issued by various series of the trust under the Securities Act.

3. Form SE

Form SE accompanies any exhibits or other material incorporated by reference into an Edgar filing that are not in an electronic format. As stated above, Edgar filers may file such material under cover of form SE and incorporate the material by reference into the electronically formatted filing where the registrant has determined that it is impracticable to file such material in an electronic format.

*D. Amendments to temporary forms under the Securities Act and the Exchange Act*

The Commission is adopting amendments to forms ID, ED, ET and SE under the Securities Act and the Exchange Act so that those forms may also be used by investment companies that make Edgar filings under those statutes. Where one filing is being made to satisfy the requirements of two statutes, *e.g.*, where a registration statement on form N–1A is filed to satisfy the registration requirements of the Investment Company Act and the Securities Act, only one form need be filed, but that form should specify that it is being filed under both statutes.

*E. Adoption of amendments to temporary form ET under the Securities Act, the Exchange Act, the Holding Company Act and the Trust Indenture Act*

As discussed above, the Commission is amending form ET to make clear that more than one Edgar filing may be submitted on the same magnetic tape or diskette.

*F. Adoption of temporary amendments to form N–SAR*

The Commission recently adopted form N–SAR, a periodic reporting form under the Exchange Act and the Investment Company Act, for registered investment companies.[16] When the new form was adopted, the Commission noted that further modifications might be needed to enable receipt of filings by direct transmission. The temporary amendments which the Commission is adopting today are intended to modify the section of form N–SAR that is applicable to management investment companies, so that that type of reporting company may file the form through Edgar.[17] The section of the form applicable to unit investment trusts will be modified at a later date. The staff intends to furnish all management investment companies with a copy of the amended form (which is attached as Appendix A to this release) on paper and on a personal computer diskette, along with a special Appendix to the Edgar User Manual that specifies procedures for filing form N–SAR electronically.

Management investment companies that choose to file form N–SAR electronically will file their reports by direct transmission. The personal computer diskette which the Division will furnish to management companies will contain all items of the form applicable to that type of company. The reporting companies will then be able to transmit their answers to the form items directly from their computers to Edgar. All management investment companies (with the exception of SBICs) are urged to submit form N–SAR through Edgar so that the Commission can assemble a comprehensive industry data base as soon as possible.

*G. Edgar User Manual*

The Edgar User Manual further describes the procedures which registrants should follow when filing documents electronically through Edgar. It is available in the Commission's Public Reference Rooms. From time to time, the Manual may be revised. Revisions will be sent to all Pilot participants and will be available upon request.

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by the temporary rules for Edgar. *See* Rule 411 under the Securities Act (17 CFR 230.411), rule 12b–32 under the Exchange Act (17 CFR 240.12b–32), rules 0–4 and 8b–23 under the Investment Company Act (17 CFR 270.0–4, 8b–23) and rule 24 of the Rules of Practice (17 CFR 201.24), as well as the various forms under each Act.

[15] Registrants may use copies of the existing forms ID, ET and SE until supplies run out.

[16] *See* Investment Company Act Release No. 14299 (January 4, 1985; 50 FR 1447), as amended by Investment Company Act Release No. 14606 (July 1, 1985; 50 FR 27937).

[17] Due to the small size and relatively small number of management investment companies that are small business investment companies, (SBICs), the Commission is not modifying the section of the form that is applicable to SBICs until a later date.

As noted above, an Appendix to the Manual has been developed by the staff that describes the procedures which investment companies should follow when filing their periodic reports on form N-SAR through Edgar. In addition to being available in the Commission's Public Reference Rooms, the Appendix will also be mailed to all management investment companies (with the exception of SBICs).

### III. Request for Comments

The temporary rules and form amendments will become effective immediately. Because these rules and form changes are procedural in nature, their adoption is not subject to the notice and comment requirements of Administrative Procedure Act (5 U.S.C. 553(b)). Nevertheless, the Commission is soliciting comments to assist it in developing Edgar. Although the formal comment period will close on December 1, 1985, further suggestions are encouraged and may be submitted throughout the Pilot.

### List of Subjects in 17 CFR Parts 200, 239, 249, 259, 269, 270 and 274

Investment companies, Reporting and recordkeeping requirements, Securities.

### IV. Text of Temporary Rule and Rule Amendments; Text of Temporary Forms and Form Amendments

In accordance with the foregoing, Title 17, Chapter II, of the Code of Federal Regulations is amended as follows:

## PART 200—ORGANIZATION; CONDUCT AND ETHICS; AND INFORMATION AND REQUESTS

1. The authority citation for Part 200, Subpart A continues to read in part as follows:

**Authority:** Secs. 19, 23, 48 Stat. 85, 901, as amended, sec. 20, 49 Stat. 833, sec. 319, 53 Stat. 1173, secs. 38, 211, 54 Stat. 841, 855, 15 U.S.C. 77s, 78w, 79t, 77sss, 80a-37, 80b-11 * * *

Section 30-5 also issued under: [Pub. L. 91-567, 84 Stat. 1497 (15 U.S.C. 77c(a)(2)); Pub. L. 87-592, 76 Stat. 394, as amended by Pub. L. 94-29, 89 Stat. 163 (15 U.S.C. 78d-1, 78d-2); (15 U.S.C. 80a-44, 80b-11(a)); secs. 6, 7, 8, 10, 19(a), 48 Stat. 78, 79, 81, 85; secs. 205, 209, 48 Stat. 906, 908; sec. 301, 54 Stat. 857; sec. 8, 68 Stat. 685; sec. 308(a)(2), 90 Stat. 57; secs. 3(b), 12, 13, 14, 15(d), 23(a), 48 Stat. 882, 892, 894, 895, 901; secs. 203(a), 1, 3, 8, 49 Stat. 704, 1375, 1377, 1379; sec. 202, 68 Stat. 686; secs. 4, 5, 6(d), 78 Stat. 569, 570-574; secs. 1, 2, 3, 82 Stat. 454, 455; secs. 28(c), 1, 2, 3, 4, 5, 84 Stat. 1435, 1497; sec. 105(b), 88 Stat. 1503; secs. 8, 9, 10, 89 Stat. 117, 118, 119; sec. 308(b), 90 Stat. 57; sec. 18, 89 Stat. 155; secs. 202, 203, 204, 91 Stat. 1494, 1498-1500; sec. 20(a), 49 Stat. 833; sec. 319, 53 Stat. 1173; sec. 38, 54 Stat. 841; 15 U.S.C. 77f, 77g, 77h, 77j, 77s(a), 78c(b), 78*l*, 78m, 78n, 78o(d), 78w(a), 79t(a), 77sss(a), 80a-37; 15 U.S.C. 78d-1, 78d-2].

2. Section 200.30-5 is amended by removing paragraph (a)(6)(ii), redesignating paragraph (a)(6)(i) as (a)(6) and adding new paragraph (a)(7) as follows:

**§ 200.30-5 Delegation of authority to Director of Division of Investment Management.**

* * * * *

(a) With respect to the Investment Company Act of 1940 [15 U.S.C. 80a-1 *et seq.*]:

* * * * *

(7) To adjust the filing date of a filing submitted in an electronic format where the acceptance of the filing is delayed because of equipment malfunction or technical problem.

* * * * *

## PART 230—GENERAL RULES AND REGULATIONS, SECURITIES ACT OF 1933

3. The authority section for Part 230 is amended by adding the following citation:

**Authority:** Sections 230.400 to 230.499 issued under the Securities Act of 1933, as amended, 15 U.S.C. 77a *et seq.* * * * Section 230.499 also issued under Secs. 6, 7, 10, 19(a), 48 Stat. 78, 79, 81, 85; secs. 205, 209, 48 Stat. 906, 908; sec. 301, 54 Stat. 857; sec. 8, 68 Stat. 685; sec. 308(a)(2), 48 Stat. 882, 892, 894, 895, 901; secs. 203(a), 1, 3, 8, 49 Stat. 704, 1375, 1377, 1379; sec. 202, 68 Stat. 686; secs. 3, 4, 5, 6(d), 78 Stat. 569, 570-574; secs. 1, 2, 3, 82 Stat. 454, 455; secs. 28(c), 1, 2, 3, 4, 5, 84 Stat. 1435, 1497; sec. 105(b) 88 Stat. 1503; secs. 8, 9, 10, 18, 89 Stat. 117, 118, 119; sec. 308(b), 90 Stat. 57; sec. 18, 89 Stat. 155; secs. 202, 203, 204, 91 Stat. 1494, 1498-1500; sec. 20(a), 49 Stat. 833; sec. 319, 54 Stat. 1173; sec. 38, 54 Stat. 841; 15 U.S.C. 77f, 77g, 77h, 77j, 77s(a), 78c(b), 78*l*, 78m, 78n, 78o(d), 78w(a), 79t(a), 77sss(a), 80a-37.

## PART 240—GENERAL RULES AND REGULATIONS, SECURITIES EXCHANGE ACT OF 1934

4. The authority citation for Part 240 continues to read in part as follows:

**Authority:** Sec. 23, 48 Stat. 901 as amended; 15 U.S.C. 78w, unless otherwise noted. * * *

## PART 250—GENERAL RULES AND REGULATIONS, PUBLIC UTILITY HOLDING COMPANY ACT OF 1935

5. The authority citation for Part 250 is amended by adding the following citation:

**Authority:** Secs. 3, 20, 49 Stat. 810, 833; 15 U.S.C. 79c, 79t, unless otherwise noted.

Section 250.111 also issued under secs. 5, 6, 7, 10, 12, 13, 14, 17, 20, 15 U.S.C. 79e, 79f, 79g, 79j, 79*l*, 79m, 79n, 79q, 79t.

## PART 260—GENERAL RULES AND REGULATIONS, TRUST INDENTURE ACT OF 1939

6. The authority citation for Part 260 continues to read as follows:

**Authority:** Secs. 305, 307, 314, 319, 53 Stat. 1154, 1156, 1167, 1173; 15 U.S.C. 77eee, 77ggg, 77nnn, 77sss, unless otherwise noted.

7. Sections 230.499(c)(2), 240.12b-37(c)(2), 250.111(c)(2) and 260.0-12(c)(2) are revised to read as follows:

**§ ——— EDGAR temporary rule.**

* * * * *

(c) * * *

(2) *Filing of documents incorporated by reference.* Wherever a document, or part thereof, which is incorporated by reference into a directly transmitted electronic filing is required to be filed with, provided with, or is to accompany the filing to the Commission and such document is not in an electronic format, such requirement shall be suspended, provided that the document is filed with the Commission on the same day or has been filed with or provided to the Commission previously. A directly transmitted electronic filing that incorporates by reference a required document shall not be accepted until the document incorporated by reference has been received by the Commission. Any requirement as to delivery or provision to persons other than the Commission shall not be affected by this paragraph.

* * * * *

## PART 239—FORMS PRESCRIBED UNDER THE SECURITIES ACT OF 1933

8. The authority citation for Part 239 is amended by adding the following citation:

**Authority:** The Securities Exchange Act of 1933, 15 U.S.C. 77a, *et seq.* * * * Sections 239.62, 239.63 and 239.64 also issued under: Secs. 6, 7, 8, 10 and 19(a) of the Securities Act [15 U.S.C. 77f, 77g, 77h, 77j, 77s(a)], secs. 3(b), 12, 13, 14, 15(d) and 23(a) of the Exchange Act [15 U.S.C. 78c(b), 78*l*, 78m, 78n, 78o(d), 78w(a)], secs. 5, 6, 7, 10, 12, 13, 14, 17 and 20 of the Holding Company Act [15 U.S.C. 79e, 79f, 79g, 79j, 79*l*, 79m, 79n, 79q and 79t], sec. 319(a) of the Trust Indenture Act [15 U.S.C. 77sss(a)] and secs. 8, 24, 30 and 38 of the Investment Company Act [15 U.S.C. 80a-8, 80a-24, 80a-29 and 80a-37].

## PART 249—FORMS, SECURITIES EXCHANGE ACT OF 1934

9. The authority citation for Part 249 continues to read in part as follows:

**Authority:** The Securities Act of 1934, 15 U.S.C. 78a, *et seq.* * * *

## PART 259—FORMS PRESCRIBED UNDER THE PUBLIC UTILITY HOLDING COMPANY ACT OF 1935

10. The authority citation for Part 259 continues to read as follows:

Authority: Secs. 5, 6, 7, 10, 12, 13, 14, 17(a), 20, 49 Stat. 812, 814, 815, 818, 823, 825, 827, 830, 833; 15 U.S.C. 79e, 79f, 79g, 79j, 79l, 79m, 79n, 79q, 79t.

## PART 269—FORMS PRESCRIBED UNDER THE TRUST INDENTURE ACT OF 1939

11. The authority citation for Part 269 continues to read as follows:

Authority: Secs. 304(c), 305, 307, 308, 309, 310, 319, 53 Stat. 1153, 1154, 1156, 1157, 1173; 15 U.S.C. 77ddd(c), 77eee, 77ggg, 77hhh, 77iii, 77jjj, 77sss.

12. Sections 239.62, 249.445, 259.601 and 269.5 are revised to read as follows:

**§ ——— Form ET, transmittal form for electronic format documents under the Edgar pilot.**

This form shall accompany electronic filings under the Edgar pilot project when the filing medium is either diskette or magnetic tape.

13. Sections 239.64, 249.444, 259.603 and 269.7 are amended by revising the section heading, introductory text, and paragraph (b) as follows:

**§ ——— Form SE, transmittal form for paper format documents under the Edgar pilot.**

This form shall be used for the filing of any exhibit(s) or other document(s) to be incorporated by reference into a registration statement or report pursuant to the Securities Act of 1933, the Securities Exchange Act of 1934, the Trust Indenture Act of 1939, the Public Utility Holding Company Act of 1935 and the Investment Company Act of 1940 provided such registrant:

* * * * *

(b) Determines that it is impracticable, in its judgment, to file such document(s) in an electronic format.

## PART 239—FORMS PRESCRIBED UNDER THE SECURITIES ACT OF 1933

14. By adding a new item (d) to Part III of Form ET and by revising paragraphs I, II, and IV of the General Instructions of form ET described in §§ 239.62, 249.445, 259.601 and 269.5 to read as follows:

**§ ——— Form ET, transmittal form for electronic format documents under the Edgar pilot.**

* * * * *

III. * * *

d. Amount of fee———

* * * * *

**General Instructions**

*I. Rule as To Use of Form ET*

This form shall accompany electronic filings under the Edgar Pilot Project when the filing medium is either diskette or magnetic tape.

* * * * *

*II. Preparation of the Form*

A. * * *

B. If more than one registrant and/or more than one filing is included on the magnetic tape or diskette submitted, it is not necessary to complete a separate form for each registrant/filing if:

1. the information contained in Parts I and II is identical for all registrants; and

2. separate entries in Parts III and IV are completed for each filing and/or each registrant.

(Parts III and IV should be repeated on continuation sheets attached as necessary to list other filings or registrants.)

* * * * *

*IV. Application of General Rules and Regulations and Directions*

Attention is directed to the General Rules and Regulations under the Securities Act of 1933, the Securities Exchange Act of 1934, the Trust Indenture Act of 1939, the Public Utility Holding Company Act of 1935, and the Investment Company Act of 1940, as modified by temporary rules 499, 12b–37, 0–12, 111, and 0–11 respectively. Attention is also directed to the directions to Edgar filers which contain information and procedures for electronic filings.

* * * * *

15. By revising the first sentence of the last paragraph of Part III—SIGNATURES on form ID described in §§ 239.63, 249.446, 259.602 and 269.6 to read as follows:

**§ ——— Form ID, uniform application for identification numbers and passwords under the Edgar pilot.**

* * * * *

**Part III. Signatures**

* * * * *

Section 19 of the Securities Act of 1933 (15 U.S.C. 77s), sections 13(a) and 23 of the Securities Exchange Act of 1934 (15 U.S.C. 78m, 78w), section 319 of the Trust Indenture Act of 1939 (15 U.S.C. 77sss), section 20 of the Public Utility Holding Company Act of 1935 (15 U.S.C. 79t) and sections 30 and 38 of the Investment Company Act of 1940 (15 U.S.C. 80a–29, 80a–37) authorize solicitation of this information. * * *

* * * * *

16. By revising General Instructions I, II, and III of form SE described in §§ 239.64, 249.444, 259.603 and 269.7 to read as follows:

**§ ——— Form SE, transmittal form for paper format documents under the Edgar Pilot.**

The undersigned registrant hereby files the following document(s) to be incorporated by reference into its electronic format filing(s) with the Commission.

* * * * *

**General Instructions**

*I. Rule as to Use of Form SE*

This form shall be used for the filing of any exhibit(s) or other documents to be incorporated by reference into a registration statement or report filed pursuant to the Securities Act of 1933, the Securities Exchange Act of 1934, the Trust Indenture Act of 1939, the Public Utility Holding Company Act of 1935 or the Investment Company Act of 1940 provided such registrant: (1) Is filing in an electronic format under the Edgar Pilot project; and (2) determines that it is impracticable, in its judgment, to file such document(s) in an electronic format.

*II. Application of General Rules and Regulations*

A. Attention is directed to the General Rules and Regulations under the Securities Act, the Exchange Act, the Trust Indenture Act, the Holding Company Act and the Investment Company Act as modified by temporary Rules 499, 12b–37, 0–12, 111 and 0–11, respectively. * * *

B. Particular attention is directed to Rules 411 and 499(c)(2) under the Securities Act; Rules 12b–23, 12b–32, and 12b–37 under the Exchange Act; Rules 22 and 111(c)(2) under the Holding Company Act; and Rules 0–4, 8b–23, 8b–24, 8b–32 and 0–11(c)(2) under the Investment Company Act, the specific registration or reporting form to be used, and Item 601 of Regulation S–K.

*III. Preparation of Form*

Form SE shall serve as a covering sheet for all exhibits or other documents to be filed in paper format. An exhibit index shall be included and where applicable shall list exhibits filed according to the number assigned to such exhibit in the table contained in Item 601 of Regulation S–K. Any additional documents should be listed on the index.

* * * * *

## PART 249—FORMS, SECURITIES EXCHANGE ACT OF 1934

## PART 274—FORMS PRESCRIBED UNDER THE INVESTMENT COMPANY ACT OF 1940

17. The authority citation for Part 274 is amended by adding the following citation:

**Authority:** The Investment Company Act of 1940, 15 U.S.C. 80a-1 *et seq.* * * * Section 274.101 also issued under: Secs. 13, 15(d) and 23(a) of the Securities Exchange Act of 1934 [15 U.S.C. 78m, 78o(d) and 78w(a)] and secs. 8, 30 and 38 of the Investment Company Act of 1940 [15 U.S.C. 80a-8, 80a-29 and 80a-37].

* * * * *

Sections 274.401, 274.402 and 274.403 also issued under: Secs. 6, 7, 8, 10 and 19(a) of the Securities Act [15 U.S.C. 77f, 77g, 77h, 77j, 77s(a)], secs. 3(b), 12, 13, 14, 15(d) and 23(a) of the Exchange Act [15 U.S.C. 78c(b), 781, 78m, 78n, 78o(d), 78w(a)], secs. 5, 6, 7, 10, 12, 13, 14, 17 and 20 of the Holding Company Act [15 U.S.C. 79e, 79f, 79g, 79j, 79l, 79m, 79n, 79q and 79t], sec. 319(a) of the Trust Indenture Act [15 U.S.C. 77sss(a)] and secs. 8, 24, 30 and 38 of the Investment Company Act [15 U.S.C. 80a-8, 80a-24, 80a-29 and 80a-37].

18. By revising the test of form N-SAR described in §§ 249.330 and 274.101 as indicated in Appendix A hereto.

## PART 270—RULES AND REGULATIONS, INVESTMENT COMPANY ACT OF 1940

19. The Authority citation for Part 270 is amended by adding the following citation:

**Authority:** Secs. 38, 40, 54 Stat. 841, 842; 15 U.S.C. 80a-37, * * * § 270.0-11 also issued under: Secs. 8, 24, 30 and 38 of the Investment Company Act [15 U.S.C. 80a-8, 80a-24, 80a-29 and 80a-37], secs. 6, 7, 8, 10 and 19(a) of the Securities Act [15 U.S.C. 77f, 77g, 77h, 77j, 77s(a)] and secs. 3(b), 12, 13, 14, 15(d) and 23(a) of the Exchange Act [15 U.S.C. 78c(b), 781, 78m, 78n, 78o(d) and 78w(a)].

20. By adding § 270.0-11 to read as follows:

### §§ 270.0-11 EDGAR temporary rule.

(a) *Scope.* In conjunction with the applicable rules and regulations under the Investment Company Act, particularly § 270.8b-1, this rule shall govern all statements, reports and documents filed through the electronic disclosure system of the Commission ("Edgar") by registrants that are subject to section 8 of the Investment Company Act. This rule shall be controlling for an electronic format document in the manner and respects provided for in paragraphs (b)(1) through (c)(6) of this section.

(b) *Definitions.* (1) Unless otherwise specifically provided, the terms used in this rule have the same meanings as in the Act and in the general rules, regulations and forms prescribed under the Act.

(2) The definitions of terms provided in § 230.499(b) under the Securities Act of 1933 shall apply under this Act to a document in an electronic format and shall define such terms wherever they appear in this Act, rules, regulations or forms unless the context otherwise requires.

(3) The terms "written" or "in writing" shall include magnetic impulse or other form of computer data compilation.

(c) *Suspended or substituted requirements.* The following paragraphs refer to requirements that are suspended or replaced, in whole or in part, for a document in an electronic format.

(1) *Binding.* The requirement for a copy to be bound in one or more parts shall be satisfied by including in or with a single submission in an electronic format all documents required to be so bound.

(2) *Filing of documents incorporated by reference.* Wherever a document, or part thereof, which is incorporated by reference into a directly transmitted electronic filing is required to be filed with, provided with, or is to accompany the filing to the Commission and such document is not in an electronic format, such requirement shall be suspended, provided that the document is filed with the Commission on the same day or has been filed with or provided to the Commission previously. A directly transmitted electronic filing that incorporates by reference a required document shall not be accepted until the document incorporated by reference has been received by the Commission. Any requirement as to delivery or provision to persons other than the Commisson shall not be affected by this paragraph.

(3) *Number of copies required to be filled.* One copy of a document filed in an electronic format shall satisfy any requirement that more than one copy of such document be filked with or provided to the Commission.

(4) *Paper.* Whenever the term "paper" appears, the term "electronic format" also shall be included unless the context refers specifically to characteristics of paper.

(5) *Type Size Required.* Any reference to specific size type shall be suspended for documents while in an electronic format.

(6) *Rule 8b-12 "Requirements as to Paper, Printing and Language."* Paragraphs (a), (b), (c) and (d) of rule 8b-12 (§ 270.8b-12 of this chapter) are suspended for documents while in an electronic format.

## PART 274—FORMS PRESCRIBED UNDER THE INVESTMENT COMPANY ACT OF 1940

21. By adding a new Subpart E to Part 274 to read as follows:

**Subpart E—Forms for Electronic Filing**

Sec.

274.401 Form ET, transmittal form for electronic format documents under the Edgar pilot.
274.402 Form ID, uniform application for identification numbers and passwords under the Edgar pilot.
274.403 Form SE, transmittal form for paper format documents under the Edgar pilot.

### § 274.401 Form ET, transmittal form for electronic format documents under the Edgar pilot.

This form shall accompany electronic filings under the Edgar pilot project when the reporting medium is either diskette or magnetic tape.

### § 274.402 Form ID, uniform application for identification numbers and passwords under the Edgar pilot.

(a) Form ID is to be used by persons participating in the Edgar Pilot for the purpose of requesting assignment of:

(1) Company Identification Number (CIK)—used internally by the Commission to uniquely identify each registrant;

(2) Company Password—a unique command assigned to a registrant which is essential to obtain access to the electronic filing system for the purpose of inputting data on behalf of that registrant;

(3) Personal Identification Number (PIN)—a series of symbols, which serves as a signature, to be assigned upon request to each individual who may sign documents filed with the Commission.

(b) (1) CIK and Passwords may be requested only by the registrant or by a duly authorized person (*e.g.*, officer, director or trustee) on its behalf.

(2) PIN may be requested only by the person to whom the number is to be assigned.

### § 274.403 Form SE, transmittal form for paper format documents under the Edgar pilot.

This form shall be used for the filing of any exhibit(s) or other documents to be incorporated by reference into a registration statement or report pursuant to the Securities Act of 1933, the Securities Exchange Act of 1934, the Trust Indenture Act of 1939, the Public Utility Holding Company Act of 1935 and the Investment Company Act of 1940 provided such registrant:

(a) Is filing in an electronic format under the Edgar pilot project; and

(b) Determines that it is impracticable, in its judgment, to file such document(s) in an electronic format.

Dated: September 23, 1985.

By the Commission.

**John Wheeler,**

*Secretary.*

**Regulatory Flexibility Act Certification**

I, John S.R. Shad, Chairman of the Securities and Exchange Commission, hereby certify, pursuant to 5 U.S.C. 605(b), that the proposed Edgar temporary rules and forms promulgated, will not have a significant impact on a substantial number of small entities. The reason for this certification is as follows: The Edgar Pilot Project ("Pilot") is designed to develop and test, using actual filings, an electronic disclosure system, designated "Edgar" for Electronic Data Gathering, analysis and Retrieval. The temporary rules and forms would merely adapt the current procedural rules for filing to accommodate electronic filings by investment companies. The electronic filings will be made by companies that have volunteered to participate in the Pilot and that already have (or are willing to purchase) the computer facilities necessary to make their filings electronically. Since participation in the Pilot is voluntary, small companies may avoid possible burdens of the program by not voluntering. Moreover, no substantial number of companies meeting the definition of small entity pursuant to Rule 0–10 under the Investment Company Act of 1940 have volunteered to participate in the Pilot.

Dated: September 23, 1985.

**John S.R. Shad,**

*Chairman.*

**Appendix A—Form N-SAR, Semi-Annual Report for Registered Investment Companies**

[FOR ELECTRONIC FILERS ONLY]
Registrant CIK Number:
Registrant Password:
Contact:
Registrant Name:
Contact Telephone Number:
Test or Live filing? (T or L):
Next Screen: 01

BILLING CODE 8010-01-M

OMB Approval
OMB 3235-0330
Expires: March 31, 1988

Report for six month period ending: / /
or fiscal year ending: / /

Is this an Amendment to a previous filing? (Y/N): Y/N

Those items or sub-items with a box "[ ]" after the item number should be completed only if the answer has changed from the previous filing on this form.

1. A. Registrant Name:

B. File Number: 811 -

C. Telephone Number:

2. A. Street:

B. City: C. State: D. Zip Code: Zip Ext:

E. Foreign Country Foreign Postal Code:

3. Is this the first filing on this form by Registrant? (Y/N) ---------- Y/N

4. Is this the last filing on this form by Registrant? (Y/N) ---------- Y/N

5. Is Registrant a small business investment company (SBIC)? (Y/N) ---- Y/N
[If answer is "Y" (Yes), complete only items 89 through 110.]

6. Is Registrant a unit investment trust (UIT)? (Y/N) ---------- Y/N
[If answer is "Y" (Yes), complete only items 111 through 132.]

7. A. Is Registrant a series or multiple portfolio company? (Y/N) ---- Y/N
[If answer is "N" (No), go to item 8.]

B. How many separate series or portfolios did Registrant have at the end of the period? ----

SCREEN NUMBER: 01 PAGE NUMBER: 01 NEXT SCREEN:

For period ending
File number 811-

If filing more than one Page 2, "X" box: [ ]

C. List the name of each series or portfolio and give a consecutive number to each series or portfolio starting with the number 1. USE THIS SAME NUMERICAL DESIGNATION FOR EACH SERIES OR PORTFOLIO IN THE SERIES INFORMATION BLOCK IN THE TOP RIGHT CORNER OF THE SCREENS SUBMITTED IN THIS FILING AND IN ALL SUBSEQUENT FILINGS ON THIS FORM. THIS INFORMATION IS REQUIRED EACH TIME THE FORM IS FILED.

| Series Number | Series Name | Is this the last filing for this series? (Y/N) |
|---|---|---|
| 1 | | |

(NOTE: See item D(9) of the general instructions to the form for information on how to complete the form for series companies.)

SCREEN NUMBER: 02 PAGE NUMBER: 02 NEXT SCREEN:

For period ending _____
File number 811- _____

Series Information Block
This page being filed for All Series: ☐
Series No.:

If filing more than one Page 3, "X" box: ☐

INVESTMENT ADVISER/SUB-ADVISER

8. A. [7] Adviser Name (If any): _____

B [7] Is this an Adviser or a Sub-adviser? (A or S): __

C. [7] File Number: 801 - _____

D. [7] City: _____ State: __ Zip Code: ____ Zip Ext.: ____
Foreign Country: _____ Foreign Postal Code: _____

8. A. [7] Adviser Name (If any): _____

B [7] Is this an Adviser or a Sub-adviser? (A or S): __

C. [7] File Number: 801 - _____

D. [7] City: _____ State: __ Zip Code: ____ Zip Ext.: ____
Foreign Country: _____ Foreign Postal Code: _____

8. A. [7] Adviser Name (If any): _____

B [7] Is this an Adviser or a Sub-adviser? (A or S): __

C. [7] File Number: 801 - _____

D. [7] City: _____ State: __ Zip Code: ____ Zip Ext.: ____
Foreign Country: _____ Foreign Postal Code: _____

THE NEXT ITEM NUMBER IS 10.

SCREEN NUMBER: 03 PAGE NUMBER: 03 NEXT SCREEN:

For period ending _____
File number 811- _____

Series Information Block
This page being filed for All Series: ☐
Series No.:

If filing more than one Page 4, "X" box: ☐

ADMINISTRATOR

10. A. [7] Administrator Name (If any): _____

B. [7] File Number (If any): _____

C. [7] City: _____ State: __ Zip Code: ____ Zip Ext.: ____

Foreign Country: _____ Foreign Postal Code: _____

10. A. [7] Administrator Name (If any): _____

B. [7] File Number (If any): _____

C. [7] City: _____ State: __ Zip Code: ____ Zip Ext.: ____

Foreign Country: _____ Foreign Postal Code: _____

10. A. [7] Administrator Name (If any): _____

B. [7] File Number (If any): _____

C. [7] City: _____ State: __ Zip Code: ____ Zip Ext.: ____

Foreign Country: _____ Foreign Postal Code: _____

10. A. [7] Administrator Name (If any): _____

B. [7] File Number (If any): _____

C. [7] City: _____ State: __ Zip Code: ____ Zip Ext.: ____

Foreign Country: _____ Foreign Postal Code: _____

SCREEN NUMBER: 04 PAGE NUMBER: 04 NEXT SCREEN:

For period ending _____
File number 811- _____

Series Information Block
This page being filed for All Series: ☐
Series No.:

If filing more than one Page 5, "X" box: ☐

PRINCIPAL UNDERWRITER

11. A. [Z] Underwriter Name (If any): _____

B. [Z] File Number: 8 - _____

C. [Z] City: _____ State: __ Zip Code: ____ Zip Ext.: ____

Foreign Country: _____ Foreign Postal Code: _____

11. A. [Z] Underwriter Name (If any): _____

B. [Z] File Number: 8 - _____

C. [Z] City: _____ State: __ Zip Code: ____ Zip Ext.: ____

Foreign Country: _____ Foreign Postal Code: _____

11. A. [Z] Underwriter Name (If any): _____

B. [Z] File Number: 8 - _____

C. [Z] City: _____ State: __ Zip Code: ____ Zip Ext.: ____

Foreign Country: _____ Foreign Postal Code: _____

11. A. [Z] Underwriter Name (If any): _____

B. [Z] File Number: 8 - _____

C. [Z] City: _____ State: __ Zip Code: ____ Zip Ext.: ____

Foreign Country: _____ Foreign Postal Code: _____

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SHAREHOLDER SERVICING AGENT

12. A. [Z] Agent Name (If any): _____

B. [Z] File Number (If any): _____

C. [Z] City: _____ State: __ Zip Code: ____ Zip Ext.: ____

12. A. [Z] Agent Name (If any): _____

B. [Z] File Number (If any): _____

C. [Z] City: _____ State: __ Zip Code: ____ Zip Ext.: ____

12. A. [Z] Agent Name (If any): _____

B. [Z] File Number (If any): _____

C. [Z] City: _____ State: __ Zip Code: ____ Zip Ext.: ____

12. A. [Z] Agent Name (If any): _____

B. [Z] File Number (If any): _____

C. [Z] City: _____ State: __ Zip Code: ____ Zip Ext.: ____

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INDEPENDENT PUBLIC ACCOUNTANT

13. A. [Z] Accountant Name: _____

B. [Z] City: _____ State: __ Zip Code: ____ Zip Ext.: ____

C. [Z] Foreign Country: _____ Foreign Postal Code: _____

13. A. [Z] Accountant Name: _____

B. [Z] City: _____ State: __ Zip Code: ____ Zip Ext.: ____

C. [Z] Foreign Country: _____ Foreign Postal Code: _____

13. A. [Z] Accountant Name: _____

B. [Z] City: _____ State: __ Zip Code: ____ Zip Ext.: ____

C. [Z] Foreign Country: _____ Foreign Postal Code: _____

13. A. [Z] Accountant Name: _____

B. [Z] City: _____ State: __ Zip Code: ____ Zip Ext.: ____

C. [Z] Foreign Country: _____ Foreign Postal Code: _____

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AFFILIATED BROKER/DEALER

14. A. [Z] Broker/Dealer Name (If any): _____

B. [Z] File Number: 8 - _____

14. A. [Z] Broker/Dealer Name (If any): _____

B. [Z] File Number: 8 - _____

14. A. [Z] Broker/Dealer Name (If any): _____

B. [Z] File Number: 8 - _____

14. A. [Z] Broker/Dealer Name (If any): _____

B. [Z] File Number: 8 - _____

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CUSTODIAN/SUB-CUSTODIAN

15. A. [Z] Custodian/Sub-custodian Name: _____

B. [Z] Is this a Custodian or Sub-custodian? (C or S): __

C. [Z] City: _____ State: __ Zip Code: ____ Zip Ext: ____

D. [Z] Foreign Country: _____ Foreign Postal Code: _____

E. [Z] Mark one of the following with an "X":

TYPE OF CUSTODY

| Bank Sec.17(f)(1) | Member nat'l Sec. Exchg. Rule 17f-1 | Self Rule 17f-2 | Foreign Custodian Rule 17f-5 | Insurance Co. Sponsor Rule 26a-2 |
|---|---|---|---|---|
| _____ | _____ | _____ | _____ | _____ |

THE NEXT ITEM NUMBER IS 18.

SCREEN NUMBER: 09 NEXT SCREEN:

18. [Z] Does Registrant's/Series' custodian(s) maintain some or all of Registrant's/Series' securities in a central depository or book-entry system pursuant to Rule 17f-4? (Y/N) ——— Y/N

19. Family of investment companies information:

A. [Z] Is Registrant part of a family of investment companies? (Y/N) ——— Y/N

B. [Z] If "Y" (Yes), state the number of registered management investment companies in the family: _____
(NOTE: count as a separate company each series of a series company and each portfolio of a multiple portfolio company; exclude all series of unit investment trusts from this number.)

C. [Z] Identify the family using 10 letters: _____

(NOTE: In filing this form, use this identification consistently for all investment companies in the family including any unit investment trusts. This designation is for purposes of this form only.)

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PORTFOLIO TRANSACTIONS

20. Brokerage commissions paid on portfolio transactions of Registrant:

List the 10 brokers which received the largest amount of brokerage commissions (excluding dealer concessions in underwritings) by virtue of direct or indirect participation in Registrant's portfolio transactions, set forth in order of size of gross commissions during the current reporting period:
(FOR SERIES COMPANIES, ITEMS 20 & 21 ARE TO BE ANSWERED IN TOTAL FOR ALL SERIES)

| Name of Broker | IRS Number | Gross Commissions Received from Registrant* ($000's omitted) |
|---|---|---|
| _____ | _____ | _____ |

21. Aggregate brokerage commissions paid by Registrant during current reporting period ($000's omitted): $_____*

* Value must be numeric, using no decimals.

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22. Registrant's portfolio transactions with entities acting as principals:

List the 10 entities acting as principals with whom Registrant did the largest amount of portfolio transactions (include all short-term obligations, and U.S. Gov't & tax-free securities) in both the secondary market & in underwritten offerings set forth in order of size based upon total value of principal transactions during the current reporting period: ( TO BE ANSWERED IN TOTAL FOR ALL SERIES)

| Name of Entity | IRS Number | Registrant Purchases* ($000's omitted) | Registrant sales (excl. maturing securities)* ($000's omitted) |
|---|---|---|---|

23. Aggregate principal purchase/sale transactions of Registrant during current reporting period ($000's omitted): $_____ Total Purchases* $_____ Total Sales*

* Value must be numeric, using no decimals.

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24. [/] At the end of the current period, did the Registrant/Series hold any securities of its regular brokers or dealers or of the parents of such brokers or dealers that derive more than 15% of gross revenue from securities-related activities? (Y/N) _____

[If answer is "N" (No), go to Item 26.]

SCREEN NUMBER: 13 NEXT SCREEN:

25. [/] List below the information requested about Registrant's/Series' holdings of the securities of its regular brokers or dealers or of their parents that derive more than 15% of gross revenues from securities-related activities:

| Name of Regular Broker or Dealer of Parent (Issuer) | IRS Number | Type of Security Owned Debt/Equity | Value of any Securities owned at end of current period ($000's omitted) |
|---|---|---|---|

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26. [Z] Considerations which affected the participation of brokers or dealers or other entities in commissions or other compensation paid on portfolio transactions of Registrant:

(FOR SERIES COMPANIES THIS ITEM IS TO BE ANSWERED IN TOTAL FOR ALL SERIES)

Answer each of the following with "Y" or "N".

| | Y/N |
|---|---|
| A. Sales of Registrant's/Series's shares | _ |
| B. Receipt of investment research and statistical information | _ |
| C. Receipt of quotations for portfolio valuations | _ |
| D. Ability to execute portfolio transactions to obtain best price and execution | _ |
| E. Receipt of telephone line and wire services | _ |
| F. Broker or dealer which is an affiliated person | _ |
| G. Arrangement to return or credit part or all of commissions or profits thereon: | |
| (i) To investment adviser, principal underwriter, or an affiliated person of either | _ |
| (ii) To Registrant | _ |
| H. Other | _ |

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27. [Z] Is Registrant/Series an open-end investment company? (Y/N) _____ Y/N

[If answer is "N" (No), go to item 45.]

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28. Monthly sales and repurchases of Registrant's/Series' shares:

| Month of Current Period | Total NAV of Shares Sold: New Sales (Incl. Exchanges) (000's omitted) | Total NAV of Shares Sold: Reinv. of Dividends & Distributions (000's omitted) | Total NAV of Shares Sold: Other (000's omitted) | Total NAV of Shares Redeemed and Repurchased (Incl. Exchanges) (000's omitted) |
|---|---|---|---|---|
| A. First or seventh | $ _____ | $ _____ | $ _____ | $ _____ |
| B. Second or eighth | $ _____ | $ _____ | $ _____ | $ _____ |
| C. Third or ninth | $ _____ | $ _____ | $ _____ | $ _____ |
| D. Fourth or tenth | $ _____ | $ _____ | $ _____ | $ _____ |
| E. Fifth or eleventh | $ _____ | $ _____ | $ _____ | $ _____ |
| F. Sixth or twelfth | $ _____ | $ _____ | $ _____ | $ _____ |
| G. Total | $ _____ | $ _____ | $ _____ | $ _____ |

H. Total NAV of Registrant's/Series' share sales during the period subject to a sales load ($000's omitted) $ _____

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29. ☐ Does Registrant/Series deduct a front-end sales load? (Y/N) ---------- Y/N

[If answer is "N" (No), go to item 34.]

30. A. Total front-end sales loads collected from sales (including exchanges) by principal underwriter or by any underwriter which is an affiliated person of the principal underwriter, of Registrant's/Series' shares during the current period ($000's omitted) ---------- $ _____

B. What is the maximum sales load rate in effect at the end of the period as a percentage of the offering price? ---------- _____%*

C. What is the minimum sales load rate in effect at the end of the period as a percentage of the offering price? ---------- _____%*

* Percentages must have format nn.nn (where n = integer).

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31. Net amount retained by Registrant's/Series' principal underwriter or by any underwriter which is an affiliated person of the principal underwriter thereof from front-end sales loads collected from sales of Registrant's/Series' shares during the current period ($000's omitted) ---------- $ _____*

32. Net amount Registrant's/Series' principal underwriter and any underwriters which are affiliated persons of the principal underwriter paid from front-end sales loads to dealers which are not affiliated persons of the principal underwriter for selling Registrant's/Series' shares during current period ($000's omitted) ---------- $ _____*

33. Net amount paid to a captive retail sales force of Registrant's/Series' principal underwriter or of any underwriter which is an affiliated person of the principal underwriter from front-end sales loads for selling Registrant's shares during current period ($000's omitted) ---------- $ _____*

* Negative answer permitted in these fields.

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34. ☐ Does Registrant/Series impose a deferred or contingent deferred sales load? (Y/N) ----------

[If answer is "N" (No), go to item 37.]

35. Total deferred or contingent deferred sales loads collected during current period from redemptions and repurchases of Registrant's/Series' shares ($000's omitted) ---------- $ _

36. A. ☐ Does Registrant/Series retain all monies collected from the deferred or contingent deferred sales load? ------

B. If answer to sub-item 36A is "N" (No), state the net amount Registrant/Series retained from deferred or contingent deferred sales loads ($000's omitted) ---------- $ _

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37. ☐ Does Registrant/Series impose a redemption fee other than a deferred or contingent sales load? (Y/N) ---------- Y/N

[If answer is "N" (No), go to item 39.]

38. Total amount of redemption fees other than deferred or contingent deferred sales loads collected from redemptions and repurchases of Registrant's/Series' shares during the current period ($000's omitted) ---------- $ _____

39. ☐ Are any account maintenance fees or other administrative fees imposed directly on shareholders? (Y/N) ---------- Y/N

40. ☐ Does the Registrant/Series have a plan of distribution adopted pursuant to Rule 12b-1? (Y/N) ---------- Y/N

[If answer is "N" (No), go to item 45.]

41. ☐ Does Registrant/Series use its assets directly to make payments under the 12b-1 plan? (Y/N) ---------- Y/N

[If answer is "N" (No), go to item 44.]

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42. For the current period, indicate the percentage of total dollars paid directly by the Registrant/Series under the 12b-1 plan for each of the following:
NOTE: Round to nearest whole percent.

A. Advertising ---- ___%
B. Printing and mailing of prospectuses to other than current shareholders ---- ___%
C. Payments to underwriters ---- ___%
D. Payments to brokers or dealers ---- ___%
E. Direct payments to sales personnel ---- ___%
F. Payments to banks and savings and loans ---- ___%
G. Other uses, incl. payments to the investment adviser separate from the advisory fee ---- ___%
H. Unallocated payments made for a combination of such services - ___%

43. Total amount paid directly by Registrant/Series pursuant to its 12b-1 plan ($000's omitted) ---- $ _____

44. If an investment adviser or other affiliated person of Registrant/Series made payments pursuant to Registrant's/ Series' 12b-1 plan, state the total amount of such payments ($000's omitted) ---- $ _____

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CONTRACTS

45. [Z] Does Registrant/Series have an advisory contract? (Y/N) ---- Y/N

[If answer is "N" (No), go to item 55.]

46. [Z] Does Registrant/Series pay more than one investment adviser directly for investment advice? (Y/N) ---- Y/N

[If answer is "Y" (Yes), answer items 47-52 in the aggregate for all such investment advisers.]

47. [Z] Is Registrant's/Series' advisory fee based solely on a percentage of its assets? (Y/N) ---- Y/N

48. [Z] If answer to 47 is "Y" (Yes), fill in the table or the single fee rate based on the advisory contract: SINGLE FEE RATE ---- %*

| | STEP: | ASSET VALUE ($000's omitted) | ANNUAL FEE RATE* |
|---|---|---|---|
| A. | first - | $_____ | ___% |
| B. | of next - | $_____ | ___% |
| C. | of next - | $_____ | ___% |
| D. | of next - | $_____ | ___% |
| E. | of next - | $_____ | ___% |
| F. | of next - | $_____ | ___% |
| G. | of next - | $_____ | ___% |
| H. | over - | $_____ | ___% |

* Fields must be of the format n.nnn (where n = integer).

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ADVISORY FEE

49. [Z] Is Registrant's/Series' advisory fee based solely on a percentage of its income? (Y/N) ---------- Y/N

50. [Z] Is Registrant's/Series' advisory fee based on some combined percentage of its income and assets? (Y/N) ---------- Y/N

51. [Z] Is Registrant's/Series' advisory fee based in whole or in part on its investment performance? (Y/N) ---------- Y/N

52. [Z] Is Registrant's/Series' advisory fee based in whole or in part upon the assets, income or performance of other registrants? (Y/N) ---------- Y/N

53. A. [Z] Were the expenses of the Registrant/Series limited or reduced at any time during the period by some agreement or understanding other than by blue sky laws? (Y/N) ---------- Y/N

If 53A is "Y" (Yes), was limitation that applied during current period based upon:

B. [Z] Assets? ___ Y/N C. [Z] Income? ___ Y/N

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54. [Z] Indicate below whether services were supplied or paid for wholly or in substantial part by investment adviser(s) or administrator(s) in connection with the advisory or administrative contract(s) but for which the adviser(s) or administrator(s) are not reimbursed by the Registrant:

| | Y/N |
|---|---|
| A. Occupancy and office rental | _ |
| B. Clerical and bookkeeping services | _ |
| C. Accounting services | _ |
| D. Services of independent auditors | _ |
| E. Services of outside counsel | _ |
| F. Registration and filing fees | _ |
| G. Stationery, supplies and printing | _ |
| H. Salaries & compensation of Registant's interested directors | _ |
| I. Salaries & compensation of Registrant's disinterested directors | _ |
| J. Salaries & compensation of Registrant's officers who are not directors | _ |
| K. Reports to current shareholders | _ |
| L. Determination of offering and redemption prices | _ |
| M. Trading department | _ |
| N. Prospectus preparation and printing for current shareholders | _ |
| O. Other | _ |

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55. Did Registrant/Series have any of the following outstanding at any time during the current period which exceeded 1% of aggregate net assets?

| | Y/N |
|---|---|
| A. [Z] Overdrafts | _ |
| B. [Z] Bank loans | _ |

56. [Z] Does the Registrant's/Series' investment adviser(s) have advisory clients other than investment companies? - _

57. [Z] Has the Registrant/Series adjusted the number of its shares outstanding by means of a stock split or stock dividend? _

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CLASSIFICATION

58. A. [Z] Is Registrant/Series a separate account of an insurance company? (Y/N) - Y/N

If answer is "Y" (Yes), are any of the following types of contracts funded by the Registrant:

| | |
|---|---|
| B. [Z] Variable annuity contracts? (Y/N) | _ |
| C. [Z] Scheduled premium variable life contracts? (Y/N) | _ |
| D. [Z] Flexible premium variable life contracts? (Y/N) | _ |
| E. [Z] Other types of insurance products registered under the Securities Act of 1933? (Y/N) | _ |

59. [Z] Is Registrant/Series a management investment company? (Y/N) - Y/N

60. [Z] Is Registrant/Series a diversified investment company? (Y/N) - Y/N

61. [Z] What is the lowest minimum initial investment required by a Registrant/Series from an investor that is not an employee or otherwise affiliated with the Registrant/Series, its adviser, principal underwriter or other affiliated entity? - $ _____

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62. A. Does Registrant/Series invest primarily in debt securities, including convertible debt securities, options and futures on debt securities or indices of debt securities? (Y/N) _____ Y/N
[If answer is "N" (No), go to item 66.]

If answer is "Y" (Yes), state the percentage of assets in each type at the end of the current period:

Short-Term Maturities*

| | | | |
|---|---|---|---|
| B. U.S. Treasury | _% | C. U.S. Government Agency | _% |
| D. Repurchase agreements | _% | F. Bank Certificates of deposit - domestic | _% |
| E. State and municipal tax-free | _% | H. Bankers acceptances | _% |
| G. Bank Certificates of deposit - foreign | _% | J. Time deposits | _% |
| I. Commercial paper taxable | _% | L. All other | _% |
| K. Options | _% | | |

Intermediate & Long-Term Maturities*

| | | | |
|---|---|---|---|
| M. U.S. Treasury | _% | N. U.S. Government Agency | _% |
| O. State and Municipal tax-free | _% | P. Corporate | _% |
| Q. All other | _% | | |

* Percentages must be in the form nn.n (where n = integer).

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63. State the dollar weighted average portfolio maturity at the end of the period covered by this report in days or, if longer than 1 yr., in years to one decimal place:
A. _____ days
B. _____ years*

64. A. [Z] Is the timely payment of principal and interest on any of the instruments listed in item 62 insured or guaranteed by an entity other than the issuer? (Y/N) _____ Y/N
[If answer is "N" (No), go to item 66.]

B. [Z] Is the issuer of any instrument covered in item 62 delinquent or in default as to payment of principal or interest at the end of the current period? (Y/N) _____ Y/N
[If answer is "N" (No), go to item 66.]

65. [Z] In computations of NAV per share, is any part of the value attributed to instruments identified in sub-item 64B derived from insurance or guarantees? (Y/N) _____ Y/N

* Must be of the format nn.n (where n = integer).

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66. A. Is the Registrant/Series a fund that usually invests in equity securities, options and futures on equity securities, indices of equity securities or securities convertible into equity securities? (Y/N) _____ Y/N

[If answer is "N" (No), go to item 67. Otherwise, place a "Y" on the line below which best describes its primary investment objective (place an "X" on other lines):] Y/N

B. [Z] Aggressive capital appreciation _____ _
C. [Z] Capital appreciation _____ _
D. [Z] Growth _____ _
E. [Z] Growth and income _____ _
F. [Z] Income _____ _
G. [Z] Total return _____ _

67. [Z] Is the Registrant/Series a balanced fund? (Y/N) _____ Y/N

68. Does the Registrant/Series have more than 50% of its net assets at the end of the current period invested in:

A. [Z] The securities of issuers engaged primarily in the production or distribution of precious metals? (Y/N) _____ Y/N

B. [Z] The securities of issuers located primarily in countries other than the United States? (Y/N) _____ Y/N

69. [Z] Is the Registrant/Series an index fund? (Y/N) _____ Y/N

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70. [Z] Investment practices.
Answer "Y" (Yes) or "N" (No) to the following:

| Activity | Permitted by Investment Policies? Y/N | If permitted by investment policies, engaged in during the reporting period? Y/N |
|---|---|---|
| A. Investments in repurchase agreements | _ | _ |
| B. Investments in options on equities | _ | _ |
| C. Investments in options on debt securities | _ | _ |
| D. Investments in options on stock indices | _ | _ |
| E. Investments in interest rate futures | _ | _ |
| F. Investments in stock index futures | _ | _ |
| G. Investments in options on futures | _ | _ |
| H. Investments in options on stock index futures | _ | _ |
| I. Investments in other commodity futures | _ | _ |
| J. Investments in restricted securities | _ | _ |
| K. Investments in shares of other investment companies | _ | _ |
| L. Investments in securities of foreign issuers | _ | _ |
| M. Currency exchange transactions | _ | _ |
| N. Loaning portfolio securities | _ | _ |
| O. Borrowing of money | _ | _ |
| P. Purchases/sales by certain exempted affiliated persons | _ | _ |
| Q. Margin purchases | _ | _ |
| R. Short selling | _ | _ |

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71. Portfolio turnover rate for the current reporting period:

A. Purchases ($000's omitted) _____ $ _____
B. Sales [including all maturities] ($000's omitted) _____ $ _____
C. Monthly average value of portfolio ($000's omitted) _____ $ _____
D. Percent turnover (Use the lesser of 71A or 71B divided by 71C) _____ %

NOTE: 71D should be a whole number; round if necessary.

FINANCIAL INFORMATION

72. A. How many months do the answers to items 72 and 73 cover? ____ ___ Months

| | For period covered by this form ($000's omitted) |
|---|---|
| INCOME | |
| B. Net interest income | $ _____ |
| C. Net dividend income | $ _____ |
| D. Account maintenance fees | $ _____ |
| E. Net other income | $ _____ |
| EXPENSES | |
| F. Gross advisory fees | $ _____ |
| G. Gross administrator(s) fees | $ _____ |
| H. Salaries and other compensation | $ _____ |

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FINANCIAL INFORMATION (Cont.)

For period covered by this form ($000's omitted)

I. Shareholder servicing agent fees ---------- $ _____
J. Custodian fees ---------- $ _____
K. Postage ---------- $ _____
L. Printing expenses ---------- $ _____
M. Directors' fees ---------- $ _____
N. Registration fees ---------- $ _____
O. Taxes ---------- $ _____
P. Interest ---------- $ _____
Q. Bookkeeping fees paid to anyone performing this service ---------- $ _____
R. Auditing fees ---------- $ _____
S. Legal fees ---------- $ _____
T. Marketing/distribution payments including payments pursuant to a Rule 12b-1 plan ---------- $ _____
U. Amortization of organization expenses ---------- $ _____
V. Shareholder meeting expenses ---------- $ _____
W. Other expenses ---------- $ _____
X. Total expenses ---------- $ _____

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FINANCIAL INFORMATION (Cont.)

For period covered by this form ($000's omitted)

Y. Expense reimbursements ---------- $ _____
Z. Net investment income ---------- $ _____*
AA. Realized capital gains ---------- $ _____
BB. Realized capital losses ---------- $ _____
CC. Change in net unrealized appreciation ---------- $ _____
Change in net unrealized depreciation ---------- $ _____
DD. Total income dividends declared ---------- $ _____
EE. Total capital gains distributions declared ---------- $ _____

73. Payments per share outstanding during the entire current period:

A. Dividends from net investment income ---------- $ _____**

NOTE: Show in fractions of a cent if so declared.

B. Distributions of capital gains ---------- $ _____**

NOTE: Show in fractions of a cent if so declared.

* Negative answer permitted in this field.

** Items 73A and 73B should be of the form nnn.nnnn (where n = integer).

SCREEN NUMBER: 34 PAGE NUMBER: 26 NEXT SCREEN:

For period ending _____
File number 811- _____

Series Information Block
This page being filed for All Series: ☐
Series No.:

If filing more than one Page 27, "X" box: ☐

| 74. Assets, liabilities, net assets: | As of the end of current reporting period ($000's omitted except for per share amounts) |
|---|---|
| A. Cash | $ |
| B. Repurchase agreements | $ |
| C. Short-term debt securities other than repurchase agreements | $ |
| D. Long-term debt securities including convertible debt | $ |
| E. Preferred, convertible preferred and adjustable rate preferred stock | $ |
| F. Common stock | $ |
| G. Options on equities | $ |
| H. Options on all futures | $ |
| I. Other investments | $ |
| J. Receivables from portfolio instruments sold | $ |
| K. Receivables from affiliated persons | $ |
| L. Other receivables | $ |
| M. All other assets | $ |
| N. Total assets | $ |

SCREEN NUMBER: 35 PAGE NUMBER: 27 NEXT SCREEN:

For period ending _____
File number 811- _____

Series Information Block
This page being filed for All Series: ☐
Series No.:

If filing more than one Page 28, "X" box: ☐

| Assets, liabilities, net assets (Cont.): | As of the end of current reporting period ($000's omitted except for per per share amounts and number of accounts) |
|---|---|
| O. Payables for portfolio instruments purchased | $ |
| P. Amounts owed to affiliated persons | $ |
| Q. Senior long-term debt | $ |
| R. All other liabilities | $ |
| S. Senior equity | $ |
| T. Net assets of common shareholders | $ |
| U. Number of shares outstanding | |
| V. Net asset value per share (to nearest cent) | $ * |
| W. Mark-to-market net asset value per share for money market funds only (to four decimals) | $ ** |
| X. Total number of shareholder accounts | |
| Y. Total value of assets in segregated accounts | $ |
| 75. Daily (money market funds) or monthly (all other funds) aver. net assets during current reporting period ($000's omitted) | $ |
| 76. Market price per share at end of period (closed-end funds only) | $ *** |

* Net asset value per share must be of the form nnn.nn (where n = integer).

** Value must be of the form nnn.nnnn (where n = integer).

*** Price per share should be of the form nnnn.nn (where n = integer).

SCREEN NUMBER: 36 PAGE NUMBER: 28 NEXT SCREEN:

For period ending _____
File number 811-_____

If filing more than one Page 29, "X" box: ☐

77. A. Is the Registrant filing any of the following attachments with the current filing of Form N-SAR? (ANSWER FOR ALL SERIES AS A GROUP) ——— Y/N

NOTE: If answer is "Y" (Yes), mark those items below being filed as an attachment to this form or incorporated by reference. Y/N

B. Accountant's report on internal control ——— _
C. Matters submitted to a vote of security holders ——— _
D. Policies with respect to security investments ——— _
E. Legal proceedings ——— _
F. Changes in security for debt ——— _
G. Defaults and arrears on senior securities ——— _
H. Changes in control of Registrant ——— _
I. Terms of new or amended securities ——— _
J. Revaluation of assets or restatement of capital share account ——— _
K. Changes in Registrant's certifying accountant ——— _
L. Changes in accounting principles and practices ——— _
M. Mergers ——— _
N. Actions required to be reported pursuant to Rule 2a-7 ——— _
O. Transactions effected pursuant to Rule 10f-3 ——— _
P. Information required to be filed pursuant to existing exemptive orders — _
Q. Exhibits ——— _

SCREEN NUMBER: 37 PAGE NUMBER: 29 NEXT SCREEN:

For period ending _____
File number 811-_____

If filing more than one Page 30, "X" box: ☐

78. [Y] Does the Registrant have any wholly-owned investment company subsidiaries whose operating & financial data are consolidated with that of Registrant in this report? (Y/N) ——— Y/N

[If answer is "N" (No), go to item 80]

SCREEN NUMBER: 38 NEXT SCREEN:

79. [Y] List the "811" numbers and names of Registrant's wholly-owned investment company subsidiaries consolidated in this report.

811 Number Subsidiary Name

SCREEN NUMBER: 39 PAGE NUMBER: 30 NEXT SCREEN:

For period ending _____
File number 811- _____

Series Information Block
This page being filed for All Series: ☐
Series No.:

If filing more than one Page 31, "X" box: ☐

ANNUAL SUPPLEMENT

Screens 40 & 41 are to be filed only once each year at the end of Registrant's/Series' fiscal year.

80. Fidelity bond(s) in effect at the end of the period:

A. [Z] Insurer Name:

B. [Z] Second Insurer:

C. [Z] Aggregate face amount of coverage for Registrant/Series on all bonds on which it is named as an insured ($000's omitted): $_____

81. A. [Z] Is the bond part of a joint fidelity bond(s) shared with other investment companies? (Y/N) ---------- Y/N

B. [Z] If the answer to 81A is "Y" (Yes), how many other investment companies are covered by the bond?
NOTE: Count each series as a separate investment company. ---------- _____

82. A. [Z] Does the mandatory coverage of the fidelity bond have a deductible? (Y/N) ---------- Y/N

B. [Z] If the answer to 82A is "Y" (Yes), what is the amount of the deductible? ($000's omitted) ---------- $_____

SCREEN NUMBER: 40 NEXT SCREEN:

ANNUAL SUPPLEMENT (Continued)

83. A. [Z] Were any claims with respect to this Registrant/Series filed under the bond during the period? (Y/N) -------- Y/N

B. [Z] If the answer to 83A is "Y" (Yes), what was the total amount of such claim(s)? ($000's omitted) ---------- $_____

84. A. [Z] Were any losses incurred with respect to this Registrant/Series that could have been filed as a claim under the fidelity bond but were not? (Y/N) ---------- Y/N

B. [Z] If the answer to sub-item 84A is "Yes," what was the total amount of such losses? ($000's omitted) ---------- $_____

85. A. [Z] Are Registrant's/Series' officers and directors covered as officers and directors of Registrant/Series under any errors and omissions insurance policy owned by the Registrant/Series or anyone else? (Y/N) ---------- Y/N

B. [Z] Were any claims filed under such policy during the period with respect to Registrant/Series? (Y/N) ---------- Y/N

SCREEN NUMBER: 41 PAGE NUMBER: 31 NEXT SCREEN:

For period ending _____
File number 811- _____

If filing more than one Page 32, "X" box: ☐

CLOSED-END INVESTMENT COMPANIES

86. Sales, repurchases, and redemptions of Registrant's securities:

| Class | Number of Shares or Principal Amount of Debt ($000's omitted) | Net Consideration Received or Paid ($000's omitted) |
|---|---|---|
| Common Stock: | | |
| A. [Z] Sales | _____ | $_____ |
| B. [Z] Repurchases | _____ | $_____ |
| Preferred Stock: | | |
| C. [Z] Sales | _____ | $_____ |
| D. [Z] Repurchases and redemptions | _____ | $_____ |
| Debt Securities: | | |
| E. [Z] Sales | $_____ | $_____ |
| F. [Z] Repurchases and redemptions | $_____ | $_____ |

SCREEN NUMBER: 42 NEXT SCREEN:

87. Securities of Registrant registered on a national securities exchange or listed on NASDAQ:

| | Title of each class of securities | CUSIP or NASDAQ No. | Ticker Symbol |
|---|---|---|---|
| A. [Z] | _____ | _____ | _____ |
| B. [Z] | _____ | _____ | _____ |
| C. [Z] | _____ | _____ | _____ |

88. Did Registrant have any of the following outstanding which exceeded 1% of aggregate net assets at any time during the period?

| | Y/N |
|---|---|
| A. [Z] Notes or bonds ---------- | _ |
| B. [Z] Uncovered options or futures positions ---------- | _ |
| C. [Z] Margin loans ---------- | _ |
| D. [Z] Preferred stock ---------- | _ |

SCREEN NUMBER: 43 PAGE NUMBER: 32 NEXT SCREEN:

For period ending _____
File number 811- _____

If filing more than one Page 33, "X" box: ☐

SMALL BUSINESS INVESTMENT COMPANIES

INVESTMENT ADVISER

89. A. ☐ Adviser Name (If any): _____

B. ☐ File Number: 801 - _____

C. ☐ City: _____ State: __ Zip Code: ____ Zip Ext.: ____
Foreign Country: _____ Foreign Postal Code: _____

89. A. ☐ Adviser Name (If any): _____

B. ☐ File Number: 801 - _____

C. ☐ City: _____ State: __ Zip Code: ____ Zip Ext.: ____
Foreign Country: _____ Foreign Postal Code: _____

TRANSFER AGENT

90. A. ☐ Transfer Agent Name (If any): _____

B. ☐ File Number: __ - _____

C. ☐ City: _____ State: __ Zip Code: ____ Zip Ext.: ____
Foreign Country: _____ Foreign Postal Code: _____

90. A. ☐ Transfer Agent Name (If any): _____

B. ☐ File Number: __ - _____

C. ☐ City: _____ State: __ Zip Code: ____ Zip Ext.: ____
Foreign Country: _____ Foreign Postal Code: _____

INDEPENDENT PUBLIC ACCOUNTANT

91. A. ☐ Accountant Name: _____

B. ☐ City: _____ State: __ Zip Code: ____ Zip Ext.: ____

C. ☐ Foreign Country: _____ Foreign Postal Code: _____

91. A. ☐ Accountant Name: _____

B. ☐ City: _____ State: __ Zip Code: ____ Zip Ext.: ____

C. ☐ Foreign Country: _____ Foreign Postal Code: _____



For period ending _____
File number 811- _____

If filing more than one Page 34, "X" box: ☐

CUSTODIAN

92. A. ☐ Custodian: _____

B. ☐ City: _____ State: __ Zip Code: ____ Zip Ext: _____

C. ☐ Foreign Country: _____ Foreign Postal Code: _____

D. ☐ Mark one of the following with an "X":

TYPE OF CUSTODY

| Bank Sec.17(f)(1) | Member Nat'l Sec. Exchg. Rule 17f-1 | Self Rule 17f-2 | Foreign Custodian Rule 17f-5 | Insurance Co. Sponsor Rule 26a-2 |
|---|---|---|---|---|
| _____ | _____ | _____ | _____ | _____ |

NOTE: If self-custody, give name of safekeeping depository and location of assets in sub-items 92A and 92B.

E. ☐ Does Registrant's custodian maintain some or all of registrant's securities in a central depository or book-entry system pursuant to Rule 17f-4? (Y/N) ---------- Y/N

93. ☐ Does Registrant's adviser(s) have advisory clients other than investment companies? (Y/N) ---------- Y/N

94. Family of investment companies information:

A. ☐ Is Registrant part of a family of investment companies? (Y/N) ---------- Y/N

B. ☐ If "Y" (Yes) state the number of registered management investment companies in the family: _____
(NOTE: count as a separate company each series of a series company and each portfolio of a multiple portfolio company; exclude all series of unit investment trusts from this number.)

C. ☐ Identify the family using 10 letters: _____
(NOTE: In filing this form, use this identification consistently for all investment companies in the family including any unit investment trusts. This designation is for purposes of this form only.)

D. ☐ Is Registrant a wholly-owned subsidiary of a business development company ("BDC")? (Y/N) ---------- Y/N

E. ☐ If "Y" (Yes), identify the BDC as follows:

BDC name:

File Number: 2 -

For period ending _____
File number 811- _____

If filing more than one Page 35, "X" box: ☐

95. Sales, repurchases, and redemptions of Registrant's securities during the period:

| Class of Security | Number of Shares or Principal Amount of Debt ($000's omitted) | Net Consideration Received or Paid ($000's omitted) |
|---|---|---|
| Common Stock: | | |
| A. ☐ Sales | _____ | $_____ |
| B. ☐ Repurchases | _____ | $_____ |
| Preferred Stock: | | |
| C. ☐ Sales | _____ | $_____ |
| D. ☐ Repurchases and redemptions | _____ | $_____ |
| Debt Securities: | | |
| E. ☐ Sales | $_____ | $_____ |
| F. ☐ Repurchases and redemptions | $_____ | $_____ |

96. Securities of Registrant registered on a National Securities Exchange or listed on NASDAQ:

| Title of each class of securities | CUSIP or NASDAQ No. | Ticker Symbol |
|---|---|---|
| A. ☐ _____ | _____ | _____ |
| B. ☐ _____ | _____ | _____ |
| C. ☐ _____ | _____ | _____ |



For period ending _____
File number 811- _____

If filing more than one Page 36, "X" box: ☐

FINANCIAL INFORMATION

97. A. How many months do the answers to items 97 and 98 cover? ___ ____ Months

| INCOME | For period covered by this form ($000's omitted) |
|---|---|
| B. Net interest income | $_____ |
| C. Net dividend income | $_____ |
| D. Account maintenance fees | $_____ |
| E. Net other income | $_____ |
| EXPENSES | |
| F. Gross advisory fees | $_____ |
| G. Gross administrator(s) fees | $_____ |
| H. Salaries and other compensation | $_____ |
| I. Shareholder servicing agent fees | $_____ |
| J. Custodian fees | $_____ |
| K. Postage | $_____ |
| L. Printing expenses | $_____ |
| M. Directors' fees | $_____ |
| N. Registration fees | $_____ |
| O. Taxes | $_____ |
| P. Interest | $_____ |
| Q. Bookkeeping fees paid to anyone performing this service | $_____ |
| R. Auditing fees | $_____ |
| S. Legal fees | $_____ |

For period ending _____
File number 811-_____

If filing more than one Page 37, "X" box: ☐

For period covered by this form ($000's omitted)

T. Marketing/distribution payments including payments pursuant to a Rule 12b-1 plan ——— $ _____

U. Amortization of organization expenses ——— $ _____

V. Shareholder meeting expenses ——— $ _____

W. Other expenses ——— $ _____

X. Total expenses ——— $ _____

Y. Expense reimbursements ——— $ _____

Z. Net investment income ——— $ _____

AA. Realized capital gains ——— $ _____

BB. Realized capital losses ——— $ _____

CC. Change in net unrealized appreciation ——— $ _____
Change in net unrealized depreciation ——— $ _____

DD. Total income dividends declared ——— $ _____

EE. Total capital gains distributions declared ——— $ _____

98. Payments per share outstanding during the entire current period:

A. Dividends from net investment income ——— $ _____

NOTE: Show in fractions of a cent if so declared.

B. Distributions of capital gains ——— $ _____

NOTE: Show in fractions of a cent if so declared.



For period ending _____
File number 811-_____

If filing more than one Page 38, "X" box: ☐

| 99. Assets, liabilities, shareholders' equity: | As of the end of current reporting period ($000's omitted except for per share amounts) |
|---|---|
| A. Cash | $ _____ |
| B. Repurchase agreements | $ _____ |
| C. Short-term debt securities other than repurchase agreements | $ _____ |
| D. Long-term debt securities including convertible debt | $ _____ |
| E. Preferred, convertible preferred and adjustable rate preferred stock | $ _____ |
| F. Common stock | $ _____ |
| G. Options on equities | $ _____ |
| H. Options on all futures | $ _____ |
| I. Other investments | $ _____ |
| J. Receivables from portfolio instruments sold | $ _____ |
| K. Receivables from affiliated persons | $ _____ |
| L. Other receivables | $ _____ |
| M. All other assets | $ _____ |
| N. Total assets | $ _____ |

For period ending _____
File number 811-_____

If filing more than one Page 39, "X" box: ☐

As of the end of current reporting period ($000's omitted except for per per share amounts and number of accounts)

O. Payables for portfolio instruments purchased ——— $ _____

P. Amounts owed to affiliated persons ——— $ _____

Q. Senior long-term debt ——— $ _____

R. All other liabilities ——— $ _____

S. Senior equity ——— $ _____

T. Net assets of common shareholders ——— $ _____

U. Number of shares outstanding ——— _____

V. Net asset value per share (to nearest cent) ——— $ _____

W. Mark-to-market net asset value per share for money market funds only (to 4 decimals) ——— $ _____

X. Total number of shareholder accounts ——— _____

Y. Total value of assets in segregated accounts ——— $ _____

100. Monthly average net assets during current reporting period ($000's omitted) ——— $ _____

101. Market price per share at end of period ——— $ _____

PAGE NUMBER: 39

For period ending _____
File number 811-_____

If filing more than one Page 40, "X" box: ☐

102. A. Is the Registrant filing any of the following attachments with the current filing of Form N-SAR? ——— Y/N

NOTE: If answer is "Y" (Yes), mark those items below being filed as an attachment to this form or incorporated by reference. Y/N

B. Matters submitted to a vote of security holders ——— _

C. Policies with respect to security investments ——— _

D. Legal proceedings ——— _

E. Changes in security for debt ——— _

F. Defaults and arrears on senior securities ——— _

G. Changes in control of Registrant ——— _

H. Terms of new or amended securities ——— _

I. Revaluation of assets or restatement of capital share account ——— _

J. Changes in Registrant's certifying accountant ——— _

K. Changes in accounting principles and practices ——— _

L. Mergers ——— _

M. Actions required to be reported pursuant to Rule 2a-7 ——— _

N. Transactions effected pursuant to Rule 10f-3 ——— _

O. Information required to be filed pursuant to existing exemptive orders — _

P. Exhibits ——— _

PAGE NUMBER: 40

For period ending _____
File number 811- _____

If filing more than one Page 41, "X" box: ☐

103. [Z] Does the Registrant have any wholly-owned investment company subsidiaries whose operating & financial data are consolidated with that of Registrant in this report? (Y/N) _____ Y/N

[If answer is "N" (No), go to item 105]

104. [Z] List the "811" numbers and names of Registrant's wholly-owned investment company subsidiaries consolidated in this report.

| 811 Numbers | Subsidiary Name |
|---|---|



For period ending _____
File number 811- _____

If filing more than one Page 42, "X" box: ☐

ANNUAL SUPPLEMENT

Page 53 is to be filed only once each year at the end of Registrant's fiscal year.

105. Fidelity bond(s) in effect at the end of the period:

A. [Z] Insurer Name:

B. [Z] Second Insurer:

C. [Z] Aggregate face amount of coverage for Registrant on all bonds on which it is named as an insured ($000's omitted) _____ $ _____

106. A. [Z] Is the bond part of a joint fidelity bond(s) shared with other investment companies? _____ Y/N

B. [Z] If the answer to 106A is "Y" (Yes), how many other investment companies are covered by the bond? _____

NOTE: Count each series as a separate investment company.

107. A. [Z] Does the mandatory coverage of the fidelity bond have a deductible? _____ Y/N

B. [Z] If the answer to 107A is "Y" (Yes), what is the amount of the deductible? _____ $ _____

108. A. [Z] Were any claims with respect to this Registrant filed under the bond during the period? _____ Y/N

B. [Z] If the answer to 108A is "Y" (Yes), what was the total amount of such claim(s)? _____ $ _____

109. A. [Z] Were any losses incurred with respect to this Registrant that could have been filed as a claim under the fidelity bond but were not? _____ Y/N

B. [Z] If the answer to sub-item 109A is "Y" (Yes) what was the total amount of such losses? _____ $ _____

110. A. [Z] Are Registrant's officers and directors covered as officers and directors of Registrant under any errors and omissions insurance policy owned by the Registrant or anyone else? _____ Y/N

B. [Z] Were any claims filed under such policy during the period with respect to Registrant? _____ Y/N

For period ending _____
File number 811-_____

If filing more than one Page 43, "X" box: ☐

UNIT INVESTMENT TRUSTS

111. A. [Z] Depositor Name: _____

B. [Z] File Number (If any): _____

C. [Z] City: _____ State: __ Zip Code: ____ Zip Ext.: ____

Foreign Country: _____ Foreign Postal Code: _____

111. A. [Z] Depositor Name: _____

B. [Z] File Number (If any): _____

C. [Z] City: _____ State: __ Zip Code: ____ Zip Ext.: ____

Foreign Country: _____ Foreign Postal Code: _____

112. A. [Z] Sponsor Name: _____

B. [Z] File Number (If any): _____

C. [Z] City: _____ State: __ Zip Code: ____ Zip Ext.: ____

Foreign Country: _____ Foreign Postal Code: _____

112. A. [Z] Sponsor Name: _____

B. [Z] File Number (If any): _____

C. [Z] City: _____ State: __ Zip Code: ____ Zip Ext.: ____

Foreign Country: _____ Foreign Postal Code: _____

PAGE NUMBER: 43

For period ending _____
File number 811-_____

If filing more than one Page 44, "X" box: ☐

113. A. [Z] Trustee Name: _____

B. [Z] City: _____ State: __ Zip Code: ____ Zip Ext.: ____

Foreign Country: _____ Foreign Postal Code: _____

113. A. [Z] Trustee Name: _____

B. [Z] City: _____ State: __ Zip Code: ____ Zip Ext.: ____

Foreign Country: _____ Foreign Postal Code: _____

114. A. [Z] Principal Underwriter Name: _____

B. [Z] File Number: 8 - _____

C. [Z] City: _____ State: __ Zip Code: ____ Zip Ext.: ____

Foreign Country: _____ Foreign Postal Code: _____

114. A. [Z] Principal Underwriter Name: _____

B. [Z] File Number: 8 - _____

C. [Z] City: _____ State: __ Zip Code: ____ Zip Ext.: ____

Foreign Country: _____ Foreign Postal Code: _____

115. A. [Z] Independent Public Accountant Name: _____

B. [Z] City: _____ State: __ Zip Code: ____ Zip Ext.: ____

Foreign Country: _____ Foreign Postal Code: _____

115. A. [Z] Independent Public Accountant Name: _____

B. [Z] City: _____ State: __ Zip Code: ____ Zip Ext.: ____

Foreign Country: _____ Foreign Postal Code: _____

PAGE NUMBER: 44

116. Family of investment companies information:

A. [ ] Is Registrant part of a family of investment companies? (Y/N) _____ Y/N

B. [ ] Identify the family in 10 letters: _____

(NOTE: In filing this form, use this identification consistently for all investment companies in family. This designation is for purposes of this form only.)

117. A. [ ] Is Registrant a separate account of an insurance company? (Y/N) _____ Y/N

If answer is "Y" (Yes), are any of the following types of contracts funded by the Registrant:

B. [ ] Variable annuity contracts? (Y/N) _____ Y/N

C. [ ] Scheduled premium variable life contracts? (Y/N) _____ Y/N

D. [ ] Flexible premium variable life contracts? (Y/N) _____ Y/N

E. [ ] Other types of insurance products registered under the Securities Act of 1933? (Y/N) _____ Y/N

118. [ ] State the number of series existing at the end of the period that had securities registered under the Securities Act of 1933 _____

119. [ ] State the number of new series for which registration statements under the Securities Act of 1933 became effective during the period _____

120. [ ] State the total value of the portfolio securities on the date of deposit for the new series included in item 119 ($000's omitted) — $_____

121. [ ] State the number of series for which a current prospectus was in existence at the end of the period _____

122. [ ] State the number of existing series for which additional units were registered under the Securities Act of 1933 during the current period _____





123. [ ] State the total value of the additional units considered in answering item 122 ($000's omitted) _____ $_____

124. [ ] State the total value of units of prior series that were placed in the portfolios of subsequent series during the current period (the value of these units is to be measured on the date they were placed in the subsequent series) ($000's omitted) _____ $_____

125. [ ] State the total dollar amount of sales loads collected (before reallowances to other brokers or dealers) by Registrant's principal underwriter and any underwriter which is an affiliated person of the principal underwriter during the current period solely from the sale of units of all series of Registrant ($000's omitted) _____ $_____

126. Of the amount shown in item 125, state the total dollar amount of sales loads collected from secondary market operations in Registrant's units (include the sales loads, if any, collected on units of a prior series placed in the portfolio of a subsequent series.) ($000's omitted) _____ $_____

127. List opposite the appropriate description below the number of series whose portfolios are invested primarily (based upon a percentage of NAV) in each type of security shown, the aggregate total assets at market value as of a date at or near the end of the current period of each such group of series and the total income distributions made by each such group of series during the current period (excluding distributions of realized gains, if any):

| | Number of Series Investing | Total Assets ($000's omitted) | Total Income Distributions ($000's omitted) |
|---|---|---|---|
| A. U.S. Treasury direct issue | | $ | $ |
| B. U.S. Government agency | | $ | $ |
| C. State and municipal tax-free | | $ | $ |
| D. Public utility debt | | $ | $ |
| E. Brokers or dealers debt or debt of brokers' or dealers' parent | | $ | $ |
| F. All other corporate intermed. & long-term debt | | $ | $ |
| G. All other corporate short-term debt | | $ | $ |
| H. Equity securities of brokers or dealers or parents of brokers or dealers | | $ | $ |
| I. Investment company equity securities | | $ | $ |
| J. All other equity securities | | $ | $ |
| K. Other securities | | $ | $ |
| L. Total assets of all series of Registrant | | $ | |

For period ending _____
File number 811-_____

If filing more than one Page 47, "X" box: ☐

128. ☐ Is the timely payment of principal and interest on any of the portfolio securities held by any of Registrant's series at the end of the current period insured or guaranteed by an entity other than the issuer? (Y/N) _____ Y/N

[If answer is "N" (No), go to item 131.]

129. ☐ Is the issuer of any instrument covered in item 128 delinquent or in default as to payment of principal or interest at the end of the current period? (Y/N) _____ Y/N

[If answer is "N" (No), go to item 131.]

130. ☐ In computations of NAV or offering price per unit, is any part of the value attributed to instruments identified in item 129 derived from insurance or guarantees? (Y/N) _____ Y/N

131. Total expenses incurred by all series of Registrant during the current reporting period ($000's omitted) _____ $_____

132. ☐ List the "811" (Investment Company Act of 1940) registration number for all Series of Registrant that are being included in this filing:

| | | | | |
|---|---|---|---|---|
| 811-_____ | 811-_____ | 811-_____ | 811-_____ | 811-_____ |
| 811-_____ | 811-_____ | 811-_____ | 811-_____ | 811-_____ |
| 811-_____ | 811-_____ | 811-_____ | 811-_____ | 811-_____ |
| 811-_____ | 811-_____ | 811-_____ | 811-_____ | 811-_____ |
| 811-_____ | 811-_____ | 811-_____ | 811-_____ | 811-_____ |
| 811-_____ | 811-_____ | 811-_____ | 811-_____ | 811-_____ |
| 811-_____ | 811-_____ | 811-_____ | 811-_____ | 811-_____ |
| 811-_____ | 811-_____ | 811-_____ | 811-_____ | 811-_____ |
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BILLING CODE 8010-01-C

**General Instructions**

*A. Rule as to Use of Form N–SAR*

Form N–SAR is a combined reporting form that is to be used for semi-annual and annual reports by all registered investment companies which have filed a registration statement which has become effective pursuant to the Securities Act of 1933 ("1933 Act") with the exception of face amount certificate companies. Face amount certificate companies should continue to file periodic reports pursuant to section 13 or 15(d) of the Securities Exchange Act of 1934 ("1934 Act"). The form is divided into four sections and only certain investment companies are to complete each section.

*Management investment companies except small business investment companies:* The first section of the form, which follows the cover page and contains items 7 through 85, is to be used by all open-end management companies and by all closed-end management companies except small business investment companies ("SBICs"). Each such open and closed-end management company is required to complete appropriate items in this section twice a year, except items 80 through 85 which concern certain insurance which the registrant may have. Items 80 through 85 are to be completed, as appropriate, only once each year as an annual supplement to the form filed after the end of a registrant's fiscal year. The information contained in each filing should be year-to-date. The answers to the items in the form filed to report on the first six months of a registrant's fiscal year should reflect activities occurring and conditions that existed only during that six-month period. The answers to the items in the form filed after the end of a registrant's fiscal year should, except where otherwise indicated, reflect activities occurring and conditions that existed during the entire fiscal year.

The second section of the form, which contains items 86 through 88, is to be completed only by closed-end management companies except SBICs. These items are to be completed and filed twice a year and, like other items in the form, will contain year-to-date information.

*Small business investment companies:* The third section of the form, which contains items 89 through 110, is to be completed only by all SBICs. Each SBIC is required to complete all of the items in this section twice a year, with the exception of items 105 through 110. Those items, which concern certain insurance which the registrant may have, are to be completed only once each year as an annual supplement to the form filed after the close of a registrant's fiscal year. The information supplied in answer to all other items should be on a year-to-date basis.

*Unit investment trusts:* The fourth section of the form, which contains items 111 through 132, is to be completed only by all unit investment trusts ("UITs"). Each UIT is required to complete appropriate items in this section once a year for the 12-month period ending December 31 and to include information for all of its series.

Under Section 30(b) of the Investment Company Act of 1940 (the "Act"), Sections 13 and 15(d) of the 1934 Act, and the rules and regulations thereunder, the Commission is authorized to solicit the information required by Form N–SAR from registered investment companies. Disclosure of the information specified on Form N–SAR is mandatory. Information supplied on Form N–SAR will be included routinely in the public files of the Commission and will be available for inspection by any interested persons.

*B. Application of General Rules and Regulations*

The General Rules and Regulations under the Act contain certain general requirements that are applicable to reporting on any form. These general requirements should be carefully read and observed in the preparation and filing of reports on Form N–SAR, except that any provision in the form or in these instructions shall be controlling.

*C. Filing the Report*

The report shall be filed with the Commission no later than the sixtieth day after the end of the fiscal period for which the report is being prepared. All registered management investment companies shall file the form semi-annually. All registered UITs shall file the form annually. An extension of time of up to 15 days for filing the form may be obtained by following the procedures specified in Rule 12b–25 under the 1934 Act.

Rule 30b1–3 under the Act requires a $125 fee to be paid to the Commission at the time of filing each semi-annual report by open and closed-end management companies and a $125 fee to be paid to the Commission at the time of filing each annual report by a UIT.

Each filing shall consist of the information required by the items of the form and the required signature[s]. The initial filing by a registrant shall include answers to all items that are applicable to the registrant. In subsequent filings, a registrant must answer all applicable items or sub-items that do not have a slashed box "☐" immediately following the item number or sub-item letter. Those items and sub-items that have a slashed box "☐" must be answered in a subsequent filing only if the answers have changed from the previous filing. If all of the items and sub-items on a page are designated with a slashed box and the answers to none of these items or sub-items have changed since the previous filing, then none of the items need to be answered and the page/screen on which these items are located need not be included in the filing.

On a subsequent filing, to delete information reported in items 8, 10, 11, 12, 13, 14 or 15 without reporting new information, enter the word "DELETE" in the answer field for sub-part A of the relevant item. This will cause the information to be deleted from all parts of the item.

*D. Preparation of Report*

(1) No item of the form except items 77 and 102 shall be answered by incorporating any information by reference. No exhibits or supplemental information are required or permitted, except in response to these items.

(2) Every item must be answered in the space provided on the form. For those items requiring a list, such as item 7C or for which not enough space is provided for the answer (*e.g.*, in the case where a registrant has more than four principal underwriters under sub-item 11A), fill out the block located at the top right of the page to indicate that more than one copy of that page is being filed. Continue the answer or listing on a second page, and include that second page in the filing directly following the original page containing that item.

(3) Numerical answers, except per share amounts and number of accounts, shall be rounded to the nearest thousands. For example, where an item says "000's omitted", round to the nearest thousand and drop the last 3 zeros (*e.g.*, 143,902 should be reported as 144). Calculated percentages shall be carried to two decimal places unless the item specifies otherwise. Negative answers are not accepted except where notes to specific items indicate otherwise on the copy of the form.

(4) Wherever a date is required, use six numbers, not letters, to fill in the space (*e.g.*, January 2, 1985 should be reported as 01/02/85).

(5) One or more items in this form may not apply to a registrant. If this is the case, leave such items completely unanswered. *Do not* use "not

applicable", "NA" or any other indication that the item does not apply.

(6) Each page of the form that is filed must contain the date of the end of the period and the registrant's "811" number. This information is necessary in order to accurately process and file the form. The date should be entered as explained in Instruction D(5).

(7) The answer to items or sub-items that requires the registrant to show the state in which an entity is located should be the *two-letter* abbreviation used by the U.S. Postal Service for that state.

(8) The form has been designed to obtain information from companies registered as series or multiple portfolio companies without requiring each series or portfolio to file a separate form. The form recognizes that some information about the separate series or portfolios of a series company may be the same for all series, while other information may be different for each series. The "Series Information Block," found in the top right-hand corner of each relevant page, is designed to obtain information about series that are different without requiring the registrant to repeat answers where the information about each series is the same.

Each "Series Information Block" requests two types of information. This information should be given only by series or multiple portfolio companies (those companies that have answered "Yes" to item 7A). If the answers to all items on the page are the same for all series, an "X" should be placed in the box of the Series Information Block after the phrase "All Series." The other item in the Series Information Block should be left blank.

If, however, the answers to all items on a page are not the same for all series, the following steps should be followed:

(a) Determine if the answers to the items on a page are the same for some of the series.

(b) If the answers are the same for some but not all series:

(i) complete the items on the page for those series for which the answers are the same and indicate in the Series Information Block in the space after the word "Series" the numbers given in item 7C to those series having the same answers. Separate the series numbers with commas.

(ii) in the block located directly beneath the Series Information Block on the top right side of the page, place an "X" in the box after the phrase "If filing more than one page —, 'X' box: —— ."

(iii) complete the items on a second copy of the page for those other series that have different answers and indicate in the Series Information Block on this second page on the line after the word "Series" the number(s) given in item 7C to these series.

(c) If the answers to the items on a page are different for all series, a separate page must be submitted for each series. In the "Series Information Block" on each such page, indicate on the line after the word "Series" the number given in item 7C to this series. In the block directly beneath the Series Information Block, place an "X" in the box after the phrase "If filing more than one page —, 'X' box: —— ."

*E. Preparation of Report by Registrants Submitting the Form on Paper*

(1) Form N–SAR is to be used as a blank form to be filled in by the registrant. Exact copies may be duplicated by the registrant for this purpose, or copies will be furnished by the Commission upon request. Copies duplicated shall be on good quality unglazed white paper, 8½ x 11 inches in size, with approximately a ⅝ inch lefthand margin.

(2) The original and three complete copies of the form shall be filed with the Commission. At least one of those copies shall be signed manually. Unsigned copies shall be conformed.

(3) The first or cover page of the form is intended for electronic filers only and should not be completed by registrants filing the form on paper.

*F. Preparation of Report by Electronic Users*

(1) Electronic filers should consult the N–SAR PC Application User's Guide for further information.

(2) Electronic filers may use the lockbox procedure as described in paragraph 220 of the Edgar User Manual to pay the filing fee required by Rule 30b1–3.

(3) Any attachments submitted in response to sub-items of item 77 may be submitted on paper under cover of temporary Form SE.

*G. Definitions*

Unless the context clearly indicates the contrary, terms used in Form N–SAR have meanings as defined in the Act and the rules and regulations thereunder. Unless otherwise indicated, all references in the form or its instructions to statutory sections or to rules are to sections of the Act and the rules and regulations thereunder.

In addition, the following definitions apply:

*Family of Investment Companies:* The term "family of investment companies," except for insurance company separate accounts, means any two or more registered investment companies which share the same investment adviser or principal underwriter *and* hold themselves out to investors as related companies for purposes of investment and investor services. A single registrant that is a series fund would not be considered to be a family of funds simply by reason of having multiple series. A series fund is part of a family only if there are other entities in the family that are separately registered under the Act. Insurance company separate accounts that may not hold themselves out to investors as related companies (products) for purposes of investment and investor services should consider themselves part of the same family if the operational or accounting or control systems under which these entities function are substantially similar.

*Fiscal Year:* The term "fiscal year" means the fiscal year of the registrant.

*Money Market Fund:* The term "money market fund" means any open-end management investment company that maintains a stable price per share and that invests at least 80% of its net assets in securities maturing in 12 months or less.

*Officer:* The term "officer" means a president, vice-president, treasurer, secretary, comptroller, or any other person who performs for an organization, whether incorporated or unincorporated, functions of a policy-making nature.

*Registrant:* The term "registrant" means the investment company filing this report or on whose behalf the report is filed.

*Series or multiple portfolio company:* The term "series or multiple portfolio company" means an open-end investment company that has outstanding more than one class or series of shares, each of which meets the requirements of Section 18(f)(2) of the Act; or any other registrant that has outstanding more than one class, account, series, fund, or portfolio each of which in essence, should be considered to be a separate reporting entity for purposes of certain items in this form. [*See* "series companies" in Regulation S–X, Rule 6–03(j) under the 1934 Act].

**Instructions to Specific Items**

**Note.**—Not every item in the form has a separate instruction because the nature of the information requested by such items is self-explanatory.

*Item 1B: File Number*

For any UIT that registered more than one series under the Act and the 1933 Act prior to September 1972 and received a separate "811" number for

each such series, the "811" number to be shown in this item should be the last such "811" number received. Such last "811" presumably is also the "811" number under which any series of the same trust were registered subsequent to September 1972. Item 132 requests registrants to list all other "811" numbers that were received by series in the trust. NOTE: For further information about this instruction, contact Office of Financial Analysis and Inspections, Division of Investment Management, (202) 272-2024.

*Item 1C: Telephone Number*

The reply to this item may be either the registrant's official telephone number or the direct dial telephone number at registrant's office[s] of an individual knowledgeable about the registrant's filing. Registrant should not provide 800 numbers which are intended to provide general information to investors.

*Item 4: Final Filing of Form N-SAR*

This item is to be answered "Yes" only if the registrant knows that the current filing of the form will be its last because it has been deregistered as an investment company.

*Item 5: Small Business Investment Company*

A small business investment company ("SBIC") is a company licensed under the Small Business Investment Act of 1958.

*Item 7: Series or Multiple Portfolio Company*

*See* Part G of the General Instructions for the definition of a series company. The intent of item 7 is to have each registrant identify itself as a series company if it meets the definition. It is important that sub-item 7A be answered correctly because answering much of the remainder of the form depends upon whether a registrant has series or separate portfolios.

Sub-item 7B asks registrants that are series or multiple portfolio companies to indicate the number of separate series or portfolios that existed at the end of the period.

Sub-item 7C asks registrants to given a number to each series or portfolio starting with the number 1 and to state the name of each series or portfolio. It is very important that once a number has been given to a particular series or portfolio, the same number be used for that series or portfolio in all subsequent filings on the form. If the name of a series or portfolio should change, continue to use the number originally given to it and indicate the new name in the next filing on the form after the name was changed. If additional series or portfolios are created after the registrant's initial filing on the form, the numbers assigned to these new series or portfolios, as well as their names, should be shown in sub-item 7C in the next filing of the form. If a series is liquidated or merged or otherwise ceases to exist during a period, this change should be noted in sub-item 7C of the form filed for that period by placing a "Y" or an "N" in the box in the column labeled "Is this the last filing for this series? If more than one series ceased to exist during a period, the registrant should insert additional series under sub-item 7C and follow the instructions above for these additional series. The number assigned to such terminated series should not be used for any new series that might be formed in the future. Such terminated series should not be considered in preparing any filings on Form N-SAR after the period in which such series were liquidated or merged.

If a new series is created or an existing series is terminated during the first six months of a registrant's fiscal year, this action must be reported in the filing made for this six-month period. This same information should not be repeated in the filing made at the end of the registrant's fiscal year even though most other information reported in this second filing is year-to-date information.

*Item 10: Administrator*

The term "administrator" means any person who performs services necessary for the operation of the registrant other than services provided by the entities identified in items 8, 11, 12, 13, 14 or 15.

*Item 12: Shareholder Servicing Agent*

A "shareholder servicing agent" is also known as a transfer agent. If the registrant uses the services of more than one such agent, provide the information requested by this item for the registrant's principal or primary agent.

*Item 14: Broker or Dealer Which is an Affiliated Person*

A broker or dealer which is an affiliated person of the registrant as defined in Section 2(a)(3) of the Act should be listed in this item.

*Item 15: Custodian Arrangements*

Sub-item 15E requires the registrant to indicate the type of custodianship it uses. Clearing agency and depository trust custody arrangements should be reported separately in item 18 because these arrangements can only be made through banks or member firms which have been entrusted with the registrant's assets. The note following sub-item 15E indicates that any registrant acting as self-custodian should provide the name of the safekeeping depository required by Rule 17f-2 under the Act and its location in sub-items 15C and 15D.

*Item 19: Family of Investment Companies*

*See* Part G of the General Instructions for the definition of "family of investment companies."

This item requires a family of investment companies to be identified using ten consecutive letters (omitting spaces). This requirement is only for purposes of automating this form. A registrant may, for example, choose the first ten letters of the name of the registrant, advisor, principal underwriter, sponsor or a combination of these names. The letters used may also be selected randomly. If the identification is not unique, the Commission staff will contact the registrants to work out a suitable change.

*Items 20, 21, 22 and 23: Brokerage Commissions and Principal Transactions*

Items 20 and 21 request information about the amount of brokerage commissions paid directly or indirectly by the registrant to the ten entities which received the greatest amount of brokerage commissions during the period and the total amount of brokerage commissions paid to all brokerage entities during the period. Items 22 and 23 request information about the value of principal transactions done with the ten entities with which the registrant did the greatest amount of principal transactions (purchases and sales combined) and the total value of all principal transactions during the period. Because portfolio securities can be acquired in a variety of transactions, it may not always be possible to identify clearly when a transaction should be reported in items 22 and 23. To help registrants distinguish between agency and principal transactions, and to promote consistent reporting of the information required by these items, the following criteria should be used:

(a) If a security is purchased or sold in a transaction for which the confirmation specifies the amount of the commission to be paid by the registrant, the transaction should be considered an agency transaction and should be included in determining the answers to items 20 and 21.

(b) If a security is purchased or sold in a transaction for which the confirmation

specifies only the net amount to be paid or received by the registrant and such net amount is equal to the market value of the security at the time of the transaction, the transaction should be considered a principal transaction and should be included in determining the amounts in items 22 and 23.

(c) If a security is purchased by a registrant in an underwritten offering, the acquisition should be considered a principal transaction and included in answering items 22 and 23 even though the registrant has knowledge of the amount the underwriters are receiving from the issuer.

(d) If a security is sold by a registrant in a tender offer, the sale should be considered a principal transaction and included in answering items 22 and 23 even though the registrant has knowledge of the amount the offeror is paying to soliciting brokers or dealers.

(e) If a security is purchased directly from the issuer (such as a bank CD), the purchase should be considered a principal transaction and included in answering items 22 and 23.

(f) The value of maturing securities should not be counted as either an agency or principal transaction and should not be included in determining the amounts shown in items 20 through 23.

(g) The purchase or sale of securities in transactions not described in paragraphs "(a)" through "(f)" above should be evaluated by the registrant based upon the guidelines established in those paragraphs and classified accordingly. The agents considered in items 20 and 21 may be persons or companies not registered under the 1934 Act as securities brokers. The persons or companies from whom the investment company purchased or to whom it sold portfolio instruments on a principal basis may be persons or entities not registered under the 1934 Act as securities dealers. The IRS employer number of any entity listed in response to these items should be included. The NASD directory of brokers and dealers contains these IRS numbers for NASD members. Registrants should make a reasonable effort to obtain these numbers when completing the form.

*Items 24 and 25: Acquisition of Securities of Registrant's Regular Brokers or Dealers*

These two items are included in the form to obtain information required to be provided by registrant/series that invest, pursuant to Rule 12d3–1 under the Act, in the securities of their regular brokers or dealers, or the parents of such brokers or dealers, that derive more than 15% of their gross revenues from securities-related activities. *See* Rule 12d3–1 and Investment Company Act Release No. 14036, dated July 13, 1984, adopting Rule 12d3–1. The term "regular broker or dealer" is defined in Rule 10b–1 under the Act. *See* Investment Company Act Release No. 14193, dated October 12, 1984, adopting Rule 10b–1.

In the first column of item 25, the registrant/series should list the name of any of its regular brokers or dealers or the parents of such brokers or dealers (if such parents derived more than 15% of their gross revenues from securities-related activities) whose securities the registrant owned at the end of the current period.

In the second column, list the IRS employer identification number for the issuer of the securities reported in the first column. Registrant/series should make a reasonable effort to obtain these numbers.

In the third column, indicate by using a D for debt and an E for equity the type of security of each issuer which the registrant/series owned at of the end of the current period.

In the last column, list the value of any securities of issuers listed in the first column as the end of the current period.

*Item 26: Participation of Brokers or Dealers in Compensation Paid on Portfolio Transactions of Registrant*

Under sub-item F, the registrant should list brokers or dealers which are affiliated persons of the registrant, its investment adviser or principal underwriter, or of an affiliated person of any of the foregoing.

*Item 28: Monthly Sales and Repurchases of Registrant's/Series' Shares*

If the filing covers a period of less than six months, fill in information only for those months after the registrant has filed a registration statement which has become effective pursuant to the 1933 Act. For example, if the registrant's fiscal half-year runs from January 1 to June 30, but the registrant's 1933 Act registration statement did not become effective until April 10, fill in only the lines for the fourth, fifth, and sixth months.

This item requires information on a month-by-month basis. The filing made for the second half of a fiscal year should contain sales and redemption data for only months seven through twelve.

The amounts to be reported under this item should be after any front-end sales load has been deducted and before any deferred or contingent deferred sales load or charge has been deducted.

The number of shares should be adjusted to reflect any stock split or stock dividend that occurred during the period.

Shares sold shall include shares sold by the registrant to a registered unit investment trust which is either the issuer of plan certificates or a separate account of an insurance company.

Include as shares sold in new sales any transaction in which the registrant acquired the assets of another investment company or of a personal holding company in exchange for its own shares.

Exchanges are defined as the redemption or repurchase of shares of one fund or series and the investment of all or part of the proceeds in shares of another fund or series in the same family of investment companies. Exchanges should be included irrespective of whether a sales load is imposed.

Entries in "Total NAV of Shares Sold: Other" should reflect only those sales of registrant's shares that are not more appropriately included in any other column concerning sales of shares.

*Item 29: Registrant/Series Imposing a Front-End Sales Load*

The term "sales load" is defined in section 2(a)(35) of the Act. As defined, the term includes only front-end sales loads, or that money which is deducted from the share price before investment of the proceeds.

*Item 30: Total Front-End Sales Load Collected by Underwriters*

Include only gross initial sales loads and other underwriting discounts or commissions collected by the registrant's principal underwriter or any underwriter which is an affiliated person of the principal underwriter in its capacity as underwriter of registrant's shares.

*Item 31: Net Sales Loads Retained by Underwriters*

Include only underwriting discounts or commissions, and exclude dealer discounts, retained by the principal underwriter or any underwriter which is an affiliated person of the principal underwriter. If the underwriter paid out more to entities selling registrant's shares than it received (*i.e.*, if it had a negative payout), indicate the amount of the negative payout by inserting a minus sign in front of the amount of the payout. Amounts reported in this item should exclude amounts reported in items 32 and 33.

*Item 33: Net Amount Paid to Retail Sales Force*

Include only amounts paid to the underwriter's own sales force.

*Item 34: Deferred or Contingent Deferred Sales Loads*

A deferred or contingent deferred sales load is any sales load deducted from the proceeds of the redemption or repurchase of registrant's securities.

*Item 37: Redemption Fees*

Include as redemption fees any fees, other than deferred or contingent deferred sales loads, that the registrant imposes on shareholders at the time shares are redeemed or repurchased. Registrants should exclude any other fees imposed on shareholders making exchanges and any reimbursement for out-of-pocket expenses, such as wire fees charged by custodian banks.

*Item 39: Account Maintenance Fees*

These are fees that are imposed directly on all or most of registrant's shareholders on a periodic basis, such as monthly or quarterly. The amounts reported should include maintenance or administrative fees imposed on variable annuity and variable life insurance contracts funded by separate accounts.

*Item 40: Registrant/Series Using its Assets Directly To Make Payments Under a 12b–1 Plan*

A "12b–1 plan" is a written plan described by Rule 12b–1(b) under the Act pursuant to which a registrant/series directly or indirectly finances certain distribution activities including, but not limited to, advertising, compensation of underwriters, dealers and sales personnel, the printing and mailing of prospectuses to other than current shareholders and the printing and mailing of sales literature.

*Item 41: Direct Use of Assets Under 12b–1 Plan*

In answering this item, direct payments by the registrant/series under a 12b–1 plan would not include situations where a registrant/series has a so-called prophylactic plan to cover payments its adviser makes to pay for distribution activities. This item should be answered "Yes" only if the registrant makes direct payments for distribution activities.

*Item 42: Percentage of Payments Under the 12b–1 Plan*

Item 42 asks each registrant/series to indicate the percentage of its total direct payments under the 12b–1 plan which were made for a variety of services or functions. Under sub-item 42A, the registrant/series should include all payments it has made directly for advertising. Advertising done by other entities, such as a dealer in fund shares which the dealer pays for with money it receives under the 12b–1 plan should not be included under sub-item 42A. Under sub-items 42C and 42D, the registrant/series should include all payments made under the 12b–1 plan to brokers, dealers and underwriters regardless of how these monies are ultimately used by these entities. Under sub-item 42E, the registrant/series should include all payments under the 12b–1 plan which it has made directly to persons who have sold fund shares. Indirect payments to sales personnel, such as payments to account executives of brokers or dealers selling fund shares which are made by such brokers or dealers with money they receive from the registrant/series under the 12b–1 plan, should not be included in this sub-item. Under sub-item 42F, the registrant/series should include all payments made under the 12b–1 plan to banks and savings and loans regardless of how this money is ultimately used by the bank or savings and loan. *But cf.* Release No. 34–20357, dated November 14, 1983.

*Item 51: Registrant/Series Having a Performance Based Advisory Fee*

"Investment performance" is defined in Rule 205–1(a) under the Investment Advisers Act of 1940.

*Item 53: Expense Limitations or Reductions*

This item seeks information concerning any limitations or reductions, other than those imposed by state blue sky laws, on the level of expenses incurred by the registrant/series during the period. The limitation may be scaled, it may be applied indirectly (such as when the adviser agrees to accept a reduced fee pursuant to a voluntary fee waiver) or it may apply only for a temporary period such as for a new fund in its start-up phase. If there was any direct or indirect limitation in effect at any time during the period, indicate in sub-items 53B or 53C the basis on which the limitation was applied during the period. If the limitation was based upon both assets and income, answer both sub-items 53B and 53C.

*Item 55: Overdrafts and Bank Loans*

This item seeks information on the extent to which a registrant/series had overdrafts or bank loans outstanding at any time during the period. In order to avoid having to identify and report small amounts, a 1% of aggregate net assets threshold should be followed. Thus, sub-item A must be answered "Yes" only if the registrant/series had overdrafts that exceeded 1% of net assets at any one time during the period. Sub-item B must be answered "Yes" only if the registrant/series had bank loans outstanding that exceeded 1% of net assets at any one time during the period.

*Item 61: Minimum Required Investment*

In answering this item, the registrant should give the lowest minimum initial investment that it requires of an investor to open an account. This minimum amount does not have to be received in a lump sum if the registrant/series permits investors to reach this minimum level over a period of time. Minimum investments required to open IRA, KEOGH, qualified corporate retirement plans and other similar tax-advantaged accounts should not be considered in answering this item.

*Item 62: Percentage of Portfolio in Various Debt Securities*

Short-term maturities are defined for purposes of this form as securities with maturities of 12 months or less. Securities having variable or floating interest rates or subject to a demand feature should be considered short-term if the interest rate adjustment period or the demand period is 12 months or less. Intermediate and long-term maturities include all other debt securities. For information on how to determine the maturity of such instruments, registrants should refer to Rule 2a–7 under the Act.

Include as a U.S. Government Agency security any security guaranteed by an agency of the U.S. Government.

The percentages required by this item should conform to the way in which these portfolio instruments and their values are shown in reports to shareholders.

*Item 63: Dollar Weighted Average Maturity*

Except for money market funds, the dollar weighted average maturity of a registrant's portfolio at the end of the period is to be calculated by multiplying the market value of each portfolio security by the time remaining to its maturity (in days or in years to one decimal place), adding these calculations and then dividing the total by the market value of the portfolio. The result should be stated in days for any average maturity of one year or less and in years (to one decimal place) for any average maturity over one year. The maturity of an instrument should be its ultimate maturity date, except that if a security is callable, the maturity date

used in this calculation should be the first call date. A money market fund may make this calculation in the same manner as it would in monitoring compliance with the average portfolio maturity provisions of Rule 2a–7 under the Act.

*Items 64 and 65: Insured or Guaranteed Securities*

These two items request information about registrant's/series' securities for which the principal amount or interest thereon is insured or guaranteed by an entity other than the issuer. The insurance or guarantee may apply either to individual securities in the portfolio or to the portfolio itself. The entity providing the insurance or guarantee may be either a governmental or nongovernmental entity. The form of the insurance or guarantee may be an insurance policy, a letter of credit, a collateralization agreement, a put or repurchase agreement or a similar mechanism. If any of the securities owned by the registrant/series are insured or guaranteed, the answer to sub-item 64A should be "Yes." If the issuer of any such insured or guaranteed security is delinquent or in default as to payment of principal or interest at the end of the reporting period, the answer to sub-item 64B should be "Yes." Item 65 requires information concerning only whether the insurance or guarantee is being used in any way to value securities for which the issuer is delinquent or in default as to payment of principal or interest. This item is not concerned with whether the value of securities not delinquent or in default may in part be based upon some insurance or guarantee.

*Item 66: Classification of Funds Investing in Equity Securities*

A registrant/series with an investment objective of aggressive capital appreciation is one that primarily and regularly seeks short-term appreciation through high-risk investment, with little or no concern for receipt of income.

A registrant/series with an investment objective of capital appreciation is one that primarily and regularly invests for an intermediate-term return by investing in moderate to high-risk securities, with little or no concern for receipt of income.

A registrant/series with an investment objective of growth is one that seeks long-term growth, with a moderate degree of risk. Receipt of income may be considered to some degree in selecting investments.

A registrant/series should place a "Y" beside sub-item 66E, growth and income, if it primarily and regularly makes low-risk investments with the objective of capital growth and income production.

A registrant/series should place a "Y" beside sub-item 66F, income, if the receipt of income is the primary reason for selecting portfolio securities.

A registrant/series whose portfolio includes a varying mix of equity and debt securities should place a "Y" beside sub-item 66G, total return.

*Item 67: Registrant/Series Investing Primarily and Regularly in a Balanced Portfolio of Debt and Equity Securities*

A balanced fund for purposes of this form is one that has the multiple objectives of providing income stability of capital, and possible increases in capital. At least 25% of the value of the assets of a registrant/series calling itself a balanced fund should be invested in either debt securities preferred stock, or some combination of both. If convertible senior securities are included in the required 25%, only that portion of their value attributable to their fixed income characteristics may be used in calculating the 25% figure. *See* Guide 4 to Form N–1A, (CCH) Fed. Sec. L. ¶ 60,503 at 60,097–29.

*Item 69: Registrant/Series as an Index Fund*

An index fund is one that seeks to provide investment results corresponding to the movements of a specified index.

*Item 70: Investment Practices*

Sub-item 70P, purchases or sales by certain exempted affiliated persons, refers to those purchase and sale transactions which are exempted by Rule 17a–7 under the Act.

*Item 71: Portfolio Turnover Rate*

The rate of portfolio turnover shall be calculated by dividing (a) the lesser of purchases or sales of portfolio securities for the reporting period by (b) the monthly average of the value of the portfolio securities owned by the registrant during the reporting period. Such monthly average shall be calculated by totaling the market values of the portfolio securities as of the beginning and end of the first month of the reporting period and as of the end of each of the succeeding months in the period and dividing the sum by the number of months in the period plus 1.

For purposes of this item, there shall be excluded from both the numerator and denominator all securities, including options, whose maturity or expiration date at the time of acquisition were one year or less. All long-term securities, including long-term U.S. Government securities, should be included. Purchases shall include any cash paid upon the conversion of one portfolio security into another. Purchases shall also include the cost of rights or warrants purchased. Sales shall include the net proceeds from the sale of rights or warrants. Sales shall also include the net proceeds of portfolio securities which have been called, or for which payment has been made through redemption or maturity.

If, during the reporting period, the registrant acquired the assets of another investment company or of a personal holding company in exchange for its own shares, it shall exclude from purchases the value of securities so acquired and from sales, all sales of such securities made following a purchase-of-assets transaction to realign the registrant's portfolio. In such event, the registrant shall also make appropriate adjustment in the denominator of the portfolio turnover computation.

Short sales which the registrant intends to maintain for more than one year and put and call options where the expiration date is more than one year from the date of acquisition should be included in purchases and sales for purposes of this item. The proceeds from a short sale should be included in the value of the portfolio securities which the registrant sold during the reporting period and the cost of covering a short sale should be included in the value of the portfolio securities which the registrant purchased during the period. The premiums paid to purchase options should be included in the value of the portfolio securities which the registrant purchased during the reporting period and the premiums received from the sale of options should be included in the value of the portfolio securities which registrant sold during the period.

*Item 72: Income and Expenses*

The amounts to be shown in sub-items 72B through 72EE should be based upon the semi-annual or annual financial statements as of the same date contained in reports to shareholders. The amounts shown on the form filed for the fiscal year-end period should include year-to-date information and not amounts for only the last six months of the fiscal year. Each series of a series company should report its financial information separately.

If a sub-item listed under item 72 is not shown in the financial statements in shareholder reports covering the same time period and such amount(s) is not readily available from the registrant's/series' accounting records, then the

amount(s) used in shareholder reports should be used. For example, sub-item 72K asks for postage expense. This expense category may be part of other categories such as shareholder servicing agent fees and advisory fees, and the registrant/series may have no easy way to determine the amount. In such situations, the registrant/series should report only those expense items that are readily available and should not attempt to break out more detailed expenses from a larger expense category. However, if such expense breakdowns are available in records kept pursuant to section 31 of the Act, they should be reported even though these categories may differ from the line items of financial statements included in shareholder reports, except that sub-item 72Z, net investment income, should be reported in the form the same way it is included in shareholder reports regardless of the expense breakdowns used. If the registrant/series had a net loss for the period, indicate the amount of the loss by inserting a minus sign in front of the loss.

*Item 73: Dividends and Distributions*

The amounts shown for per-share dividends and distributions paid during the current period should be shown to fractions of a cent if the declaration of the dividend or distribution was also to a fraction of a cent. Any fractional amount shown should be carried to three decimal places. If the declarations were in whole cents, the amounts shown should be in whole cents.

*Item 74: Assets, Liabilities, Net Assets*

Amounts shown in sub-items 74A through 74Y should be based upon the semi-annual or annual financial statements as of the same date contained in shareholder reports. Each series of a series company should report its financial information separately.

If a sub-item listed under this item is not shown in the financial statements in the shareholder report covering the same time period and such amount(s) is not readily available from the registrant's/series' accounting records, then the amount(s) used in shareholder reports should be used.

The instruments listed in sub-items 74B–74I should be reported in the same way in which these instruments are shown in shareholder reports. That is, if such an instrument was acquired in a transaction that also resulted in the recording of a related liability (*e.g.* a straddle) and the registrant shows only the net effect of such transactions in reports to shareholders, then only the net effect should be shown in the form. If reports to shareholders show the gross effect of such transactions, then only the gross effect should be shown in the form. The answer to sub-item 74Y should be the total value of assets that have been segregated to cover short sales, forward commitments, sales of options, purchases or sales of futures, and similar transactions.

*Item 75: Computation of Average Net Assets*

The amount to be shown in this item is the daily average net assets for money market funds and the monthly average net assets for all other companies during the current reporting period. For the latter companies, the average net assets for the period should be calculated by adding the net assets of the registrant/series on the first day of the period and on the last day of each month during the period and then dividing this sum by the number of months in the period plus one. For example, if the computation period is 1/1/85 through 6/30/85, and the registrant is not a money market fund, the registrant should add its net assets on 1/1/85 and on the last day of January, February, March, April, May and June and then divide this total by seven to obtain the average net assets for the period.

*Item 77: Attachments*

The general instructions require that no schedules or supplements be attached to this form in response to this item. Item 77 requires a registrant that is filing any of the materials listed to mark a "Y" beside the appropriate sub-item to indicate the nature of the attachment. Only materials relating to the documents or circumstances enumerated in this item are to be filed with the form. The following instructions relate to the sub-items of this item:

*Sub-Item 77B: Accountant's Report on Internal Control*

Except as provided below, a management investment company shall furnish a report of its independent public accountant on the company's system of internal accounting controls. The accountant's report shall be based on the review, study and evaluation of the accounting system, internal accounting controls, and procedures for safeguarding securities made during the audit of the financial statements. The report should disclose material weaknesses in the accounting system, system of internal accounting control and procedures for safeguarding securities which exist as of the end of the registrant's fiscal year. Disclosure of a material weakness should include an indication of any corrective action taken or proposed.

The accountant's report shall be furnished as an exhibit to the form filed for the company's fiscal year and shall: (1) Be addressed to the company's shareholders and board of directors; (2) be dated; (3) be signed manually; and (4) indicate the city and state where issued.

The fact that an accountant's report is attached to this form shall not be regarded as acknowledging any review of this form by the independent public accountant.

These provisions do not apply to SBICs, or to management investment companies, not required by either the Investment Company Act, any other Federal or state law or rule or regulation thereunder, to have an audit of their financial statements.

*Sub-Item 77C: Submission of Matters to a Vote of Security Holders*

If any matter has been submitted to a vote of security holders, furnish the following information:

(a) The date of the meeting and whether it was an annual or special meeting.

(b) If the meeting involved the election of directors, state the name of each director elected at the meeting and of each other director now in office.

(c) Describe each other matter voted upon at the meeting and state the number of affirmative votes and the number of negative votes cast with respect to each such matter.

(d) Describe the terms of any settlement between the registrant and any other participant (as defined in Rule 14a–11 of Regulation 14A under the 1934 Act) terminating any solicitation subject to Rule 14a–11, including the cost or anticipated cost to the registrant.

Instructions. 1. If any matter has been submitted to a vote of security holders otherwise than at a meeting of such security holders, corresponding information with respect to such submission shall be furnished. The solicitation of any authorization or consent (other than a proxy to vote at a stockholders' meeting) with respect to any matter shall be deemed a submission of such matter to a vote of security holders within the meaning of this item.

2. This sub-item need not be answered as to (i) procedural matters, (ii) the selection or approval of auditors, (iii) the continuation of the current advisory contract, or (iv) the election of directors or officers in cases where there was no solicitation in opposition to the management's nominee, as listed in a proxy statement pursuant to rule 20a–1 under the Act the Regulation 14A under the 1934 Act, and all of such nominees

were elected. This sub-item may be omitted if action at the meeting was limited to the foregoing. In cases where the registrant does not solicit proxies and the board of directors as previously reported to the Commission was re-elected in its entirety, a statement to that effect will suffice.

3. If the issuer has published a report containing all of the information required by this item, the item may be answered by a reference to the information contained in such report, provided copies of such report are filed as an exhibit to this form.

4. If the registrant has furnished to its security holders proxy soliciting material containing the information required by paragraph (d) above, the paragraph may be answered by reference to the information contained in such material.

*Sub-Item 77D: Policies With Respect to Security Investments*

Describe any material change which has occurred in the investment policy of the registrant with respect to each of the following matters that has not been approved by shareholders.

(a) The type of securities (*e.g.*, bonds, preferred stocks, common stocks) in which it may invest, indicating the proportion of the assets which may be invested in each such type of security.

(b) The percentage of assets which it may invest in the securities of any one issuer.

(c) The percentage of voting securities of any one issuer which it may acquire.

(d) Investment in companies for the purpose of exercising control or management.

(e) Investment in securities of other investment companies.

(f) The policy with respect to portfolio turnover.

(g) Any other investment policy which is set forth in the registrant's charter, by-laws or prospectus.

*Sub-Item 77E: Legal Proceedings*

(a) Briefly describe any material legal proceedings, other than routine litigation incidental to the business, to which the registrant or any of its subsidiaries has become a party or of which any of the property has become the subject. Include the name of the court in which the proceedings were instituted, the date instituted and the principal parties thereto.

(b) If any such proceeding previously reported has been terminated, identify the proceeding, give the date of termination and state the disposition thereof with respect to the registrant and its subsidiaries.

Instruction. Any bankruptcy, receivership or similar proceeding with respect to the registrant or any of its significant subsidiaries shall be described. Any proceeding to which any director, officer or other affiliated person of the registrant is a party adverse to the registrant or any of its subsidiaries shall also be described. Any proceeding involving the other affiliated person of the registrant as a party adverse to the registrant or any of its subsidiaries shall also be described. Any proceeding involving the revocation or suspension of the right of the registrant to sell securities shall also be described.

*Sub-Item 77F: Changes in Security for Debt*

If there has been a material withdrawal or substitution of assets securing any class of the registrant's debt, furnish the following information:

(a) The title of the securities.

(b) A brief description of the assets involved in the withdrawal or substitution.

(c) The provision in the underlying indenture, if any, authorizing the withdrawal or substitution.

Instruction. This sub-item does not apply to short-term paper. This sub-item need not be answered where the withdrawal or substitution is made pursuant to the terms of an indenture which has been qualified under the Trust Indenture Act of 1939.

*Sub-Item 77G: Defaults and Arrears on Senior Securities*

(a) State as to each issue of long-term debt of the registrant which is in default at the close of the fiscal semi-annual period with respect to the payment of principal, interest or amortization: (1) Nature of default; (2) date of default; (3) amount of default per $1,000 face amount; and (4) total amount of default.

(b) State as to each issue of capital stock of the registrant on which any accumulated dividend is in arrears at the close of the fiscal semi-annual period: (1) title of issue; (2) amount per share in arrears.

*Sub-Item 77H: Changes in Control of Registrant*

(a) If any person has become a parent of the registrant, give the name of such persons, the date and a brief description of the transaction or transactions by which the person became such a parent and the percentage of voting securities of the registrant owned by the parent or other basis of control by the parent over the registrant.

(b) If any person has ceased to be a parent of the registrant, give the name of such person and the date of a brief description of the transaction or transactions by which the person ceased to be such a parent.

*Sub-Item 77I: Terms of New or Amended Securities*

(a) If the constituent instruments defining the rights of the holders of any class of the registrant's securities have been materially modified, give the title of the class involved and state briefly the general effect of such modification upon the rights of the holders of such securities.

(b) If the registrant has issued a new class of securities furnish the description of such class called for by the applicable registration statement item.

Instruction. This sub-item does not apply to short-term paper.

*Sub-Item 77J: Revaluation of Assets or Restatement of Capital Share Account*

(a) If there has been a material change in the method of valuation of the registrant's assets during the semi-annual period, state the date of the change and explain the change, the accounts involved and the statutory or regulatory basis, if any.

(b) If there has been a material restatement of the registrant's capital share account during the semi-annual period, resulting in a transfer from capital share liability to surplus or reserves, or vice versa, state the date, purpose and amount of the restatement and give a brief explanation of all related entries in connection with the restatement.

*Sub-Item 77K: Changes in Registrant's Certifying Accountant*

If an independent accountant has been engaged as the principal accountant to audit the registrant's financial statements who has not the principal accountant for the registrant's most recently filed certified financial statements, state the date when such independent accountant was engaged. The registrant shall also furnish the Commission with a separate letter stating whether in the eighteen months preceding such engagement there were any disagreements with the former principal accountant on any matter of accounting principles or practices, financial statement disclosure, or auditing procedure which disagreements if not resolved to the satisfaction of the former accountant would have caused him to make reference in connection with his opinion to the subject matter of the disagreement. The registrant shall also request the former principal

accountant to furnish the registrant with a letter addressed to the Commission stating whether he agrees with the statements contained in the letter of the registrant and, if not, stating the respects in which he does not agree; and the registrant shall furnish such letter to the Commission together with its own.

*Sub-Item 77L: Changes in Accounting Principles and Practices*

Describe any change in accounting principles or practices followed by the registrant, or any change in the method of applying any such accounting principles or practices, which will materially affect the financial statements filed or be filed for the current year with the Commission and which has not been previously reported hereunder. State the date of the change and the reasons therefor. A letter from the registrant's independent accountants, approving or otherwise commenting on the change, shall accompany the report.

*Sub-Item 77M: Mergers*

If, during the fiscal semi-annual period, registrant became the surviving corporation of a merger or consolidation with one or more other registered investment companies, furnish the following information:

(a) The name of each such other registered company.

(b) The circumstances and details of such merger or consolidation, including the date and terms thereof, any action taken by the board of directors or shareholders approving or ratifying the merger or consolidation, the other actions taken pursuant to state law. Also include any other facts relevant to a Commission consideration of whether such other registered investment company has ceased to be an investment company as defined in the Act.

*Sub-Item 77N: Actions Required To Be Reported Pursuant to Rule 2a-7*

A Registrant relying on Rule 2a-7 (17 CFR 270.2a-7) to use the amortized cost method of valuation is required by paragraph (a)(2)(vi) of that rule to report any action taken by the board of directors to eliminate or reduce any material dilution or other unfair results to investors caused by a deviation from the fund's amortized cost price per share that exceeds ½ of 1 percent. If any such action was taken during the reporting period, this item should be checked an exhibit attached, describing with specificity the nature and circumstances of such action.

*Sub-Item 77O: Transactions Effected Pursuant to Rule 10f-3*

Rule 10f-3 (17 CFR 270.10f-3) provides a limited exemption from section 10(f) of the Act, provided, *inter alia*, that all transactions effected pursuant to the rule are reported on form N-SAR. If any such transactions were effected during the reporting period, this item should be checked and an exhibit attached setting forth from whom the securities were acquired, the identity of the underwriting syndicate's members, the terms of the transaction, and the information or materials upon which the determination described in paragraph (h)(3) of rule 10f-3 was made.

*Sub-Item 77P: Information Required To Be Filed With the Registrant's Periodic Reports Pursuant to Existing Exemptive Orders*

If any actions were taken during the reporting period which were required to be reported on Form N-1Q pursuant to an exemptive order, that information must now be reported in this sub-item of Form N-SAR.

*Sub-Item 77Q: Exhibits*

In addition to the materials provided pursuant to sub-items 77C through 77P, if any, and subject to Rule 201.24 of the General Rules of Practice regarding incorporation by reference, the following exhibits shall be filed as part of this form, if not previously filed:

(a) Copies of any material amendments to the registrant's charter or by-laws.

(b) Copies of the text of any proposal described in answer to sub-item 77D.

(c) Copies of the amendments to all constituent instruments and other documents described in answer to sub-item 77G.

(d) Copies of all constituent instruents defining the rights of the holders of any new class of securities and of any amendments to contituent instruments referred to in answer to sub-item 77J.

(e) Copies of any new or amended investment advisory contract of registrant.

(f) Letters from the registrant and the independent accountants furnished pursuant to sub-items 77K and 77L.

(g) Copies of any merger or consolidation agreement, and other documents relevant to the information sought in sub-item 77M, above.

*Item 86: Sales, Repurchases, and Redemptions of Securities*

This item does not apply to short-term paper, ordinary sinking fund operations or similar periodic decreases made pursuant to the terms of governing instruments, or payment of indebtedness at maturity.

The number of shares reported should be adjusted to reflect any stock dividend or stock split during the period covered by the report.

For purposes of line E, the extension of the maturity date of indebtedness shall be deemed the issuance of new indebtedness.

"Redemption," as used in lines D and F, means redemption at the option of the issuer.

*Item 88: Senior Securities*

In addition to the usual type of senior security such as bonds or preferred stocks, certain transactions a registrant may engage in could create a senior security. Examples of such transactions include short sales, uncovered options, purchases of securities on margin and the entering into of firm commitments to purchase securities at a future date. Investment companies may engage in these other transactions and not create a senior security if a segregated account has been established and appropriately funded. In answering this item, a registrant should answer "Yes" only if it had a senior security that was not adequately covered by a segregated account or by other means.

*Item 94: Family of Investment Companies*

*See* instructions for item 19.

*Item 95: Sales, Repurchases, and Redemptions of Securities*

*See* instructions for item 86.

*Item 97: Income and Expenses*

*See* instructions for item 72.

*Item 98: Dividends and Distributions*

*See* instructions for item 73.

*Item 99: Assets, Liabilities and Shareholders' Equity*

*See* instructions for item 74.

*Item 100: Computation of Average Net Assets*

*See* instructions for item 76.

*Item 102: Attachments*

*See* instructions for item 77.

*Sub-Item 102B: Submission of Matters to a Vote of Security Holders*

*See* instructions for sub-item 77C.

*Sub-Item 102C: Policies With Respect to Security Investments*

*See* instructions for sub-item 77D.

*Sub-Item 102D: Legal Proceedings*

*See* instructions for sub-item 77E.

*Sub-Item 102E: Changes in Security for Debt*

*See* instructions for sub-item 77F.

*Sub-Item 102F: Defaults and Arrears on Senior Securities*

*See* instructions for sub-item 77G.

*Sub-Item 102G: Changes in Control of Registrant*

*See* instructions for sub-item 77H.

*Sub-Item 102H: Terms of New or Amended Securities*

*See* instructions for sub-item 77I.

*Sub-Item 102I: Revaluation of Assets Restatement of Capital Share Account*

*See* instructions for sub-item 77J.

*Sub-Item 102J: Changes in Registrant's Certifying Accountant*

*See* instructions for sub-item 77K.

*Sub-Item 102K: Changes in Accounting Principles and Practices*

*See* instructions for sub-item 77L.

*Sub-Item 102L: Mergers*

*See* instructions for sub-item 77M.

*Sub-Item 102M: Information Required To Be Reported Pursuant to Rule 2a–7*

*See* instructions for sub-item 77N.

*Sub-Item 102N: Transactions Effected Pursuant to Rule 10f–3*

*See* instructions for sub-item 77O.

*Sub-Item 102O: Information Required To Be Filed With the Registrant's Periodic Reports Pursuant to Existing Exemptive Orders*

*See* instructions for sub-item 77P.

*Sub-Item 102P: Exhibits*

In addition to the materials provided pursuant to sub-items 102B through 102O, if any, and subject to Rule 201.24 of the General Rules of Practice regarding incorporation by reference, the following exhibits shall be filed as part of Form N–SAR, if not previously filed:

(a) Copies of any material amendment to the registrant's charter or by-laws.

(b) Copies of the text of any proposal described in answer to sub-item 102C.

(c) Copies of the amendments to all constituent instruments and other documents described in answer to sub-item 102F.

(d) Copies of all constituent instruments defining the rights of the holders of any new class of securities and of any amendments to constituent instruments referred to in answer to sub-item 102I.

(e) Copies of any new or amended investment advisory contract of registrant.

(f) Letters from the registrant and the independent accountants furnished pursuant to sub-items 102J and 102K.

(g) Copies of any merger or consolidation agreement, and other documents relevant to the information sought in sub-item 102L, above.

*Item 116: Family of Investment Companies*

*See* instructions for item 19.

*Item 117: The Registrant is a Separate Account of an Insurance Company*

If the registrant is an insurance company separate account registered as a UIT, it should answer items 117–132 only as they apply to the UIT, and should not include in such answers any information about management investment companies underlying the UIT.

*Item 118: Series Having Effective Registration Statements*

The answer to this item should state the total number of series of securities the registrant is offering as of the close of the reporting period and that at any time in the past were the subject of effective registration statements under the 1933 Act. Include in this number all series of registrant having such effective registration statements regardless of whether there is a secondary market in the series' units. It there is a single separate account UIT that invests in several underlying management investment companies, the answer to this item would be "1".

*Item 119: New Series Having Effective Registration Statements*

If no new series were created during the period, the answer should be the numeral "0" (zero).

*Item 120: Value of New Series That Became Effective*

This amount should be the total of the aggregate net asset value for each series whose registration statement became effective during the period. Such aggregate net asset value should be the market value of the series' (trust's portfolio based upon the offer side evaluation on the date of deposit (this amount may in some instances also be called the aggregate offering price of the underlying securities in the portfolio). If the portfolio of a series consists of equity securities, use the market value of the trust's portfolio securities on the date of deposit.

*Item 121: Series for Which a Current Prospectus Existed at the End of the Period*

"Prospectus" is defined in section 2(10) of the 1933 Act. A current prospectus is one meeting the requirements of section 10 of the 1933 Act. If a current prospectus did not exist for any series at the end of the period, the Answer to this item should be "0" (zero).

*Item 122: New Units of Old Series*

State the number of existing series which meet the following conditions: The sponsor, depositor or some other entity deposited additional securities in the portfolio of an existing series of the registrant. Before selling additional units, such entity obtained an effective registration statement or a post-effective amendment under the 1933 Act for the additional units created to reflect the additional securities deposited. If no additional securities were deposited in an existing series, the answer to the item should be "0" (zero). The substitution of one or more new securities for one or more old securities in the portfolio should not be reported in response to this item.

*Item 123: Value of New Securities Deposits in Existing Series*

The answer to this item should be the aggregate value of the additional securities that were placed into the portfolio of the existing series identified in item 122. Such value should be the market value of these additional securities based upon the offer side evaluation on the date of deposit (this amount may in some instances also be called the aggregate offering price of the new securities in the portfolio). If the additional securities added to the portfolio are equity securities, use their market value on the date of deposit in determining the answer to this item.

*Item 124: Value of Units of Prior Series Placed in Portfolio of Subsequent Series*

The value of units of a prior series that were placed into the portfolio of a subsequent series should be measured on the day such units were deposited in the subsequent series and should be the value assigned to such units in the portfolio of the subsequent series.

*Item 125: Amount of Sales Loads Collected*

The answer to this item should reflect the total sales loads collected by the registrant's principal underwriter and all affiliated underwriters thereof from the sale of units in all series of registrant during the current period. Inventory

gains and losses incurred by underwriters while holding units for sale after they have been acquired from the trust should not be considered in calculating total sales loads collected. Sales loads collected during both the initial public offering of units and in secondary market operations should be included in making these calculations. The number reported for this item should be the gross amount collected by such underwriters before any reallowances to other brokers or dealers.

*Item 127: Classification of Series and Assets*

Other corporate short-term debt securities referred to in sub-item 127G are securities with maturities of 12 months or less.

For an explanation of broker or dealer debt, debt of parent's of brokers of dealers, and equity securities or brokers or dealers or their parents (sub-items 127E and 127H), *see* instructions for items 24 and 25.

Separate account UITs investing primarily in the shares of underlying management investment companies should provide this answer in sub-item 127J.

*Items 128, 129 and 130: Insured or Guaranteed Securities*

These three items request information about securities owned by any series of the registrant whose principal or interest in insured or guaranteed by an entity other than the issuer. The insurance or guarantee may apply either to individual securities in the portfolio or to the portfolio itself.

The entity providing the insurance or guarantee may be either a governmental or a nongovernmental entity. The insurance or guarantee may be derived through an insurance policy, a letter of credit, a collateralization agreement, a put or repurchase agreement or a similar mechanism. If any of the securities owned by the registrant are insured or guaranteed, answer "Yes" to item 128. If the issuer of any such insured or guaranteed security is delinquent or in default as to payment of principal or interest at the end of the reporting period, answer "Yes" to item 129. Item 130 requires information concerning only whether the insurance or guarantee is being used in any way to value securities for which the issuer is delinquent or is in default as to payment of principal or interest. This item does not require information about whether the value of securities not delinquent or in default may in part be based upon some insurance or guarantee.

*Item 132: "811" Number of Series Included in Filing*

This item is to be used by any series of a UIT that had an "811" number assigned to it prior to September 1972. For more information regarding this item, *see* the instruction to sub-item 1B.

*Signature Page*

The following form of signature shall follow item: 79, 85, 88, 104, 110 or 132 as appropriate.

This report is signed on behalf of the registrant (or depositor or tustee) in the City of ——— and State of ——— on ——— day of ——— 19——.

(Name of registrant, depositor, or trustee)
Witness ———
(Name and Title)
By: ———
(Name and title of person signing on behalf of registrant, depositor or trustee)

[FR Doc. 85-23442 Filed 10-3-85; 8:45 am]

BILLING CODE 8010-01-M

## DEPARTMENT OF HEALTH AND HUMAN SERVICES

### Food and Drug Administration

### 21 CFR Part 558

### New Animal Drugs for Use in Animal Feeds; Pyrantel Tartrate

**AGENCY:** Food and Drug Administration.

**ACTION:** Final rule.

**SUMMARY:** The Food and Drug Administration (FDA) is amending the animal drug regulations to reflect approval of a new animal drug application (NADA) filed for Farmland Industries, Inc., providing for the use of a 48-gram-per-pound pyrantel tartrate premix in making a 19.2-gram-per-pound pyrantel tartrate intermediate premix. The intermediate premix is subsequently used to make complete swine feeds.

**EFFECTIVE DATE:** October 4, 1985.

**FOR FURTHER INFORMATION CONTACT:** Benjamin A. Puyot, Center for Veterinary Medicine (HFV-135), Food and Drug Administration, 5600 Fishers Lane, Rockville, MD 20857, 301-443-1414.

**SUPPLEMENTARY INFORMATION:** Farmland Industries, Inc., Kansas City, MO 64116, is sponsor of NADA 138-656 submitted on its behalf by Pfizer, Inc. The NADA provides for use of a 48-gram-per-pound pyrantel tartrate premix in making a 19.2-gram-per-pound pyrantel tartrate intermediate premix. The intermediate premix is for making complete swine feeds for use as an aid in prevention of migration and establishment and for removal and control of large roundworm (*Ascaris suum*) infections and for use as an aid in the prevention of establishment and for removal and control of nodular worm (*Oesophagostomum* spp.) infections.

The NADA is approved and the regulations are amended to reflect this approval. The basis for approval is discussed in the freedom of information summary.

In accordance with the freedom of information provisions of Part 20 (21 CFR Part 20) and § 514.11(e)(2)(ii) (21 CFR 514.11(e)(2)(ii)), a summary of safety and effectiveness data and information submitted to support approval of this application may be seen in the Dockets Management Branch (HFA-305), Food and Drug Administration, Room. 4-62, 5600 Fishers Lane, Rockville, MD 20857, from 9 a.m. to 4 p.m., Monday through Friday.

The agency has determined under 21 CFR 25.24(d)(1)(i) (April 26, 1985; 50 FR 16636) that this action is of a type that does not individually or cumulatively have a significant effect on the human environment. Therefore, neither an environmental assessment nor an environmental impact statement is required.

**List of Subjects in 21 CFR Part 558**

Animal drugs, Animal feeds.

Therefore, under the Federal Food, Drug, and Cosmetic Act and under authority delegated to the Commissioner of Food and Drugs and redelegated to the Center for Veterinary Medicine, Part 558 is amended as follows:

## PART 558—NEW ANIMAL DRUGS FOR USE IN ANIMAL FEEDS

1. The authority citation for 21 CFR Part 558 continues to read as follows:

**Authority:** Sec. 512, 82 Stat. 343-351 (21 U.S.C. 360b); 21 CFR 5.10 and 5.83.

2. In § 558.485 by adding new paragraph (a)(23) to read as follows:

**§ 558.485 Pyrantel tartrate.**

(a) * * *

(23) To 021676: 19.2 grams per pound, paragraphs (e) (1) through (3) of this section.

* * * * *

Dated: September 30, 1985.

**Lester M. Crawford,**

*Director, Center for Veterinary Medicine.*

[FR Doc. 85-23698 Filed 10-3-85; 8:45 am]

BILLING CODE 4160-01-M

**DEPARTMENT OF JUSTICE**

**Drug Enforcement Administration**

**21 CFR Part 1304**

## Records and Reports of Registrants Changes in Records Requirements for Individual Practitioners

**AGENCY:** Drug Enforcement Administration, Justice.

**ACTION:** Final rule.

**SUMMARY:** This final rule amends 21 CFR 1304.03 to comply with Section 514 of the Diversion Control Amendments which were included in the Comprehensive Crime Control Act of 1984 (Pub. L. 98–473) effective October 12, 1984. These amendments changed the recordkeeping exceptions which apply to practitioners who prescribe, administer and dispense controlled substances in the lawful course of their professional practice. The final rule reflects the statutory amendments by requiring practitioners to maintain records for all controlled substances which are dispensed, but continues to exempt them from recordkeeping requirements for prescribing and occasional administering of controlled substances.

**EFFECTIVE DATE:** October 4, 1985.

**FOR FURTHER INFORMATION CONTACT:** G. Thomas Gitchel, Chief, Diversion Operations Section, Office of Diversion Control, Drug Enforcement Administration, 1405 I Street, NW., Washington, DC 20537 (202–633–1216).

**SUPPLEMENTARY INFORMATION:** A notice of proposed rulemaking was published in the Federal Register on March 26, 1985 (50 FR 11902) to amend 21 CFR 1304.03 (b) and (c) in order to make them consistent with the recordkeeping exceptions for individual practitioners found in 21 U.S.C. 827 (c)(1)(A) and (c)(1)(B) as they were amended by the Diversion Control Amendments (Pub. L. 98–473). The proposed rulemaking provided and opportunity for interested parties to submit comments or objections in writing on or before April 26, 1985.

Three comments were received in response to the notice of proposed rulemaking. A letter dated April 15, 1985 from the Wisconsin Pharmacy Examining Board stated that the board is in agreement with the proposed change and wished to go on record in support of the change. The comments dated April 24, 1985 from Eli Lilly and Company and April 25, 1985 from the Pharmaceutical Manufacturers Association were in opposition to records being required for the dispensing of samples of controlled substances by physicians to their patients. The proposed regulation and the statute from which it is promulgated clearly require records to be maintained by individual practitioners for all controlled substances dispensed. No exemption was provided in the statute for samples. The Pharmaceutical Manufacturers Association objects to the proposed regulation because they believe that it imposes "substantial recordkeeping and reporting obligations" on an individual practitioner who gives samples provided by drug companies to his patients. They also state that this additional recordkeeping will cause practitioners to abandon the practice of providing samples of controlled substances to their patients. The Association also feels that the regulation does not reflect the statutory language, and that therefore, the Drug Enforcement Administration can allow practitioners to dispense samples of controlled substances without keeping records. Eli Lilly and Company voiced similar concerns, saying that the "expense of the recordkeeping and inventory requirements should not be imposed solely because a practitioner provides a limited quantity of controlled substances on occasion for the medical needs of patients." Individual practitioners are currently required to request samples from suppliers in writing, thus there is already a record required to be made in connection with samples of controlled substances.

The legislative history of the Diversion Control Amendments reflects a Congressional intention to strengthen the authority of DEA to prevent the diversion of controlled substances and to tighten the "closed" system of distribution for controlled substances to extend to the practitioner level. One of the methods which Congress chose was to require records to be maintained by practitioners who dispense controlled substances. This requirement clearly extends to all dispensing activities. Section 307 of the Controlled Substances Act, 21 U.S.C. 827, requires all registrants to maintain complete and accurate records of all stockes of controlled substances in their possession to include biennial inventory, receiving records and records of disposition of controlled substances. Paragraph (c) of section 307 lists the exceptions to these recordkeeping requirements.

Congress states in 21 U.S.C. 827 (c)(1)(A) and (c)(1)(B) that the recordkeeping requirements do not apply to the prescribing and administering of controlled substances by individual practitioners. Records are required, however, to account for the administration of controlled substances by individual practitioners who regularly administer or dispense controlled substances and charge their patients for these substances. Records are not required to be kept by individual practitioners who occasionally administer controlled substances, including samples, unless they also dispense these substances. An individual practitioner may start a patient on the appropriate drug therapy immediately by administering controlled substances samples in the office.

The Congressional intent of the statutory requirements is clear. These regulations are merely a reflection of the statute. The recordkeeping requirements for dispensing practitioners are not burdensome. Under the previous statutory requirements, records were required for narcotics dispensed, and in certain situations for nonnarcotic controlled substances that were dispensed. Records required consist of a biennial inventory, records of receipt and records of disposition. An inventory of all controlled substances is required to be taken every two years. Records of receipt of controlled substances are required, and must be maintained for two years. These records usually consist of a copy of the sales invoice or record of shipment from the supplier which has been dated and retained by the practitioner. Records of dispensing or other disposition are required to be maintained, and may be in a format convenient to the individual practitioner or staff, as long as they are readily retrievable. These requirements are neither burdensome nor time consuming, and ensure that proper accountability of controlled substances is maintained at the practitioner level.

Therefore, pursuant to the authority vested in the Attorney General by 21 U.S.C. 821 and 871(b) as delegated to the Administrator of the Drug Enforcement Administration and redelegated to the Deputy Assistant Administrator of the Office of Diversion Control by 28 CFR 0.100 and 0.104, the Deputy Assistant Administrator hereby orders that Part 1304 of Title 21, Code of Federal Regulations be amended as follows:

**List of Subjects in 21 CFR Part 1304**

Drug traffic control, Reporting and recordkeeping requirements.

**PART 1304—[AMENDED]**

1. The authority citation for Part 1304 is revised to read as follows:

Authority: 21 U.S.C. 821, 827, 871(b), 958(d), 965.

2. Section 1304.03 is amended by revising paragraphs (b) and (c), redesignating existing paragraphs (d), (e) and (f) as (e), (f) and (g) respectively and adding a new (d):

**§ 1304.03 Persons required to keep records and file reports.**

* * * * *

(b) A registered individual practitioner is required to keep records, as described in § 1308.04, of controlled substances in Schedules II, III, IV, and V which are dispensed, other than by prescribing or administering in the lawful course of professional practice.

(c) A registered individual practitioner is not required to keep records of controlled substances in Schedules II, III, IV, and V which are prescribed in the lawful course of professional practice, unless such substances are prescribed in the course of maintenance or detoxification treatment of an individual.

(d) A registered individual practitioner is not required to keep records of controlled substances listed in Schedules II, III, IV and V which are administered in the lawful course of professional practice unless the practitioner regularly engages in the dispensing or administering of controlled substances and charges patients, either separately or together with charges for other professional services, for substances so dispensed or administered. Records are required to be kept for controlled substances administered in the course of maintenance or detoxification treatment of an individual.

* * * * *

3. Section 1304.03 is further amended by changing the reference to paragraphs (d) and (e) in the newly designated paragraph (g) to read paragraphs (e) and (f) respectively.

The Deputy Assistant Administrator hereby certifies that this final rule will have no significant impact upon small entities whose interests must be considered under the Regulatory Flexibility Act, 5 U.S.C. 601 et seq. A very small percentage of registered individual practitioners are regular dispensers of controlled substances. As some records are already required to be kept by the current regulation, the increased requirements for certain controlled substances are minimal.

Pursuant to sections 3(c)(3) and 3(e)(2)(B) of Executive Order 12291, this action has been submitted for review by the Office of Management and Budget and approved pursuant to the provisions of the Paperwork Reduction Act of 1980, 44 U.S.C. 3501, et seq.

Dated: September 5, 1985.

**Gene R. Haislip,**

*Deputy Assistant Administrator, Office of Diversion Control, Drug Enforcement Administration.*

[FR Doc. 85-23354 Filed 10-3-85; 8:45 am]

BILLING CODE 4410-09-M

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## DEPARTMENT OF THE TREASURY

## Bureau of Alcohol, Tobacco and Firearms

## 27 CFR Part 178

**[T.D. ATF-213]**

## State Laws and Published Ordinances; Incorporation by Reference

**AGENCY:** Bureau of Alcohol, Tobacco and Firearms (ATF), Treasury.

**ACTION:** Final rule (Treasury Decision).

**SUMMARY:** This final rule incorporates by reference the compiled list of State laws and published ordinances, entitled "State Laws and Published Ordinances—Firearms" (ATF Publication 5300.5), 1984 edition. This compiled list is annually revised and is developed from State firearms laws obtained from Federal libraries, and from copies of firearms ordinances published by political subdivisions and furnished ATF. The published ordinances are those which the Director determines to be relevant to the effective administration of 18 U.S.C., Chapter 44—Firearms, as required by 18 U.S.C. 921(a)(19).

**EFFECTIVE DATE:** October 4, 1985. Approval for Incorporation by Reference of this document is authorized by the Director of the Federal Register on October 4, 1985.

**FOR FURTHER INFORMATION CONTACT:** Gary D. Caplan, Firearms and Explosives Operations Branch, Bureau of Alcohol, Tobacco and Firearms, Post Office Box 189, Washington, DC 20044 [(202) 535-9171].

**SUPPLEMENTARY INFORMATION:**

### Reason for Incorporation by Reference

Incorporating the list by reference under 5 U.S.C. 552(a)(1) allows ATF to reduce its operating costs by no longer publishing the list in the Federal Register in its entirety. The list continues to be revised annually and furnished to Federal firearms licensees as has been done since 1968.

### Amendment

Section 178.24(b) is revised to reflect the incorporation by reference of the 1984 list of State laws and published ordinances.

### Drafting Information

The author of this final rule is Gary D. Caplan of the Firearms and Explosives Branch, Bureau of Alcohol, Tobacco and Firearms.

### Executive Order 12291

It has been determined that this final rule is not a "major rule" within the meaning of Executive Order 12291 of February 17, 1981, (46 FR 13193), because it will not have an annual effect on the economy of $100 million or more; it will not result in a major increase in costs or prices for consumers, individual industries, Federal, State or local agencies, or geographic regions; and it will not have significant adverse effects on competition, employment, investment, productivity, innovation, or on the ability of United States-based enterprises to compete with foreign-based enterprises in domestic or export markets.

### Regulatory Flexibility Act

The provisions of the Regulatory Flexibility Act, relating to a regulatory flexibility analysis, are not applicable because neither 5 U.S.C. 553 nor any other law requires the publication of a general notice of proposed rulemaking for this final rule.

### Paperwork Reduction Act

This publication is required by Title 18 U.S.C. 921(a)(19). It is not a "collection of information" as defined in 44 U.S.C. 3502(4), and in 5 CFR 1320.7(c), issued under the Paperwork Reduction Act of 1980.

### List of Subjects In 27 CFR Part 178

Administrative practices and procedures, Arms and ammunition, Authority delegations, Customs duties and inspection, Exports, Imports, Military personnel, Penalties, Reporting requirements, Research, Seizures and forfeitures, Transportation.

### Authority And Issuance

Because this final rule merely makes procedural changes as authorized by the Office of the Federal Register, it is unnecessary and impractical to issue this final rule with notice and public procedure under 5 U.S.C. 553(b). Similarly, it is unnecessary and impractical to subject this final rule to the effective date limitation of 5 U.S.C. 553(d).

Accordingly, this final rule is issued under the authority contained in 5 U.S.C. 552(a) (80 Stat. 383, as amended).

As amended, 27 CFR Part 178, Commerce in Firearms and Ammunition, reads as follows:

## PART 178—[AMENDED]

**Paragraph 1.** The authority citation for Part 178 continues to read as follows:

**Authority:** 18 U.S.C. 921–928; 44 U.S.C. 3504(h), unless otherwise noted.

**Par. 2.** Section 178.24(b) is revised to read as follows:

**§ 178.24 List of State laws and published ordinances.**

* * * * *

(b) "State Laws and Published Ordinances-Firearms" is incorporated by reference in this part. It is ATF Publication 5300.5, 1984 edition, and is for sale from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. It is also available for inspection at the Office of the Federal Register, Room 8401, 1100 L Street, NW, Washington, DC. This incorporation by reference was approved by the Director of the Federal Register.

Signed: August 8, 1985.

**Stephen E. Higgins,**

*Director.*

Approved: September 12, 1985.

**Edward T. Stevenson,**

*Acting Assistant Secretary (Enforcement and Operations).*

[FR Doc. 85-23678 Filed 10-3-85; 8:45 am]

BILLING CODE 4810-31-M

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## DEPARTMENT OF JUSTICE

### Office of the Attorney General

### 28 CFR Part 50

**[Order No. 1109-85]**

### Policy Statements; Local Court Rules Requiring Mandatory Arbitration

**AGENCY:** Justice Department.

**ACTION:** Final rule.

**SUMMARY:** In recent years, a number of district courts have adopted or broadened the scope of their local rules of court providing for mandatory arbitration of certain types of civil cases pending in the district. The Department of Justice supports efforts in numerous contexts to explore means of alternative dispute resolution in order to reduce the number of cases that must endure the expense of trial in the courts, and has endorsed a limited pilot program of mandatory arbitration in several districts since 1978. However, the recent effort by additional district courts to adopt local rules for mandatory arbitration of cases has raised several questions with respect to the participation by the United States in arbitration under the various plans. These plans vary widely with respect to the types of cases that are sent to arbitration and to the treatment of cases in the arbitration and process.

The attached order sets forth the policy of the Department of Justice with respect to participation in any local program of mandatory arbitration pursuant to court order. Under this policy, the Department anticipates that many cases involving only money damages of a limited amount (such as $100,000) can be litigated under the experimental arbitration programs of the various districts. However, in view of the existing regulations of the Department with respect to settlement of cases, the attorney for the government in each case is instructed to take appropriate measures to preserve the interests of the United States and to ensure that a case is not settled in a manner inconsistent with the delegation of settlement authority under the Department's regulations. The Department particularly opposes the imposition of penalties or sanctions against the United States for failure to acquiesce in any arbitration award.

**EFFECTIVE DATE:** October 4, 1985.

**FOR FURTHER INFORMATION CONTACT:** Helen Shaw, Office of Legal Policy, Room 4233, 10th & Pennsylvania Avenue, NW., Washington, DC 20530, (202-633-2034).

**SUPPLEMENTARY INFORMATION:** This Order provides U.S. Attorneys with policy direction as to the treatment of cases in which the United States is a party under local court arbitration rules. Accordingly, the requirement of Executive Order 12291 do not apply to these procedures because they do not constitute a "major rule" within the meaning of section 1(b) of E.O. 12291. Additionally, the requirements of the Regulatory Flexibility Act, 5 U.S.C. 601 *et seq.* do not apply because these procedures are not a "rule" under section 601(2) of the Act.

**List of Subjects in 28 CFR Part 50**

Courts, Arbitration.

## PART 50—STATEMENTS OF POLICY

By the authority vested in me as Attorney, General Part 50 of Chapter I of Title 28, Code of Federal Regulations is amended as follows:

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

**Authority:** 5 U.S.C. 301, 552, 552a; 15 U.S.C. 16(d); 28 U.S.C. 509, 510, 516; Executive Order 11247, 3 CFR, 1964–1965 Comp., p. 348.

2. New § 50.20 is added to read as follows:

**§ 50.20 Participation by the United States in Court-Annexed Arbitration.**

(a) *Considerations affecting participation in arbitration.* (1) The Department recognizes and supports the general goals of court-annexed arbitrations, which are to reduce the time and expenses required to dispose of civil litigation. Experimentations with such procedures in appropriate cases can offer both the courts and litigants an opportunity to determine the effectiveness of arbitration as an alternative to traditional civil litigation.

(2) An arbitration system, however, is best suited for the resolution of relatively simple factual issues, not for trying cases that may involve complex issues of liability or other unsettled legal questions. To expand an arbitration system beyond the types of cases for which it is best suited and most competent would risk not only a decrease in the quality of justice available to the parties but unnecessarily higher costs as well.

(3) In particular, litigation involving the United States raises special concerns with respect to court-annexed arbitration programs. A mandatory arbitration program potentially implicates the principles of separation of powers, sovereign immunity, and the Attorney General's control over the process of settling litigation.

(b) *General rule consenting to arbitration consistent with the department's regulations.* (1) Subject to the considerations set forth in the following paragraphs and the restrictions set forth in paragraphs (c) and (d), in a case assigned to arbitration or mediation under a local district court rule, the Department of Justice agrees to participate in the arbitration process under the local rule. The attorney for the government responsible for the case should take any appropriate steps in conducting the case to protect the interests of the United States.

(2) Based upon its experience under arbitration programs to date, and the purposes and limitations of court-annexed arbitration, the Department generally endorses inclusion in a district's court-annexed arbitration program of civil actions—

(i) in which the United States or a Department, agency, or official of the United States is a party, and which seek only money damages in an amount not

in excess of $100,000, exclusive of interest and costs; and

(ii) which are brought (A) under the Federal Tort Claims Act, 28 U.S.C. 1346(b), 2671 *et seq.*, or (B) under the Longshoreman's and Harbor Worker's Compensation Act, 33 U.S.C. 905, or (C) under the Miller Act, 40 U.S.C. 270(b).

(3) In any other case in which settlement authority has been delegated to the United States Attorney under the regulations of the Department and the directives of the applicable litigation division and none of the exceptions to such delegation apply, the United States Attorney for the district, if he concludes that a settlement of the case upon the terms of the arbitration award would be appropriate, may proceed to settle the case accordingly.

(4) Cases other than those described in paragraph (2) that are not within the delegated settlement authority of the United States Attorney for the district ordinarily are not appropriate for an arbitration process because the Department generally will not be able to act favorably or negatively in a short period of time upon a settlement of the case in accordance with the arbitration award. Therefore, this will result in a demand for trial de novo in a substantial proportion of such cases to preserve the interests of the United States.

(5) The Department recommends that any district court's arbitration rule include a provision exempting any case from arbitration, sua sponte or on motion of a party, in which the objectives of arbitration would not appear to be realized, because the case involves complex or novel legal issues, or because legal issues predominate over factual issues, or for other good cause.

(c) *Objection to the imposition of penalties or sanctions against the United States for demanding trial de novo.* (1) Under the principle of sovereign immunity, the United States cannot be held liable for costs or sanctions in litigation in the absence of a statutory provision waiving its immunity. In view of the statutory limitations on the costs payable by the United States (28 U.S.C. 2412(a), 2412(b), and 1920), the Department does not consent to provisions in any district's arbitration program providing for the United States or the Department, agency, or official named as a party to the action to pay any sanction for demanding a trial de novo—either as a deposit in advance or as a penalty imposed after the fact—which is based on the arbitrators' fees, the opposing party's attorneys' fees, or any other costs not authorized by statute to be awarded against the United States. This objection applies whether the penalty or sanction is required to be paid to the opposing party, to the clerk of the court, or to the Treasury of the United States.

(2) In any case involving the United States that is designated for arbitration under a program pursuant to which such a penalty or sanction might be imposed against the United States, its officers or agents, the attorney for the government is instructed to take appropriate steps, by motion, notice of objection, or otherwise, to apprise the court of the objection of the United States to the imposition of such a penalty or sanction.

(3) Should such a penalty or sanction actually be required of or imposed on the United States, its officers or agents, the attorney for the government is instructed to:

(i) Advise the appropriate Assistant Attorney General of this development promptly in writing;

(ii) Seek appropriate relief from the district court; and

(iii) If necessary, seek authority for filing an appeal or petition for mandamus.

The Solicitor General, the Assistant Attorneys General, and the United States Attorneys are instructed to take all appropriate steps to resist the imposition of such penalties or sanctions against the United States.

(d) *Additional Restrictions.* (1) The Assistant Attorneys General, the United States Attorneys, and their delegates, have no authority to settle or compromise the interests of the United States in a case pursuant to an arbitration process in any respect that is inconsistent with the limitations upon the delegation of settlement authority under the Department's regulations and the directives of the litigation divisions. See 28 CFR Part 0, Subpart Y and Appendix to Subpart Y. The attorney for the government shall demand trial de novo in any case in which:

(i) Settlement of the case on the basis of the amount awarded would not be in the best interests of the United States;

(ii) Approval of a proposed settlement under the Department's regulations in accordance with the arbitration award cannot be obtained within the period allowed by the local rule for rejection of the award; or

(iii) The client agency opposes settlement of the case upon the terms of the settlement award, unless the appropriate official of the Department approves a settlement of the case in accordance with the delegation of settlement authority under the Department's regulations.

(2) Cases sounding in tort and arising under the Constitution of the United States or under a common law theory filed against an employee of the United States in his personal capacity for actions within the scope of his employment which are alleged to have caused injury or loss of property or personal injury or death are not appropriate for arbitration.

(3) Cases for injunctive or declaratory relief are not appropriate for arbitration.

(4) The Department reserves the right to seek any appropriate relief to which its client is entitled, including injunctive relief or a ruling on motions for judgment on the pleadings, for summary judgment, or for qualified immunity, or on issues of discovery, before proceeding with the arbitration process.

(5) In view of the provisions of the Federal Rules of Evidence with respect to settlement negotiations, the Department objects to the introduction of the arbitration process or the arbitration award in evidence in any proceeding in which the award has been rejected and the case is tried de novo.

(6) The Department's consent for participation in an arbitration program is not a waiver of sovereign immunity or other defenses of the United States except as expressly stated; nor is it intended to affect jurisdictional limitations (*e.g.*, the Tucker Act).

(e) *Notification of new or revised arbitration rules.* The United States Attorney in a district which is considering the adoption of or has adopted a program of court-annexed arbitration including cases involving the United States shall:

(1) Advise the district court of the provisions of this section and the limitations on the delegation of settlement authority to the United States Attorney pursuant to the Department's regulations and the directives of the litigation divisions; and

(2) Forward to the Executive Office for United States Attorneys a notice that such a program is under consideration or has been adopted, or is being revised, together with a copy of the rules or proposed rules, if available, and a recommendation as to whether United States participation in the program as proposed, adopted, or revised, would be advisable, in whole or in part.

Dated: September 24, 1985.

**Edwin Meese III,**

*Attorney General.*

[FR Doc. 85-23792 Filed 10-3-85; 8:45 am]

BILLING CODE 4410-01-M

## DEPARTMENT OF DEFENSE

### Department of the Navy

### 32 CFR Part 706

### Certifications and Exemptions Under the International Regulations for Preventing Collisions at Sea, 1972; Amendment

**AGENCY:** Department of the Navy, DOD.

**ACTION:** Final rule.

**SUMMARY:** The Department of the Navy is amending its certifications and exemptions under the International Regulations for Preventing Collisions at Sea, 1972 (72 COLREGS), to reflect that the Secretary of the Navy has determined that USS Josephus Daniels (CG 27) and USS Biddle (CG 34) are vessels of the Navy which, due to their special construction and purpose, cannot comply fully with 72 COLREGS without interfering with their special functions as naval cruisers. The intended effect of this rule is to warn mariners in waters where the 72 COLREGS apply.

**EFFECTIVE DATE:** September 16, 1985.

**FOR FURTHER INFORMATION CONTACT:** Captain Richard J. McCarthy, JAGC, U.S. Navy Admiralty Counsel, Office of the Judge Advocate General Navy Department, 200 Stovall Street, Alexandria, VA 22332-2400, Telephone number: (202) 325-9744.

**SUPPLEMENTARY INFORMATION:** Pursuant to the authority granted in 33 U.S.C. 1605 and Executive Order 11964, the Department of the Navy amends 32 CFR Part 706. This amendment provides notice that the Secretary of the Navy has certified that USS Josephus Daniels (CG 27) and USS Biddle (CG 34) are vessels of the Navy which, due to their special construction and purpose, cannot comply fully with 72 COLREGS, Rule 21(a), pertaining to the arc of visibility of the forward masthead light. Full compliance with the above-mentioned 72 COLREGS rule would interfere with the special functions and purposes of these vessels. The Secretary of the Navy has also certified that the above-mentioned light is located in closest possible compliance with the applicable 72 COLREGS requirements.

Notice is also provided to the effect that USS Josephus Daniels (CG 27) and USS Biddle (CG 34) are members of the CG 16 class of naval vessels for which certain exemptions, pursuant to 72 COLREGS, Rule 38, have been previously authorized by the Secretary of the Navy. The exemptions pertaining to that class, found in the existing tables of section 706.3, are equally applicable to USS Josephus Daniels (CG 27) and USS Biddle (CG 34).

Moreover, it has been determined, in accordance with 32 CFR Parts 296 and 701, that publication of this amendment for public comment prior to adoption is impracticable, unnecessary, and contrary to public interest since it is based on technical findings that the placement of lights on these vessels in a manner differently from that prescribed herein will adversely affect the vessels' ability to perform their military functions.

### List of Subjects in 32 CFR Part 706

Marine safety, Navigation (water), Vessels.

### PART 706—[AMENDED]

Accordingly, 32 CFR Part 706 is amended as follows:

1. The authority citation for 32 CFR Part 706 continues to read:

**Authority:** Executive order 11964; 33 U.S.C. 1605.

2. In § 706.2, Table Four is amended by revising paragraph 22 to add the following naval vessels to the list of vessels therein to indicate certifications issued by the Secretary of the Navy:

**§ 706.2 Certifications of the Secretary of the Navy under Executive Order 11964 and 33 U.S.C. 1605.**

* * * * *

**Table Four**

* * * * *

22. On the following ships, the arc of visibility of the forward masthead light, required by Rule 21(a), may be obstructed through 1.4° at the following angles relative to the ship's heading:

| Vessel | Number | Obscured angles relative to ship's heading |
|---|---|---|
| USS Dahlgrend | DG 43 | 21.8° and 326.7°. |
| USS Daniels | CG 27 | 017° and 343°. |
| USS Biddle | CG 34 | 017° and 343°. |

* * * * *

Dated: September 16, 1985.

**James F. Goodrich,**

*Acting Secretary of the Navy.*

[FR Doc. 85-23708 Filed 10-3-85; 8:45 am]

BILLING CODE 3810-AE-M

## ENVIRONMENTAL PROTECTION AGENCY

### 40 CFR Part 271

[WH-6-FRL-2906-6]

### Texas; Interim Final Decision on Revisions to the State's Hazardous Waste Management Program

**AGENCY:** Environmental Protection Agency.

**ACTION:** Notice of interim final determination on revisions to Texas' final authorization.

**SUMMARY:** Texas has submitted revisions to the State's hazardous waste management program authorized pursuant to the Resource Conservation and Recovery Act (RCRA). These revisions were made necessary by action by the Texas Legislature transferring authority for the municipal hazardous waste program from the Texas Department of Health to the Texas Water Commission. The Environmental Protection Agency (EPA) has reviewed the revisions submitted by the Texas Water Commission and has determined that they comply with the requirements of sections 3006 and 7004 of RCRA.

**ADDRESSES:** Copies of the state's submittal are available for public inspection from 8:30 a.m. to 4:00 p.m., Monday through Friday, excluding holidays at the following locations:

U.S. Environmental Protection Agency, Region VI, Library, 28th Floor, Interfirst Two Building, 1201 Elm Street, Dallas, Texas 75270, Telephone (214) 767-7341

Texas Water Commission, Library, Fifth Floor, Stephen F. Austin State Office Building, 1700 North Congress, Austin, Texas 78711, Telephone (512) 463-7834

U.S. EPA Headquarters, Library (PM211A), 401 M Street SW., Washington, D.C. 20460, Telephone (202) 382-7834.

**EFFECTIVE DATE:** Final Authorization of the revision to the Texas program is effective October 4, 1985. Comments on the revisions will be received until November 18, 1985.

**FOR FURTHER INFORMATION CONTACT:** H.J. Parr, State Programs Section (6AW-HP), Hazardous Materials Branch, U.S. Environmental Protection Agency, Region VI, 1201 Elm Street, Dallas, Texas 75270, (214) 767-2645.

**SUPPLEMENTARY INFORMATION:** On September 4, 1985, EPA published a

notice in the **Federal Register** (50 FR 35798) describing the changes enacted by the Sixty-Ninth Legislature for the State of Texas which impact the State's authorized hazardous waste management program. The notice also described the manner in which EPA and the State would address those changes and provided for public inspection of the State's Legislation and a draft of the State's program revision.

The Texas Legislature enacted legislation (Senate Bill 249) reorganizing the Texas Department of Water Resources (TDWR), responsible for the industrial waste management program, renaming it the Texas Water Commission (TWC) and in addition, transferring to the TWC from the Texas Department of Health (TDH) the administration of the municipal hazardous waste program. This transfer was effective September 1, 1985.

Senate Bill 249 contains a provision (Section 10.004(f)) that the reorganization of the TDWR into the TWC does not affect or impair any act done, bonds authorized or issued, or penalty that has occurred or that exists under the authority of the TDWR as it existed before the effective date of Senate Bill 249, and those bonds, obligations, rights, permits, licenses, standards, rules, and criteria remain in effect until such time as they are paid, recalled, changed, altered, renewed, amended, cancelled, revoked, repealed, or abolished under the water code or other state laws.

There is no provision, however, in Senate Bill 249 continuing in effect the municipal hazardous waste program after September 1, 1985. The statute is quite clear that, after September 1, 1985, authority for the regulation of municipal hazardous waste lies with the TWC and all TDH municipal hazardous waste authority ceases.

The revisions of the industrial waste management program made as a result of the reorganization and remaining of the TDWR do not fall within the ambit of 40 CFR 217.21(c). This section states that whenever there is a transfer of all or part of a program from an approved State agency to another State agency, the new agency is not authorized to administer the program until approved by EPA under 40 CFR 271.21(b). EPA does not view the reorganization of the TDWR into the TWC with the attendant savings clause of section 10.004(f) of Senate Bill 249 as a transfer within the purview of 40 CFR 271.21(c). Thus, the authorized industrial hazardous waste program will continue in the State of Texas without interruption.

EPA does consider the transfer of the municipal hazardous waste program from the TDH to the TWC to fall within the meaning of 40 CFR 271.21(c). Since the TDH authority ceased and the TWC authority for municipal hazardous waste is not authorized until approved by EPA, there has been a lapse in authority to operate a RCRA program for municipal hazardous waste in Texas until the TWC is authorized by EPA for this program. The TWC is not issuing RCRA permits to municipal hazardous waste management facilities during this period. In order to minimize any significant impact this lapse of authority would have on the program, EPA and the State committed to an aggressive plan of action to keep the lapse time as short as possible. This plan included submitting a draft of the program revision to EPA in mid-August, a final program revision in mid September, and a decision as noticed in the September 4 **Federal Register** to publish an immediately effective Interim Final Determination by EPA as close to the end of September as possible if the revisions were approvable.

### Revision and Approval Process

On August 19, 1985, the TDWR, as predecessor agency to the TWC, submitted a draft of proposed changes to the State's program reflecting the revision of the program to include municipal hazardous waste. EPA reviewed the draft revision and was satisfied that, if adopted substantially as submitted, the revision would be approvable.

On August 22, 1985, EPA received a letter from the Governor of Texas affirming the State's intention to move quickly in amending the authorized State program to reflect the transfer of responsibilities.

On September 3, 1985, (the first work day after the transfer went into effect) the TWC adopted, on an emergency basis, municipal hazardous waste regulations.

On September 18, 1985, the TWC submitted an official request for a revision to the State's authorized program which reflects the transfer of authority from the TDH to the TWC. The revision included amendments to the Memorandum of Agreement, the Attorney General's Statment, the Program Description and the municipal hazardous waste management regulations. The official submittal is substantially the same as the draft submittal.

EPA has reviewed the State's submittal and is satisfied that the TWC now has the authority to carry out those aspects of the program previously implemented by the TDH. The substantive requirements, to be implemented by the TWC, remain the same. Thus the State's revision meets the requirements of sections 3006 and 7004 of RCRA and of 40 CFR Part 271 and is approved by EPA.

### Effective Date

EPA is making the approval of the revisions to the Texas authorized program effective immediately upon publication in the **Federal Register**. EPA is making this approval effective immediately upon publication in order to lessen the lapse of authority for the authorized municipal hazardous waste program in Texas.

For this reason, EPA has determined, pursuant to the Administrative Procedure Act, 5 U.S.C. 553(d)(3), that there is good cause to dispense with prior notice and comment and to make the authorization of this revision effective immediately.

### Comments

EPA will receive comments and requests for a hearing on the approval of the revisions of the Texas authorized program reflecting the transfer of authority for the municipal hazardous waste program to the TWC from the TDH for 45 days after publication of this notice. Comments and/or requests for a hearing should be in writing and addressed to: H.J. Parr, State Programs Sections (6AW-HP), Hazardous Materials Branch, U.S. EPA, Region VI, 1201 Elm Street, Dallas, Texas 75270.

If no adverse comments are received, EPA will publish a final determination at the end of the 45 day comment period. If any adverse comments are received, EPA will analyze the comments and determine whether to withdraw the Interim Final Determination and proceed with a proposed determination.

### List of Subjects in 40 CFR Part 271

Administrative Practice and Procedures, Confidential business information, Hazardous Materials Transportation, Hazardous Waste, Indian Lands, Intergovernmental relations, Penalties, Reporting and record keeping requirements, Water pollution control, Water supply.

**Authority:** This notice is issued under the authority of sections 2002(a), 3006, and 7004(b) of the Solid Waste Disposal Act as amended, 42 U.S.C. 2912(a), 6926, 6974(b) and EPA delegations 8-7.

Dated: September 20, 1985.

**Dick Whittington,**

*Regional Administrator.*

[FR Doc. 85-23781 Filed 10-3-85; 8:45 am]

BILLING CODE 6560-50-M

## INTERNATIONAL DEVELOPMENT COOPERATION AGENCY

### Agency for International Development

### 48 CFR Parts 702 and 706

[AIDAR Notice 85-10]

### Acquisition Regulation Concerning Appointment of Competition Advocates

**AGENCY:** Agency for International Development, IDCA.

**ACTION:** Final rule.

**SUMMARY:** The AID Acquisition Regulation is being amended to designate competition advocates as required by FAR 6.501, and to define the terms "contracting activity" and "procurement activity" as being synonymous.

**EFFECTIVE DATE:** October 4, 1985.

**FOR FURTHER INFORMATION CONTACT:** M/SER/CM/SD/POL, Mr. J. M. Kelly, telephone (703) 235-9107.

**SUPPLEMENTARY INFORMATION:** On June 21, 1985, the Administrator of AID delegated to the AID Senior Procurement Executive the authority to designate a competition advocate for AID, and for each contracting/procuring activity within AID. This notice specifies these designations in a new AIDAR Subpart 706.5.

In order to make sure there is no confusion concerning the terms "contracting activity" and "procuring activity", a new AIDAR 706.003 has been added defining these terms as being synonymous.

As a related change, the definition of overseas contracting activity in AIDAR 702.170-3(b) and 702.170-10(b) have been amended to add the term "or principal AID officer at the post" in addition to the term "Mission Director"; such principal officers are heads of contracting activities, as they have been delegated contracting authority.

We have determined that the changes being made by this Notice are not significant or major changes as defined by FAR 1.303(b) or FAR 1.501, or E.O. 12291.

As required by the Regulatory Flexibility Act, it is hereby certified that this Notice will not have a significant economic impact on a substantial number of small entities.

**List of Subjects in 48 CFR 702 and 706**

Government procurement.

1. The authority citations in Parts 702 and 706 are unchanged, and continue to read as follows:

Authority: Sec. 621, Pub. L. 87-195, 75 Stat. 445, (22 U.S.C. 2381) as amended; E.O. 12163, Sept. 29, 1979, 44 FR 56673; 3 CFR Part 1979 Comp., p. 435.

## PART 702—DEFINITIONS OF WORDS AND TERMS

### Subpart 702.170—Definitions

2. Section 702.170-3, *Contracting activities*, is amended by revising paragraph (b) as follows:

**702.170-3 Contracting activities.**

* * * * *

(b) *The overseas field contracting activities.* Each AID Mission or post overseas is a contracting activity, responsible for procurement related to its programs and activities, subject to the limitations in 702.170-10(b), which sets forth the contracting authority for Mission Directors and principal AID officers at posts.

3. Section 702.170-10 *Head of the contracting activity*, is amended by revising paragraph (b) as follows:

**702.170-10 Head of the contracting activity.**

* * * * *

(b) *Overseas.*

| Position | Limitation |
|---|---|
| Each Mission Director, or the principal AID officer at post (e.g., AID Affairs Officer, AID Representative, etc.). | Each Mission Director or principal AID officer at post has the authority to execute contracts and amendments thereto up to $100,000 in the aggregate. For personal services contracts, the limit is $250,000. The Mission Director or principal AID officer at post may issue a warrant for small purchase authority ($25,000) directly to individuals on his/her staff. |

## PART 706—COMPETITION REQUIREMENTS

4. Add a new 706.003 as follows:

**706.003 Definitions.**

"Procuring activity" means "contracting activity", as defined in 702.170-3.

5. Add a new Subpart 706.5 as follows:

### Subpart 706.5—Competition Advocates

**706.501 Requirement.**

The AID Administrator delegated the authority to designate the agency competition advocate and a competition advocate for each agency procuring activity (see 706.003 of this part) to the AID senior procurement executive. The AID senior procurement executive, under the Administrator's delegation, has designated the Executive Assistant to the AID Senior Procurement Executive, M/AAA/SER(CA), as the Agency's competition advocate and the deputy head (or equivalent) of each contracting activity as the competition advocate for that activity. If there is no deputy or equivalent, the head of the contracting activity is designated the competition advocate for that activity. The competition advocate's duties may not be redelegated, but can be exercised by persons serving as acting deputy (or acting head) of the contracting activity. For definitions of contracting activity and head of contracting activity, see 702.170-3 and 702-170-10, respectively.

Dated: September 26, 1985.

**John F. Owens,**

*AID Senior Procurement Executive.*

[FR Doc. 85-23707 Filed 10-3-85; 8:45 am]

BILLING CODE 6116-01-M

## DEPARTMENT OF TRANSPORTATION

### National Highway Traffic Safety Administration

### 49 CFR Part 531

[Docket No. FE-85-01; Notice 3]

### Passenger Automobile Average Fuel Economy Standards Model Year 1986

**AGENCY:** National Highway Traffic Safety Administration (NHTSA), Department of Transportation.

**ACTION:** Final rule.

**SUMMARY:** This notice amends the average fuel economy standard applicable to passenger automobiles manufactured in model year (MY) 1986 by reducing it from 27.5 mpg to 26.0 mpg. This rulemaking was initiated in response to petitions for rulemaking submitted by General Motors (GM) and Ford. The agency's analysis indicates that GM and Ford, constituting a substantial part of the industry, had sufficient plans to meet the 27.5 mpg standard in MY 1986 and made significant progress toward doing so, but were prevented from fully implementing those plans by unforeseen events. Among other things, there has been a substantial shift in consumer demand toward larger cars and larger engines, away from the sales mixes recently anticipated for MY 1986 by GM and Ford. This shift is largely attributable to a continuing decline in gasoline prices. The agency's analysis further indicates that the only actions now available to those manufacturers to improve their fuel economy levels for MY 1986 would involve product restrictions likely resulting in significant adverse

economic impacts, including sales losses well into the hundreds of thousands and job losses well into the tens of thousands, and unreasonable restrictions on consumer choice. Based on its consideration of the relevant statutory criteria, NHTSA has determined that the maximum feasible average fuel economy level for MY 1986 is 26.0 mpg.

**DATES:** The amendment made by this rule to the Code of Federal Regulations is effective November 4, 1985. The standard is applicable to the 1986 model year. Petitions for reconsideration must be submitted within 30 days of publication.

**ADDRESS:** Petitions for reconsideration should be submitted to: Administrator, National Highway Traffic Safety Administration, 400 Seventh Street, SW., Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Mr. Barry Felrice, Associate Administrator for Rulemaking, National Highway Traffic Safety Administration, 400 Seventh Street, SW., Washington, DC 20590 (202–426–1810).

**SUPPLEMENTARY INFORMATION:**

## Background

### *A. The Energy Policy and Conservation Act*

In December 1975, during the aftermath of the energy crisis created by the oil embargo of 1973–74, the Congress enacted the Energy Policy and Conservation Act. Based on the relatively low average fuel economy of cars at that time (14 mpg for model year 1974 cars) and on a report by the Department of Transportation on the potential for improving that average, Congress included a provision in that Act establishing the automotive fuel economy regulatory program. That provision added a new title, Title V, "Improving Automotive Efficiency," to the Motor Vehicle Information and Cost Savings Act.

Title V specified corporate average fuel economy (CAFE) standards for cars of 18, 19 and 20 mpg for model years 1978, 1979, and 1980, respectively, and 27.5 mpg for 1985 and thereafter. The Secretary of Transportation was required to establish standards for model years 1981–84. Section 502(a)(3) required that the standards for each of those model years be set at a level which (1) was the maximum feasible average fuel economy level and (2) would result in steady progress toward meeting the 27.5 mpg standard for model year 1985.

Although Congress clearly established the 27.5 mpg value as a goal to strive for (27.5 mpg is roughly twice the MY 1974 estimated CAFE), it recognized that such long-term goals are subject to considerable uncertainty. The Act permits the standard to be reconsidered by the Department based on up-to-date information and changing trends and assumptions. Section 502(a)(4) provides that the Secretary of Transportation can raise or lower the 27.5 mpg standard for model year 1985 or for any subsequent model year if he or she determines that some other standard represents the maximum feasible average fuel economy level. In determining maximum feasible average fuel economy, the Secretary is required under section 502(e) of the Act to consider four factors: Technological feasibility, economic practicability, the effect of other Federal motor vehicle standards on fuel economy, and the need of the nation to conserve energy.[1]

Congress' recognition of the need for flexibility is clearly indicated by the Energy Policy and Conservation Act's legislative history. The report accompanying H.R. 7014, the bill containing the House version of the fuel economy provisions (which would have specified a 28.0 mpg standard for 1985 and thereafter), stated that "the automobile industry has a central role in our national economy and that any regulatory program must be carefully drafted so as to require of the industry what is attainable without either imposing impossible burdens on it or unduly limiting consumer choice as to capacity and performance of motor vehicles." H.R. Rep. No. 94–340, 94th Cong., 1st Sess. 87 (1975). The report recognized the difficulty in establishing goals ten years in the future by stating that "(t)he 1985 average fuel economy standard presented a different problem [than establishing standards for MY's 1978–80] because of the high level of uncertainty which attends any attempt to predict technological feasibility a decade into the future." Id. at 88. The Committee also stated that although the 1985 standard was a "clear target," it also provided DOT the ability to amend that target so as to provide the program "with the necessary flexibility." Ibid.

It is noteworthy that the Secretary was given authority to lower the standard for MY 1985 or for any subsequent year to 26.0 mpg without such action being subject to a one-house veto. Conversely, any action to raise the standard above 27.5 mpg or to lower it beyond 26.0 mpg was subject to that form of congressional review and disapproval. While such legislative vetoes have since been declared unconstitutional in the Supreme Court's *Chadha* decision, the different treatment in the original legislation of action to lower the standard to any level between 26.0 mpg and 27.5 mpg appears to reflect Congress' view of the likelihood of such events and its willingness to accept—without formal review—Departmental actions which might make slight changes in the long-term goal established by the Act.[2]

### *B. Setting the 1981–84 Standards*

On June 30, 1977, NHTSA published in the **Federal Register** (42 FR 33534) a final rule establishing the 1981–84 passenger automobile CAFE standards. As part of establishing these standards, the agency developed estimates of the maximum feasible fuel economy for each manufacturer for model years 1981 through 1985. The agency's conclusion at that time was that "levels of average fuel economy in excess of 27.5 mpg are achievable in the 1985 time frame." 42 FR 33552. The agency believed that it was feasible in model year 1985 for General Motors to achieve an average fuel economy level of 28.9 mpg, Ford 27.9 mpg, and Chrysler 28.7 mpg. 1977 Rulemaking Support Paper (RSP), p. 5–38 (Table 5.11). Those levels were based on a number of assumptions, including the ability of manufacturers to maintain a rapid rate of introduction of technology, consumer acceptance of a 10 percent reduction in vehicle acceleration, and significant use of a widespread range of technological options, including weight reduction, improved transmissions and lubricants, reduced aerodynamic drag, reduced accessory losses, and reduced tire rolling resistance.

The agency's estimates did not assume a downward mix shift in automobile sizes or the use of diesel engines. The agency concluded in 1977 that a standard set at a level requiring substantial mix shifts would not be economically practicable due to the risk that a significant number of consumers might defer purchasing new automobiles, resulting in a substantial sales drop. However, these techniques were viewed in the 1977 rule as "constituting a safety margin" for manufacturers in the event that other technological improvements did not

[1] Responsibility for the automotive fuel economy program was delegated by the Secretary of Transportation to the Administrator of NHTSA (41 FR 25015, June 22, 1976).

[2] The Department of Justice has advised that the legislative veto provision in section 502(a)(4) is fully severable from the balance of that section. Thus, the Department of Transportation retains its authority to establish fuel economy standards both within and outside the 26.0 to 27.5 mpg range, so long as the standard is at the "maximum feasible" level for the model year in question.

result in sufficient CAFE improvements. 42 FR 33545, June 30, 1977.

As to foreign manufacturers, the 1977 RSP projected that all but three of them could improve their average fuel economy levels, without expanded use of diesel engines, sufficiently to meet the 27.5 mpg standard. With fleet fuel economy improvements from additional diesels included in the foreign fleet projections, only one manufacturer, Mercedes-Benz, was projected to fall below the 1985 standard.

It should be emphasized that the agency's 1977 estimates were intended to demonstrate the feasibility of achieving the 27.5 mpg standard and not to predict what specific actions the manufacturers would actually take to achieve that standard. The agency's estimates were based on one scenario of what the agency believed manufacturers could do to achieve an average fuel economy level of 27.5 mpg by 1985. Manufacturers were free to pursue other courses of action to achieve the 27.5 mpg fuel economy level.

Subsequent to the issuance of the June 1977 final rule, the domestic manufacturers all indicated they expected to meet the requirements.

*C. Events From 1977 to 1985*

In January 1979, NHTSA presented new feasibility estimates for each manufacturer for model years 1980 through 1985 in its Third Annual Report to the Congress on the Automotive Fuel Economy Program (44 FR 5742, January 29, 1979). The agency concluded that "(o)n balance, the conclusions reached during the 1981–84 rulemaking . . . are similar to those resulting from the most recent assessments. These assessments indicate that all domestic manufacturers can exceed the scheduled standard for each year through 1985." 44 FR 5757.

NHTSA recognized in its Third Annual Report that the changes in vehicle design necessary to meet the fuel economy projections would require tremendous outlays of capital. The agency stated:

> . . . the important impact of the fuel economy program on the industry relates directly to the fact that the industry must have the resources directly to generate an "extra" $11.5 billion in capital. This ability to make increased investments while maintaining financial health is the criterion which was of prime importance in determining whether the standards are "economically practicable." The Department largely views this criterion to mean that the investment requirements are within the industry's capability but not so stringent as to threaten economic hardship for the industry as a whole. 44 FR 5765.

NHTSA also recognized that its feasibility estimates were dependent on the continued financial health of the industry and could be subject to change in the event of a severe economic downturn. The agency stated:

> DOT also analyzed the degree to which potential anti-competitive pressures would be increased if the economy were to suffer a downturn. Certainly in a severe economic downturn, companies with a weaker financial base will find their resources strained more severely. . . . Thus, if a serious decline in auto sales occurs in conjunction with a severe economic downturn, the Department has the authority to revise the standards since regulations that were "economically practicable" in a healthy economy might not be so in a recession. . . . 44 FR 5772.

The Third Annual Report noted that a number of manufacturers did not agree with the agency's conclusion that "(t)he technology is available that will enable manufacturers to achieve an average fuel economy of 27.5 mpg without reducing vehicle interior space or significantly affecting performance and without significantly changing the mix of size classes." The document stated:

> Ford indicated the conclusion is wishful thinking on NHTSA's part. The technology on which Ford's predictions are based are the PROCO and/or diesel engines. They indicated that neither engine is "available" at the present time because of various problems yet to be solved. Ford also said the second round of downsizing will decrease interior volume unless very expensive materials are used and indicated that smaller engines in its vehicles will cause reduced vehicle acceleration.
>
> GM stated that the rise of standards at the rate of two miles-per-gallon per year will cause all manufacturers to introduce unproven technology and that there will be compromises in vehicle acceleration and owner utility. GM stated that much of the available technology is "high risk," and may not be "commercially practicable in production hardware." 44 FR 5775–5776.

Between January and May of 1979, NHTSA received a number of submissions from Ford and General Motors on the 1981–84 fuel economy standards for passenger automobiles asserting that those standards should be reduced. In response to these submissions, the agency published a document entitled "Report on Requests by General Motors and Ford to Reduce Fuel Economy Standards for MY 1981–85 Passenger Automobiles," DOT HS–804 731, June 1979. The report concluded that the standards were technologically feasible and economically practicable and noted that both companies had submitted product plans for meeting the standards. Report, p. 14.

One year later, the nation was in the midst of another energy crisis, brought on by events in Iran. Gasoline prices were rising rapidly, creating significantly increased consumer demand for small cars. The U.S. city average retail price for unleaded gasoline rose from 90 cents per gallon in 1979 to $1.25 in 1980. (In 1984 dollars, this increase was from $1.24 in 1979 to $1.57 in 1980.) In light of these changed conditions, the industry announced plans to significantly exceed the 27.5 mpg standard for 1985. Both Ford and GM, as well as Chrysler and American Motors, indicated that they expected to achieve average fuel economy in excess of 30 mpg for that model year. Product plans submitted to NHTSA by those companies indicated that the projections assumed that consumer demand would produce significant mix shifts toward smaller cars, and rapid introduction of new technology. A letter submitted to the agency by Ford in July 1980, however, cautioned that "it is important to emphasize that the affordability of many of these programs is dependent upon substantial improvement in the market and economic conditions."

On January 26, 1981, NHTSA published an advance notice of proposed rulemaking (ANPRM) in the Federal Register (46 FR 8056) which addressed the issue of passenger automobile fuel economy standards for model year 1985 and beyond. That notice and an accompanying paper entitled "Analysis of Post-1985 Fuel Economy," assumed that manufacturers would achieve their announced average fuel economy goals of over 30 mpg for 1985. The notice also took note, however, of a deepening economic crisis then facing the auto industry and possible adverse effects on financing investments for inproving fuel economy. The notice stated:

> A major issue is the capability of the domestic manufacturers to finance investments for fuel economy improvements after 1985 when they have strained that capability to make the investments needed to meet the fuel economy standards through model year 1985. It is expected that the combined losses of the domestic manufacturers for 1980 will exceed $4.5 billion. The domestic automobile industry's traditionally more profitable mid and large size passenger automobiles are once again selling poorly, while smaller passenger automobiles are selling at very high volumes. Indefinite layoffs of automobile workers now exceed 175,000, and significant operational cash shortfalls are being projected for the domestic manufacturers in the early 1980's. This will involve substantial borrowing by the domestic manufacturers, whereas they have traditionally used internal sources of funds for capital expenditures. Thus, the pace at which the domestic manufacturers can improve their fuel economy must be closely examined. . . . 46 FR 8058–8059.

On April 16, 1981, NHTSA published in the **Federal Register** (46 FR 22243) a notice withdrawing the ANPRM. The notice stated that "(t)his action is being taken in recognition of market pressures which are creating strong consumer demand for fuel-efficient vehicles and sending clear signals to the vehicle manufacturers to produce such vehicles. It is expected that the market will continue to act as a powerful catayist. . . ."

Conditions affecting fuel economy changed dramatically after 1981, however, following decontrol of domestic oil and other external factors increasing available supplies. Gasoline prices did not continue to rise but instead declined over time. This, combined with economic recovery, caused consumer demand to shift back toward larger cars and large engines. Data submitted to the agency by GM and Ford in mid-1983 indicated that instead of achieving fuel economy well in excess of the 27.5 mpg standard for MY 1985, they would be unable to meet the levels prescribed by the standard.

### Petitions and Grant Notice

In March 1985, both GM and Ford submitted petitions for rulemaking requesting that NHTSA reduce the automotive fuel economy standards for passenger cars for the 1986 model year and beyond from 27.5 mpg and 26.0 mpg. The petitioners stated that factors beyond their control, including lower gasoline prices and a resultant shift in consumer demand toward larger cars and larger engines, had reduced their fuel economy capability. NHTSA granted the GM and Ford petitions in a notice published in the **Federal Register** (50 FR 12344) on March 28, 1985, and requested public comments. The agency noted that it was already considering, in connection with a petition for rulemaking submitted by the Center for Auto Safety (CFAS) and the Environmental Policy Institute (EPI), whether the fuel economy standards for passenger cars manufactured in model years 1987 and thereafter should be amended. The CFAS/EPI petition had requested that those standards be increased.

NHTSA stated in the March 1985 notice that as a first step in its consideration of the fuel economy standards for passenger cars, it was focusing its attention on the 1986 model year. The agency explained that it believed this approach was appropriate in view of the possibility of serious economic harm cited by GM and Ford and the limited remaining time for amending the 1986 standard.

While the agency focused its attention first on the 1986 model year, it is in the process of analyzing the data for MY 1987 and subsequent years. The agency currently anticipates issuing shortly a notice proposing a range of alternatives for MY 1987 and subsequent years.

### Notice of Proposed Rulemaking

On July 22, 1985, after considering the comments submitted in response to the March 1985 notice and based on a detailed agency analysis, NHTSA published in the **Federal Register** (50 FR 22912) a notice of proposed rulemaking (NPRM) to amend the model year 1986 passenger automobile average fuel economy standard by reducing it from 27.5 mpg to 26.0 mpg. The agency explained that, based on its analysis and in light of the four factors of section 502(e), it has tentatively concluded that the maximum feasible average fuel economy level for MY 1986 is 26.0 mpg. The agency's analysis indicated that GM and Ford, which together constitute a substantial part of the industry, had made significant efforts to meet the 27.5 mpg standard, and that those efforts had been overtaken by unforeseen events. The agency's analysis further indicated that the only actions now available to GM and Ford to significantly improve their fuel economy levels for MY 1986 would involve product restrictions likely resulting in significant adverse economic impacts, including sales losses well into the hundreds of thousands and job losses well into the tens of thousands, and unreasonable restrictions on consumer choice. The agency invited both written and oral comments on the proposal. A public meeting was held on August 8, 1985, in Washington, DC, to receive oral comments.

### Public Comments

Comments were received both from parties strongly supporting the proposed reduction in the MY 1986 passenger automobile CAFE standard and parties strongly opposing such action. Many of the parties reiterated the positions they had taken in response to the March 1985 notice granting Ford's and GM's petitions for rulemaking.

Supporters of the agency's proposal included GM, Ford, several automotive trade associations, the U.S. Department of Commerce, the U.S. Department of Energy (DOE), the Washington Legal Foundation, more than 40 members of Congress, and about 60 percent of the approximately 3,000 private individuals who submitted comments. The Council of Economic Advisers (CEA) supported the direction of the proposal, but also argued that it did not go far enough.

GM and Ford reemphasized the issues raised by their petitions, focusing particular attention on the efforts they have made to improve their fuel economy and on the serious economic consequences which could occur if the standard were not reduced. Those commenters also emphasized the relatively small effect the proposed amendment would have on energy conservation. Ford estimated that lowering the standard would increase U.S. petroleum consumption by no more than 0.06 percent, while GM stated that the effect would be an increase of less than 0.04 percent. Those manufacturers submitted various additional information in support of their petitions, some of it in response to agency requests for further explanation of their views and arguments. While both manufacturers strongly supported the agency's proposal, they did raise some issues concerning the agency's analysis. Also, GM objected to NHTSA's conclusion in the NPRM that the Cost Savings Act generally requires fuel economy standards to be set without regard to carryforward/carryback credits.

The Automobile Importers of America (AIA) stated that continuation of the 27.5 mpg standard would unduly restrict consumer choice and harm importers, while the proposed reduction in the standard would not unreasonably affect energy conservation. AIA argued that NHTSA has considerable discretion in amending the CAFE standard within the range of 26.0 mpg to 27.5 mpg, that consumer demand is a factor which the agency must consider as part of its standard-setting analysis, and that benefits must outweigh costs for a standard to be technologically feasible and economically practicable. AIA also stated that it does not agree with NHTSA's conclusion that a given model year's standard cannot be reduced after the start of the model year. With respect to whether the agency should consider the need for carryback credits as part of its standard-setting process, that commenter argued that NHTSA should consider previously approved carryback plans.

Professor Robert Leone of Harvard University, commenting on behalf of AIA, argued that a 27.5 mpg standard for model year 1986 is not technically feasible due to inadequate lead time; not economically practicable because of excessive burdens on consumers, producers and workers; not feasible because fuel economy requirements for light trucks encourage diversion of sales from passenger cars to vans and light trucks, and not sound energy policy

because of possible adverse effects on energy consumption. With respect to this last issue, Professor Leone stated that if one consumer in five who was frustrated by the inability to purchase a passenger car of choice chose to buy a light truck, specialty vehicle, or van instead, the net impact of a 27.5 mpg standard over a 26.0 mpg standard would be zero. That commenter also indicated that if one consumer in five who was frustrated by the inability to purchase a passenger car of choice decided to keep an old 18 mpg car on the road instead, gasoline fuel economy for the fleet as a whole would actually fall with the more stringent 27.5 mpg standard.

The National Automobile Dealers Association (NADA) stated that the agency's proposal would directly benefit the automobile buying public and the new car dealer industry that serves it. According to that commenter, a 26.0 mpg standard would ensure that GM and Ford customers would continue to be allowed the choice of purchasing vehicles of greater size, utility, comfort and performance. NADA stated that an overly stringent standard that leaves the manufacturer no choice but to reduce its production of larger vehicles would likely wreak as much, if not more, economic havoc on the dealer whose customers depend on those cars, as on the manufacturer itself.

The Recreational Vehicle Industry Association (RVIA) and several other commenters stated that continuation of the 27.5 mpg standard could create a lack of tow vehicles to safely pull travel trailers and other items of equipment. RVIA stated that larger cars with large engines are required to pull many travel trailers, due to the trailers' size and weight, and noted that there are very few travel trailers that can be towed with a six-cylinder engine.

The European manufacturers generally cited the significant progress they have already made in improving fuel economy, increased market demand for larger cars and larger engines, and the difficulty that limited-line manufacturers have in achieving higher average fuel economy if they do not produce small cars whose fuel economy can be averaged with that of their larger cars.

While the U.S. Department of Commerce did not submit a new comment in response to the July 1985 NPRM, its comment on the March 1985 grant notice expressed support for reducing the standard based upon its view that achievement of the 27.5 mpg standard for MY 1986 no longer appears to be economically practicable or technologically feasible. That Department stated that it believes GM and Ford could achieve that standard only by reducing their U.S. product offerings and adjusting their output mix, with economically damaging consequences, including substantial sales losses and employment decline.

The U.S. Department of Energy stated that it supports NHTSA's proposal and submitted an analysis concluding that GM and Ford would not be able to achieve CAFE of 27.5 mpg for model year 1986 without restricting the availability of larger car and station wagon models and larger optional engines. DOE stated that such actions would result in lost sales of between 630,000 and 770,000 vehicles for GM and between 160,000 and 230,000 for Ford. That commenter also stated that it believes efforts to reduce energy use serve the nation's interest only to the extent that they contribute to the broader goals of increased economic growth and improved economic efficiency. Further, it does not believe that the "need to conserve energy" requires or justifies the imposition of cost-ineffective product changes or product choice restrictions on consumers and manufacturers.

On September 9, 1985, the Department of Energy provided a partial draft analysis prepared by one of its contractors, Energy and Environmental Analysis, Inc. (EEA), which concluded that GM could achieve 26.4 mpg (not including the GM/Toyota joint venture car) for MY 1986 and Ford 26.85 mpg. The Department of Energy noted that the results of that report do not represent either that Department's recommendation on a specific value for the maximum feasible level of fuel economy in 1986 nor necessarily its views on various technical issues.

While the Council of Economic Advisers supported the direction of the agency's proposal, it stated that even a 26.0 mpg standard could increase the relative price of large cars, limit consumer choice, harm U.S. manufacturers in international competition, and cause the loss of jobs in efficient domestic production sectors. CEA urged a reinterpretation of statutory criteria to permit adoption of what it termed "nonbinding" standards, i.e., standards which permit major automobile manufacturers to produce and price automobiles in response to free market forces, without concern that their competitive production and pricing decisions will lower their CAFE and lead to civil penalties. CEA also argued that safety is adversely affected by shifts to smaller, more fuel-efficient cars and that the agency should consider the relationship between possible adverse safety effects and improved fuel economy.

Chrysler, the Energy Conservation Coalition (ECC), Americans for Energy Independence, EPI, CFAS, the attorney general of California, several members of Congress, and various private individuals opposed reducing the MY 1986 fuel economy standard.

Chrysler argued, as it had in its comment on the March 1985 notice, that the issue of this rulemaking is not whether the petitioners are currently capable of meeting the 27.5 mpg standard, but instead whether petitioners did everything possible, within the limits of technological feasibility and economic practicability, to meet the 27.5 mpg standard prescribed by Congress. According to that commenter, the threatened closing of factories and employee layoffs have nothing to do with the rulemaking. That commenter argued that the statute does not require such actions but instead prescribes civil penalties for noncompliance. Chrysler stated that since Congress provided nearly 10 years to meet the standard, the "maximum feasible" average is the highest level the petitioners could have reached if they had done everything reasonably possible over the course of that entire period. According to that commenter, if GM and Ford could have met the 27.5 mpg standard with due diligence, the agency has no legal authority to reduce it.

Chrysler alleged that even though GM and Ford have known since at least 1983 that their CAFE performance would come up short in 1985 and 1986, those companies took no adequate corrective action to raise their CAFE averages and, to the contrary, took a number of actions which have further reduced their CAFE averages.

Chrysler also reemphasized its position that reducing the standard would cause substantial harm to those manufacturers that, in its words, "chose to comply." That commenter argued that the proposed amendment would give a competitive advantage to GM and Ford, since they can most quickly adapt to the new standard. Chrysler argued that the competitive injury would fall on the firms that least deserve it, since they have, in that company's words, "already absorbed the substantial costs of CAFE compliance."

ECC objected to several aspects of the agency's analysis. That commenter argued that NHTSA's analysis erred by assuming that Ford and GM had to suddenly increase their CAFE's to 27.5 mpg by MY 1986. That commenter argued that if manufacturers petitioned

NHTSA just before the start of each model year for a reduction in the standard, after having made no effort to improve fuel economy, the agency would always find that the previously established standard could not be met if it considered only what petitioners could do in the remaining time. ECC also argued, like Chrysler, that Congress did not intend to bar manufacturers from selling vehicles that would place them in noncompliance with fuel economy standards.

ECC also argued that the agency erred in analyzing technological feasibility by relying primarily on the level of consumer demand for fuel efficient vehicles to define the maximum technologically feasible standard, erred in analyzing the need of the nation to conserve energy by failing to adequately consider future energy needs, and reviewed the energy consumption effects of the proposed 26.0 mpg standard in an unreasonably narrow framework by not recognizing that small, steady improvements in fuel economy result in significant long-term energy savings. ECC also argued that comparing GM and Ford fleets to Chrysler's fleet indicates that Chrysler has more fuel-efficient technology in its fleet.

EPI argued that a reduction in the MY 1986 CAFE standard would sanction the failure of certain automobile companies to comply with the Energy Policy and Conservation Act; exacerbate what it contends is a currently diminished focus on energy conservation in the transportation sector; increase automobile fuel consumption, thereby promoting U.S. dependence on oil imports; and greatly diminish or eliminate chances for enactment of future Federal policies to encourage progress in the production of fuel-efficient vehicles by the domestic manufacturers. Like Chrysler, that commenter argued that GM and Ford should have done more during recent years to improve their fuel economy. EPI also stated that carryback plans submitted by GM and Ford are inconsistent with their petitions to reduce the 27.5 mpg standard, since the carryback plans constitute a conclusion by those companies that they have the ability to exceed that standard.

CFAS stated that NHTSA improperly relied on market demand as a basis for proposing to reduce the standards, arguing that the Cost Savings Act intended that fuel economy standards lead the market rather than that the market lead fuel economy standards. CFAS also argued that the proposal cannot be sustained on grounds of economic practicability, since a difference of 1.5 mpg for a manufacturer which fails to meet a standard is simply a penalty of $75 per car. That commenter also argued that GM and Ford are below the 27.5 mpg standard because of their own marketing decisions, including retention of old models and old technology, that GM and Ford used various "accounting tricks" to project lower fuel economy for model year 1986 than they are capable of achieving, and that the agency should consider the ability of GM and Ford to obtain carryback credits as a basis for not reducing the model year 1986 standard.

### Agency's Analytical Approach

As discussed above, section 502(a)(4) provides that if NHTSA determines that a level other than 27.5 mpg is the maximum feasible average fuel economy for 1985 or any subsequent model year, the agency may change the standard for that year to that level. If NHTSA were writing on a blank slate and establishing the MY 1986 standard for the first time, it would simply evaluate the current average fuel economy levels of the manufacturers and determine what improvements could be made in those levels between now and the end of MY 1986. This would involve taking into account the capabilities of each manufacturer and considering the four factors listed in section 502(e), i.e., technological feasibility, economic practicability, the effect of other Federal motor vehicle standards on fuel economy, and the need of the nation to conserve energy.

The agency agrees with Chrysler and other commenters, however, that the issue is not solely whether manufacturers are now capable of meeting the 27.5 mpg standard. Since the Cost Savings Act imposed a long-term obligation on manufacturers to achieve a 27.5 mpg fuel economy level, it would be inappropriate to reduce the standard if a current inability to meet the standard simply resulted from manufacturers previously declining to take appropriate steps to improve their average fuel economy as required by the Act. Therefore, the agency must evaluate the manufacturers' past efforts to achieve higher levels of fuel economy as well as their current capabilities.

On the other hand, the agency does not consider it appropriate to judge each and every manufacturer product action by 20–20 hindsight. In assessing the sufficiency of manufacturers' fuel economy efforts, it is necessary to take account of the information available to manufacturers at the time product decisions were being made. Manufacturers had an obligation to take whatever steps were necessary, consistent with the factors of section 502(e), to meet the 27.5 mpg standard. To the extent that manufacturers had plans to meet the standard which subsequently became infeasible due to unforeseen events, NHTSA does not believe the manufacturers should be charged with a failure to make a sufficient effort.

The agency's analytical approach thus consists of first evaluating the maximum feasible average fuel economy level that manufacturers are now capable of achieving in MY 1986, taking into account the four factors of section 502(e) and second, to the extent that level is determined to be below 27.5 mpg, assessing the sufficiency of manufacturers' efforts to meet the 27.5 mpg standard, in light of the information available to manufacturers at the time fuel economy product decisions were being made and the four factors of section 502(e).

NHTSA has followed this same approach throughout this rulemaking. Therefore, ECC is incorrect in alleging that the agency simply assumed that Ford and GM would have to suddenly increase their CAFE's to 27.5 mpg by MY 1986.

### Summary of Agency Decision and Analysis

After carefully considering all of the comments and other available information and making a detailed analysis, NHTSA has determined that the maximum feasible average fuel economy level for MY 1986 is 26.0 mpg. The agency's analysis, which is similar to that presented in the NPRM, indicates that GM and Ford, constituting a substantial part of the industry, had sufficient plans to meet the 27.5 mpg standard, made significant progress toward doing so, and were prevented from fully implementing those plans by unforeseen events. The agency's analysis further indicates that the only actions now available to GM and Ford to improve their fuel economy levels for MY 1986 would involve product restrictions likely resulting in significant adverse economic impacts, including sales losses well into the hundreds of thousands and job losses well into the tens of thousands, and unreasonable restrictions on consumer choice. Accordingly, NHTSA is amending the MY 1986 standard from 27.5 mpg to 26.0 mpg.

### Manufacturer Capabilities for MY 1986

In evaluating manufacturers' fuel economy capabilities for MY 1986, the

agency analyzed the manufacturers' current projections and underlying product plans and then considered what, if any, additional actions the manufacturers could take to improve their fuel economy.

*A. Manufacturer Projections*

While manufacturers have greatly improved their CAFE during the past decade, current projections indicate that the CAFE levels for a number of manufacturers remain below 27.5 mpg.

The NPRM indicated that, not including EPA test adjustment credits,[3] GM projected its MY 1986 CAFE at 25.7 mpg, 0.6 mpg higher than the company's projection of 25.1 mpg for MY 1985. This improvement was projected to result primarily from a reduction in the average weight of the GM fleet. The weight reduction is due mainly to the introduction of a new front-wheel drive large car (the GM70—replacing the rear-drive Buick LeSabre and Oldsmobile 88 models), the introduction of a lighter mid-size luxury car (the GM30—replacing the E- and K-body models: The Oldsmobile Toronado, Buick Riviera, the Cadillac Eldorado, and the Cadillac Seville) and the introduction of a 4-door version of the GM20 compact. There is an additional fuel economy gain due to the expanded use of 4-speed automatic transmissions. There is also an increase in CAFE because of a slight mix shift toward smaller models. (As discussed elsewhere in this preamble, however, mixes have generally shifted toward larger cars and larger engines over the past several years.) Much of this mix shift is due to an increase in compact sales as a result of the introduction of the 4-door GM20 model, as well as a reduction in the share of GM's mix taken by large car sales.

Several other changes in the characteristics of the GM car fleet have minor, and generally offsetting, effects on the company's projected MY 1986 CAFE. The new models have improved aerodynamics, increasing the company's fuel economy level. However, this effect is essentially offset by the elimination of diesel engines from all models except the Chevette/1000.

GM submitted a letter on June 18, 1985, indicating that its MY 1986 fuel economy projection was likely to change to 26.3 mpg. In its August 2, 1985 mid-model year report, GM confirmed that its MY 1986 CAFE may be as high as 26.3 mpg, including a 0.2 mpg EPA test adjustment credit. This represents a 0.4 mpg increase in GM's projection (since GM's 25.7 mpg projection did not include the EPA test adjustment credit). The increase relates to the length of the model year for certain models and to the type of engines to be placed in certain models. The specific details are subject to a claim of confidentiality.

CFAS argued that GM's MY 1986 projections incorporated a number of "accounting tricks" to lower the MY 1986 CAFE level while inflating the MY 1987 CAFE level. That commenter alleged that GM's projection artificially extends the 1986 model year for fuel-inefficient B and G bodies; decreases the projected fuel economies and mixes for fuel-efficient compact J-bodies, GM-20's, and A-wagons, the latter of which are carryovers from the 1985 model year; eliminates the GM/Toyota joint venture car from inclusion in CAFE calculations; and projects higher sales for the G/G-SP cars than are being achieved in 1985.

NHTSA has analyzed each of CFAS's allegations with respect to GM's product plans and concluded that CFAS's arguments do not provide a basis for determining that GM's projected MY 1986 CAFE is unreasonable.

While an earlier GM product plan did include an extended 1986 model year for B and G models, that company's latest plan, submitted on August 2, 1985, does not. It is therefore unnecessary to discuss how an extended model year for a less fuel-efficient vehicle should be considered in determining maximum feasible average fuel economy level.

With respect to CFAS's argument about reduced fuel economies for J-bodies, GM-20's, and A-wagons, in GM's latest projections the only model of this group which has overall lower fuel economy in MY 1986 than MY 1985 is the J-body. According to GM, its projection for the J-body is based on incomplete test data. That company estimates that with additional test data the cars will be within 0.1 mpg of the 1985 model. Since GM's product plan projects a somewhat larger difference (the magnitude of which is subject to a claim of confidentiality), the agency considered whether GM's projected CAFE should be adjusted to reflect that estimate. The agency concluded, however, that the effect of such an adjustment on GM's overall MY 1986 CAFE would be negligible. The GM-20's and A-wagons have certain models on which the fuel economy drops from MY 1985 to MY 1986 because of using different vehicles, test variability, test mileage, and/or calibration. However, these declines in fuel economy are more than offset by increases in other configurations of the same model.

The projection of higher sales for the G/G-SP was related to the extended model year for B and G models, discussed above. GM's current product plan does not project higher sales for these cars in MY 1986 than in MY 1985.

With respect to the issue raised by CFAS concerning the GM/Toyota joint venture car, the agency notes that the Cost Savings Act requires manufacturers to meet average fuel economy standards separately for their domestically manufactured and imported fleets. (The purpose of this provision was to attempt to prevent the fuel economy program from inducing domestic manufacturers to increase their importation of foreign produced cars.) The GM/Toyota joint venture car is not included in GM's MY 1986 projection since it has less than 75 percent domestic content and therefore is considered to be nondomestically manufactured under section 503(b)(2)(E) of the Act.

There is an issue, however, whether GM could count the joint venture car in its domestic CAFE by virtue of an exemption under section 503(b)(3) of the Act. This would assume that the manufacturer of the cars, New United Motor Manufacturing, Inc. (NUMMI), could obtain such an exemption and then transfer it to GM. In fact, NUMMI has not applied for an exemption. The agency notes that the decision whether to apply for an exemption is discretionary. The agency also notes that, even if NUMMI applied for and met the statutory criteria for an exemption and could transfer that exemption to GM, a further issue exists regarding whether GM could then earn or use carryforward/carryback credits in a year in which an exemption exists, because the statutory provision authorizing such exemptions also

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[3] A factor which somewhat complicates analyzing the manufacturer's projections is Environmental Protection Agency (EPA) test adjustment credits. Since 1983, EPA has been engaged in rulemaking to provide CAFE adjustments to compensate for the effects of past test procedure changes. As discussed in the section of this preamble entitled "Other Federal Standards," EPA published its final rule on July 1, 1985. The final rule adopted a formula approach for calculating CAFE adjustments and generally provided higher CAFE adjustments for model year 1985 than for model year 1986.

While manufacturers closely followed the EPA rulemaking and were generally aware, based on the proposal, of what that agency was likely to do, they did not know what EPA's specific decision would be. Therefore, CAFE projections submitted by the manufacturers to this agency before EPA's decision could not fully reflect the EPA test adjustment credits. It should be noted, however, that some but not all manufacturers did include CAFE adjustments in their projections, based on EPA's proposal.

While NHTSA has fully taken account of EPA test adjustment credits throughout this rulemaking, it has, in its analysis, found it necessary to sometimes use manufacturer projections not reflecting the EPA test adjustment credits. The discussion in this preamble indicates which projections include EPA test adjustment credits and which do not.

appears to preclude the use of carryforward/carryback credits by a recipient of such an exemption. Given all these factors, the agency believes it would be too speculative for the agency to count this vehicle in GM's domestic CAFE for MY 1986.

With respect to EEA's conclusion that GM could achieve 26.4 mpg (without the GM/Toyota joint venture car) in MY 1986, the agency notes that EEA used an incorrect baseline for its analysis. EEA states that in November 1984 GM submitted a MY 1986 CAFE projection of 26.9 mpg. It appears that EEA derived this estimate from Attachment 3 of a GM submission dated May 30, 1985 (docket item FE-85-01-N01-067). This GM submission made available to the public information that had been previously categorized as confidential. However, the May 30 submission contained significant errors. These were corrected in a GM submission dated July 16, 1985 (docket item FE-85-01-N01-106). The July 16, 1985 submission correctly identified GM's November 1984 projection as 26.2 mpg for MY 1986 (without EPA test adjustment credits). This estimate is essentially the same as GM's current estimate of 26.1 mpg (without EPA test adjustment credits) or 26.3 mpg (with EPA test adjustment credits). Due to the use of a much higher, incorrect baseline, EEA's analysis for GM is both overstated and invalid.

The NPRM indicated that, not including EPA test adjustment credits, Ford projected its MY 1986 domestic CAFE to be 26.2 mpg, 0.9 mpg higher than the company's projection of 25.3 mpg for MY 1985. The most visible change in Ford's fleet for MY 1986 is the introduction of the Taurus/Sable mid-size model. This new front-wheel drive car is designed to eventually replace the rear-wheel drive LTD/Marquis models. The new model includes new 2.5 liter 4-cylinder and 3.0 liter V-6 engines, as well as a new 4-speed automatic transmission, and is thus more fuel-efficient than the LTD/Marquis.

Between MY 1985 and MY 1986, Ford projected an increase in mid-size car sales as a percentage of its fleet and a decline in the large car and compact car share of its sales. Some of this effect is caused by the timing of the introduction of new models. This effect results in a slight lowering of Ford's CAFE.

Ford expected a slight increase in its average test weight for MY 1986. Reasons for this increase include the replacement of the 1.6 liter engine in the Escort/Lynx compacts with a 1.9 liter engine, increased sales of an optional larger engine in the Mustang/Capri, and the introduction of a new version of an existing vehicle. This impact on Ford's CAFE is a 0.4 mpg decline, which is completely offset by a reduction in average engine size with the introduction of the Taurus/Sable.

Ford intends to introduce a number of technological improvements for MY 1986. These improvements include engine efficiency improvements, reduced aerodynamic drag (primarily due to the introduction of the Taurus/Sable), lower rolling resistance tires on several models, improved calibrations on two engines, and a number of other, relatively minor, changes.

After the NPRM was issued, Ford estimated in its 1985 mid-model year report that its CAFE for that model year would be higher than previously expected. Ford now projects that its MY 1985 CAFE will be 26.3 mpg, including a 0.5 mpg test adjustment credit. Thus, without the credit, Ford's MY 1985 CAFE is 0.5 mpg higher than projected earlier, 25.8 mpg rather than 25.3 mpg. Since Ford has not changed its MY 1986 projection, this means it now expects a 0.4 mpg improvement in fuel economy between MY 1985 and MY 1986 rather than a 0.9 mpg improvement (when examining CAFE estimates without EPA test adjustment factors).

An analysis of Ford's projections indicates that there are two major reasons for the increase in that company's MY 1985 projection without accompanying increases in its previous MY 1986 projection: (1) A shift in model mix and (2) selection of additional voluntary test vehicles for certain models so that their assigned fuel economy value reflects configurations which have fuel economy values that are higher than those already tested for the purpose of certifying and labeling those models. The use of these additional test vehicles added 0.23 mpg to Ford's MY 1985 CAFE. The volume shift, which consists primarily of increased Tempo/Topaz and Escort/Lynx sales, is due to major marketing programs to increase Ford small car sales. This shift also added 0.23 mpg to Ford's MY 1985 CAFE. Ford argued that this gain cannot continue for MY 1986 because the sales represent pull-ahead of later planned purchases and because the impact of the elimination of import restrictions and the effect of competitive responses to its marketing programs are now well defined. The selection of additional voluntary test vehicles was already included in Ford's MY 1986 projection, but it was not anticipated by the agency that Ford would be able to achieve any MY 1985 CAFE improvements through this means.

CFAS argued that Ford's MY 1986 projections incorporated a number of "accounting tricks" to lower the MY 1986 CAFE level. That commenter alleged that Ford's projection includes artifically low sales of the Escort/Lynx/EXP, a lowered fuel economy rating for Taurus/Sable which is down 10 percent from its initial 1983 projection, an unexplained fuel economy drop for the Mustang and Capri, which are carryover models from 1985, an extended 1986 model year production for large cars, and a lower fuel economy rating for large cars than is consistent with a statement by that company that it does not anticipate paying a gas guzzler tax on any 1986 models.

NHTSA has reviewed each of CFAS's allegations and determined that they have no basis in fact. With respect to Ford's projection of Escort/Lynx/EXP sales, the agency notes that a recent surge in sales of those models appears to be related to the 1985½ facelift on the Escort and Lynx (the EXP was not changed). Car sales of "new" models are highest when they are first introduced and then gradually decline over time. Sales of the Escort/Lynx jumped during the month of May this year from 23 percent of Ford sales in 1984 to 34.3 percent in 1985. However, sales returned closer to 1984 levels in June and July. A 6.0 percent sales increase in July cited by CFAS is based on an overall 2.5 percent improvement in Ford sales for the month, so the share of these models rose only to 22.4 percent from the July 1984 share of 21.7 percent. Looking at January to July sales in 1985 without including the May sales, the Escort/Lynx/EXP market share of Ford sales dropped from 22.3 percent to 21.6 percent as compared to the previous year. Thus, there may be an overall trend toward a reduction in Escort/Lynx/EXP sales as a proportion of Ford's total sales. Indeed, the calendar year 1984 Escort/Lynx/EXP share is 22.9 percent of Ford sales, down from 27.3 percent in 1983. Other factors relevant to this issue include the fact that Ford engaged in major marketing efforts to increase its MY 1985 car sales which, as discussed below, is a trend that the agency does not believe can be assumed to continue for MY 1986. In addition, the ending of the Voluntary Restraint Agreement with Japan and the introduction of new, inexpensive small cars from Korea, Yugoslavia, and possibly Greece, in MY 1986 will make it more difficult for the domestic manufacturers to sell small cars. Based on all of these factors, the agency believes that Ford's projection of a slight decrease in the share of Escort/Lynx/EXP sales for MY 1986 is reasonable.

The lowered fuel economy rating for the Taurus/Sable since 1983 reflects a

decline from expectations concerning technology as the model was refined from conception to production. Recent EPA test data have led Ford to lower its previous fuel economy projections for these vehicles as the actual test data indicate the original fuel efficiency targets are not being met. Ford is not arbitrarily lowering these values as one might infer from the CFAS comment. Such decreases from projections are fairly typical of experience in introducing any new technology on cars and trucks. In addition, a larger portion of this fleet is now, based on recent trends in the market, expected to be the larger 3.0 liter engine models of the sedan and wagon. While CFAS indicates that there have been no changes in the Mustang/Capri between MY 1985 and MY 1986, the fuel economies of three Mustang/Capri models have increased 0.3 to 1.0 mpg, two have declined 0.3 to 0.5 mpg, and one is unchanged. The principal reason for the fuel economy decline for the series is a mix shift within the series from 2.3 liter models to 3.8 liter and 2.3 liter turbocharged models. This reflects a shift in consumer demand toward higher performance, particularly in sporty cars.

Contrary to CFAS's allegation about extended model years for large cars, Ford has indicated that it has no plans for unusual production schedules for the 1986 model year. All models will be produced on the normal 12-month cycle, except for the large Crown Victoria/Grand Marquis models and the Tempo/Topaz, both of which will have a later start by one or two months (thus resulting in a 10–to–11 month model year) and the LTD/Marquis which will end production after about six months. These minor production reductions should have a negligible effect on Ford's MY 1986 CAFE and are in the direction, in most cases, of increasing its CAFE.

The agency has also concluded that Ford's statement that it anticipates paying no gas guzzler tax for model year 1986 is not inconsistent with its fuel economy projections, as is alleged. Gas guzzler tax liability is based on the model type fuel economy generated for purposes of labeling. The volume of data used for these purposes is much more limited than for calculating CAFE. While some V–8 configurations will have fuel economy levels less than 22.5 mpg, the level where the gas guzzler tax is assessed for MY 1986, Ford expects that its highest selling sub-configuration of the highest selling configuration will exceed 22.5 mpg with the EPA test adjustment credit included. This test will establish the model type fuel economy for labeling and for gas guzzler tax purposes, and none of Ford's cars (or GM's) would qualify for the tax.

EEA concluded that Ford could achieve 26.85 mpg in MY 1986 based on several factors, all of which represented adjustments by that company to Ford's April 19, 1985, CAFE projection.

First, EEA added 0.07 mpg to Ford's projected CAFE of 26.4 mpg by adjusting the MY 1986 Mustang/Capri engine mix to match the MY 1985 mix, on the grounds that fuel prices are expected to be stable. As discussed elsewhere in this preamble, the Energy Information Administration projects declining gasoline prices during the next year (particularly when measured in real prices) rather than stable prices. In addition, shifts in consumer demand toward larger engines are possible even with stable fuel prices. Consumer demand for larger cars and larger optional engines may increase as consumers gain confidence from continued economic growth. Accordingly, NHTSA believes Ford's projections in this area are reasonable and sees no basis to accept the EEA figure.

Second, EEA added 0.16 mpg to Ford's projected CAFE by restoring half of the combined total of "high probability/historic risks" and a reduction in Taurus/Sable fuel economy. NHTSA has evaluated these technical risks, the details of which are subject to a claim of confidentiality, and believes they are reasonable. These risks encompass such diverse areas as the gains in fuel economy anticipated through new items of technology to the production start-up dates of such items. The agency does not believe there is any reason, without supporting analysis, to arbitrarily reduce them by half. With regard to the Taurus/Sable fuel economy estimates, as discussed above, the decline reflects Ford's inability to achieve certain technological goals. The agency does not believe Ford will be able to achieve this gain in MY 1986.

Third, EEA added 0.20 mpg to Ford's projected CAFE by raising the level of anticipated MY 1986 sales of Escort/Lynx and Tempo/Topaz models to MY 1985 levels. The reasons why Escort/Lynx sales may decline from MY 1985 to MY 1986 are discussed above with respect to CFAS's comment. The Tempo/Topaz is a carryover model in its third year of production, and will be competing against a new GM four-door model and the new, larger Taurus/Sable, as well as more smaller cars. The agency thus believes it is reasonable to project a decline of sales for this model.

Fourth, EEA used a preliminary estimate of 0.2 mph from Ford as to the level of the EPA test adjustment credit it would receive in MY 1986. Ford has since lowered this estimate by 0.1 mpg, based on EPA's final rule. Thus, its upper range estimate for MY 1986 is not 26.4 mpg but 26.3 mpg.

Fifth, EEA did not take account of the additional risks identified by Ford in its April 19, 1985, submission, including market and technical risks, which might lower its projected CAFE by 0.5 mpg.

For the reasons discussed above, the agency determines that EEA's analysis does not provide any basis to conclude that Ford's projected MY 1986 CAFE is unreasonable.

The NPRM indicated that, not including EPA test adjustment credits, Chrysler had projected that its MY 1985 CAFE would be 27.5 mpg and that its 1986 CAFE would be 28.1 mpg.

Chrysler now projects that, not including EPA test adjustment credits, its MY 1985 CAFE will be 27.3 mpg and its MY 1986 CAFE will be 27.7 mpg. The declines in the projections appear to reflect actual Chrysler test data instead of the use of projected vehicle fuel economy values, rather than significant changes in product plans.

Chrysler plans a number of technological improvements for MY 1986 that should lead to improvements in its CAFE compared to that of the previous model year. The technological improvements relate to changes in engines, carburetors, tires and oil. However, with the phase-out of the L-body (Omni/Horizon) carline (to be replaced by the new P-body compact model, introduced in mid-1986 as a 1987 model), the proportion of compacts and subcompacts in the Chrysler fleet should decline from MY 1985 to MY 1986. This shift between size classes is expected to result in a 0.1 mpg decline in Chrysler's average fuel economy, thereby offsetting some of the improvement in CAFE relating to technological changes.

American Motors, Volkswagen and the major Japanese manufacturers are expected to easily exceed the current 27.5 mpg standard for MY 1986. The fuel economy trend of the Japanese manufacturers has been mixed, however. Several of the Japanese manufacturers have actually declined in fuel economy during recent years due to a mix shift toward larger, more performance-oriented vehicles, and that decline may continue in MY 1986.

Most of the European manufacturers are expected to be below the 27.5 mpg level for MY 1986. These include BMW, Mercedes-Benz, Peugeot, Saab, Volvo, and Jaguar. Many of these

manufacturers' CAFE's have also declined in recent years. In the discussion which follows, the European manufacturers' projections do not include an EPA test adjustment credit.

BMW projects a MY 1986 CAFE of 26.1 mpg. While that is above its projected MY 1985 CAFE of 25.6 mpg, it is well below its MY 1984 CAFE of 27.4 mpg. BMW's drop in CAFE has resulted from a mix shift in sales to vehicles with larger engines and greater performance. While BMW has a selection of vehicle models which exceed the standard of 27.5 mpg, sales have shifted toward higher performance vehicles with lower fuel economy.

While the agency does not have a MY 1986 CAFE projection from Mercedes-Benz, that company's fuel economy has dropped approximately 3 mpg over the last three years. Its 1983, 1984 and projected 1985 CAFE levels have been 26.5 mpg, 25.5 mpg and 23.4 mpg, respectively. The reason for the drop is that consumer demand has shifted sales toward the higher performance end of that company's model line and away from vehicles with diesel engines. The fraction of Mercedes-Benz cars equipped with diesels has fallen from 78 percent in 1983 to an estimated 44 percent in 1985. While Mercedes introduced a smaller model (the 190) with fuel ecomomy of up to 40 mpg in some diesel versions, the sales volumes have not been enough to offset the sales of its larger vehicles. That company noted in its comment that the pump price of regular unleaded gasoline is currently approximately $1.15 per gallon versus $1.29 for diesel fuel, the opposite of the relative prices in effect when the CAFE legislation was passed and when that company developed its plans to improve its fuel economy.

Volvo projects a MY 1986 CAFE of 26.5 mpg, approximately the same as its projected CAFE for MY 1985. Peugeot projects that its MY 1986 CAFE will be 25.6 mpg, 0.8 mpg higher than its MY 1985 projection of 24.8 mpg. Saab projects that its MY 1986 CAFE will be 25.4 mpg, 0.4 mpg lower than its MY 1985 projection of 25.8 mpg. Jaguar, which produces only large, heavy, luxury class vehicles, projects a MY 1986 CAFE of 19.2 mpg.

The agency has evaluated the domestic and foreign manufacturer's MY 1986 CAFE projections and considers them to be reasonable projections based on the vehicles the manufacturers plan to offer for sale and expected market condition. As with any sales projections, there are a number of uncertainties associated with them. Both GM and Ford indicated a number of marketing risks, including the possibility that Japanese car sales may rise substantially during the 1986 model year and result in a corresponding loss in sales of their most fuel-efficient cars and a concomitant reduction in their CAFE ability. Ford also identified a number of technological risks associated with achieving its CAFE estimates for MY 1986, which could result in a small reduction in that company's projected CAFE.

*B. Possible Actions To Improve MY 1986 CAFE*

Since the 1986 model year begins this fall, there is insufficient time for the manufacturers to make further significant technological changes in their product plans. Any additional efforts by the manufacturers to increase their MY 1986 CAFE would therefore largely be limited to attempts to change product mixes through increased marketing efforts and/or product restrictions.

The agency has indicated in the past that manufacturers must, under the Act, make efforts to promote the sales of fuel-efficient cars. The agency concludes, based on its analysis, that GM and Ford have in the past been, and are now, making such efforts. To counteract the declining consumer interest in new car fuel economy, manufacturers have undertaken extensive and significant market efforts to shift consumers toward their more fuel-efficient vehicles and options. As discussed in the agency's 1985 Final Regulatory Impact Analysis (FRIA), both GM and Ford have undertaken pricing actions to encourage small car sales and to discourage large car sales and the purchase of optional, less fuel-efficient engines. Below-market financing offerings, cash discounts, and non-cash consumer and dealer incentives were some of the other measures undertaken by Ford and GM to increase their CAFE through marketing actions. Ford stated in its comment on the NPRM that it has put in place approximately 100 marketing incentive programs since 1982 to promote the sale of small cars. That company indicated that as a percent of retail value it is currently spending four times more on small car marketing programs than on large and luxury car programs. It also noted that the base Escort price is now 50 percent of a Crown Victoria, whereas in 1982 it was 60 percent. GM stated that its small car prices increased less than two percent per year between 1981 and 1985 while the average car price increased four percent during that period.

The agency believes that the ability to improve CAFE by marketing efforts is relatively small. As a practical matter, marketing efforts to improve CAFE are largely limited to techniques which either make fuel-efficient cars less expensive or less fuel-efficient cars more expensive. Moreover, the ability to increase sales of fuel-efficient cars largely relates to either increasing market share at the expense of competitors or pulling ahead sales from the future. A factor which makes it particularly difficult to increase sales of fuel-efficient cars is the strong competition in that market from the Japanese manufacturers, which enjoy a significant cost advantage over the domestic manufacturers. The comment submitted by the Department of Commerce estimated the cost advantage at $2,000 per car. This cost advantage limits the ability of the domestic manufacturers to increase sales of small cars through price reductions, since the Japanese manufacturers will be able to match or exceed any price reduction.

An additional factor making it difficult for the domestic manufacturers to sell fuel-efficient cars is the expected entry in MY 1986 of three new manufacturers, Hyundai from Korea, Yugo from Yugoslavia, and Desta from Greece, selling small cars. These companies anticipate first-year sales of nearly 200,000 vehicles.

A problem with pulling ahead sales is that the manufacturer's CAFE for subsequent years is reduced. For example, if a manufacturer increases its MY 1985 CAFE by pulling ahead sales of fuel-efficient cars from MY 1986, the MY 1986 CAFE will decrease, compared with the level it would have been in the absence of any pull-ahead sales attributable to marketing efforts. For this reason, a manufacturer cannot continually improve its CAFE by pulling ahead sales.

Given these factors and the manufacturer's past and current marketing efforts, NHTSA does not believe that GM and Ford can significantly improve their CAFE by increased marketing efforts. Also, the agency agrees with Ford's comment that it cannot expect its MY 1985 fuel economy improvement attributable to major marketing efforts to continue for MY 1986, in light of competitive responses and since much of the improvement relates to pull-ahead sales. Further, the agency concludes that Ford and GM have made reasonable marketing efforts to improve their CAFE.

Manufacturers could improve their CAFE by restricting their product offerings, e.g., deleting less fuel-efficient car lines or dropping higher performance engines. However, as discussed below, such product restrictions would have significant adverse economic impacts on

the industry and the economy as a whole.

The Department of Commerce comment estimated that the effect of GM and Ford achieving 27.5 mpg CAFE in MY 1986 could be sales losses ranging from 750 thousand to 1 million units. Based on the labor required for producing large domestic cars, including suppliers, that Department estimated job losses between 80 and 110 thousand. These estimates were based on the assumption that Ford and GM would either be unable to improve their estimated MY 1985 CAFE performance, then estimated at 25.7 mpg and 25.1 mpg, respectively, or improve it only slightly given the present competitive and energy price environments. Since Ford and GM now project their MY 1986 CAFE at 26.3 mpg, the Department of Commerce estimates are overstated, holding all of their other assumptions constant. Taking account of this factor, however, the Department of Commerce analysis still indicates enormous sales and job losses.

A submission from the Department of Energy indicated combined lost sales for GM and Ford of between 790,000 and 1,000,000 units, essentially identical to the Commerce Department estimate.

Confidential submissions received from GM and Ford indicated that an even higher number of job losses than that estimated by the Department of Commerce would be possible.

NHTSA has analyzed these submissions and has concluded that, while it is difficult to calculate precise numbers for potential sales and employment losses associated with the major manufacturers achieving 27.5 mpg CAFE for MY 1986, there would be a likelihood of sales losses well into the hundreds of thousands of units and job losses well into the tens of thousands. Sales and employment losses of these magnitudes would have significant adverse effects on the economy as a whole.

With respect to improving CAFE by making larger cars and engines more expensive, the agency notes that there is no sharp dividing line between marketing efforts and product restrictions. As indicated above, GM and Ford already have raised the prices of their larger cars and engines as part of their efforts to improve their CAFE, although sales of larger, optional engines have continued to increase as prices have risen. While very large price increases, e.g., a doubling of prices, would likely significantly reduce sales of less fuel-efficient vehicles, such increases would amount to product restrictions. Expecting manufacturers to make such very large price increases would be inconsistent both with Congress' intent that consumer choice not be unduly limited and with the statutory criterion of "economic practicability."

In the preamble to the final rule establishing the MY 1981–84 passenger car standards, the agency concluded that economic practicability should be interpreted as requiring standards to be within the financial capability of the industry, but not so stringent as to threaten substantial economic hardship for the industry. 42 FR 33537, June 30, 1977. In a final rule reducing the light truck fuel economy standard for MY 1985, the agency concluded that sales reductions to a manufacturer of 100,000 to 180,000 units, with resulting employment losses of 12,000 to 23,000, "go beyond the realm of 'economic practicability' as contemplated in the Act. . . ." 49 FR 41252, October 22, 1984. Since the employment losses associated with maintaining the 1986 passenger automobile CAFE standard at 27.5 mpg are at least as large as the ones projected in the MY 1985 light truck rule, the agency similarly concludes here that the economic hardship associated with the product restrictions necessary for the major manufacturers to achieve 27.5 mpg CAFE in MY 1986 would be beyond the realm of economic practicability.

**Manufacturer Compliance Efforts 1977 to 1985**

While there is now insufficient time for manufacturers to improve their MY 1986 CAFE by making significant technological changes in their product plans, the current MY 1986 standard has been in effect for nearly a decade. Therefore, an important issue in analyzing the GM and Ford petitions is whether manufacturers made sufficient efforts to meet the standard. As discussed above, the agency would not consider it appropriate to reduce the standard if a current inability to meet the standard simply resulted only from manufacturers declining to take sufficient steps to improve their average fuel economy as required by the Act. As part of analyzing this issue, NHTSA compared manufacturers' current product plans with past agency analyses which had concluded that the 27.5 mpg standard was feasible. The agency also compared current product plans with earlier plans submitted by the manufacturers indicating that they would meet the standards. As discussed below, the agency believes that GM and Ford made sufficient efforts to comply with the current MY 1986 standard and that the manufacturers' efforts were overtaken by unforeseen events whose effects could not be overcome with the means and time available.

(The discussion which follows first presents the agency's conclusions concerning the differences between the manufacturers' current product plans, i.e., what is now actually happening, and past analyses/plans by NHTSA and the manufacturers as to what was believed feasible, and then presents the agency's conclusions as to why manufacturers' CAFE's are lower than was once expected.)

*A. NHTSA's 1977 RSP*

As discussed above, as part of establishing the 1981–84 standards, the agency developed estimates of the maximum feasible fuel economy for each manufacturer for model years 1981 through 1985. The estimates were based on a number of assumptions, including the ability of manufacturers to sustain a rapid rate of introduction of technology, consumer acceptance of a 10 percent reduction in vehicle acceleration, and significant use of a widespread range of technological options, including weight reduction, improved transmissions and lubricants, reduced aerodynamic drag, reduced accessory losses, and reduced tire rolling resistance. The agency's estimates did not assume a downward mix shift in automobile sizes or the use of diesel engines.

The agency's 1985 FRIA contains a detailed analysis comparing NHTSA's 1977 feasibility estimates for MY 1985 with manufacturers' current projections for that model year. The analysis is similar to that of the PRIA, but reflects more recent information. It should be noted that while the 1977 RSP projected that it was feasible for a number of manufacturers to achieve fuel economy levels somewhat above 27.5 mpg by MY 1985, no standard was ever set above the 27.5 mpg level. Thus, manufacturers were never required to make efforts to achieve the higher (NHTSA-projected) CAFE levels.

The 1977 RSP estimated that GM could achieve 28.9 mpg CAFE for MY 1985. GM currently projects its MY 1985 CAFE at 25.5 mpg, including a 0.4 mpg EPA test adjustment credit. The FRIA concludes that the primary reason why GM's present MY 1985 projection is lower is that the average GM model for MY 1985 weighs about 360 pounds more than NHTSA projected in 1977. Part of the difference in expected weight is due to changes in EPA test weight classes, which could result in a measured fuel economy loss of 0.3 mpg. The effect of the remaining weight difference, including the fact that a proportionately larger engine is needed to maintain

acceleration capabilities, is a 2.0 mpg reduction in average fuel economy from that estimated in 1977.

A number of factors appear to account for this weight difference. In the 1977 RSP NHTSA concluded that GM could perform both a major redesign and a material substitution action for an additional reduction in weight, for every carline during the MY 1977–85 timeframe. GM made all anticipated major redesigns except in the T-body cars (Chevette and Pontiac 1000) and, in addition, introduced two additional lighweight models not projected in the 1977 analysis. The redesigns did not, however, achieve the full amount of weight reduction originally projected as feasible, and, in most cases, the material substitution actions did not occur. Also, when GM introduced new models, the company often continued production of the earlier models.

Other factors which explain GM's lower CAFE are a higher than anticipated engine/size ratio (−0.6 mpg), indicating the GM's MY 1985 fleet does not include the reduction in acceleration capability by the percentage projected by the 1977 RSP (GM did achieve the postulated reduction in MY 1982, but consumer demand led to later increases), and fewer 4-speed automatic transmissions (−0.8 mpg). These factors account for the bulk of the remaining differences between GM's present MY 1985 CAFE estimate and NHTSA's 1977 projection.

The 1977 RSP estimated that Ford could achieve 27.9 mpg CAFE for MY 1985. Ford currently projects its MY 1985 CAFE at 26.3 mpg, including a 0.5 mpg EPA test adjustment credit. The agency's analysis in the FRIA concludes that a number of factors explain Ford's lower CAFE. The most significant are an increase instead of reduction in acceleration capability (−1.1 mpg) (Similarly to GM, Ford reduced acceleration capability through MY 1982, but consumer demand resulted in increases for later model years), higher weight than anticipated (−0.8 mpg), and fewer lockup and wide-ratio automatic transmissions (−0.8 mpg). Additional factors which explain Ford's lower CAFE are the EPA change in test weight classes (−0.3 mpg) and a sales mix adjustment (−0.1 mpg). While Ford's CAFE is lower than was projected as feasible back in 1977, the agency concludes, as discussed in the FRIA, that Ford exceeded the agency's projections for improving CAFE in the areas of reduced rolling resistance (+0.4 mpg) and reduced aerodynamic drag (+0.2 mpg). Also, diesel engines added slightly to Ford's CAFE (+0.1 mpg).

In Ford's comments on the NPRM, it took issue with NHTSA's analysis of the contributing factors to this CAFE shortfall, contending that the overwhelming influences on CAFE have been market-driven and that the agency's estimates of the weight, transmission and performance issues are overstated. While the agency agrees that market-related factors have been important, it disagrees that it overstated the effects cited by Ford. The agency notes that its estimate of the fuel economy effect of the acceleration capability improvement is identical to Ford's estimate in a May 8, 1985, submittal.

The 1977 RSP estimated that Chrysler could achieve a 28.7 mpg CAFE for MY 1985. Chrysler currently projects its MY 1985 CAFE at 27.9 mpg, including a 0.6 mpg EPA test adjustment credit. Major changes in product plans by that company from what were anticipated in 1977 make it difficult to directly compare the agency's 1977 RSP to Chrysler's current projections. An unanticipated shift toward smaller cars in the company's product line-up significantly increased Chrysler's CAFE (+2.3 mpg). This was more than offset, however, by the effect of fewer lock-up and no wide-ratio automatic transmissions (−2.5 mpg). A number of other items, such as not achieving as much reduction in acceleration capability as believed feasible and minor weight increases contribute to the remaining decline in fuel economy.

The FRIA also compares the 1977 RSP feasibility estimates for foreign manufacturers to current projections. On a sales-weighted basis, the foreign manufacturers' vehicle horsepower/weight ratio has increased by an average of 13 percent and vehicle weight has increased by an average of 8.6 percent since 1977, rather than decreasing as believed feasible by NHTSA in 1977. In spite of these changes, the foreign manufacturers have increased their average fleet fuel economy by about 2.5 mpg since 1977, as a result of factors such as improved rolling resistance and aerodynamic drag. However, this is significantly less than the agency had projected as feasible.

*B. Manufacturers' Previous Plans*

1. 1980

During the summer of 1980, as fuel prices were rising rapidly, GM, Ford and Chrysler all announced that their MY 1985 CAFE levels would be approximately 30 mpg or higher. At NHTSA's request, the companies provided the agency with data to support the projections.

GM expected to achieve 31mpg in MY 1985 with a completely redesigned line-up of U.S. passenger cars. Included in this product plan were extensive use of diesel engines, the introduction of an electric car, the introduction of a new domestic subcompact front-wheel drive economy car (the S-body, designed to eventually replace the Chevette/Pontiac 1000), the replacement of essentially all GM's existing cars with lighter weight front-wheel-drive models, a mix shift toward smaller models, and the virtual elimination of V–8 engines.

There are a number of differences in GM's 1980 plan for MY 1985 and what actually happened, including a substantial drop in diesel engine sales, the fact that GM did not introduce an electric car or a new domestic subcompact economy car, a slowdown in the rate of replacing existing cars with lighter weight front-wheel-drive models, a sales shift toward larger models and engines, and the continuation of several existing lines.

In the summer of 1980, Ford projected that it could achieve a fuel economy level as high as 29.9 mpg in MY 1985. Included in that product plan was the complete elimination of large cars and large station wagons by MY 1985. Instead, large car sales are now projected to comprise approximately a fifth of Ford's MY 1985 volume. Other differences between Ford's 1980 plan for MY 1985 and what actually happened include a delay in introducing the new front-wheel-drive Taurus mid-size car (to MY 1986), continuation of V–8 engines in a significant portion of the vehicle fleet instead of being able to eliminate them, lower-than-expected diesel sales, and substantially fewer sales of Ford's most fuel-efficient car line, the two-seater EXP.

In 1980, Chrysler expected to achieve a CAFE of 30.7 mpg in MY 1985, well above that company's current projection of 27.3 mpg, without the EPA test adjustment credit. A number of the car models in that plan have not been introduced. In addition, Chrysler projected it would replace the rear-wheel-drive, relatively heavy M-body (presently the Diplomat, Gran Fury, and Fifth Avenue) with versions of the front-wheel-drive K-body. Instead, Chrysler continued to offer this model after its ostensible replacements were introduced. The older-design M-body has an average fuel economy about 6 mpg below the equivalent front-wheel-drive models. Chrysler also planned a number of technological improvements that have not been introduced.

2. 1983

By mid-1983, GM's and Ford's expectations about exceeding the fuel economy standards had reversed. By this time, the manufacturers were having difficulty meeting the levels of the fuel economy standards. GM, Ford and Chrysler, as well as many other companies, had experienced a decline in their CAFE levels between MY 1982 and MY 1983. At NHTSA's request, the manufacturers provided the agency with data indicating their projected fuel economy levels through MY 1988.

GM's and Ford's mid-1983 projections for MY 1985 were not substantially different from what they are today. GM projected a CAFE of 25.9 mpg for MY 1985, as compared to its current projection of 25.1 mpg, without the EPA test adjustment credit. In 1983, that company projected a sales mix with a slightly lower average weight and a greater number of diesel sales. Ford's 1983 projection was 25.2 mpg, compared to its current projection of 25.8 mpg, without the EPA test credit adjustment. The percentage of large cars and station wagons in the MY 1985 fleet increased from 16.1 percent in the 1983 projection to 21 percent today. However, this negative impact was offset by an increase in average fuel efficiency of the compact class due primarily to increases in projected Escort/Lynx sales and decreases in Thunderbird/Cougar sales.

Chrysler projected in 1983 that it could achieve 28.8 mpg in MY 1985, as compared to its current estimate of 27.3 mpg, without the EPA test credit adjustment. In 1983, Chrysler did not provide the agency with as detailed product plans for MY 1985 as did GM and Ford. Based on the limited data, it appears that Chrysler's least fuel-efficient models are now selling at higher rates than the company anticipated in 1983. In addition, the average fuel economy level for each carline is lower than anticipated. This appears to indicate a mix shift toward larger and more powerful engines within each carline, similar to the mix shift experienced by Ford and GM.

3. 1984–1985

Product plan information provided to NHTSA within approximately the past year-and-a-half by GM and Ford indicates that those companies' CAFE projections for *MY 1986* have changed during that period.

The most significant changes have been for Ford. A MY 1984 carryback plan submitted by that company on May 7, 1984, indicated that Ford then expected to achieve a MY 1986 CAFE of 28.5 mpg, without the EPA test credit adjustment. This projection was reduced to 26.9 mpg in a MY 1985 carryback plan submitted on December 7, 1984. Ford's February 28, 1985, response to a NHTSA questionnaire on post-1985 fuel economy and an April 19, 1985, submission discussing the effects of changes in the Voluntary Restraint Agreement (VRA) with Japan both included additional declines in projected CAFE for MY 1986.

The FRIA includes an analysis of the changes in Ford's CAFE projections. Ford explained the reductions by citing changes in mix and model start-up schedules and the fact that new models had resulted in less fuel economy improvement than expected. The agency's analysis is largely in agreement with Ford's explanation.

As discussed by the FRIA, GM's projected MY 1986 fuel economy, without the EPA test adjustment credit, was 26.2 mpg in a November 1984 carryback plan, 25.7 mpg in a February 1985 submission, and 26.1 mpg in a June 1985 submission. The reasons for these relatively small changes are discussed in the FRIA.

*C. Assessing of Manufacturers' Compliance Efforts*

Assessment manufacturers' efforts to meet the 27.5 mpg standard is a difficult and complex task. With 20–20 hindsight, one can point to various actions that manufacturers might have been able to take at different points over the past decade, e.g., increased use of material substitution, that would have improved their current fuel economy capability for MY 1986. The manufacturers, however, had to make their product plan decisions based on the information then available and, in the early 1980's, in the face of considerable economic difficulty and uncertainty.

In looking back over the past decade, the agency notes that the manufacturers' progress in improving fuel economy has been impressive. In evaluating technological feasibility, the agency considers whether an item of technology will be commercially available in time to aid in meeting a standard for a particular model year. The amount of CAFE improvements gained by a manufacturer from using new technology is dependent on: (1) The increase in fuel economy associated with a particular type of technology, and (2) the percent of a manufacturer's fleet which incorporates that technology. Technology-based improvements include such items as weight reduction via downsizing or material substitution, engine and transmission improvements, reduced performance (e.g., acceleration capability), reductions in rolling resistance and aerodynamic drag, improved lubricants, and increased accessory efficiency, among others.

Over the past 10 years, manufacturers have reduced average car weight by 1000 pounds, reduced average engine displacement from 288 CID to 177 CID, increased the use of front-wheel drive from seven percent to 64 percent, increased the use of transmissions with overdrive and/or lockup from five to 84 percent, and increased the use of fuel-injected engines from five percent to 54 percent.

The agency notes that some major investments made by manufacturers to improve fuel economy were not successful. For example, GM and Ford made major investments in alternative power plants, such as diesel and direct injection stratified charge engines. Largely due to market conditions, however, including lower-than-expected gasoline prices, a change in the relative price of gasoline and diesel fuel and lower-than-expected consumer acceptance of the diesel engine, sales of passenger cars with diesel engines have virtually collapsed. Mercedes-Benz has experienced similar difficulties in selling diesel engines, with a reduction of from 78 percent to 44 percent of its fleet being so equipped in the last two years. Various efforts by the manufacturers to develop new technologies, such as Ford's experience with the PROCO engine, were unsuccessful. Given the massive undertaking by the industry to virtually double its CAFE in a relatively short period of time, it is not surprising that there would be failures as well as successes. In assessing the manufacturers' efforts to improve their CAFE's, the agency believes it is appropriate to take account of all of the efforts.

Manufacturers have used virtually all the technologies deemed feasible in the agency's 1977 RSP, as well as achieving a number of gains in areas not foreseen at that time. However, not all of those technologies have been installed in as high a percentage of cars in the manufacturers' fleets as was believed feasible. This is particularly true for weight reduction, performance reduction, and transmission improvements.

The agency believes that the lower than anticipated use of these technologies is largely attributable to market conditions. For example, the consumer acceptability of lower performance is relatively easy to achieve in times of short fuel supply and steadily rising fuel prices. However, the real price of gasoline has declined by nearly 35 cents per gallon since the early 1980's and is generally expected to rise

less than four percent over the next five years. Further, there is currently a petroleum glut. Thus, as discussed in the FRIA, the anticipated performance reductions were achieved as early as 1982, but since that time consumers have been demanding greater engine/vehicle performance. Similarly, consumers have been switching to heavier vehicles over the last few years.

As discussed above, the Cost Savings Act imposed a long-term obligation on manufacturers to achieve CAFE of 27.5 mpg. As of mid-1980, GM and Ford had plans which they believed would not only achieve that level but significantly exceed it. Moreover, during the early 1980's, manufacturers not only met the standards set at levels intended to result in steady progress toward 27.5 mpg, but in fact exceeded those standards.

By 1983, however, domestic manufacturers were having difficulty meeting the levels of fuel economy standards. The nation (and the auto industry in particular) was coming out of a serious economic recession, and, contrary to prior NHTSA and industry expectations, gasoline prices were falling instead of rising. The U.S. city average retail price for unleaded regular gasoline fell from $1.38 in 1981 to $1.30 in 1982 and $1.24 in 1983. (*Monthly Energy Review*, Energy Information Administration,[4] U.S. Department of Energy, January 1984, p. 88) (In 1984 dollars, this decrease was from $1.58 in 1981 to $1.40 in 1982 and $1.29 in 1983.) As a result of these factors, consumer demand was shifting toward larger cars with higher acceleration capabilities. Thus, just as the rise in gasoline prices from 1973 to 1980 contributed to the tremendous increase in fuel efficiency that was achieved in that period and to the projections for significantly exceeding the 27.5 mpg standard in the mid-1980's, so the fall in gasoline prices since 1980 has led to a fall in fuel economy projections.

The effect of consumer demand on CAFE is reflected both by actual market shifts and by the failure of expected market shifts to occur. The percent of total new car sales consisting of subcompact models declined from 46 percent in model year 1980 to 30 percent in model year 1983. Since then, the share appears to be leveling off at approximately 26 percent. For GM, the percent of sales of subcompacts (including two-seaters) declined from 27 percent in model year 1980 to 11 percent in model year 1983. For model year 1985, GM projects that 11 percent share of its cars will be subcompacts (including two-seaters). Seventeen percent of GM's model year 1980 sales were large cars, as compared to 27 percent for model year 1983 and a projection of 27 percent for model year 1985. For Ford, the percent of sales of subcompacts (including minicompacts) declined from 37 percent for model year 1980 to 12 percent for model year 1983. For model year 1985, Ford projects that 9 percent of its cars will be subcompacts (including two-seaters). Sixteen percent of Ford's model year 1980 sales were large cars, as compared to 21 percent for model year 1983 and a projection of 22 percent for model year 1985. For Chrysler, the percent of sales of subcompacts declined from 41 percent in model year 1980 to 12 percent in model year 1983. For model year 1985, Chrysler projects that 20 percent of its cars will be subcompacts.

In addition to these actual market shifts are expected market shifts which did not occur. For example, as indicated above, Ford anticipated in 1980 that it could eliminate large cars by 1985, as compared to its current projection that large cars will comprise 22 percent of its sales. Ford's most fuel-efficient model, the two-seater EXP, was projected in 1980 to capture over 12 percent of its model year 1985 sales. Ford now expects it will take less than two percent of sales. Similarly, GM anticipated in 1980 that the large car share of its model year 1985 sales would be 17 percent, well below its current projection of 27 percent. GM expected its subcompact share to be 18 percent, as compared to its current projection of 11 percent (including two-seaters). The manufacturers' 1980 expectations were overtaken by events as gasoline prices began to fall, instead of rising significantly as expected.

MY 1985 projections provided by the manufacturers during the summer of 1983 indicate that they recognized at that time they would not be able to achieve 27.5 mpg CAFE for MY 1985 (although Ford believed until well into 1984 that it would still exceed 27.5 mpg for MY 1986). Given that recognition of difficulties (as opposed to the earlier expectations of significantly exceeding the standard), the issue arises whether manufacturers could or should have done more between then and now to improve their CAFE.

The agency believes several factors are relevant in analyzing that issue. First, the agency has long recognized that the ability to generate the funds necessary to make fuel economy improvements is a critical factor in assessing economic practicability and determining maximum feasible average fuel economy. As discussed in the background section of this preamble, NHTSA recognized in its January 1979 Third Annual Report that its feasibility estimates were dependent on the continued financial health of the industry and were subject to being lowered in the event of a severe economic downturn.

The domestic industry was just beginning in 1983 to recover from one of the worst periods of economic difficulty in its history. From a picture of high profitability in the late 1970's, their fortunes had declined such that they encountered their largest losses ever during the 1980–82 period. During those three years, GM, Ford, and Chrysler had combined operating losses of $4.8 billion. Chrysler staved off bankruptcy through corporate restructuring and with the help of Federal loan guarantees, while Ford alone incurred $3.3 billion in losses over that three-year period.

At the same time, the companies were involved in massive efforts to restructure their operations and redesign their fleets. Even though they were encountering operating losses and high inflation in the early 1980's, Ford and GM continued or accelerated their capital investment levels, compared to earlier years. For example, GM's highest two years of actual capital expenditures occurred during 1980–81. Long-term debt greatly increased for GM and Ford during this period, as they could not raise the money they needed for capital expenditures from operations. Given this backdrop of events, it would have been very difficult for GM and Ford to initiate significant further new programs in those years to improve their model year 1986 fuel economy.

Second, it was generally expected that the drop in gasoline prices during the early 1980's was temporary. It is useful to examine past projections of future gasoline prices, using constant dollars to account for the effects of inflation. In the spring of 1983, Data Resources, Inc. (DRI) expected gasoline prices to rise from $1.22 in 1983 to $1.29 in 1986 (after falling and then rising slightly in 1984 and 1985, respectively), $1.34 in 1987, $1.36 in 1988, $1.45 in 1989, and $1.54 in 1990 (all figures expressed in 1984 dollars). In February of 1983, EIA was predicting that gasoline prices would be $1.19 in 1985, $1.30 in 1986, $1.42 in 1987, $1.51 in 1988, $1.55 in 1989 and $1.57 in 1990 (all figures expressed in 1984 dollars). By October of 1983, EIA had reduced its 1986 projection to $1.16 (expressed in 1984 dollars). However, it still expected that gasoline prices after

[4] The Energy Information Administration is a statistical and analytical branch of the Federal Government that is policy independent of the Department of Energy.

1986 would quickly rise. DRI still expected in its Winter 1983–84 forecast that the 1986 price of gasoline would be $1.27 (expressed in 1984 dollars). By contrast, EIA currently projects, in its July 1985 forecast, that the 1986 gasoline price will be $1.07 (expressed in 1984 dollars), while DRI projects, in its Summer 1985 forecast, that it will be $1.10). This continued decline (in real terms) of gasoline prices has resulted in relatively less consumer demand for small cars with high fuel efficiency levels than would otherwise have been expected. The virtual collapse in sales of diesel fuel automobiles illustrates this effect.

Third, the manufacturers' projections in recent years indicate that they believed they would still meet the standard for model years 1985 and 1986, using carryforward/carryback credits as permitted by the Cost Savings Act.[5] Indeed, later submissions by both Ford and GM, most notably the carryback plans discussed above, indicate that they did not recognize a CAFE compliance problem until approximately the time they submitted their petitions in March of this year. By that time, it was too late for the manufacturers to make further significant technological changes in their product plans for MY 1986.

Chrysler took issue with several aspects of the agency's consideration of GM's and Ford's compliance efforts. First, that commenter objected to consideration of the manufacturers' financial difficulties during 1980–82, arguing that NHTSA failed to cite instances where GM or Ford had to hold back on some technological improvement because of shortage of capital. NHTSA did not attempt to prove that shortages of capital in the 1983 time period necessarily made the 27.5 mpg standard technologically infeasible for MY 1985 or MY 1986. The agency's argument, as mentioned previously, was that further investments at that time could not be expected given the recent financial difficulties of those manufacturers.

Chrysler also objected to the conclusion that GM and Ford could reasonably have expected a quick reversal in the decline of gasoline prices, with a consequent shift back to smaller, more fuel-efficient vehicles. That commenter argued that the agency did not make any effort to determine what particular actions either of those manufacturers may have taken in reliance on such an assumption, nor point to evidence that might have given credence to the assumption. With respect to reliance, the agency notes GM's and Ford's compliance plans, which did not recognize the magnitude of the continuing consumer demand for larger and more powerful cars. With respect to evidence, this preamble compares past forecasts of gasoline prices by EIA and DRI to current forecasts. The comparison indicates that these major forecasters expected in 1983 that the prices of gasoline in 1986 would be significantly higher than they now expect. Consistent with the direction of the changed forecasts by EIA and DRI, a comparison of submissions submitted by Ford in August 1983 and February 1985 indicates that its projections of 1985 and 1986 gasoline prices declined over that time by nine percent and 13 percent, respectively. Comparison of similar submissions by GM indicates that its projections declined by a higher percentage. (The specific percentages for GM are subject to a claim of confidentiality.)

As it had in earlier comments, Chrysler also raised the issue of the reasonableness of GM and Ford changing their product plans over the past few years in a variety of ways that had the effect of decreasing their projected CAFE's. Chrysler cited decisions by those companies to continue selling larger models and engines that had been planned to be cancelled and the continuation of rear-wheel drive models after front-wheel drive "replacements" had been introduced.

The agency notes that Chrysler has stated that it "agrees that consumers have indicated a preference for better performance in recent years. . . .," and that it in fact has done some of the same things as have GM and Ford. It is that company's contention, however, that "what is permissible for Chrysler, who meets the 27.5 mpg standard, should be considered excessive for GM, who does not."

NHISA cannot agree that product plan changes that decrease CAFE are necessarily inappropriate for companies which are having difficulty meeting the CAFE standards. Given that consumer demand has always been a major determinant of what it is economically practicable for manufacturers to sell, since consumers need not buy what they do not want, it is axiomatic that a change in consumer demand (all other things held constant) will change what is economically practicable for manufacturers to sell. The fact that GM and Ford once believed they could delete certain models or engines without significant adverse economic impacts does not mean that they would be able to do so after conditions have changed, e.g., after fuel prices have ceased to rise and instead begun to fall.

Holding manufacturers to product plans which are no longer consistent with current market conditions would have the same result as requiring product restrictions. As discussed above, the types of product restrictions that would be required to significantly improve GM's and Ford's CAFE's would result in serious harm to the industry and the economy as a whole, and have never been contemplated by NHTSA to be consistent with the statute.

While the agency believes that product plan changes such as those discussed above are consistent with statutory criteria, since they reflect changes in what is economically practicable, manufacturers continue to have an obligation to make all necessary efforts consistent with those statutory criteria to meet CAFE standards. To the extent that changes in product plans result in manufacturers not being able to meet a standard, the manufacturers must pursue additional means, consistent with the factors of section 502(e), to meet the standard. As discussed above, however, by the time GM and Ford recognized that economic forces had created a compliance problem, it was too late to make further significant technological changes to improve their CAFE's for MY 1986.

Chrysler objected to NHTSA's treatment of GM's and Ford's changes in product plans, arguing that the agency did not explain why a strategy that proved successful for it was economically impracticable for them, identify the options that were open to GM and Ford, quantify the economic effects of pursuing one option or another, or ask how great a price GM and Ford would have had to pay to meet the standard. That commenter characterized the agency's analysis as suggesting that GM and Ford are under no obligation to pay any price, forgo any profit opportunity, or make any additional investment to meet the CAFE requirement.

Chrysler admitted in a footnote the NHTSA had cited the Department of Commerce study concerning the significant loss of sales and

[5] The Cost Savings Act does not require absolute compliance with a standard for each year. Instead, it allows a shortfall in one year to be offset if a manufacturer exceeds the standard for another year. Under the Act, as amended by the Automobile Fuel Efficiency Act of 1980, manufacturers earn credits for exceeding average fuel economy standards which may be carried back for three model years or carried forward for three model years. See section 502(1). In order to use carryback credits in advance of their actually being earned, manufacturers must submit a plan demonstrating that the credits will be earned. Such plans are subject to DOT approval.

unemployment that would result from the product restrictions that would be needed to bring GM and Ford into compliance, as well as confidential data submitted by GM and Ford regarding those impacts. Chrysler argued that this did not, however, have any bearing on a whole variety of options that would have been available to GM and Ford beginning in 1983. That commenter also argued that the Department of Commerce study was unsupported by any convincing evidence and virtually ignored the argument that a decline in sales of GM's and Ford's least efficient vehicles would mean no loss of jobs but rather a concomitant increase in sales of their newer, fuel-efficient, large vehicles.

As recognized by Chrysler's footnote, NHTSA did consider the options for GM and Ford to comply with the 27.5 mpg standard in MY 1986. As indicated above, the agency concluded that GM and Ford could meet that standard only through product restrictions likely resulting in significant adverse economic impacts, including sales losses well into the hundreds of thousands and job losses well into the tens of thousands, and unreasonable restrictions on consumer choice. This conclusion was not based solely on the Department of Commerce study, but also on the data submitted by GM and Ford and on the agency's own analysis. The agency notes that a study submitted by the Department of Energy supports the same conclusion. The agency does not agree that product restrictions would simply result in increased sales of GM's and Ford's newer, fuel-efficient vehicles, without any effect on employment. While some consumers might purchase other GM and Ford models, to the extent that the manufacturers were able to increase their production of these models, many others would either stay out of the market entirely or shift their purchases to other manufacturers.

The issue of the extent to which the agency must address what GM and Ford could have done since 1983 is largely discussed above. The legislative history of the Cost Savings Act clearly indicates that NHTSA may reduce fuel economy standards up until the beginning of a model year. The determination of maximum feasible average fuel economy level is made as of the time of the amendment. The agency has emphasized, however, that it would not reduce a standard if a current inability to meet the standard simply resulted from manufacturers previously declining to take reasonable steps to improve their average fuel economy as required by the Act.

With respect to Chrysler's question why the approach it adopted to achieve 27.5 mpg CAFE was economically impracticable for GM and Ford to adopt, when changing market conditions overtook GM's and Ford's earlier plans, the agency reiterates that the legislative history of the Cost Saving Act clearly indicates that Congress did not intend to unduly limit consumer choice as to capacity and performance of motor vehicles. As indicated above, the House report stated that ". . . any regulatory program must be carefully drafted so as to require of the industry what is attainable without either imposing impossible burdens on it or unduly limiting consumer choice as to capacity and performance of motor vehicles." H. Rept. No 94-340, 94th Cong., 1st Sess. 87 (1975). The agency believes that GM's and Ford's decisions to continue selling large cars, which account for 20-25 percent of their sales, are fully consistent with the statutory criteria and the legislative history.

The fact the GM and Ford may at one point in time have considered deleting certain models does not commit those manufacturers to now do so. Manufacturers' product plans are constantly changing over time in response to market conditions. As noted above, what is economically practicable at one point in time may not be so at another. NHTSA does not believe that it is now economically practicable for GM and Ford to simply curtail production of 20 percent of their fleets.

The primary reason GM's and Ford's CAFE's are lower than Chrysler's is that Chrysler does not compete in all the market segments in which GM and Ford sell cars. Unlike GM and Ford, Chrysler does not offer any vehicles which are defined by EPA as "large cars" or "large station wagons." These vehicles, which, as noted above, account for 20-25 percent of Ford's and GM's sales, are less fuel-efficient than the cars Chrysler sells. As pointed out by the NPRM, Chrysler's fuel economy is not significantly different from that of GM or Ford for the market segments in which it does compete. Indeed, as demonstrated in the FRIA, Chrysler vehicles tend to have fewer fuel economy enhancing technologies. Thus, if the sales mixes of all the manufacturers were equivalent, GM and Ford would have higher CAFE's than does Chrysler.

While a particular manufacturer may choose to comply with fuel economy standards by various strategies, including not producing large cars, the agency would not consider standards which require full-line manufacturers to stop producing large cars to be consistent with the statutory criterion of economic practicability.

Contrary to the arguments made by ECC, Chrysler does not have more fuel-efficient technology in its fleet than GM and Ford. ECC cited comparisons showing that for MY 1984 Chrysler had better fuel economy for its curb weight, interior roominess, engine size, and fleet mix.

The three fuel economy ratios (mpg/curb weight, mpg/roominess, and mpg/CID) are not valid measures of efficiency. The high values exhibited by the Chrysler fleet do not indicate whether the high ratio of mpg/curb weight, for instance, is due to very high fuel economy or merely a low average curb weight. For example, the mpg/curb weight ratio would show that a 2000 pound car getting 20 mpg is more fuel-efficient than a 4000 pound car that achieves 20 mpg, when the opposite is obviously true.

A more meaningful analysis would be to use the fleet average ratio of fuel consumption to test weight (or curb weight), to roominess, or to engine displacement. This is a method that was proposed by Chrysler employees in a 1978 Society of Automotive Engineers (SAE) paper, "TFC/IWT," D. K. Samples and R. C. Wiquist, SAE paper #780937. Regarding the ratio of average fuel consumption divided by average test weight, Chrysler has been about midway between GM and Ford in recent years and for MY 1985 has the least efficiency of the three. This is also true of average fuel consumption per cubic inch of engine displacement. Chrysler has, however, been more efficient than GM and Ford in recent years on the basis of average fuel consumption per cubic foot of roominess index.

GM submitted information indicating that in the 13 test weight/transmission classes in which it and Chrysler competed directly, GM had the higher fuel economy car in 11 of the 13 cases. As a result, GM showed that if it had Chrysler's product mix, its CAFE would be 28.5 mpg as compared to Chrysler's 27.5 mpg (without EPA test adjustment credits).

The mix analysis cited by ECC, which was prepared by the Department of Energy, attempts to correct the companies' CAFE's to what they would be if they had the same mix as Chrysler and without two-seaters, small wagons, and large sedans and wagons. This analysis ignores the diversity of models with the GM and Ford fleets, even in the size classes which are the same as Chrysler's. For instance, the Chrysler fleet has only four-cylinder engines

except for the mid-size, rear-drive V-8's that make up a small part of their fleet. GM and Ford have six- and/or eight-cylinder offerings in nearly all of their size classes. The compact size class for Chrysler consists of essentially one model—the Omni/Horizon four-door hatchback, while the Ford line includes the two-door and four-door hatchback Escort/Lynx, the Thunderbird/Cougar, and two-door and four-door Tempo/Topaz. The GM compacts in MY 1985 include J-body, X-body, and GM20 models in a variety of body styles. GM and Ford also offer small wagon versions of some of these models while Chrysler does not. Also, Ford and GM have one or more model offerings in the other EPA size classes not offered by Chrysler—two-seater, large sedan and large wagon.

If GM and Ford were to drop all large sedans and wagons in the MY 1985 fleet while retaining all the other models, their CAFE's would increase by 1.0 mpg for GM and 1.9 mpg for Ford. In Ford's case, this is a significant improvement rather than the loss in CAFE claimed by the Department of Energy analysis for the use of the Chrysler sales mix. In the case of GM, the improvement is the same as the Department of Energy showed for using the Chrysler mix.

The agency rejects Chrysler's characterization of NHTSA's analysis as not requiring GM and Ford to do anything to improve their fuel economy. The context of this rulemaking is responding to manufacturer petitions to reduce a standard in light of changed events, in a time period when there are only a few months remaining before the start of the model year. The agency has emphasized that when a manufacturer discovers its compliance plan is insufficient and it has no prospect of having the necessary amount of credits to offset the shortfall, it must make additional efforts to increase its fuel economy to meet standards. However, there is now insufficient leadtime to make additional technological improvements for the 1986 model year. The agency has also emphasized the need to take into account marketing efforts to improve CAFE, as GM and Ford have been doing.

NHTSA concludes that GM and Ford did make sufficient efforts to improve their fuel economy to comply with the Cost Savings Act and that those efforts were overtaken by unforeseen events whose effects could not be overcome by available means within the time available.

### Other Federal Standards

As indicated above, EPA published a final rule in the **Federal Register** (50 FR 27172) on July 1, 1985, to provide CAFE adjustments to compensate for the effects of past test procedure changes. The final rule adopted a formula approach for calculating CAFE adjustments for the 1986 model year.

Manufacturers had argued that changes in EPA test procedures had adversely affected their CAFE values. On December 21, 1985, EPA published a proposal to give a 0.2 mpg credit to all passenger car manufacturers to account for test procedure changes regarding inertia weights, dynamometer controllers, actual distance versus nominal distance traveled in the test, and humidity level. August 1984, GM requested additional CAFE credit to compensate for changes over time in the properties of test fuels used by EPA and the industry. GM argued that the test fuel adjustment should be an additional 0.02 mpg to 0.32 mpg fuel economy credit, with the value varying by model year. On December 7, 1984, EPA published a supplemental notice requesting comment on the test fuel issue.

Because EPA had issued its proposals prior to this agency's receipt of the GM and Ford petitions, NHTSA considered the effect of the EPA rulemaking throughout its analysis of those petitions and the subsequent rulemaking. Due to the formula approach adopted by EPA, that agency was unable to provide precise calculations concerning how the rule will affect each manufacturer. EPA staff informed NHTSA that they expected GM and Ford to receive credits for the 1986 model year of approximately 0.2 mpg. GM and Ford informed NHTSA that they expected to receive credits of 0.2 mpg and 0.1 mpg, respectively. While the agency does not have specific data concerning how the credits will affect other manufacturers, it believes that the credits will be similar to those for GM and Ford.

As discussed in the FRIA, changes in other Federal standards which may affect CAFE have been made in safety and damageability requirements. These include the May 1982 amendment to the Part 581 Bumper Standard, which permits weight savings; several amendments to the agency's lighting standard, which permit greater aerodynamic efficiency; and the fact that the automatic restraint requirement of Standard No. 208, with its attendant weight penalty, is not in effect for MY 1986 as anticipated in 1977. The potential weight savings permitted by the change in the Bumper Standard could improve CAFE by approximately 0.15 to 0.4 mpg. The agency concluded, however, that continued consumer demand for 5 mph bumpers did not permit the manufacturers to avail themselves of much of those potential weight savings. The net effect of the safety changes was to increase the CAFE capabilities of the manufacturers by approximately 0.3 mpg. BMW noted that it plans to introduce air bags in MY 1986 and will thus incur a weight penalty. The agency notes that the slight weight penalty in that year is not due to the standard's requirements but to that company's voluntary decision to comply early.

### The Need to Conserve Energy

Since 1975, when the Energy Policy and Conservation Act was passed, this nation's energy situation has undergone a great deal of change. In particular, oil markets have been deregulated and the Strategic Petroleum Reserve (SPR) has been established.

The United States imported 15 percent of its oil needs in 1955. By 1977, the import share was 46.4 percent and the value of imported crude oil and refined petroleum products was $67 billion (stated as 1984 dollars). While the import share of total petroleum demand declined after that year, the cost continued to rise to a 1980 peak level of $93.2 billion (1984 dollars). By 1984, the import share had declined to 30.9 percent at a cost of $54.2 billion. Thus, the concern over dependence on imported petroleum, as measured by these indicators, has lessened in the past several years.

Morever, imports from OPEC sources have been declining, from a high of 6.2 million barrels per day and 70.3 percent of all imports in 1977 to 2.0 million barrels per day and 37.6 percent of imports in 1984. Imports from non-OPEC sources have risen slightly from a low of 2.2 million barrels per day or 30.7 percent in 1976, to 3.4 million barrels per day or 62.4 percent in 1984. In 1984 Mexico supplied the U.S. with the largest amount of crude oil and petroleum products, followed by Canada. As imports have shifted to non-OPEC sources, the United States' supply of petroleum has become less vulnerable to the political instabilities of some OPEC countries, as compared to the situation in the mid-1970's.

Overall, the nation is much more energy independent than it was a decade ago, when Congress established the MY 1985 and thereafter standard. From 1975 to 1984, energy efficiency in the economy improved by 21 percent. (*1984 Annual Energy Review*, Energy Information Administration, U.S. Department of Energy, p. 47) Passenger car petroleum consumption is actually lower than it was in 1975, even though

travel has increased 25 percent since then. Domestic oil production is higher than it was in 1975, total imports have dropped 20 percent since then, the value of the nation's imported oil bill has declined nearly 40 percent in the last five years (on a net import basis, the value of the nation's imported oil bill fell nearly 45 percent from 1980 to 1984), and the amount of imported oil from OPEC has dropped by 67 percent since the peak of 1977. As a percentage share of GNP, the net oil import bill fell from 2.8 percent in 1980 to 1.5 percent in 1984. In addition, the price of oil is not fully decontrolled, permitting the market to adjust quickly to changing conditions, and the Strategic Petroleum Reserve is well on its way to being filled. The 451 million barrels in the SPR at year-end 1984 were equal to 141 days or 38.6 percent of non-SPR crude oil imports that year. Thus, by any measure, the nation is in a stronger energy position than it was a decade ago.

According to Energy Information Administration (EIA) and Data Resources, Inc., projections, however, domestic production is expected to decline from a stable level of 10 MMB/D to about 8.5 MMB/D by 1995. Net imports are expected to rise from 4.5 to 5 MMB/D to about 7.5 (EIA) to 9.0 (DRI) MMB/D by 1995. This would result in imports approaching 50 percent of U.S. petroleum use by 1995. However, future projections about petroleum imports are subject to great uncertainty and may be overtaken by new domestic discoveries. Indeed, oil imports are very difficult to project beyond a year or two. For example, the EIA's *1977 Annual Report to Congress* projected that net oil imports by the U.S. would, in the "reference case," reach 11 million barrels per day by 1985. Net imports for this year are now forecast to be less than 4.5 million barrels per day, substantially less than half the level predicted in 1977. The agency believes that energy conservation is important but also notes that even with a reduction in the standard MY 1986 passenger cars meeting a 26.0 mpg standard will be considerably more fuel-efficient than the nation's overall vehicle fleet and will thus make a substantial positive contribution to the goal of petroleum conservation.

**Determining the 1986 Maximum Feasible Average Fuel Economy Level**

As discussed above, section 502(a)(4) provides that the 27.5 mpg standard can be raised or lowered for MY 1985 or any subsequent model year if the agency determines that some other standard represents the maximum feasible average fuel economy level. In making this determination, the agency must consider the four factors of section 502(e): technological feasibility, economic practicability, the effect of other Federal motor vehicle standards on fuel economy, and the need of the nation to conserve energy.

In the NPRM, the agency stated that, based on dictionary definitions and judicial interpretations of similar language in other statutes, it has interpreted the terms "feasible" and "practicable" to refer to whether something is capable of being done. The NPRM noted that in *American Textile Mfrs. Institute v. Donovan*, 452 U.S. 490, (1981), the Supreme Court interpreted the use of the word "feasible" in a similar statutory context to mean "capable of being done."

CEA urged a reinterpretation of the statutory criteria to permit adoption of what it termed "nonbinding" standards, i.e., standards which permit major automobile manufacturers to produce and price automobiles in response to free market forces, without concern that their competitive production and pricing decisions will cause imposition of CAFE penalties. CEA stated at the beginning of its docket comments that this particular argument was intended to apply to NHTSA's future rulemaking on passenger car standards for model years 1987 and thereafter. Although there is some ambiguity later in CEA's comments as to the applicablity of this argument for reinterpretation, NHTSA believes it was CEA's intention that the argument apply only to subsequent rulemaking for model years 1987 and beyond. Moreover, if CEA's argument were applied to the current rulemaking, it would pertain to lowering the standard below 26.0 mpg, which would be outside the scope of this rulemaking. Therefore, NHTSA has determined that it is unnecessary to respond to this CEA comment in this final rule, and will respond to the argument in the proposed rulemaking for model years 1987 and beyond. Other comments raised in CEA's docket comments, which addressed the model year 1986 rulemaking, are discussed elsewhere in this preamble.

Some commenters raised the issue of how costs and benefits should be taken into account in applying the statutory criteria. AIA argued that in order for a fuel economy standard to be "technologically feasible" and "economically practicable," it is necessary for the benefits of the standard to outweigh the costs. The Department of Energy stated that it believes efforts to reduce energy use serve the nation's interest only to the extent that they contribute to the broader goals of increased economic growth and improved economic efficiency, and that it does not believe that the "need to conserve energy" requires or justifies the imposition of cost-ineffective product changes or product choice restrictions on consumers and manufacturers.

While both AIA and the Department of Energy supported NHTSA's proposal, the agency notes that it is not adopting the view that the statutory criteria necessarily require fuel economy standards to be cost-beneficial. The agency has addressed this issue at length in the past and determined that while it is appropriate for the agency to consider costs and benefits, the Cost Savings Act does not require benefits necessarily to exceed costs. See FR 33536–33537 (June 30, 1977) and 49 FR 41254 (October 22, 1984).

The agency's traditional interpretation of the statutory criteria, with respect to consideration of economic factors, is that "economic practicability" requires standards to be within the financial capability of the industry, but not so stringent as to threaten substantial economic hardship for the industry. See 42 FR 33537. This final rule is based on the agency's traditional and longstanding interpretation of the statutory criteria.

With respect to determining the maximum feasible average fuel economy level, the Conference Report to the 1975 Act (S. Rep. No. 94–516, 94th Cong., 1st Sess. 154–5 (1975)) states:

> Such determination should therefore take industrywide considerations into account. For example, a determination of maximum feasible average fuel economy should not be keyed to the single manufacturer which might have the most difficulty achieving a given level of average fuel economy. Rather, the Secretary must weigh the benefits to the nation of a higher average fuel economy standard against the difficulties of individual automobile manufacturers. Such difficulties, however, should be given appropriate weight in setting the standard in light of the small number of domestic automobile manufacturers that currently exist, and the possible implications for the national economy and for reduced competition association (sic) with a severe strain on any manufacturer. . . .

This language of the Conference Report indicates that standards may at times be set at a level above that of the least capable manufacturer and that some manufacturers may find it necessary to pay penalties. The issue arises of how (and whether) this language should be reconciled with the statautory text indicating that standards must be set at a level that is capable of

being done. As a matter of construction, statutory language is controlling over legislative history. Legislative history, however, should be used as an indication of congressional intent in resolving ambiguities in statutory language. The agency believes that the above-quoted language of the Conference Report provides guidance on the meaning of "maximum feasible average fuel economy level."

It is clear from the Conference Report that Congress did not intend that standards simply be set at the level of the least capable manufacturer. Rather, NHTSA must take industrywide considerations into account in determining the maximum feasible average fuel economy level. The focus, thus, must be on the manufacturers' collective ability to meet a standard, rather than any particular manufacturer's ability to meet it.

With respect to light truck standards, NHTSA has consistently taken the position that it has a responsibility to set standards at a level that can be achieved by manufacturers of a substantial share of sales. See 49 FR 41251, October 22, 1984. The agency believes this same criterion is relevant to the setting of passenger car standards, as part of taking industrywide considerations into account. Given the substantial share (more than 60 percent) of car sales by GM and Ford, the agency believes that a standard set at a level above the maximum feasible capability of these manufacturers would by definition not be at the maximum feasible average fuel economy level for the industry, i.e., such standard would exceed that level.

The least capable manufacturers with major shares of the market are GM and Ford. Taking account of the EPA test adjustment credit, both of those manufacturers project that their MY 1986 CAFE could be as high as 26.3 mpg.

In the section of this preamble entitled "Manufacturer Capabilities for 1986," the agency made several conclusions concerning the manufacturers' abilities to improve their projected CAFE levels. First, given the imminence of the 1986 model year, there is insufficient time now for the manufacturers to make further significant technological changes to their product plans. Therefore, any additional efforts by the manufacturers to increase their MY 1986 CAFE would largely be limited to attempts to change product mixes through increased marketing efforts and/or product restrictions. Second, based on past experience and current competitive conditions, GM and Ford cannot significantly improve their CAFE's by increased marketing efforts. Third, the types of product restrictions that would be required for GM and Ford to significantly improve their CAFE's could result in significant adverse economic impacts and restrict consumer choice to an unreasonable degree. The unacceptability of the resulting product mix to a significant segment of the consuming public would likely result in MY 1986 sales losses well into the hundreds of thousands of units and job losses well into the tens of thousands. The agency considers these effects to be beyond the realm of economic practicability.

While the agency believes that energy conservation is important, it cannot conclude that the possible energy savings associated with maintaining the 27.5 mpg standard for MY 1986 would justify the potential major economic hardships discussed above. The magnitude of possible energy savings is uncertain. If manufacturers restricted the availability of their large cars, consumers might tend to keep their older, less fuel-efficient large cars in service longer or purchase large pickup trucks and vans to obtain the room, power and load-carrying capacity they desire. This could offset in whole or part the apparent energy savings associated with higher passenger car CAFE.

The agency's FRIA indicates that the *maximum* magnitude of any increase in fuel consumption associated with a 26.0 mpg CAFE standard would be 1.54 billion gallons (37 million barrels) over the life of the MY 1986 fleet. The maximum yearly impact on U.S. gasoline consumption would be 210 million gallons, or roughly 0.3 percent of total annual automobile gasoline consumption. In terms of total U.S. petroleum consumption, it would amount to a maximum yearly increase of 0.09 percent. While the agency does not view these figures as insignificant, it does not believe that such hypothetical savings would justify potential sales losses to the industry in the hundreds of thousands, job losses in the tens of thousands, or the unreasonable restriction of consumer choices.

Some commenters argued that greater weight should be placed on the need of the nation to conserve energy. ECC argued that the agency failed to adequately consider future energy needs and reviewed energy consumption effects without considering that it is the cumulative, long-term effect of steadily increasing standards that produces the energy conservation results that Congress intended.

As discussed above, NHTSA has considered future energy needs and concurs that energy conservation is important. Moreover, the agency agrees with ECC that major improvements in energy conservation result from cumulative smaller improvements made over time. However, this rulemaking is not one where the agency is declining to set future higher standards merely because the required energy conservation improvements would be relatively small. Rather, the agency's action in reducing the MY 1986 standard is being taken in light of all the statutory criteria for determining maximum feasible average fuel economy level. The need to conserve energy is important but does not outweigh the other criteria and, in the agency's judgment, does not justify the severe economic consequences discussed above. NHTSA believes this is particularly true in light of the relatively small and uncertain effect maintaining the 27.5 mpg standard for MY 1986 would have on energy consumption. The agency also notes that industry CAFE, even with a MY 1986 26.0 mpg standard, is likely to be higher than it was in MY 1985, thus contributing to energy conservation.

Some commenters argued that it is improper to reduce a fuel economy standard in light of changed market demand or that the agency placed too much weight on that factor. CFAS argued that the Cost Savings Act was intended to lead the market rather than have the market lead fuel economy standards.

NHTSA has always considered market demand in establishing fuel economy standards as that factor is an implicit part of the consideration of economic practicability. In a free market economy, market demand is one of the primary determinants for what manufacturers will be able to sell. As the agency has noted before, consumers need not purchase what they do not want. A standard set without regard to market demand could be overly stringent and economically impracticable.

Court decisions construing the term "practicability" in sections 103 (a) and (f) of the National Traffic and Motor Vehicle Safety Act are instructive here. In *NHTSA* v. *Brinegar*, 491 F.2d 31, 38 (D.C. Cir. 1974), the court concluded that a standard requiring permanently molded labels on retreaded tires was "impracticable" because it was economically infeasible, in that it would reduce the volume of tire carcasses available for retreading by two-thirds, and would cause severe economic dislocation in the retreaded tire industry. The definition of practicability applied by the court required scrutiny of several economic factors, and the agency had improperly failed to

consider the effect of the standard on a large segment of the motoring public, among other factors, Id. at 42.

In *Pacific Legal Foundation* v. *DOT*, 593 F.2d 1338, 1345 (D.C. Cir. 1979), cert. denied, 444 U.S. 830 (1979), the court concluded that the "practicability" requirement of the Vehicle Safety Act required the Secretary to take public reaction into account in deciding whether to adopt a regulation requiring automatic restraints in passenger cars. The court rejected the view that "public acceptance or rejection . . . is not one of the statutory criteria" to be applied in establishing safety standards.

While NHTSA believes it would be error to fail to take account of market demand in considering economic practicability, that does not mean that the agency's fuel economy standards are based solely or primarily upon market demand. As discussed above, the agency is required to establish standards at the maximum feasible average fuel economy level based upon four factors. Economic practicability is only one of those four factors, and market demand is only one aspect of economic practicability.

The changes in Federal safety and damageability standards discussed above provided some additional flexibility in improving CAFE. However, as discussed above with respect to possible technological changes, the imminence of the 1986 model year precludes significant changes in product designs.

Taking account of the four factors of section 502(e), the agency determines that the maximum feasible average fuel economy level for MY 1986 is 26.0 mpg. This level would be at the maximum capability of GM and Ford, the least capable manufacturers with major shares of the market, taking account of marketing and technological risks. As discussed above, the agency believes it has a responsibility to set standards at a level that can be achieved by such major manufacturers. NHTSA has determined that there are significant risks that GM and Ford may not be able to achieve their highest projected capabilities of 26.3 mpg, and it is in light of those risks that the agency is setting a standard at a level that provides a slight margin for risks.

As discussed above, GM's projected CAFE of 26.3 mpg is subject to marketing risks, including the possibility that Japanese car sales may rise substantially during the 1986 model year, resulting in a corresponding loss in sales of GM's most fuel-efficient cars and a concomitant reduction in its CAFE capability. Ford's maximum projected MY 1986 CAFE of 26.3 mpg is subject to both technological and marketing risks, amounting to 0.5 mpg, resulting in a potential CAFE for Ford below 26.0 mpg.

The agency notes that the EIA's July 1985 Short-Term Energy Outlook indicates that motor gasoline prices are expected to decline by one cent per gallon during 1985 and to drop by an additional four cents per gallon between 1985 and 1986, mainly as a result of lower crude oil prices. Such a continuing decline in gasoline prices adds considerable uncertainty to whether manufacturers will be able to achieve their projected CAFE's, particularly since the EIA projection was made after the manufacturers submitted their CAFE estimates. Thus, this latest estimate of declining gasoline prices is not included as part of GM's and Ford's considerations.

Subsequent to the EIA estimate, Saudia Arabia indicated plans to raise its petroleum production by at least one million barrels a day starting in October. The Wall Street Journal quoted Saudi Oil Minister Ahmed Zaki Yamani as stating that unless other members of the oil cartel hold the line on production and price—something they haven't been doing—prices could conceivably fall by next spring to $18 a barrel from the current market average of about $26. The newspaper quoted economist Alan Greenspan, the chairman of Townsend-Greenspan & Co., as predicting a weak market in the spring, with oil prices falling at least as far as $22 a barrel. Since these Saudi plans came after GM and Ford prepared their projections, they add another element of uncertainty.

Another factor of uncertainty is the introduction of inexpensive small cars from Yugoslavia, Korea, and Greece. Yugo sales began on August 26, 1985. That company projects it will sell 10,000 cars by the end of the 1985 calendar year and 40,000 cars the first year of sales. Hyundai cars are expected to be introduced into the U.S. market in early 1986. That company plans to sell 100,000 cars the first year. Ford noted that while its 1985 estimates include some consideration of these vehicles, substantial success of such entries presents a further risk to its CAFE. In addition, the Desta, a recently announced Greek import, is also expected to sell up to 40,000 vehicles in its first year.

Experience with uncertainties that may reduce manufacturers' CAFE indicates that there is a substantial risk that such uncertainties may come to fruition. For example, a comparison of manufacturers' CAFE estimates as shown in their pre-model year reports, which are submitted in late December of the then-current model year (i.e., at a time when many vehicles are well into production), with actual CAFE's indicates that the actual CAFE's differed from the estimates by an average of 0.5 mpg, and by as much as 1.2 mpg. Thus, companies such as Ford, GM, Chrysler, and Toyota have difficulty estimating their CAFE closer than 0.5 mpg even at that late a period in time.

NHTSA disagrees with CEA's comment that a standard set at 26.0 mpg is too high and with that commenter's assertion that the NPRM "conceded" that under current market conditions a 26.0 mpg standard is likely to cause a shift of consumer purchases from larger GM and Ford products to models produced by other manufacturers, as well as smaller GM and Ford automobiles.

The agency further disagrees with assertions by CEA that a 26.0 mpg standard will reduce consumer choice and induce automobile purchasers to acquire less desirable models, handicap U.S. manufacturers in their efforts to compete against Japanese and other automobile imports, lead to loss of U.S. jobs in manufacturing sectors where the U.S. retains a comparative advantage in a highly competitive, international market, and increase highway fatalities and casualties by causing automobile consumers to buy automobiles that are smaller and not as safe as those they would purchase under lower CAFE standards.

As discussed above, the agency has concluded that GM and Ford will be able to achieve average fuel economy of 26.0 in MY 1986 without engaging in unreasonable product restrictions. Therefore, the 26.0 mpg standard will not reduce consumer choice or lead to loss of U.S. jobs.

The agency does not believe that there is any basis for concluding that a 26.0, or even a 27.5 mpg standard, would represent any significant increased risk of injury or death for passenger car occupants. It is true that in a crash between cars of different sizes, everything else being equal, the occupants of the smaller car are at greater risk of injury. However, as large cars are reduced in size, the mass differences between large and small cars diminish, along with the potential for injury. In addition, the agency is taking steps to ensure that smaller vehicles provide sufficient crash protection. Also, small cars may have crash-avoidance advantages compared to heavier vehicles. Passenger car occupant deaths have in fact dropped from 28,200 in 1978 to 23,500 in 1984, a 17 percent decline. This occurred during a

time when the average new car's weight was reduced by 1000 pounds.

With respect to CEA's request that the agency adopt a MY 1986 standard below 26.0 mpg, NHTSA also notes that such an amendment would be outside the scope of notice of the NPRM.

With the exception of Jaguar, Mercedes-Benz, and possibly Saab, the agency believes the rest of the industry is capable of meeting the 26.0 mpg standard, although compliance may be close for some of the European manufacturers. NHTSA has concern about setting standards that one or more manufacturers cannot meet, particularly since some of the manufacturers have made great improvements in their fuel economy. As discussed above, however, the Act requires the agency to take industrywide considerations into account in determining the maximum feasible average fuel economy level. A standard set at the level of the least capable European manufacturer would be so far below that of the industry as a whole that it would remove any effect the CAFE program has on improving fuel economy. The agency noted in the NPRM that these manufacturers have chosen to concentrate on a segment of the market that tends toward lower fuel economy. BMW objected to this characterization, arguing that it implied a wilful choice toward noncompliance. That commenter argued that foreign manufacturers with more than one model usually cannot import all of them into the U.S., which is an extremely competitive marketplace, but can only import the most competitive models. As indicated above, NHTSA recognizes that some of these manufacturers have made significant fuel economy improvements, and the agency was not suggesting criticism of those manufacturers.

In this and other rulemakings, commenters have raised the issue of whether and how penalties and carryforward/carryback credits should be taken into account in setting standards at the maximum feasible average fuel economy level. The agency's analysis of these issues is contained in the FRIA.

**Competitive Effects**

Chrysler argued that NHTSA must consider the economic impact of a reduced standard on manufacturers which will achieve the 27.5 standard. That commenter argued that a reduced standard will have a deleterious competitive impact on such manufacturers, since they will have no time to reallocate their resources and compete as effectively as possible in the new environment.

The agency recognizes the varying impacts among manufacturers that are involved in revising fuel economy standards. However, the agency must consider the feasibility of its standards for the industry as a whole, as discussed above, in accordance with the four factors provided by section 502(e) of the Act. Indeed, since the Act specifically permits the revision of previously set fuel economy standards, it necessarily contemplates the possibility of different impacts on different manufacturers. Any change in a standard will result in varying impacts, because different manufacturers will be at different stages along varying paths toward complying with the previous standard. The agency notes that the MY 1981 light truck standard was lowered in response to a petition for rulemaking submitted by Chrysler. Thus, that company has requested and received the benefit from the same type of rulemaking action to which it now objects.

The agency also notes that Chrysler has emphasized that it is now earning the greatest profits in its history. This is occurring while its CAFE is above that of GM and Ford. While that company has argued that it could be earning still higher profits if it had known the fuel economy standard would be reduced, it has not shown that reducing the standard to 26.0 mpg will have any demonstrable impacts on its current high level of profitability or on its employment. Moreover, the agency believes that any such relatively minor impacts are heavily outweighed by the possibility of serious adverse economic consequences to the industry and economy as a whole if the standard is not reduced.

**Comment Period; Timeliness of Decision**

The attorney general of California argued that the 30-day comment period unfairly restricted public comment. That commenter argued that the July 22, 1985, issue of the **Federal Register** did not reach the West Coast until a week or more after the publication date and that the comment period was effectively shortened even further by the time required to obtain various documents referred to by the notice that were in the public docket.

As indicated by the March 1985 notice granting the GM and Ford petitions and requesting comments on those petitions, NHTSA stated that it was focusing its attention on the 1986 model year in view of the possibility of serious economic harm cited by the petitioners and the limited remaining time for amending the 1986 standard. As discussed by the agency in a previous **Federal Register** notice, amendments reducing a standard for a particular model year may be made until the beginning of the model year, but not after that time. See 49 FR 41250, 41254–5 (October 22, 1984). In its March 1985 notice, the agency noted that since model years begin in the fall, a final rule reducing the 1986 standard would have to be issued by this fall. The agency also noted that "(t)he nearness of that deadline would necessitate that each phase of the rulemaking, including the period for commenting on a proposal, be shortened so that the rulemaking could be completed in a timely fashion." 50 FR 12344 (March 28, 1985).

Because of the importance of the issues presented by this rulemaking, which concern possible serious economic harm to GM and Ford and the economy as a whole, coupled with the nearness of the deadline for amending the 1986 model year standard, the agency found good cause for a 30-day comment period. The statute does not establish a specific minimum notice period. Accordingly, the agency established a reasonable comment period, based on the circumstances. The agency believes that the procedural steps followed by the agency provided a full opportunity for meaningful participation by the public. The agency notes that the public was given advance notice in the March 28, 1985, **Federal Register** publication of a possible shortened comment period and the opportunity to comment on the issues raised by the petitions in advance of NHTSA's decision whether to issue an NPRM.

CFAS argued that it is too late to reduce the MY 1986 standard because the model year has already begun. That commenter cited July 1985 sales of MY 1986 GM N-body cars.

The agency disagrees with that commenter's position. The time when a model year begins is imprecise. Model years may differ for different manufacturers and for different vehicles produced by a manufacturer. The single court to address the issue has stated only that a given model year begins in the fall of the preceding calendar year (e.g., fall 1985 is the beginning of the 1986 model year). See *Center for Auto Safety v. NHTSA*, 710 F.2d 842, 847 (D.C. Cir. 1983). The court did not specify a particular date for the beginning of the model year. Consistent with the court's general view, the agency concludes that this amendment to the MY 1986 standard is timely.

**Impact Analyses**

*1. Economic Impacts*

The agency considered the economic implications of the fuel economy standard established by this rule and determined that the rule is major within the meaning of Executive Order 12291, and significant within the meaning of the Department's regulatory procedures. The agency's detailed analysis of the economic effects is set forth in a final regulatory impact analysis, copies of which are available free from the Docket Section. The contents of that analysis are generally described above.

*2. Environmental Impacts*

The agency has considered the environmental implications of this amendment to the 1986 passenger automobile average fuel economy standard in accordance with the National Environmental Policy Act of 1969 and determined that the amendment will not significantly affect the human environment. An Environmental Assessment (EA) has been prepared and placed in the public docket. The EA supersedes a Draft Environmental Impact Statement (DEIS) which was circulated to interested agencies and parties and made available to the public for comment. Comments were received from the attorney general of California and from EPA. Based on the agency's review of the comments and all available information, the agency has determined that this rulemaking action will not have a significant effect upon the environment. Accordingly, the DEIS is being changed to a finding of no significant impact (FONSI). See 49 CFR 520.21(f)(2).

*3. Impacts on Small Entities*

Pursuant to the Regulatory Flexibility Act, the agency has considered the impact this rulemaking action will have on small entities. I certify that this action will not have a significant economic impact on a substantial number of small entites. Therefore, a regulatory flexibility analysis is not required for this action. No passenger car manufacturer subject to the proposed rule would be classified as a "small business" under the Regulatory Flexibility Act. In the case of small businesses, small organizations, and small governmental units which purchase passenger cars, adoption of the proposed rule would not affect the availability of fuel efficient passenger cars or have a significant effect on the overall cost of purchasing and operating passenger cars.

In accordance with section 502(j) of the Cost Savings Act, the agency submitted this final rule to the Department of Energy for review. There were no unaccommodated comments.

**List of Subjects in 49 CFR Part 531**

Energy conservation, Gasoline, Imports, Motor vehicles.

**PART 531—[AMENDED]**

In consideration of the foregoing, 49 CFR Part 531 is amended as follows:

1. The authority citation for Part 533 is revised to read as follows:

**Authority:** 49 U.S.C. 1657; 15 U.S.C. 2002; delegation of authority at 49 CFR 1.50.

2. The table in § 531.5(a) is revised to read as follows:

**§ 531.5 Fuel economy standards.**

(a) * * *

| Model year | Average fuel economy standard (miles per gallon) |
|---|---|
| 1978 | 18.0 |
| 1979 | 19.0 |
| 1980 | 20.0 |
| 1981 | 22.0 |
| 1982 | 24.0 |
| 1983 | 26.0 |
| 1984 | 27.0 |
| 1985 | 27.5 |
| 1986 | 26.0 |
| 1987 and thereafter | 27.5 |

Issued on September 30, 1985.

**Diane K. Steed,**

*Administrator.*

[FR Doc. 85-23520 Filed 10-1-85; 12:16 pm]

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## INTERSTATE COMMERCE COMMISSION

**49 CFR Part 1047**

**Partial Exemption for Agricultural Commodities, Livestock, and Fish**

**AGENCY:** Interstate Commerce Commission.

**ACTION:** Final rules, technical amendments.

**SUMMARY:** Section 10526(a)(6) of the recodified Interstate Commerce Act, as amended provides an exemption from Commission jurisdiction for motor carriers vehicles used in carrying ordinary livestock, fish, and unmanufactured agricultural commodities. Administrative Ruling 119 in § 1047.25 lists those items that fall either within or outside of the exemption. The Motor Carrier Act of 1980 added several exemptions to section 10526 of the recodified Act. Section 1047.25 is therefore being revised to make current the information contained in that section.

**EFFECTIVE DATE:** October 4, 1985.

**FOR FURTHER INFORMATION CONTACT:**

John L. Chaney—275-7842

or

Serita Saint-Louis—275-5874

**List of Subjects in 49 CFR Part 1047**

Agricultural commodities, Motor carriers.

**James H. Bayne,**

*Secretary.*

**Appendix**

Title 49 of the CFR is amended as follows:

**PART 1047—[AMENDED]**

(1) The authority citation following § 1047.10 is removed and the authority citation for Part 1047 revised to read as follows:

**Authority:** 49 U.S.C. 10525, 10526, 10931, unless otherwise noted.

(2) Section 1047.25 is revised to read as follows:

**Partial Exemption for Agricultural Commodities, Livestock, and Fish**

**§ 1047.25 Status of selected agricultural commodities, livestock, and fish under 49 U.S.C. 10526(a)(6) and Administrative Ruling No. 119.**

Section 10526(a)(6) of the recodified Interstate Commerce Act [49 U.S.C. 10526(a)(6)], formerly section 203(b)(6) of the Interstate Commerce Act [49 U.S.C. 303(b)(6)], as amended by the Transportation Act of 1958, provides an exemption for motor vehicles used in carrying ordinary livestock, fish, and unmanufactured agricultural commodities. Over the years, there have been numerous office opinions, Commission decisions, and judicial holdings, as well as specific statutory language, defining certain commodities as falling either within or without the exemption. Administrative Ruling 119, which is reproduced below, is the most current compilation.

**Administrative Ruling No. 119, Revised July 1983, Supplements Ruling Nos. 107 and 110, Section 10526(a)(6)**

**Interstate Commerce Commission Office of Compliance and Consumer Assistance**

The purpose of this ruling is to provide a list showing the status of various commodities under the exemption in section 10526(a)(6) of the recodified Act as amended by the Motor Carrier Act of 1980 and the Transportation Act of 1958. The office

opinions in this ruling are tentative and informal and made in the absence of pertinent formal decisions by the Commission or the courts.

**The Motor Carrier Act of 1980, Pub. L. No. 96-296 Added Section 10528 to the Recodified Act (49 U.S.C. 10528)**

This section provides that a motor carrier of property providing transportation exempt from Commission jurisdiction under paragraphs (6), (8), (11), (12), or (13) of section 10526(a) of the recodified Act may transport such exempt property in the same vehicle and at the same time as property which the carrier is authorized to transport under a certificate or permit issued by the Commission. Such mixed load transportation shall not affect the unregulated status of such exempt property or the regulated status of the property which the carrier is authorized to transport.

The fact that a particular commodity is not in the list does not mean that it is either within or not within the exemption. By comparison, it may be possible to form a conclusion as to the status of commodities similar to those listed.

This composite commodity list is made up from various sources. The following words which appear at the end of the commodity description will indicate the sources:

1. "Law"—Administrative Ruling No. 107 [49 CFR 1047.25] which the Transportation Act of 1958 incorporated into former section 203(b)(6) of the Act but with certain changes. Now section 10526 of the recodified Act [49 U.S.C. 10526].

2. "Law-Ruling 110"—Administrative Ruling No. 110 which explained the changes in Ruling No. 107 made by the Transportation Act of 1958.

3. "Case No. ————"—Commission and court decisions since 1958. These are identified by the designation "Case No. ————." The title and citation of the decision is shown in the Case List which follows the Commodity List.

4. "Motor Carrier Act of 1980"—Which added several exemptions to section 10526 of the recodified Act [49 U.S.C. 10526].

5. "Office"—Informal opinions given by the Office of Compliance and Consumer Assistance and its predecessor Office and Bureaus in response to inquiries received since 1958.

The safety and hours of service regulations of the Federal Highway Administration of the Department of Transportation apply generally to operations conducted under the exemption.

**Former Section 206(b)(6) of the Interstate Commerce Act as Amended by the Transportation Act of 1958**

Nothing in this part, except the provisions of section 204 relative to qualifications and maximum hours of service of employees and safety operations or standards of equipment shall be construed to include * * * (6) motor vehicles used in carrying property consisting of ordinary livestock, fish (including shell fish), or agricultural (including horticultural) commodities (not including manufactured products thereof), if such motor vehicles are not used in carrying any other property, or passengers, for compensation: *Provided*, that the words "property consisting of ordinary livestock, fish (including shell fish), or agricultural (including horticultural) commodities (not including manufactured products thereof)" as used herein shall include property shown as "Exempt" in the "Commodity List" incorporated in ruling numbered 107, March 19, 1958, Bureau of Motor Carriers, Interestate Commerce Commission, but shall not include property shown therein as "Not Exempt": *Provided Further however*, that notwithstanding the preceding proviso the words "property consisting of ordinary livestock, fish (including shell fish), or agricultural (including horticultural) commodities (not including manufactured products thereof)" shall not be deemed to include frozen fruits, frozen berries, frozen vegetables, cocoa beans, coffee beans, tea, bananas, or hemp, and wool imported from any foreign country, wool tops and noils, or wool waste (carded, spun, woven, or knitted), and shall be deemed to include cooked or uncooked (including breaded) fish or shell fish when frozen or fresh (but not including fish and shell fish which have been treated for preserving, such as canned, smoked, pickled, spiced, corned, or kippered products).

**Composite Commodity List of Administrative Ruling No. 119**

*Additives*—Ruling No. 107 reflects the policy of allowing minor amounts of additives, since such things as vitamins in milk, seasoning or sweetening in foods, coated Christmas trees, etc. are shown as exempt. Informal rule of thumb is that no more than 5 percent non-exempt additives are allowable.—Office.

*Advertising matter*, in reasonable amounts, transported along with exempt commodities to which it relates, not considered as affecting the exempt nature of shipment.—Office

*Advertising matter*, comprising 20-30 cases transported with 500 cases of tulip bulbs—Exempt—Office.

*Alfalfa*, see Feeds.

*Animal fats* [1]—Not exempt—Law.

*Animals*, see Livestock.

*Bagged commodities*—Placing exempt commodities in bags does not affect their exempt status.—Office.

*Bagging*, scrap (worn jute bagging)—Not exempt—Office.

*Bananas*—Not exempt—Law Ruling 110.

*Bark*, see Forest Products.

*Barley*, see Grains.

*Bees*—Exempt—Law.

*Beeswax*, crude, in cakes and slabs—Exempt—Law.

*Beet pulp*, see Feeds.

*Beets*, sugar—Exempt—Law.

*Berries*, see Fruits.

*Birds*

Canaries and parakeets—Not exempt—Office.

Edible, see separate heading: Poultry.

Feathers, see separate heading: Feathers.

Pigeons, racing—Not exempt—Law.

Birdseed, see separate heading: Feeds.

*Bones*, animal—Not exempt—Office.

*Bran*, see Feeds.

*Broom corn*, threshed and baled—Exempt—Law.

*Bulbs*, see Horticultural Commodities.

*Butter*—Not exempt—Law.

*Buttermilk*—Exempt—Law.

*Candied apples* (fresh apples on a stick dipped in taffy)—Not exempt—Office.

*Casein*, derived from milk—Not exempt—Case No. 1.

*Canned fruits and vegetables*—Not exempt—Law.

*Carnauba wax* as imported in slabs or chunks—Not exempt—Law.

*Castor Beans*—Exempt—Law.

*Castor pomace* (cake remaining after extraction of oil from castor beans)—Not exempt—Office.

*Cattle*, live, see Livestock.

*Cattle, slaughtered*—Not exempt—Law.

*Charcoal*—Not exempt—Law.

*Cheese*

Cheese—Not exempt—Law.

Cheese, cottage—Not exempt

Cheese, cottage, curd, in bulk—Not exempt—Office.

Cheese, cream—Not exempt—Law.

*Chicle* (a gum obtained from latex of trees) in form normally shipped, i.e. purified and neutralized—Not exempt—Office.

*Christmas Trees*, plain, sprayed, or coated—Exempt—Law.

*Cider*, apple, and cider vinegar—Not exempt—Office.

*Citrus fruits*, see Fruits.

*Clay*—Not exempt—Office.

*Coal*—Not exempt—Office.

*Cocoa bean shells*, in any form—Not exempt—Office.

*Cocoa beans*—Not exempt—Law—Ruling 110.

*Coconut*, see Nuts.

*Coffee*

Coffee beans—Not exempt—Law—Ruling 110.

Coffee, instant—Not exempt—Law.

Coffee, roasted—Not exempt—Law.

*Compost*

Compost, composed of manure and straw sweepings, dried, disintegrated, and decomposed—Exempt—Office.

Compost, product, a mixture of processed garbage and sewage sludge—Not exempt—Office.

Compost, mixture of manure, straw or rice hulls, but not sawdust—Exempt—Office.

Compost, mixture of manure and sweepings with water and bacterial agents to hasten fermentation, used as a growth medium for mushrooms—Not exempt—Office.

[1] Exempt if used as a livestock or poultry feed or feed ingredient and transported to a site of agricultural production or to a business enterprise engaged in the sale to agricultural producers of goods used in agricultural production.—Motor Carrier Act of 1980.—Amendment to section 10526(a)(6) by addition of (E).—Case No. 33.

*Containers*

Containers, crates, and boxes which have been used in the movement of exempt commodities, which have been reconditioned and sold from stock to new purchasers—Not exempt—Office.

Containers, crates, and boxes which have been used in the movement of exempt commodities, and are being returned for reuse [2]—Exempt—Law.

Containers, new, for use in shipping exempt commodities—Not exempt—Law.

Used pallets, used empty shipping containers including used intermodal containers and other shipping devices. Exempt [2]—Motor Carrier Act of 1980.

[1] *Copra meal*—Not exempt—Law.

*Corn* see Grain.

*Corn cob*

Corn cobs—Exempt—Law.

Corn cobs, ground—Exempt—Law.

*Corn fodder*—Exempt—Law.

*Cottage cheese*, see Cheese.

*Cotton*

Cotton, carded but not spun, woven or knitted—Exempt—Law.

Cotton, ginned or unginned—Exempt—Law.

*Cotton felt*, used in mattresses, etc. consisting of scraps of raw cotton, blended and carded, but not otherwise processed—Exempt—Office.

*Cotton lap* (Baled cotton, blended, cleaned and formed into rolls preparatory to milling)—Exempt—Office.

*Cotton linters*—Exempt—Law.

*Cotton motes* (fibers removed from cotton seed after ginning and removal of linters)—Exempt—Office.

*Cotton waste consisting of bits of string*, thread, and yarn—Not exempt—Office.

*Cotton waste consisting of scraps of cotton fibre not spun*, woven or knitted—Exempt—Law.

*Cotton yarn*—Not exempt—Law.

*Cottonseed*

Cottonseed, whole—Exempt—Law.

Cottonseed, dehulled—Exempt—Law.

*Cottonseed cake* [1]—Not exempt—Law.

*Cottonseed hulls*—Exempt—Law.

*Cottonseed meal* [1]—Not exempt—Law.

*Crates*, see Containers.

*Cream*, see Milk.

*Cream cheese*, see Cheese.

*Dehydrated*, see commodity name: Fruits, Vegetables, Eggs, etc.

*Diatomaceous earth*—Not exempt—Law.

*Dinners*

Dinners, frozen—Not exempt—Law (But see next two entries).

Dinners, chicken, cooked and frozen—Exempt—Office (Based on Case No. 26).

Dinners, seafood, frozen—Exempt—Law—Ruling 110.

*Dried*, see commodity name: Fruits, Vegetables, Eggs, etc.

[2] Exempt except those used in the transportation of motor vehicles or parts of motor vehicles.—Motor Carrier Act of 1980.—Amendment to section 10526(a) by addition of subsection (11).

*Egg*

Albumen, fresh, liquid—Exempt—Law.

Albumen, fresh, liquid, pasteurized—Exempt—Office.

Dried—Exempt—Law.

Frozen—Exempt—Law.

Hard boiled, pickled, packed in vinegar and water with spices—Not exempt—Office.

In shell—Exempt—Law.

Liquid, whole or separated—Exempt—Law.

Mixture of 90% powdered and 10% syrup and salt, dried—Not exempt—Office.

Oiled—Exempt—Law.

Omelet mix consisting of fresh broken eggs and milk with minute amounts of salt and pepper and seasoning, packaged and frozen—Exempt—Office.

Powder, dried—Exempt—Law.

Shelled—Exempt—Law.

Shells, pulverized, for medical use (designated "pure calcium carbonate")—Not exempt—Office.

Whites, frozen—Exempt—Office.

Whole, frozen with added yolks—Exempt—Office.

Whole, frozen, standardized by subtraction of white—Exempt—Office.

Yolks, dried—Exempt—Law.

Yolks, fresh, liquid—Exempt—Law.

Yolks, frozen—Exempt—Office.

Yolks, with 10% salt or sugar added—Not exempt—Office.

*Fats*, animal [1]—Not exempt—Law.

*Feathers*

Feathers, cleaned and ground, not further processed, nothing added (sometimes referred to as "feather meal.")—Exempt—Office.

Feathers, ground, combined with dehydrated poultry offal—Exempt—Office.

*Feeds*

Alfalfa, dried, chopped, and pressed into cubes and wafers by machine, after dampening with water—Exempt—Office.

Alfalfa, dried, etc., as above, but by a steam process [1]—Not exempt—Office.

Alfalfa pellets [1]—Not exempt—Office

Beet pellets [1]—Not exempt—Office.

Beet pulp [1]—Not exempt—Law.

Bird gravel—Not exempt—Office.

Bird seed, containing milo, millet, wheat chaff, and peanut heart—Exempt—Office.

Bird seed bell, seed (millet, wheat, milo, and sunflower seed) mixed with an adhesive, such as corn syrup or wood glue, fitted with a wire hanger, and molded into a bell shape, for feeding wild birds—Exempt—Case No. 19.

Bran shorts [1]—Not exempt—Law.

Corn gluten [1]—Not exempt—Law.

Cottonseed products, see separate heading: Cottonseed.

Distilled corn grain residues with or without solubles added [1]—Not exempt—Law.

Formulas composed of hominy feed, beet pulp, corn gluten, wheat middlings, cane molasses and minerals [1]—Not exempt—Office.

Breaded, cooked or uncooked, frozen or fresh—Exempt—Law—Ruling 110; Case No. 24.

Cakes, codfish, cooked or uncooked, frozen or fresh—Exempt—Law—Ruling 110; Case No. 24.

Canned, as a treatment for preserving—Not exempt—Ruling 110; Case No. 24.

Clam juice or broth, cooked or uncooked, frozen or fresh—Exempt—Ruling 110; Case No. 24.

Condensed fish, solubles (obtained by condensing the aqueous portion of the residue of pressing oil from fish)—Not exempt—Office.

Cooked or partially cooked fish or shellfish, frozen or fresh—Exempt—Law—Ruling 110; Case No. 24.

Crab offal (residue after extraction of meat from crabs including shells, dried and ground)—Exempt—Office.

Crabmeat, pasteurized, placed in hermetically sealed containers for purpose of preservation—Not exempt—Office.

Crabmeat, pasteurized, sealed for purposes of cleanliness only, preservation accomplished by refrigeration—Exempt—Office.

Croquettes, salmon, cooked or uncooked, frozen or fresh—Exempt—Law—Ruling 110; Case No. 24.

Deviled crabs, clams, or lobsters, cooked or uncooked, frozen or fresh—Exempt—Law—Ruling 110; Case No. 24.

Dinners, cooked or uncooked, frozen or fresh—Exempt—Law—Ruling 110; Case No. 24.

Fish, processed by cleaning, scaling, and adding a small amount of salt—Exempt—Case No. 4.

Fish, ground, frozen into blocks—Exempt—Case No. 4.

Fish luncheon meat of smoked ground fish formed into loaves—Not exempt—Office.

Fish, lightly salted or spiced, requiring refrigeration to retard deterioration—Exempt—Office.

Fried fish fillets, oysters, or scallops, frozen or fresh—Exempt—Law—Ruling 110; Case No. 24.

Frogs, live or dressed—Exempt—Law.

Frogs and turtles, placed in formaldehyde to prevent or retard deterioration during transportation (but not as a preservative as that term is normally used) and used in substantially the same manner as live specimens—Exempt—Office.

Frozen, see General above, and individual listings.

Hermetically sealed in containers as a treatment for preserving—Not exempt—Law.

*Fish*

Hermetically sealed in containers for cleanliness only, preservation attained by refrigeration—Exempt—Law.

Meal—Not exempt—Law.

Offal (inedible portions of fish not further processed)—Exempt—Law.

Oil from fishes—Not exempt—Law.

Preserved, or treated for preserving, such as smoked, salted, pickled, spiced, corned or kippered—Not exempt—Law.

Residue remaining after extraction of oil from fish—Not exempt—Office.

Salmon eggs, brined and packed in salt and formaldehyde solution in vacuum sealed jars—Not exempt—Office.

Salmon eggs, frozen, not pickled or brined or otherwise treated for preservation—Exempt—Office.

Hamster and gerbil food with 9% soy bean and alfalfa meal added—Not exempt—Office.

Hominy feed [3]—Not exempt—Law.
Meal, see separate heading: Meal.
Middlings [3]—Not exempt—Law.
Oat hulls, ground—Exempt—Law.
Parrot Food, mixture of exempt commodities—Exempt—Office.
Pelletized ground refuse screenings—Not exempt [3]—Law.
Rice bran—Exempt—Law.
Rice hulls, anhydrous ammonia added providing a 10% protein source as feed [3]—Not exempt—Office.
Rice hulls, ground or unground, nothing added—Exempt—Office.
Rice mill feed pellets retaining a continuing substantial identity through the processing stage [3]—Exempt—Case No. 32.
Screenings, feed—Exempt—Law.
Soya bean husks—Exempt—Case No. 16.
Wheat bran [3]—Not exempt—Law.
Wheat mixed feed (mixture of coarse outer covering of wheat kernel, wheat germ, wheat flour, and offal of the tail of the mill [3]—Not exempt—Case No. 2.
*Fertilizer, commercial* [3]—Not exempt—Law.

*Fibers*

Abaca (manila hemp), piassava, ixtle, rattan, and palm and grass fibers—Exempt—Case No. 3.
Clippings resulting from rope making—Not exempt—Office.
Coir yarn, made from coconut fiber, is manufactured by spinning—Not exempt—Case No. 3.
Flax—Exempt—Law.
Hemp—Not exempt—Law—Ruling 110. "Hemp" specifically made not exempt by amendment of section 203(b)(6) means true hemp (cannabis stiva) or its fiber, and does not embrace similar plants or plant fibers commonly referred to by name. Case No. 3.
Jute in bales—Exempt—Law.
Jute fabric, product of a textile operation—Not exempt—Office.
Kapok, in loose bales, not processed beyond separation of fibers from seeds—Exempt—Office.
Palmleaf, not processed beyond separation from leaf, cleaning, combir drying and baling—Exempt—Office.
Ramie—Exempt—Law.
Ramie Tops, consisting of long fibers of the ramie plant—Exempt—Office.
Sisal, not being a true hemp—Exempt—See explanation under "Hemp" above.
*Fish* (including shell fish) General. Frozen, quick frozen, and unfrozen fish and shell fish in the various forms in which it is shipped, such as live fish, fish in the ground, beheaded, and gutted fish, filletted fish, beheaded shrimp, and oysters, clams, crabs, and lobsters, with or without shells, including crabmeat and lobster meat—Exempt—Law.
Salted, as treatment for preserving—Not exempt—Law.
Scraps, frozen, granulated, and pressed into blocks, for cat food—Exempt—Office.
Sea lions and walrus—Not exempt—Office.
Seafood casseroles and dinners of which fish or shellfish is the principal ingredient—Exempt—Office.
Seal blubber—Not exempt—Office.
Seal skins—Not exempt—Office.
Shells of sea creatures, other than those mixed with other refuse of "offal" [4]—Not exempt—Office.
Shells, oyster, moving to market for use in button making [4]—Not exempt—Law.
Shells, oyster, ground [4]—Not exempt—Case No. 28.
Shrimp cocktail (Shrimp cooked and placed in glass jars with special sauce and seasoning and kept under refrigeration)—Exempt—Office.
Soup or chowder containing a relatively small proportion of fish or shellfish in proportion to other ingredients which are not within the exemption—Not exempt—Office.
Stew, consisting of raw oysters or clams, milk and seasoning, frozen but uncooked—Exempt—Law.
Sticks, cooked or uncooked, frozen or fresh—Exempt—Law—Ruling 110.
Sticks, frozen, cooked, breaded—Exempt—Case No. 5.
Tuna Pies, Frozen—Exempt—Office.
Turtles, sea or fresh water—Exempt—Law.
Whale meat, fresh—Exempt—Law.
*Flagstone*—Not exempt—Law.
*Flax fiber*, see Fibers.
*Flaxseed*, whole—Exempt—Law.
*Flaxseed meal*—Not exempt—Law.
*Flies*, live sterile screwworm, used in screwworm eradication program—Exempt—Office.

*Flour*

Flour—Not exempt—Law.
Corn flour, extruded and hammered to a flour consistency—Not exempt—Office.
Corn meal flour [4]—Not exempt—Office.
Mustard flour, consisting of seeds ground or milled and bolted—Not exempt—Office.
Tapioca flour, produced in same manner as wheat flour—Not exempt—Office.
*Flowers and flower plants*, see Horticultural commodities.
*Fodder*, corn and sorghum—Exempt—Law.
*Forage*, see Hay and Feeds.

*Forest products*

Bark—Exempt—Law.
Bark—Boiled to clean and soften—Exempt—Law.
Bark, raw, broken up by means of hammermill, or shredded, ground, or crushed, graded, and bagged—Exempt—Office.
Bark, shredded in its natural state, sprayed with copper based fungicide—Exempt—Office.
Blankets of pine and spruce boughs—Exempt—Law.
Bolts for making shingles—Exempt—Law.
Divi and divi pods, natural products of certain trees, not processed—Exempt—Office.
Excelsior wood; shredded birch bark, not a by-product of sawing, planing or finishing of wood—Exempt—Office.
Fence pickets, spilt by hand from bolts, edged and pointed—Not exempt—Office.
Fence posts and rails, consisting of logs peeled and cut to length, the posts having holes drilled in them for insertion of rails, and the rails being split and sharpened at both ends—Not exempt—Case No. 6.
"Firelog": wood shavings, sawdust, low grade petroleum, used in place of firewood—Not exempt—Office.
Greenery—Exempt—Law.
Growing, see separate Heading: Horticultural Commodities.
Hickory "wheels": short lengths cut from trees or logs—Exempt—Office.
Hickory meal: sawdust or powdered hickory wood—Exempt—Case No.35.
Holly sprigs and cuttings—Exempt—Law.
Leaves—Exempt—Law.
Leaves, sisal, husks and moisture removed—Exempt—Law.
Lignin sulphonate obtained by cooking wood chips in a chemical solution and used as a road binder—Not exempt—Office.
Logs and pilings impregnated with a preservative, usually creosote—Not exempt—Case No. 7.
Mesquite brush, ground, dehydrated and packaged in plastic bags—Exempt—Office.
Mesquite brush, twigs, and debris burned off—Exempt—Law.
Mine timbers or cants, comprised of 8 foot lengths of fir, rough-sawn, square cornered—Not exempt—Office.
Mistletoe—Exempt—Law.
Myrobalans, as imported in natural state—Exempt—Law.
Palmyra stalk fibers (fronds from palm leaves)—Exempt—Law.
Peat moss, dried, shredded, baled—Exempt—Law.
Peat or peat moss, in bags or boxes—Exempt—Office (See also Case No. 31).
Peat moss flower pots impregnated with wetting agent—Not exempt—Office.
[5]Pet Food—Not exempt—Case No. 33.
Peat, for use as an organic fertilizer, wet with water and other solutions, decomposed in a pressure vessel and dried—Not exempt—Case No. 31.
Peller cores, composed of the center portions of logs remaining after plywood is cut therefrom—Exempt—Case No. 30.
Pilings, wooden, untreated—Exempt—Case No. 9.
Pilings, wooden, impregnated with a preservative, usually creosote—Not exempt—Case No. 7.
Pine Cones, leaves, and miniature trees preserved by use of solution containing calcium chloride—Exempt—Case No. 8.
Poles, wooden, untreated—Exempt—Case No. 9.
Poles, preassorted, preventative-treated (used by utility companies, contractors, municipalities, etc.)—Not exempt—Case No. 10.
Poles, telephone, not creosoted—Exempt—Law.
Railroad ties composed of bolts from felled trees sawed crosswise and peeled or split but not otherwise processed—Exempt—Office.
Railroad ties, lengths, of wood cut to length and sawed lengthwise to size—Not exempt—Office.

[3]Exempt if fertilizer is a fish or shellfish by-product not intended for human consumption.—Motor Carrier Act of 1980.—Amendment to section 10526(a)(6)(D).

[4]Exempt if fish or shellfish by-product such as fish meal, fertilizer and pet food, not intended for human consumption.—Motor Carrier Act of 1980.—Amendment to section 10526(a)(6)(D).

[5]Exempt if pet food is a fish or shellfish by-product not intended for human consumption.—Motor Carrier Act of 1980.—Amendment to section 10526(a)(6)(D).

Resin, crude—Exempt—Law.
Resin products, such as turpentine—Not exempt—Law.
Roots, natural or dried—Exempt—Law.
Sap, maple—Exempt—Law.
Sawdust and shavings, regardless of their place of production, the process by which they are created, or their ultimate use [6]—Exempt—Case No. 35.
Sawdust from lumber mills [6]—Exempt—Case No. 35.
Shakes and shingles, whether split by hand or by machine—Not exempt—Case No. 12.
Shingle bolts—Exempt—Law.
Slabwood produced from sawmill operations[6]—Exempt—Case No. 35.
Spanish moss—Exempt—Law.
Sphagnum moss—Exempt—Law.
Spices, see separate listing: Spices.
Tanbark or tanwood, residue after tanning dye is extracted from bark, roots, or wood by means of extreme pressure and hot water, used as a mulch—Not exempt—Office.
Tanning extracts (wattle, chestnut, guebracho) produced by leaching bark, clarifying the extract and concentrating it in vacuum evaporators—Not exempt—Office.
Timber (rough logs or bolts) cut in random lengths, with bark removed—Exempt—Office.
Wood chips, including those for making wood pulp, or wood residues from primary manufacturing plants such as slabs, trimmings, shavings, sawdust, edgings, and hogged fuel [6]—Exempt—Case No. 35.

*Trees*

Christmas, plain, sprayed or coated—Exempt—Law.
Cut to length, peeled, or split—Exempt—Law.
Growing, see Horticultural commodities
sawed into lumber—Not exempt—Law.
Trimmings from logs and bolts, except bark [6]—Exempt—Case No. 35.
Valonia, as imported in natural state—Exempt—Law.
Wood cut into short crosswise lengths for firewood (not sawed lengthwise)—Exempt—Office.
Wreaths of holly or other natural material with small amount of foundation or decorative material—Exempt—Law.
*Frogs*, see Fish.
*Frozen*, see commodity name: Fruits, Vegetables, Fish, Poultry, etc.

*Fruits and Berries*

Dried, not further processed, placed in sealed packages or receptacles—Exempt—Office.
Figs, dried, halved or quartered—Exempt—Law.
Figs, or dates, ground, in paste form, cooked, or with substantial amounts of other substances added—Not exempt—Office.
Fig paste, consisting of ground figs, either in their natural state or dried—Exempt—Office.
Frozen—Not exempt—Law—Ruling 110.
Frozen (quick-frozen) for the purpose of preservation during transportation—whether shipped under temperature control or not-Not exempt—Office.
Fruit baskets or gift packages consisting of fresh fruit with 5% or less of jelly in jars and candy—Exempt—Office.
Fumigated—Exempt-Law.
Graded—Exempt-Law.
Grape slurry comprised of grapes removed from stems and crushed—Exempt—Office.
Hulls of oranges after juice extractions—Not exempt—Law.
In Brine, to retain freshness—Exempt—Law.
Juice, orange or other citrus—Not exempt—Law.
Juice, fruit, plain or concentrated—Not exempt—Law.
Kernels—Exempt—Law.
Myrobalan (prune-like tropical fruit) dried, crushed and bagged—Exempt—Office.
Oiled apples—Exempt—Law.
Olives, processed for table use, in brine or not in brine, stuffed or not stuffed, in any type container—Not exempt—Office.
Orange and lemon peel, dried, prepared from hulls of fruit following juice extraction—Not exempt—Office.
Peaches, peeled, pitted, and put in cold storage in unsealed containers—Exempt—Law.
Pies, frozen—Not exempt—Law.
Plantains (considered to be bananas)—Not exempt—Case No. 15.
Preserved, such as jam—Not exempt—Law.
Purees, strawberry and other, frozen—Not exempt—Law.
Quick frozen—Not exempt—Law—Ruling 110.
Raisins, seeded or unseeded—Exempt—Law.
Raisins, very lightly coated with honey, cinnamon, or sugar—Exempt—Office.

*Fruits and Berries*

Apple peels and cores ground, but not otherwise processed—Exempt—Office.
Apples pomace (substance remaining after extraction of juice)—Not exempt—Office.
Apples, fresh, unfrozen, peeled, cored, sliced and dipped in brine solution to retain freshness—Exempt—Office.
Bagged—Exempt—Law.
Bananas, fresh, dried, dehydrated, or frozen—Not exempt—Law—Ruling 110.
Blueberries, incidentally frozen while being maintained in low temperature storage, allowed to thaw during transportation—Exempt—Law.
Canned—Not Exempt—Law.
Cherries in sulphur dioxide "brine" for purpose of holding them in fresh state until they can be processed for marketing, which processing includes "debrining"—Exempt—Case No. 14.
Cherries, maraschino type, resulting from further processing of cherries mentioned just above—Not exempt—Case No. 14.
Chopped glazed fruit (similar to that used in fruit cakes)—Not exempt—Office.
Citrus fruit salad, fresh, chilled—Exempt—Office.
Citrus fruit sections, fresh, cold packed or semi-frozen—Exempt—Law.
Citrus fruit sections, frozen—Not exempt—Law—Ruling 110.
Citrus fruit sections, not frozen, packed with sugar, water, citric acid, and benzoate of soda, additives being 6% to 10% of total—Not exempt—Office.
Citrus pulp (substance remaining after juice extraction)—Not exempt—Office.
Color added—Exempt—Law.
Cranberries, partially frozen as result of being placed in open boxes in storage under controlled temperatures to insure freshness pending transportation—to canneries—Exempt—Office.
Cranberries, purposely quick-frozen, maintained in a frozen state during transportation—Not exempt—Office.
Dates, pitted, dried—Exempt—Law.
Dehydrated—Exempt—Law.
Dried, naturally or artificially—Exempt—Law.

*Fruits and Berries*

Dried, not further processed, placed in sealed packages or receptacles—Exempt—Office.
Figs, dried, halved or quartered—Exempt—Law.
Figs, or dates, ground, in paste form, cooked, or with substantial amounts of other substances added—Not exempt—Office.
Fig paste, consisting of ground figs, either in their natural state or dried—Exempt—Office.
Frozen—Not exempt—Law—Ruling 110.
Frozen (quick-frozen) for the purpose of preservation during transportation—whether shipped under temperature control or not—Not exempt—Office.
Fruit baskets of gift packages consisting of fresh fruit with 5% or less of jelly in jars and candy—Exempt—Office.
Fumigated—Exempt—Law.
Graded—Exempt—Law.
Grape slurry comprised of grapes removed from stems and crushed—Exempt—Office.
Hulls of oranges after juice extractions—Not exempt—Law.
In Brine, to retain freshness—Exempt—Law.
Juice, orange or other citrus—Not exempt—Law.
Juice, fruit, plain or concentrated—Not exempt—Law.
Kernels—Exempt—Law.
Myrobalan (prune-like tropical fruit) dried, crushed and bagged—Exempt—Office.
Oiled apples—Exempt—Law.
Olives, processed for table use, in brine or not in brine, stuffed or not stuffed, in any type container—Not exempt—Office.
Orange and lemon peel, dried, prepared from hulls of fruit following juice extraction—Not exempt—Office.
Peaches, peeled, pitted, and put in cold storage in unsealed containers—Exempt—Law.
Pies, frozen—Not exempt—Law.
Plantains (considered to be bananas)—Not exempt—Case No. 15.
Preserved, such as jam—Not exempt—Law.
Purees, strawberry and other, frozen—Not exempt—Law.
Quick frozen—Not exempt—Law—Ruling 110.
Raisins, seeded or unseeded—Exempt—Law.
Raisins, very lightly coated with honey, cinnamon, or sugar—Exempt—Office.

[6] Exempt as wood chips or wood residue from primary plant or forest—Motor Carrier Act of 1980—Amendment to section 10526(a) by addition of subsection (13).

Raisins, chocolate coated or glazed, thereby preserving and candying them—Not exempt—Office.

Sliced, frozen—Not exempt—Law—Ruling 110.

Strawberries, in syrup and unsealed containers in cold storage—Exempt—Law.

Strawberries, in unsealed containers with temperature controlled at 10° or lower—Not exempt—Office.

*Grain*

Artificially dried—Exempt—Law.

Barley, brewers' (residuary by-products of the malting process in which barley, steeped and germinated, is mixed with hops and other ingredients and allowed to ferment [1]—Not exempt—Office.

Barley, malted (processed only to the extent of soaking in warm water to hasten or induce germination, then drying, and removal of sprouts in some instances)—Exempt—Office.

Barley, pearled (husked and polished grains)—Exempt—Office.

Barley, rolled—Exempt—Law.

Barley, whole—Exempt—Law.

Brewer's grains, wet, by-product of brewing process—Not exempt—Office.

Corn cob pellets consisting of finely ground cobs with graphite added [1]—Not exempt—Office.

Corn, cracked—Exempt—Law.

Corn, from which oil is extracted, ground and dried to comprise a product known as "brewers corn grits" [1]—Not exempt—Office.

Corn screenings—Exempt—Office.

Corn shucks, used as "hot tamale shucks"—Exempt—Office.

Corn, shelled—Exempt—Law.

Corn, whole—Exempt—Law.

Cracked wheat (bulgur or bulgar) processed by cooking the grains for purification and preservation, then drying, dehulling and grinding [1]—Not exempt—Office.

Feeds, see separate heading: Feeds.

Hull and husks, see separate heading: Feeds.

Milo maize—Exempt—Law.

Oats, crimped or rolled in the same manner as rolled barley—Exempt—Law.

Oats, whole—Exempt—Law.

Oats, whole, crushed and ground, in bags—Exempt—Law.

Oil, extracted from grain—Not exempt—Law.

Popcorn, popped—Not Exempt—Law.

Popcorn, shelled (unpopped) packaged with cooking fat or oil (one part oil to 2½ parts popcorn)—Not exempt—Office.

Popcorn, shelled (unpopped), weighing ten or more ounces, accompanied by a separate package of seasoning consisting of salt, monosodium glutamate, butter flavor, cottonseed oil, and artificial color and flavor weighing approximately ¾ ounce—Exempt—Office.

Popcorn, unpopped, shelled, in sealed or unsealed containers—Exempt—Law.

Puffed grains [1]—wheat, rice millet or corn—produced by application of steam inside air tight tubes, and heat from outside burners, although not fully cooked—Not exempt—Office.

Rice bran—Exempt—Law.

Rice, brewers—Exempt—Law.

Rice, clean—Exempt—Law.

Rice, ground, not sifted, bolted or graded—Exempt—Office.

Rice, hull ash (Burned hulls of threshed rice)[1]—Not exempt—Office.

*Rice,* hulled ("brown rice")—Exempt—Office.

Rice, long grain, enriched, parboiled, subjected to enough steam pressure to harden kernel and reduce stickiness, but not boiled or precooked—Exempt—Office.

Rice, milled, fortified with vitamins—Exempt—Office.

Rice, precooked—Not exempt—Law.

Rice, whole—Exempt—Law.

Rye, whole—Exempt—Law.

Sorghum grains, whole—Exempt—Law.

Wheat, bulgar, cleaned, cooked under steam pressure, dried, dehulled, ground, graded and bagged [1]—Not exempt—Office.

Wheat germ [1]—Not exempt—Law.

Wheat, new crushed, uncooked—Exempt—Office.

Wheat, whole—Exempt—Law.

*Grass sod*—Exempt—Law.

*Gravel*—Not exempt—Law.

*Greenery,* see Forest products.

*Grinding,* without prior or subsequent manufacturing processes does not affect the exempt status of the commodity—Law.

*Guano,* bat (excrement of bats, dried, but not further processed)—Exempt—Office.

*Gums,* the exudation of trees and shrubs, such as arabic, ghatti and tragacanth, in natural state or dried, sifted, and ground, but not purified, neutralized or refined—Exempt—Office.

*Hair*

Hair, alpaca, camel, or goat, clipped from animal—Exempt—Law.

Hair, hog or other animal, product of slaughter of animal—Not exempt—Office.

Hair, rabbit or vicuna (plucked or clipped from live animal)—Exempt—Office.

*Hay*

Hay and forage, dried naturally or artificially—Exempt—Law.

Hay, chopped—Exempt—Law.

Hay, dehydrated—Exempt—Law.

Hay, salt (from salt marshes)—Exempt—Law.

Hay, see also Feeds.

Hay, sweetened with 3% molasses by weight [1]—Not exempt—Law.

*Hemp,* see Fibers.

*Herbs,* see Spices.

*Hides,* green and salted—Not exempt—Law.

*Honey*

Honey, in the comb or strained—Exempt—Law.

Honey, Heat treated to retard granulation—Exempt—Law.

*Hops*—Exempt—Law.

*Horticultural commodities*

Bulbs—Exempt—Law.

Flowers, growing or cut—Exempt—Law.

Leaves, natural or dried—Exempt—Law.

Nursery stock—Exempt—Law.

Plants, vegetables and flowers—Exempt—Law.

Roots, rhubarb, asparagus, mint, etc.—Exempt—Law.

Star flowers—dried, spray painted—Exempt—Office.

Trees, growing balled in earth—Exempt—Law.

Wreaths, holly or other natural material, with small amount of foundation or decorative material—Exempt—Law.

*Hulls and husks,* see Feeds, Nuts.

*Humus,* of a nature similar to peat moss—Exempt—Law.

*Ice for cooling subsequent shipments of exempt commodities*—Exempt—Law.

*Ice cream and ice cream mix,* see Milk and cream.

*Imported commodities*—Fact of importation does not affect status of otherwise exempt commodities, except that wool imported from any foreign country is not exempt—Law—Ruling 110.

*Insecticides*—Not exempt—Law.

*Juices,* see Fruits.

*Jute fiber,* see Fibers.

*Kapok, see Fibers.*

*Kelp,* dried, ground—Exempt—Law.

*Latex,* see Rubber.

Leaves, see Forest products, Horticultural commodities, and Spices.

*Legume inoculant*—Not exempt—Office.

*Licorice paste and powder* (prepared from ground licorice root, and used in tobacco and confectionery trades and for medicinal purposes)—Not exempt—Office.

*Licorice roots,* spent (by-product or residue remaining after open-vat leaching process used to extract licorice)—Not exempt—Office.

*Livestock*

Exhibit animals such as those of 4-H club members, which though shown for few days, are chiefly valuable for slaughter—Exempt—Law.

Laboratory animals, not domesticated, such as rats, mice, guinea pigs—Not exempt—Office.

Medical use animals, such as ordinary healthy swine for serum manufacture—Exempt—Law.

Monkeys—Not exempt—Law.

Ordinary, i.e., all cattle, swine, sheep, goats, horses, and mules, except such as are chiefly valuable for breeding, racing, show purposes, and other special uses—Exempt—Law.

Race horses—Not exempt—Law.

Registered or purebred cattle for ordinary farm or ranch uses, not chiefly valuable for breeding, race, show, or other special purposes—Exempt—Law.

Riding horses, used for personal pleasure riding—Exempt—Office.

Rodeo animals (bucking horses, cow ponies, parade horses, pick-up horses, Brahma bulls, steers, calves, buffalo)—Not exempt—Office.

Show horses—Not exempt—Law.

Zoo animals—Not exempt—Law.

*Limestone,* agricultural—Not exempt—Law.

*Linseed meal,* see Meal.

*Lumber,* rough-sawed or planed—Not exempt—Law.

*Manure*

Manure, in natural state—Exempt—Law.
Manure, dried or dehydrated, bagged—Exempt—Law.
Manure to which sand is added as conditioning ingredient, equivalent to 3% of the total mixture—Exempt—Office.
Manure, paunch (cud of animal's remen) product of slaughter—Not exempt—Office.
Manure, fermented, with additives such as yeast and molds, producing a rich liquor which in water solution is used for soil enrichment—Not exempt—Office.
*Maple sap*—Exempt—Law.
*Maple syrup*—Not exempt—Law.

*Meal*

*Meal, alfalfa* [1]—Not exempt—Law.
*Meal, copra* [1]—Not exempt—Law.
*Meal, cottonseed* [1]—Not exempt—Law.
*Meal, fish* [1]—Not exempt—Law.
*Meal, flaxseed* [1]—Not exempt—Law.
*Meal, linseed* [1]—Not exempt—Law.
*Meal, peanut* [1]—Not exempt—Law.
*Meal, soybean* [1]—Not exempt—Law.

*Meat and meat products*

Beef dinners, frozen—Not exempt—Office.
Fresh, frozen or canned—Not exempt—Law.
Meat pies, frozen—Not exempt—Office.
Meat of seals, sea lions and walrus—Not exempt—Office.
Scrap bones and meat, refuse from packing houses—Not exempt—Office.

*Milk and Cream*

Anhydrous milk fat made by a continuous separation process directly from milk or cream in the same manner as nonfat dried milk solids—Exempt—Office.
Butterfat, isex, Gold Label (trade name) consisting of over 50% sugar and 2% water and 44% butterfat—Not exempt—Office.
Buttermilk—Exempt—Law.
Buttermix/condensed cream, consisting of 45% butterfat, 30% sugar and 25% skimmed milk solids—Not exempt—Office.
Casein, produced commercially through specialized processes—Not exempt—Case No. 1.
Cheese, see that main heading
Concentrate, pasteurized and homogenized, with ⅔ of the water removed—Exempt—Office.
Concentrate, consisting of fresh whole milk from which a portion of the water is removed to which no substantial amount of nonexempt substance is added—Exempt—Office.
Concentrate (mixture of fresh cream with skim milk from which a portion of water is removed)—Exempt—Office.
Condensed—Not exempt—Law.
"Culturemate": non-fat dry milk powder, 10% dry phosphate salts, dry process extract, small amounts of dextrose and whey—Not exempt— Case No. 29.
Dry milk solids (essentially the same as powdered milk)—Exempt—Case No. 1.
Evaporated milk, in sealed cans—Not exempt—Office.
Frozen—Exempt—Law.
Homogenized—Exempt—Law.
Ice cream mix (blend of milk, dried skim milk and sugar)—Not exempt—Office.
Lactose: milk sugar, traces of protein and ash, made by condensing sweet cheese whey, crystalizing by cooking, the spinning, drying and bagging—Exempt—Case No. 29.
Milk "replacer" containing 10% animal fat—Not exempt—Office.
Milk "replacer" (blend of 98% ingredients themselves "exempt" commodities and 2% dietary supplements and flavoring ingredients, not otherwise processed)—Exempt—Office.
Milk "replacer" (Calf Pab), containing at least 20 nonexempt ingredients (no percentages shown)—Not exempt—Office.
Milk shake mix, composed of powdered milk with substantial amounts of sweetening and flavoring added—Not exempt—Office.
Pasteurized—Exempt—Law.
Powdered—Exempt—Law.
*Raw*—Exempt—Law.
Raw milk with coloring added to indicate it has been found unfit for human consumption—Exempt—Office.
Skim—Exempt—Law.
Skim, dried—Exempt—Office.
Skim, with two-thirds of water removed, in bulk or unsealed containers—Exempt—Law.
Standardized—Exempt—Law.
Sterilized in hermetically sealed cans—Not exempt—Law.
Vitamin "A"—Exempt—Law.
Whipped cream, frozen, containing only exempt dairy products, which is mechanically processed into that form—Exempt—Office.
Whole milk with moisture content removed and nothing added—Exempt—Office.
Yogurt, plain or flavored—Not exempt—Office.
*Milo*, see Grains.
*Mohair*, raw, cleaned, or scoured—Exempt—Law.
*Molasses* [1]—Not exempt—Law.
*Moss*—see Forest Products.
*Mushrooms*, fresh—Exempt—Law.
*Nursery* stock, see Horticultural commodities.
*Nutria carcasses*, ground, for use as mink feed—Not exempt—Office.
*Nutria* (or coypu), skinned, whole or chopped—Not exempt—Office.
*Nutria and rat carcasses*, whole, frozen or unfrozen—Not exempt—Office.

*Nuts*

Blanched (placed in water hot enough to soften the skins and facilities removal of kernel, but not sufficient to kill the enzymes)—Exempt—Office.
Cashews, roasted or cooked—Not exempt—Office.
Cashews, scorched (not roasted or cooked, but darkened in color unintentionally by overheating during shelling process)—Exempt—Office.
Coconut, dried, shredded, flaked, or prepared by thread mill or devil mill to produce thread-like particles or granules, not further processed—Exempt—Office.
Coconut meal, see separate heading: Copra meal.
Macadamia nuts—Exempt—Office.
Peanut meal—Not exempt—Law.
Peanut shells, ground—Exempt—Law.
Peanuts, roasted and salted in the shell—Not exempt—Office.
Pistachio, shells colored with food coloring but not otherwise processed—Exempt—Office.
Raw, shelled or unshelled—Exempt—Law.
Roasted or boiled—Not exempt—Law.
Shelled, raw—Exempt—Law.
Shelled, salted (not roasted or otherwise similarly processed)—Exempt—Office.
Shelled, sprayed or washed with preservative but not candied or flavored—Exempt—Office.
Shells—Exempt—Law.
Shells, ground peanut—Exempt—Law.
Shells, peanut, pelletized, comprised of hulls or shells ground and formed into pellets by application of pressure with steam as binder (similar to production of alfalfa pellets [1]—Not exempt—Office.
Shells, peacan, ground—Exempt—Case No. 17.
Shells, peacan, mixed with chemicals equivalent to 10% of the total mixture—Not exempt—Office.
Unshelled, raw—Exempt—Law.
*Oats*, see Grains
*Offal*, consisting of blood, intestines, viscera, etc., by-product of the slaughtering animals [1]—Not exempt—Office.

*Oil*

Oil mint—Not exempt—Law.
Oil, extracted from vegetables, grain, seed, fish, or other commodities—Not exempt—Law.
*Olives*, see Fruits and Berries.
*Packaged commodities*—Packaging exempt commodities does not affect their exempt status—Law.
*Peanuts*, see Nuts.
*Peat moss*, see Forest products.
*Pelletized* feeds, see Feeds.
*Pelts*—Not exempt—Law.
*Pies*, frozen—Not exempt—Law.
*Pigeons*, racing, see Birds.
*Plants*, vegetable or flower, see Horticultural commodities.
*Poles*, See Forest products.
*Popcorn*, see Grain.
*Potash*—Not exempt—Office.

*Poultry and Poultry Products*

Additives, such as injected butter, gravy, seasoning, etc., sold in or along with uncooked poultry, do not void the exemption if not in excess of 5% by weight—Office.
Blood of poultry and rabbits from which corpuscles have been removed by centrifugal force (processing by a machine similar to cream separator)—Exempt—Office.
Broth, dehydrated by spray-drying into a powder—Not exempt—Case No. 25.
Carcasses, raw, in marble-size chunks—Exempt—Office.
Cut up, raw—Exempt—Office.
Cut-up, precooked or cooked; same, breaded and/or battered; same, marinated, breaded and/or battered; all frozen or refrigerated—Exempt—Case No. 25.
Deboned, cooked or uncooked, fresh or frozen, in rolls or diced—Exempt—Office.

[1] Exempt if fish or shellfish by-product, such as fish meal, not intended for human consumption.—Motor Carrier Act of 1980.—Amendment to section 10526(a)(6)(D).

Dehydrated, chunked, process includes boiling, grinding, and drying—Not exempt—Case No. 25.

Dinners, cooked and frozen—Exempt—Office; see also separate heading: Dinners.

Dressed, fresh or frozen—Exempt—Law.

Fat, as removed from poultry, not cooked—Exempt—Office.

Fat, skimmed from broth, plain or reduced to powder by spray-drying—Not exempt—Case No. 25.

Feathers—Exempt—Law.

Frozen—Exempt—Law.

Live—Exempt—Law.

Offal, including blood (natural by-products of the killing and processing poultry for market)—Exempt—Case No. 27.

Picked—Exempt—Law.

Pies, cooked, frozen or unfrozen—Not exempt—Office.

Powdered, process includes boiling, fine grinding, and spray-drying—Not exempt—Case No. 25.

*Poultry and Poultry Products*

Rolled in batter but uncooked—Exempt—Office.

Rolls, containing sectioned and deboned poultry, cooked—Exempt—Office.

Sticks, cooked—Exempt—Office.

Stuffed and frozen—Exempt—Law.

Stuffing, in plastic bags, packed with but not in bird—Exempt—Office.

*Pulp, beff* [1]—Not exempt—Law.

*Pulp,* sugarcane [1]—Not exempt—Law.

*Purees,* see fruits.

*Rabbits*

Rabbits, dressed—Exempt—Law.

Rabbits, wild, skinned—Not exempt—Office.

*Raisins,* See Fruits.

*Raisin Syrup,*—Not exempt—Case No. 34.

*Ramie Fiber,* see Fibers.

*Residue,* (foots or sediments) remaining after removal of oil from various commodities—Not exempt—Office.

*Resin,* See Forest products.

*Rice,* see Grains.

*Rock* [8]—Not exempt—Law.

*Roots,* see Forest products, Horticultural commodities, Spices and herbs.

*Rubber*

Rubber, crude, in bales—Not Exempt—Law.

Rubber, latex, natural, liquid, from which water has been extracted and to which ammonia has been added—Not exempt—Law.

*Rye,* see Grains.

*Sand*—Not exempt—Law.

*Sap,* see Forest products.

*Sawdust,* see Forest Products.

*Sea Creatures,* see Fish.

*Seasoning or salt,* added to commodity within the exemption in insignificant amounts, not considered to affect exempt status of commodity—Office.

*Seaweed,* dried, ground—Exempt—Law.

*Seeds*

Anise, not subject to a manufacturing process—Exempt—Office.

Bird seed, see separate heading: Feeds.

Cotton, see separate heading: Cottonseed.

Deawned—Exempt—Law.

Flax, see separate heading: Flaxseed.

Grass seed—Exempt—Office.

Grass seed, packaged in individual boxes and bags—Exempt—Office.

Hybrid seed corn—Exempt—Office.

Inoculated—Exempt—Law.

Meal made from seeds, see Meal.

Natural—Exempt—Law.

Oil extracted from seeds—Not Exempt—Law.

Packets or boxes of seeds in display racks—Exempt—Law.

Scarified—Exempt Law.

Screened or sized—Exempt—Law.

Seed kits, flower or vegetable, consisting of seeds, soil substitutes, and plant food, in growing tray (punch and grow kits)—Not exempt—Office.

Sesame seeds in hulls, bagged—Exempt—Office.

Sesame seeds, cleaned and dehulled by mechanical process—Exempt—Office.

Siftings and screenings consisting of residue from sieving of seeds (not further processed)—Exempt—Office.

Soybean seeds, in bags on which are attached a small container of inoculant—Exempt—Office.

Spice, see Spices.

Sprayed for disease control—Exempt—Law.

Sunflower seed hulls, lubricated by spraying with hot water to increase density, formed into loose, crumbling pellets—Exempt—Office.

Tamarind, ground, comprised of seeds removed from pods without boiling cooking, or the like, and processed only by cleaning and grinding—Exempt—Office.

Used as seasonings, not subjected to a manufacturing process—Exempt—Office.

*Shells,* see Cocoa bean, Eggs, Fish Nuts.

*Shingle bolts,* see Forest Products.

*Skins*

Skins, animal—Not exempt—Law.

Skins, seal (sea mammal hides)—Not exempt—Office.

*Sliced,* see commodity name: Fruits, Vegetables, etc.

*Sludge,* dried sewage—Not exempt—Office.

*Soil,* top—Not exempt—Law.

*Soil,* potting—Not exempt—Law.

Soil, potting or African Violet Mix consisting of 90% peat, 80% sand and 2% vermiculite—Not exempt—Office.

*Sorghum fodder*—Exempt—Law.

*Sorghum grains*—Exempt—Law.

*Soup,* frozen—Not exempt—Law.

*Spanish moss,* gathered from trees—Exempt—Office.

*Spices and Herbs*

Angelica root—Exempt—Office.

Chicory root, natural or dried—Exempt Office.

Chili powder, consisting of dried ground chili pepper pods—Exempt—Office.

Chili powder (mixture of ground peppers, spices and herbs, and a small amount of salt)—Exempt—Office.

Cumin seed—Exempt——Office.

Deer, (or deer's) tongue leaves, natural. Dried or processed in a manner similar to that undergone by redried, tobacco leaf—Exempt—Office.

Ground, but not further processed—Exempt—Office.

Paprika, ground—Exempt—Case No. 22.

Pepper, ground, not further processed—Exempt—Office.

Raw, unground spices—Exempt—Case No. 20.

Reconditioned spices, ground (screened for removal of impurities but not further processed)—Exempt—Office.

Seeds, see also that main heading.

Sweet basil leaves, dried and separated from stems—Exempt Office.

Unground, whether seeds, berries leaves, bark or roots—Exempt—Office.

*Stone,* natural, marble or granite—Not exempt—Office.

*Stover*—Exempt—Law.

*Straw*—Exempt—Law.

*Sugar*—Not exempt—Law.

*Sugar beets*—Exempt—Law.

*Sugar cane*—Exempt—Law.

*Sugar cane pulp* [1] —Not exempt—Law.

*Sugar,* raw—Not exempt—Law.

*Syrup*

Syrup, cane—Not exempt—Law.

Syrup, maple—Not exempt—Law.

Syrup, raisin—Not exempt—Case No. 34.

*Tankage,* consisting of offal from slaughtered animals—Not exempt—Law.

*Tea*—Not exempt—Law—Ruling 110.

*Telephone poles,* see Forest products.

*Textile waste,* see Cotton waste.

*Tobacco*

Binder tobacco, composed of adhesive materials added to pulverized tobacco, the resultant mixture formed into flat sheets (similar to homogenized tobacco)—Not exempt—Office.

Chopped leaf—Exempt—Law.

Cigars and cigarettes—Not exempt—Law.

*Tobacco*

Frangments, siftings and dust resulting from processes which produce tobacco items within the exemption (i.e. chipped tobacco leaf, redried leaf, etc.); also that which becomes unusable during preliminary handling prior to the manufacture of non-exempt tobacco items—Exempt—Office.

Homogenized—Not exempt—Law.

Leaf—Exempt—Law.

Redried leaf—Exempt—Law.

Smoking—Not exempt—Law.

Stem meal—Not exempt—Office.

Stemmed leaf—Exempt—Law.

Stems—Exempt—Law.

Tobacco made of ground-up scraps, considered a form of homogenized tobacco—Not exempt—Office.

*Topsoil*—Not exempt—Law.

*Trees,* see Forest products.

*Turtles,* see Fish.

*Vegetables*

Bagged—Exempt—Law.

[8] Natural crushed vesicular rock used for decorative purposes—exempt—Motor Carrier Act of 1980—Amendment to section 10526(a) by addition of subsection (12).

Beans, dried artificially and packed in small container—Exempt—Law.

Cabbage rolls (heads of cabbage pickled in water and salt after which the leaves are cut off and stuffed with a tomato and whole pepper, in jars with juice of pickled cabbage)—Not exempt—Case No. 18.

Candied sweet potatoes, frozen—Not exempt—Law.

Canned—Not exempt—Law.

Cauliflower, cured in salt brine, shipped in open unsealed containers—Exempt—Case No. 21.

Cooked—Not exempt—Law.

Cooked in water or steam for a period longer than that neessary for the inactivation of the enzymes, or by immersion in oil or fat—Not exempt—Case No. 22.

Cucumbers and other vegetables processed into pickles by the ordinary means—Not exempt—Office.

Cucumbers and tomatoes, barrel-cured into Kosher pickles (fresh cucumbers or tomatoes kept in barrel overnight with water garlic, salt spices and seasonings, then placed in jars and kept under refrigeration)—Not exempt—Case No. 18.

Cucumbers, delight (sliced cucumbers with onions, peppers, sugar and salt, in jars or barrels with juices)—Not exempt—Case No. 18.

Cucumbers, salt cured—Exempt—Law.

Cut up, fresh in cellophane bags—Exempt—Law.

Cured—Exempt—Law.

Dehydrated—Exempt—Law.

Dried, naturally or artificially—Exempt Law.

French fried onion rings—Not exempt—Case No. 22.

Fench fried potatoes—Not exempt—Law.

Frozen—Not exempt—Law—Ruling 110.

Garlic paste, made from fresh crushed garlic cloves heated only enough to deactivate the enzymes, small percentage of preservative added—Exempt—Office.

Garlic powder—Exempt—Law.

Graded—Exempt—Law.

Mushrooms (considered vegetables for purposes of section 203(b)(6), frozen—Not exempt—Office; Freeze dried (frozen, then thawed, then dehydrated)—Exempt—Office.

Oil, extracted from vegetables—Not exempt—Law.

Onion chips and flakes, dried—Exempt—Law.

Onion powder—Exempt—Law.

Onion powder, made from onions sauteed in oil and then powdered or dehydrated—Not exempt—Office.

Onion rings frozen, shipped with frozen fish dinners of which they are intended to be a part—Exempt—Office.

Onion, cured in salt brine, shipped in open unsealed containers—Exempt—Case No. 21.

Peas, split—Exempt—Law.

Peeled, uncooked—Exempt—Law.

Pepper delight (peppers with vinegar, salt and sugar)—Not exempt—Case No. 18.

Pepper hulls, cured in salt brine, shipped in open unsealed containers—Exempt—Case No. 21.

Peppers and kraut, stuffed (whole peppers filled with sauerkraut in jars with natural sauerkraut juice)—Not exempt—Case No. 18.

Pickled—Not exempt—Case No. 21.

Potato by-product made from raw rejects peeled and washed in caustic solution and hot water, dewatered, dried and ground—Exempt—Office.

*Vegetables*

Potato by-product, consisting of mash potatoes recovered from drying machines or gathered as spillage from floor during latter stages of processing of instant mashed potatoes—Not exempt—Bureau.

Potato flakes (cooked and dehydrated flakes of potato)—Not exempt—Bureau.

Potatoes, candied (sweet), whipped, rissole, or puff—Not exempt—Case No. 22.

Potatoes, peeled, sliced, blanched or dipped in preservation solution, but not cooked or otherwise processed—Exempt—Office.

Potatoes, peeled and scalded or blanched (not subjected to a greater degree of heat than that necessary to inactivate enzymes)—Exempt—Office.

Potatoes, powdered, prepared from potatoes, washed, cooked, peeled, with moisture removed—Not exempt—Office.

Powdered, onion and garlic—Exempt—Law.

Precooked, pouch-packed, with or without sauce—Not exempt—Case No. 22.

Products, the ingredients of which include vegetable matter combined with other commodities—Not exempt—Case No. 22.

Quick frozen—Not exempt—Law—Ruling 110.

Romanian kraut (shredded cabbage with juice consisting of water, sugar, celery seed and fresh peppers)—Not exempt—Case No. 18.

Sauerkraut, pickled by keeping shredded in a barrel for 36-40 hours, thence in cold storage for about 36 hours, then packed in jars with water, sugar, and benzoate of soda (requires refrigerator)—Not exempt—Case No. 18.

Sauerkraut, uncooked, pickled, in sealed plastic containers or sealed wooden barrels—Not exempt—Office.

Shelled—Exempt—Law.

Soup, frozen—Not exempt—Law.

Soybean meal—Not exempt—Law.

Tomato juice—Not exempt—Office.

Tomato paste, consisting of tomatoes heated to 190°—Not exempt—Office.

Tomato pomace (residue remaining after juice extraction)—Not exempt—Office.

Tomato powder, dehydrated without cooking, (not the residue left after juice extraction)—Exempt—Office).

Tomatoes, in salt brine, to preserve freshness while in transit—Exempt—Case No. 21.

Washed, fresh, in cellophane bags—Exempt—Law.

*Water*, and distilled water—Not exempt—Office.

*Wax*

Wax, beeswax, crude, in cakes and slabs—Exempt—Law.

Wax, carnauba, as imported in slabs and chunks—Not exempt—Law.

Wax, crude candelilla, boiled in water to which some acid is added, purpose of which is not to change the wax in any way but to remove the wax scales from the leaves of the plant on which it forms, and the resulting residue boiled again to remove excess moisture and debris—Exempt—Office.

*Whale meat*, see Fish.

*Wheat*

Wheat, see Grains.

Wheat products, see Feeds, Flour.

*Whey*

Whey, powdered or dried—Exempt—Case No. 23.

Whey lactose—Exempt—Case No. 29.

Whey powder—produced by separating liquid whey, removing butter fat, drying, steam rolling, cutting, bagging for further drying, grinding and packaging—Exempt—Office.

*Wood*, see Forest products Wool.

*Wool*

Cleaned and scoured after being imported—Not exempt—Office.

Grease, as obtained from cleaning or scouring process—Not exempt—Law.

Imported from any foreign country—Not exempt—Law—Ruling 110.

Mixture and if blend of imported and domestic wool—Not exempt—Office.

Pulled wool (wool removed from hides after slaughter)—Not exempt—Office.

Raw, cleaned or scoured, but not including wool imported from any foreign country—Exempt—Law—Ruling 110.

Scoured, origin unknown—Not exempt—Office.

Tags of domestic wool and mohair (matted and ragged locks as shorn)—Exempt—Office.

Waste (carded, spun, woven, or knitted)—Not exempt—Law—Ruling 110.

Yarn—Not exempt—Law.

*Wreaths*, see Forest products.

*Worms*, blood (cultivated in a "farming" type operation in marshy soil)—Exempt—Office.

*Worms*, sea, live (gathered from mud flats for use as bait)—Exempt—Office.

*Yeast*, brewers' residual, or "bottom yeast" (substance which settles to bottom of vat during fermentation of beer or liquors)—Not exempt—Office.

*Zoo animals*—Not exempt—Law.

*Case No.* 1. Cossitt Motor Express, Inc.—Powdered Milk and Casein, 96 M.C.C. 557.

2. Sturgeon and Meeker, Extension—Wheat Bran, 84 M.C.C. 655.

3. Atchison, T.&S.F. Ry. Co., Petition—103 M.C.C. 364.

4. Refrigerated Dispatch Ltd., Inc.—Common Carrier Application, 81 M.C.C. 429.

5. Phillips—Common Carrier Application, 82 M.C.C. 528.

6. Fred C. Burns, Extension—Alexandria, Va., MC-111875 Sub. 8, Decided Oct. 27, 1960 (not printed).

7. Holt, Extension—Pilings, 77 M.C.C. 141.

8. Poole, Extension—Calcium Chloride, 83 M.C.C. 522.

9. Edgar H. Allen & Son, Inc., Extension—Old Bridge, N.J., 98 M.C.C. 131.

10. Chancey Bros. Truck Line, Extension—Lumber, 73 M.C.C. 85.

11. Determination of Commodity Status—Petition, 113 M.C.C. 6.

12. Everett—Investigation of Operations, 88 M.C.C. 784.

13. Miller's Motor Freight, Inc., MC–41915 Sub. 26, Decided June 20, 1962 (not printed).
14. Maxwell Co., Extension—Cherries in Brine, 100 M.C.C. 10.
15. Holland Highway Express, Inc., Extension—Plantains, 86 M.C.C. 93.
16. Producers Transport, Inc., Extension—Soya Bean Husks, 103 M.C.C. 691.
17. Kinner—Common Carrier Application, 99 M.C.C. 748.
18. Seashore Food Products, Inc.—Declaratory Order, 95 M.C.C. 546.
19. Petition for Declatory Order—Wild Birdseed, 110 M.C.C. 406.
20. Acme Carriers, Inc., Common Carrier Application, 74 M.C.C. 797.
21. Hadder Trucking Co., Inc., Extension—Commodities in Brine, 79 M.C.C. 499.
22. Frozen Cooked Vegetables—Status, 81 M.C.C. 649.
23. Petition of Ida-Cal Freight Lines, Inc., MC–C–3557, Decided August 29, 1962 (not printed).
24. Hughes—"Grandfather" Application, 89 M.C.C. 471, 484–486.
25. Henningsen Foods, Inc., Petition, 106 M.C.C. 286.
26. Pillsbury Co. et al., v. U.S. et al., 409 U.S. 808 reversing 113 M.C.C. 225.
27. Labertew Trucking, Inc., Extension—Poultry Offal, 96 M.C.C. 370.
28. Grant's Trucking Co., Petition-Oyster Shells, 113 M.C.C. 892.
29. I.C.C. v. Schaetzel, 339 F. Supp. 1345 (1972).
30. Forest Transport Corp., MC–138702 Sub. 2, Decided April 8, 1974 (not printed).
31. Anderson Peat Co., Petition, 119 M.C.C. 494.
32. Arkansas Rice Growers Coop. Assn., Petition, MC–C–7949—Decided September 23, 1974 (not printed).
33. Petition for Declaratory Order—Livestock and Poultry Feed, 132 M.C.C. 535.
34. Petition for Declaratory Order—Status of Raisin Syrup, MC–C–10539, Decided October 1, 1980 (not printed).
35. Interpretation of Commodity Classification—Wood Chips, 132 M.C.C. 676.

[FR Doc. 85–23772 Filed 10–3–85; 8:45 am]

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## DEPARTMENT OF COMMERCE

### National Oceanic and Atmospheric Administration

### 50 CFR Part 651

[Docket No. 50956–5156]

### Atlantic Groundfish (Cod, Haddock, and Yellowtail Flounder)

**AGENCY:** National Marine Fisheries Service (NMFS), NOAA, Commerce.

**ACTION:** Final notice of Secretarial Amendment to the Interim Fishery Management Plan for Atlantic Groundfish.

**SUMMARY:** NOAA issues this notice to implement the Secretarial amendment (Amendment) to the Interim Fishery Management Plan for Atlantic Groundfish (FMP). The Amendment extends the FMP for an additional year through September 29, 1986. The intended effect is to continue in place the management measures in the current FMP.

**EFFECTIVE DATES:** September 30, 1985 through September 29, 1986.

**ADDRESS:** Copies of the Secretarial Amendment to the FMP are available from W.P. Jensen, Chief, Fisheries Management Operations, 3300 Whitehaven Street NW., Washington, DC 20235.

**FOR FURTHER INFORMATION CONTACT:** Mark Millikin, 202–634–7449.

**SUPPLEMENTARY INFORMATION:** The Magnuson Fishery Conservation and Management Act (16 U.S.C. 1801 *et seq.*) authorizes the Secretary of Commerce (Secretary) to prepare a fishery management plan or amendment, in accordance with the national standards and any other applicable law, if the appropriate council fails to develop and submit to the Secretary, after a reasonable period of time, a fishery management plan for such fishery.

NOAA issued a notice on July 18, 1985, (50 FR 29241), that proposed to extend the FMP for one year, or until the FMP is replaced by an approved Northeast Multi-Species Fisheries Management Plan. This action is taken with the recognition that the New England Council (Council) has not submitted a plan to the Secretary and needs additional time to complete the plan's development. This extention will provide the needed time and ensure continuance of conservation measures beyond the FMP's current expiration date of September 29, 1985.

Opportunity for public comment was provided for 75 days through September 27, 1985. No public comments have been received. Therefore, the Secretarial Amendment extends the FMP for one year, effective September 30, 1985.

No new regulations are necessary to implement this action. The Amendment only keeps in place the current management measures to regulate harvest while preparation and review of a new management plan is underway. Implementing regulations for the FMP are found at 50 CFR Part 651.

(16 U.S.C. 1801 *et seq.*)

Dated: September 30, 1985.

**Joseph W. Angelovic,**

*Deputy Assistant Administrator for Science and Technology, National Marine Fisheries Service.*

[FR Doc. 85–23696 Filed 10–1–85; 10:09 am]

BILLING CODE 3510–22–M

### 50 CFR Part 681

[Docket No. 50945–5145]

### Western Pacific Spiny Lobster Fisheries

**AGENCY:** National Marine Fisheries Service (NMFS), NOAA, Commerce.

**ACTION:** Emergency interim rule and request for comment.

**SUMMARY:** The Secretary of Commerce (Secretary) issues emergency regulations amending the Fishery Management Plan for the Spiny Lobster Fisheries of the Western Pacific Region (FMP) and its implementing regulations. This emergency rulemaking will (1) impose a moratorium on new entrants into this fishery and (2) limit the number of traps fished daily by those vessels now permitted for this fishery to the number of traps shown on their permit applications. The intent of these regulations is to allow the Western Pacific Regional Fishery Management Council (Council) time to consider any necessary changes to the FMP to protect the spiny and slipper lobster stocks from exploitation and to improve the scientific basis for their conservation and management in the long term.

**EFFECTIVE DATE:** This rule is effective from October 1, 1985 until December 30, 1985 and may be extended for 90 days. Comments are invited on this rule until October 16, 1985.

**ADDRESS:** Send comments to E.C. Fullerton, Director, Southwest Region, National Marine Fisheries Service, 300 South Ferry Street, Terminal Island, CA 90731 (213–548–2575). A copy of the environmental assessment prepared for this rule may be obtained from Mr. Fullerton.

**FOR FURTHER INFORMATION CONTACT:** Robert T.B. Iversen, Western Pacific Program Office, National Marine Fisheries Service, P.O. Box 3830, Honolulu, HI 96812 (808–955–8831).

**SUPPLEMENTARY INFORMATION:** Regulations implementing the FMP became effective March 9, 1983 (48 FR 5560, February 7, 1983); their primary objective is to protect the reproductive potential of the spiny lobster stocks. Amendment 1 to the FMP (48 FR 52922, November 23, 1983) adopted Hawaii State regulations covering spiny lobsters in the territorial sea around the main Hawaiian Islands, east of 161° W. longitude, as Federal regulations in the adjacent fishery conservation zone (FCZ). Amendment 2 (49 FR 407, January 4, 1984) changed the specifications for the required entryway openings for lobster traps used in the Northwestern

Hawaiian Islands (NWHI) west of 161 ° W. longitude to protect the Hawaiian monk seal, an endangered species which is protected under the Endangered Species Act and the Marine Mammal Protection Act.

One emergency interim rule is currently in force (50 FR 18264, April 30, 1985; extended 50 FR 30198, July 24, 1985). This rule redefined a legal-sized spiny lobster by using one tail-width measurement and eliminated the 15 percent tolerance for sublegal spiny lobsters, making it easier to enforce the regulations and monitor the landings of spiny lobsters taken in the fishery.

The purpose of the present emergency regulations is to prevent increases in effort in this fishery until the Council can decide how to meet the management objectives of the FMP, which are (1) to manage the spiny lobster resource on the basis of protecting the reproductive potential of the stocks and preventing overfishing; (2) to promote the efficient contribution of the spiny lobster fishery to the United States economy; (3) to collect data and analyze biological information about spiny lobster stocks to improve the basis for conservation and management in the future; and (4) to prevent unfavorable impacts of the fishery on the Hawaiian monk seal and other endangered or threatened species. There is no evidence at present to indicate that the fourth objective is not being met. The FMP focuses mainly on spiny lobsters (family Panuliridae), but also includes slipper lobsters (family Scyllaridae) as part of the management unit. When the FMP was written, little information was available on the abundance and distribution of slipper lobsters in the NWHI. There are, for example, no regulations on the minimum size slipper lobster that can be caught in the FCZ of the NWHI. In the past two years, fishermen have targeted on slipper lobsters so that these lobsters now (January through June, 1985) dominate the landings. The fishery thus has become a two-species fishery. It is believed that a significant portion of the slipper lobsters in the landings are of prereproductive size.

The reasons why the first three objectives of the FMP are not being met are:

**1. Increased Effort**

There has been a dramatic increase in effort in the NWHI fishery since 1983. Seven permitted vessels fished 76,857 trap-nights in 1983. By the end of 1984, there were 19 permit holders, and the total effort that year was 377,690 trap-nights. In 1985 through June, the total effort was 413,985 trap-nights, more than in all of 1984. There are currently 22 active permits. The total number of traps reported on these vessels is 11,000.

Although there have been efforts to exploit lobster resources at different islands, the bulk of the fishery concentrates on Necker Island, Gardner Pinnacles, Maro Reef, and Pearl and Hermes Reef. Maro Reef and Gardner Pinnacles have become significant for vessels taking slipper lobster; about 75 percent of total slipper lobster catches were made at these areas.

**2. Catch per Unit of Effort (CPUE)**

Data on CPUE have only been available since March 1983 when the FMP went into effect. The CPUE for spiny lobsters (number of legal and sublegal spiny lobsters per trap-night of fishing) has fallen dramatically, while the CPUE for slipper lobsters has risen significantly. From 1983 through the first six months of 1985, the CPUE for legal and sublegal spiny lobster has fallen from 2.1 and 0.66 trap-night to 0.6 and 0.35 respectively. The CPUE for slipper lobster has risen from 0.3 to 1.6 per trap-night.

Landings data also show that the proportion of sublegal spiny lobsters to the total legal spiny lobster catch is increasing, from 0.32 in 1983 to 0.56 in the first six months of 1985.

There is virtually no information on the number of slipper lobsters landed from 1977 through 1982 since the FMP, which requires reporting of slipper lobster catches (numbers only), did not go into effect until 1983. Since then, slipper lobster catches as well as catch rates have increased dramatically: 25,610 in 1983, 284,535 in 1984, and 678,069 during the first six months of 1985. The marked increase in slipper lobster landings emphasizes the need for management measures to protect this stock from overfishing.

**3. Mortalities of Sublegal and Egg-Bearing Spiny Lobsters.**

Experiments conducted by NMFS in the NWHI and experiments on spiny lobsters conducted in Australia and Florida demonstrate that there is a good probability that sublegal and egg-bearing spiny lobsters released in the NWHI fishery have undergone significant mortalities. At present, there is no requirement for escape vents for sublegal lobsters in traps used in this fishery. Lobsters caught in traps and subsequently released are subject to factors which may cause stress or injury and result in high mortality. These factors include: Length of time out of the water and subsequent exposure to air, sunlight, and heat, injury resulting from handling, release on an unsuitable substrate, release in an area outside their home range, general disorientation which may make the lobsters more vulnerable to predation, and presence of lobster predators in the vicinity of the fishing vessel at the time of release. The NMFS experiments in the NWHI, which were conducted in the presence of scuba divers, showed that often spiny lobsters released in the presence of larger schools of predator fish (large jacks) or occasionally in the presence of only one or two large jacks, were eaten almost immediately. On one occasion about 10 spiny lobsters were eaten within 10 seconds after being released near the bottom. In addition to predation by jacks, spiny lobsters are known to be eaten by tiger sharks, which are common in the NWHI. Experiments on spiny lobsters in Australia have shown that a 15 percent mortality of undersized lobsters occurred if they were transported more than 100 meters away from their home reefs. Undersized spiny lobster normally are released well away from where they were caught. Other experiments in Australia show that average damage due to handling (1.5 legs lost) and average exposure to air for 8 minutes resulted in mortality of undersized spiny lobsters of approximately 15 percent. Experiments in Florida also have found evidence that handling sublegal spiny lobsters had a heavy negative impact.

In summary, there are reasons to be concerned about the potential for adverse long-term effects if action is not initiated immediately to contain the problems. The large and sudden increase in effort, the reduced catch rates for legal and sublegal spiny lobsters, and the potentially high mortality associated with releases of sublegal and berried lobsters are likely to lead to overfishing unless corrective action is taken beginning with an immediate moratorium on new entrants into the fishery.

*Biological effects of the action.* A moratorium on new entrants and a limit on the number of traps which permitted vessels may deploy are not likely to have a significant effect on the spiny lobster resources. Biological effects on the slipper lobster resource are uncertain because little information is available. This action will not limit fishing intensity; that is, the number of trap hauls, the number of trips per year, or the duration of each trip will not be controlled. It is possible that total effort will remain high in spite of a moratorium. Nevertheless, the moratorium and trap limit will preclude new entry into the fishery while data are being compiled and analyzed so that long-term solutions can be developed if

needed. The moratorium is an immediate response to rapidly expanding effort on a likely fragile invertebrate resource. The degree of uncertainly about the effects of the expanded effort is not acceptable.

The available data do not present a clear picture of the biological condition of the spiny lobster resources. The drop in CPUE for legal and sublegal spiny lobsters suggests reductions in stock size; however, the declines may reflect changes in fishing strategy by vessel operators targeting on slipper lobsters, as suggested by the high CPUE for that species. Continued high landings of legal-size spiny lobsters suggest that the yield potential of the stock is greater than originally estimated by the Council (maximum sustainable yield = 200,000 to 435,000 lobsters/year), but the low CPUE suggests that few legal-size lobsters are avoiding capture. The continued high catch of sublegal spiny lobsters suggests that reproductive capacity has not changed significantly, yet the mortality of released sublegals may be high.

It is not clear whether biological overfishing is imminent or has occurred. Additional data need to be compiled and analyzed to make the determination. The moratorium and limits on the number of traps are intended to provide relief from increased participation and from increased fishing effort which would result in intense pressure on lobster stocks.

*Economic effects of the action.* The moratorium and trap limit are not expected to have immediate economic effects on the fishery but there may be some long-term positive effects. There is adequate fishing capacity to harvest available spiny lobster and slipper lobster in the NWHI. The action will not limit permitted vessels or fishermen from fishing for these species; however, the action may relieve some pressure in the fishery. Current participants will not need to intensify their fishing to secure a share before new vessels enter the fishery. If new entries have been attracted by the prospect of large catches of slipper lobster, the proposed action will reduce the potential for speculation.

For the longer term, the moratorium and trap limit will provide time for NMFS to complete experiments and evaluate for the Council the use of escape vents in lobster traps. The vents would allow sublegal spiny lobsters to escape, thereby eliminating the mortality associated with handling and releasing them. Escape vents are used in many lobster fisheries and experiments are being conducted to identify the size and location appropriate for the release of sublegal spiny lobsters in the NWHI, while ensuring against the unnecessary release of slipper lobsters. These experiments are expected to be completed within the emergency period.

Section 305(e)(2)(B) of the Magnuson Fishery Conservation and Management Act (Magnuson Act) authorizes the Secretary to implement emergency regulations if the Council finds that an emergency exists. By a vote of 10 for, 1 against, at its May 8, 1985, meeting, the Council determined that an emergency exists in the spiny lobster fishery in the NWHI because there is a need to stabilize the fishing pressure on stocks of spiny lobsters in this fishery and to protect the stocks of slipper lobsters.

Specifically, the Council voted (1) to impose a moratorium on new entrants into this fishery and (2) to limit the number of traps fished daily by those vessels now permitted for this fishery to the number of traps shown on their permit applications.

This rule should make it possible to stabilize the long-term productivity of the spiny lobster stocks by reducing fishing pressure while the Council determines changes in the regulations needed to address the problems discussed above. It should also allow collection of additional biological and stock distribution data on slipper lobsters that the Council can use to develop additional regulations if needed to manage slipper lobster stocks. It should also allow NMFS time to make recommendations to the Council for regulations concerning escape vents in the traps.

While the moratorium is in effect, the Council will review the data on spiny and slipper lobsters for the purpose of establishing changes to the FMP that will best meet the FMP's objectives. The Council's amendment will include an environmental assessment as required by the Environmental Protection Act, a regulatory flexibility analysis as required by the Regulatory Flexibility Act, and a determination of consistency of the amendment with the approved coastal zone management programs of Hawaii, American Samoa, and Guam as required by section 307(c) of the Coastal Zone Management Act.

### Classification

The Assistant Administrator for Fisheries, NOAA, has determined that this rule is necessary to respond to an emergency situation and that it is consistent with the Magnuson Act and other applicable law.

The Assistant Administrator also finds that, because there is evidence that the spiny lobster stocks are overfished, and because landings of slipper lobsters are unregulated, the reasons justifying promulgation of this rule on an emergency basis make it impractical and contrary to the public interest to provide notice and a prior opportunity for public comment or to delay for 30 days the effective date of this rule under the provisions of section 553 (b) and (d) of the Administrative Procedures Act.

It is impracticable to defer the effectiveness of this emergency rule to give the Hawaii Department of Planning and Economic Development 90 days to review a determination that the rule is consistent to the maximum extent practicable with Hawaii's approved coastal zone management plan. While different from current State regulations applicable to State waters, this emergency rule has been determined by NMFS to be consistent to the maximum extent practicable with Hawaii's approved coastal zone management plan, as required by regulations under the Coastal Zone Management Act (CZMA). When the Council proposes an amendment to the FMP permitting adoption of these emergency measures on a permanent basis, a formal consistency determination will be provided in accordance with 15 CFR 930.34(b) of the CZMA.

This emergency rule is exempt from the normal review procedures of Executive Order 12291, as provided in section 8(a)(1) of that order. A copy of this emergency rule has been transmitted to the Director of the Office of Management and Budget with an explanation of why it is not possible to follow the procedures of that order.

The Director, Southwest Region, NMFS, has prepared an environmental assessment for this rule and concluded that no significant impact on the human environment will result from its implementation.

This rule is exempt from the procedures of the Regulatory Flexibility Act, because it is issued without opportunity for prior public comment.

This rule does not contain a collection of information requirement and therefore is not subject to the provisions of the Paperwork Reduction Act.

### List of Subjects in 50 CFR Part 681

Fisheries, Reporting and recordkeeping requirements.

Dated: September 30, 1985.

## PART 681—WESTERN PACIFIC SPINY LOBSTER FISHERIES

For reasons set out in the preamble, 50 CFR Part 681 is amended to read as follows:

1. The authority citation for Part 681 continues to read as follows:

Authority: 16 U.S.C. 1801 *et seq.*

2. In § 681.4, a new paragrpah (m) is added, to read as follows:

**§ 681.4 Permits.**

* * * * *

(m) Paragraphs (a) through (l) of this section notwithstanding, a moratorium is hereby established on the issuance of new permits to lobster fishing vessels for Permit Area 1, the Northwestern Hawaiian Islands, for the spiny lobster fisheries of the Western Pacific Region. This paragraph has no effect on the renewal of permits held by those vessels already permitted in this fishery prior to the date this paragraph becomes effective. In the case of a permitted vessel lost at sea, the owner of the permitted vessel will be allowed to replace the vessel and receive a new permit that will allow continuation of fishing in this fishery with the same number of traps. If the owner of a permitted vessel sells the vessel, the new owner will not be prevented by the moratorim from obtaining a permit for this vessel limited to the number of traps previously authorized for the vessel. The former owner will be prohibited from obtaining a permit for this fishery for any new vessel later acquired.

3. In §681.7, a new paragraph (b)(7) is added, to read as follows:

**§ 681.7 Prohibitions.**

* * * * *

(b) * * *

(7) It is also unlawful to fish from a vessel holding a permit issued before October 1, 1985 which deploys or carries a number of lobster traps exceeding the number listed in that vessel's most recent permit application to NMFS for Permit Area 1, the Northwestern Hawaiian Islands, for the spiny lobster fisheries of the Western Pacific Region.

[FR Doc. 85-23697 Filed 10-1-85; 10:03 am]

BILLING CODE 3510-22-M

# Proposed Rules

Federal Register
Vol. 50, No. 193
Friday, October 4, 1985

This section of the FEDERAL REGISTER contains notices to the public of the proposed issuance of rules and regulations. The purpose of these notices is to give interested persons an opportunity to participate in the rule making prior to the adoption of the final rules.

## DEPARTMENT OF AGRICULTURE

### Agricultural Marketing Service

### 7 CFR Part 981

### Handling of Almonds Grown in California; Withdrawal of Proposal To Change Administrative Rules and Regulations Governing Crediting for Marketing Promotion

**AGENCY:** Agricultural Marketing Service, USDA.

**ACTION:** Withdrawal of proposed rule.

**SUMMARY:** This action withdraws a proposal to change two paragraphs of the creditable marketing promotion provisions of the administrative rules and regulations established under the Federal marketing order for California almonds. The withdrawal is based upon a recommendation of the Almond Board of California, which works with USDA in administering the order.

**DATE:** This withdrawal is effective October 4, 1985.

**FOR FURTHER INFORMATION CONTACT:** Frank M. Grasberger, Acting Chief, Specialty Crops Branch, Fruit and Vegetable Division, AMS, USDA, Washington, DC 20250 (202) 447-5053.

**SUPPLEMENTARY INFORMATION:** This rule has been reviewed under USDA guidelines implementing Executve Order 12291 and Secretary's Memorandum No 1512-1 and has been classified a "non-major" rule under criteria contained therein.

The proposal to change two paragraphs of the creditable marketing promotion provisions was published in the March 22, 1985, issue of the **Federal Register** (50 FR 11510). The proposal was to revise § 981.441(c)(3) (ii) and (iii) of Subpart—Administrative Rules and Regulations (7 CFR 981.401-981.474; 50 FR 16451, 24174, and 30263). Section 981.441 is issued under § 981.41 of the marketing agreement and Order No. 981 (7 CFR Part 981), both as amended, regulating and handling of almonds grown in California and hereinafter referred to collectively as the "order." The order is effective under the Agricultural Marketing Agreement Act of 1937, as amended (7 U.S.C. 601-674). The proposal was based on a January 17, 1985, recommendation of the Almond Board of California, hereinafter referred to as the "Board."

The proposal was to allow handlers of California almonds credit against their pro rata expense assessment obligations for paid advertising conducted in conjunction with manufacturers or sellers of one or two complementary commodities or products when the advertisement included a generic reference to California almonds. The current provisions authorize crediting for such advertisements only when the handler's brand is included in the advertisement.

The proposal gave interested persons an opportunity to file written comments until April 11, 1985. However, at the request of the Board and one almond handler, the period for filing comments was extended to August 30, 1985. The document extending the comment period was published in the May 29, 1985, issue of the **Federal Register** (50 FR 21853). No comments were received.

At its July 25, 1985, meeting, the Board rescinded its January 17 recommendation for implementing the proposal. After lengthy consideration, the Board concluded that (1) as between brand an generic references to almonds, brand references would have a greater impact on consumers than generic references, and (2) the type of joint advertising in the proposal would not be cost effective.

Therefore, the proposal to revise § 981.441(c)(3) (ii) and (iii) of Subpart—Administrative Rules and Regulations (7 CFR 981.401-981.474; 50 FR 16451, 24174, and 30263) is withdrawn and the proceeding is terminated.

### List of Subjects in 7 CFR Part 981

Marketing agreements and orders, Almonds, California.

The authority citation for 7 CFR Part 981 continues to read as follows:

**Authority:** Secs. 1-19, 48 Stat., 31 as amended; 7 U.S.C. 601-674.

Dated: September 27, 1985.

**Thomas R. Clark,**

*Deputy Director, Fruit and Vegetable Division.*

[FR Doc. 85-23798 Filed 10-3-85; 8:45 am]
BILLING CODE 3410-02-M

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

### 14 CFR Part 39

**[Docket No. 83-ASW-53]**

### Airworthiness Directives; Bell Helicopter Textron, Inc., Model 206A, 206A-1, 206B, 206B-1, 206L, 206L-1, and 206L-3 Helicopters

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** This notice proposes to supersede an existing airworthiness directive (AD), which currently requires a weekly check, a 100-hour repetitive inspection, and repair or replacement, as necessary, of certain tail rotor blades on Bell Model 206A/B/L series helicopters. This proposed AD requires the existing tail rotor tip block rivets to be replaced with titanium brazier head rivets utilizing special washers and continuance of the 100-hour repetitive inspection. The proposed AD is needed to prevent tail rotor tip block separation which would cause a severe tail rotor imbalance sufficient to separate the tail rotor gearbox from the helicopter leading to uncontrollability and subsequent loss of the helicopter.

**DATE:** Comments must be received on or before November 1, 1985.

**ADDRESSES:** Comments on the proposal may be mailed in duplicate to: Office of the Regional Counsel, FAA, Southwest Region, P.O. Box 1689, Forth Worth, Texas 76101, or delivered in duplicate to: Office of the Regional Counsel, FAA, Southwest Region, Room 158, Building 3B, 4400 Blue Mound Road, Fort Worth, Texas 76106. Comments delivered must be marked: Docket No. 83-ASW-53. Comments may be inspected in Room 158, Building 3B, Office of the Regional Counsel, Southwest Region, between 8 a.m. and 4 p.m., weekdays, except Federal holidays.

The applicable alert service bulletin may be obtained from Bell Helicopter Textron, Inc., P.O. Box 482, Forth Worth, Texas 76101.

A copy of the alert service bulletin is contained in the Rules Docket located at the Office of the Regional Counsel, FAA, Southwest Region, 4400 Blue Mound Road, Fort Worth, Texas 76106.

**FOR FURTHER INFORMATION CONTACT:** Tyrone D. Millard, Helicopter Certification Branch, ASW-170, Aircraft Certification Division, Southwest Region, Federal Aviation Administration, P.O. Box 1689, Forth Worth, Texas 76101, telephone number (817) 877-2594.

**SUPPLEMENTARY INFORMATION:** Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments as they may desire. Communications should identify the regulatory docket number and be submitted in duplicate to the address specified above. All communications received on or before the closing date for comments will be considered by the Director before taking action on the proposed rule. The proposal contained in this notice may be changed in light of comments.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the proposed rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket, Office of the Regional Counsel, 4400 Blue Mound Road, Fort Worth, Texas, for examination by interested persons. A report summarizing each FAA-public contact, concerned with the substance of the proposed AD, will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must submit a self-addressed, stamped postcard on which the followng statement is made: "Comments to Docket No. 83-ASW-53." The postcard will be date/time stamped and returned to the commenter.

This proposed AD is intended to supersede Amendment 39-4819 (49 FR 7796), AD 82-17-04, as amended by Amendment 39-4890 (49 FR 31661), which currently requires a weekly check and 100-hour repetitive inspection of certain tail rotor blades on Bell Model 206 A/B/L series helicopters and repair or replacement, as necessary.

There have been at least two reports where the tail rotor tip block separated in flight causing a severe tail rotor imbalance which in turn caused the failure of the tail rotor gearbox attachment studs. The resulting loss of directional control led to forced landings which resulted in injury to occupants in one of the accidents. Since this condition is likely to exist or develop on other helicopters of the same design, the proposed AD requires that the existing tail rotor tip block rivets be replaced with titanium brazier head rivets utilizing special washers and continuance of the 100-hour repetitive inspection on certain tail rotor blades used on Bell Model 206A/B/L series helicopters. When adopted, the proposed rule will incorporate by reference Part II of the manufacturer's alert service bulletin which requires rivet replacement.

The FAA has determined that this proposed regulation involves approximately 4,000 helicopters at a cost of $6 per helicopter for the inspection and a labor cost for the rivet and special washer installation of approximately $105 per helicopter. Therefore, I certify that this action (1) is not a "major rule" under Executive Order 12291; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979); (3) does not warrant preparation of a regulatory evaluation as the anticipated impact is so minimal; and (4) if promulgated, will not have a significant economic impact on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

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

Air transportation, Aircraft, Aviation safety, Safety.

**The Proposed Amendment**

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration proposes to amend § 39.13 of Part 39 of the FAR as follows:

**PART 39—[AMENDED]**

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

Authority: 49 U.S.C. 1354(a), 1421 and 1423; 49 U.S.C. 106(g) (Revised, Pub. L. 97-449, January 12, 1983); 14 CFR 11.89.

2. By superseding Amendment 39-4819 (49 FR 7796), AD 82-17-04, as amended by Amendment 39-4890 (49 FR 31661), as follows:

**Bell Helicopter Textron, Inc.:** Applies to Model 206A, 206A-1, 206B, 206B-1, 206L, 206L-1, and 206L-3 helicopters certificated in all categories. (Airworthiness Docket No. 83-ASW-53)

Compliance is required as indicated (unless already accomplished).

To prevent possible loss of the tail rotor tip block and resulting tail rotor imbalance which could lead to tail rotor gearbox stud failure and subsequent separation of the tail rotor gearbox from the helicopter tailboom, accomplish the following:

(a) Within the next 7 days after the effective date of this AD, and thereafter at intervals not to exceed 7 days, check tail rotor blades, Part Numbers (P/N) 206-016-201-001, -103, and -107, for serviceability with special emphasis on the tip block area as follows (see Figure 1):

(1) Visually check for corroded or missing rivet heads.

(2) Visually check for rivet heads that have pulled through the skin shell in the tip block area.

(3) Visually check for voids or separations between the skin shell and tip block.

(4) Check for any movement or displacement of the tip block outboard of the tip of the skin shell.

(b) The check required by paragraph (a) of this AD is not considered to be maintenance or preventive maintenance. However, the person performing this check shall make an entry in the aircraft's maintenance records containing the following information:

(1) If no discrepancies are noted, make an entry referencing the check required by paragraph (a) of this AD, the name of the person who performed the check, the date the check was accomplished, the signature, certificate number, and kind of certificate held by the person performing the check.

(2) If any discrepancies are noted, make an entry referencing the check as required in paragraph (a) of this AD, the name of the person who performed the check, the date the check was accomplished, and the nature of the discrepancy. In addition to this entry, the inspection required by paragraph (d) of this AD must be performed before further flight.

(c) The checks required by paragraph (a) of this AD may be performed by the pilot provided his logbook is endorsed by an appropriately rated mechanic stating that the pilot has been properly trained to conduct the check.

(d) Within the next 100 hours' time in service after the effective date of this AD, and thereafter at intervals not to exceed 100 hours' time in service, inspect tail rotor blades, P/N's 206-016-201-001, -103, and -107 for serviceability with special emphasis on the tip block area as follows (see Figure 1):

(1) Visually inspect for corroded rivets and/or missing rivet heads.

(2) Replace corroded or missing rivets per instructions in paragraph (e) of this AD before further flight.

(3) Visually inspect for rivet heads that have pulled through the skin shell in the tip block area.

**NOTE:** A rivet head that has pulled through the skin will require replacement of the blade before further flight.

(4) Visually inspect for voids or separations between the skin shell and the tip block. Limits for voids or gaps between the shell and the tip block are as follows:

(i) A void (or gap) no wider than 0.25 inch (chordwise) at the leading edge is acceptable but must be sealed (see Figure 1). Seal with

EC-2216 or EA934 in accordance with the appropriate Model 206 maintenance manual or FAA-approved equivalent.

(ii) A void (or gap no wider than 0.12 inch (chordwise) between the shell and the aft end of the tip block is acceptable but must be sealed (see Figure 1). Seal with EC-2216 or EA934 in accordance with the appropriate Model 206 maintenance manual or FAA-approved equivalent.

(iii) With the exception of paragraphs (d)(4)(i) and (d)(4)(ii) of this AD, voids between the shell and the tip block that are visible at the tip are unacceptable.

(iv) Replace any blade with voids in excess of these limitations before further flight.

(v) Any movement or displacement of the tip block outboard of the tip of the skin shell shall require replacement of the blade before further flight.

(e) Within 30 days after the effective date of this AD, replace the five aluminum rivets in the tail rotor tip block area with five titanium brazier head rivets, P/N CSR903B4-14, and special washers, P/N 206-016-213-101, in accordance with Part II of Bell Alert Service Bulletin 206-85-28, Rev. "B," dated June 21, 1985 or 206L-85-34, Rev. "B," dated June 21, 1985, whichever applies.

**NOTE:** Tail rotor blades modified in accordance with Part II of the Bell Alert Service Bulletin 206L-85-34, Rev. "A," dated April 2, 1985, or Bell Alert Service Bulletin 206-85-28, Rev. "A," dated April 2, 1985, have been determined to be in compliance with the requirements of this AD and the weekly check required in paragraph (a) of this AD is no longer in effect for modified blades. However, the 100-hour repetitive inspection described in paragraph (d) of this AD remains in effect.

(f) Upon compliance with paragraph (e) of this AD, the weekly check as described in paragraph (a) of this AD is no longer in effect. However, the 100-hour repetitive inspection described in paragraph (d) of this AD remains in effect.

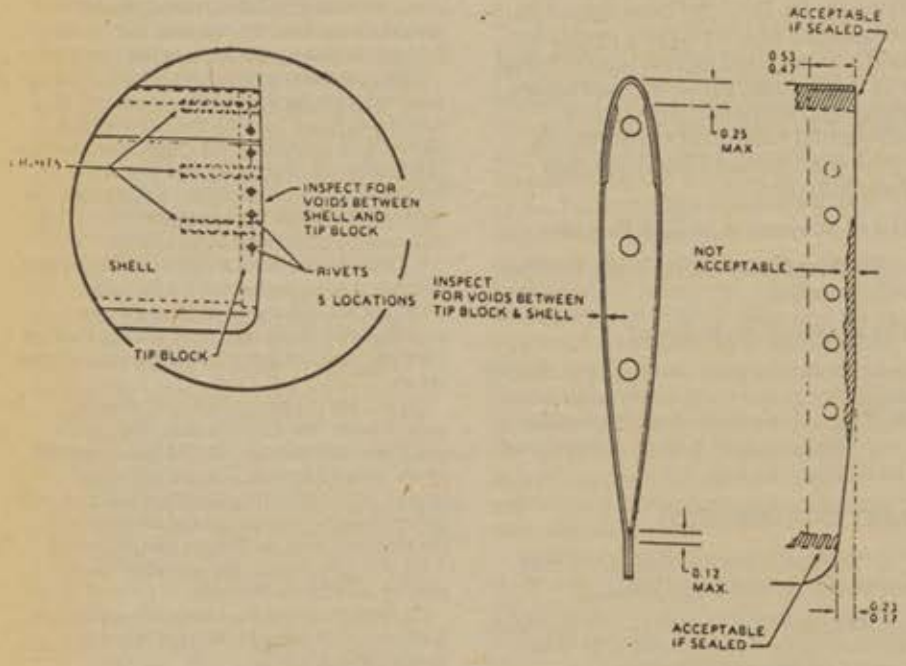
(g) In accordance with FAR §§ 21.197 and 21.199, the helicopter may be flown to a base where the requirements of this AD can be accomplished.

(h) Any equivalent method of compliance with this AD must be approved by the Manager, Helicopter Certification Branch, Southwest Region, Federal Aviation Administration.

Issued in Fort Worth, Texas, on September 25, 1985.

C.R. Melugin, Jr.,

*Director, Southwest Region.*




TAIL ROTOR BLADE INSPECTION

FIGURE 1

[FR Doc. 85-23692 Filed 10-3-85; 8:45 am]

BILLING CODE 4910-13-M

## 14 CFR Part 71

**[Airspace Docket No. 85-AGL-21]**

## Proposed Establishment of Transition Area; Pickneyville, IL

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking.

**SUMMARY:** This notice proposes to establish the Pickneyville, Illinois, transition area to accommodate a new NDB Runway 18 instrument approach procedure to Pickneyville-DuQuoin Airport.

The intended effect of this action is to ensure segregation of the aircraft using approach procedures in instrument conditions form other aircraft operating under visual weather conditions in controlled airspace.

**DATE:** Comments must be received on or before November 18, 1985.

**ADDRESS:** Send comments on the proposal in triplicate to: Federal Aviation Administration, Regional Counsel, AGL-7, Attn: Rules Docket No. 85-AGL-21, 2300 East Devon Avenue, Des Plaines, Illinois 60018.

The official docket may be examined in the Office of the Regional Counsel, Federal Aviation Administration, 2300 East Devon Avenue, Des Plaines, Illinois.

An informal docket may also be examined during normal business hours at the Airspace, Procedures, and Automation Branch, Air Traffic Division, Federal Aviation Administration, 2300 East Devon Avenue, Des Plaines, Illinois.

**FOR FURTHER INFORMATION CONTACT:** Edward R. Heaps, Airspace, Procedures, and Automation Branch, Air Traffic Division, AGL-530, Federal Aviation Administration, 2300 East Devon Avenue, Des Plaines, Illinois 60018, telephone (312) 694-7360.

**SUPPLEMENTARY INFORMATION:** The development of a new NDB Runway 18 instrument approach procedure requires that the FAA designate airspace to ensure that the procedure will be contained within controlled airspace.

The minimum descent altitudes for this procedure may be established below the floor of the 700-foot controlled airspace.

Aeronautical maps and charts will reflect the defined area which will enable other aircraft to circumnavigate the area in order to comply with

applicable visual flight rule requirements.

**Comments Invited**

Interested parties are invited to participate in this proposed rulemaking by submitting such written data, views, or arguments as they may desire. Comments that provide the factual basis supporting the views and suggestions presented are particularly helpful in developing reasoned regulatory decisions on the proposal. Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the proposal. Communications should identify the airspace docket and be submitted in triplicate to the address listed above. Commenters wishing the FAA to acknowledge receipt of their comments on this notice must submit with those comments a self-addressed, stamped postcard on which the following statement is made: "Comments to Airspace Docket No. 85-AGL-21." The postcard will be date/time stamped and returned to the commenter. All communications received before the specified closing date for comments will be considered before taking action on the proposed rule. The proposal contained in this notice may be changed in the light of comments received. All comments submitted will be available for examination in the Rules Docket, FAA, Great Lakes Region, Office of Regional Counsel, 2300 East Devon Avenue, Des Plaines, Illinois, both before and after the closing date for comments. A report summarizing each substantive public contact with FAA personnel concerned with this rulemaking will be filed in the docket.

**Availability of NPRM's**

Any person may obtain a copy of this Notice of Proposed Rulemaking (NPRM) by submitting a request to the Federal Aviation Administration, Office of Public Affairs, Attention: Public Information Center, APA-430, 800 Independence Avenue, SW, Washington, DC 20591, or by calling (202) 426-8058. Communications must identify the notice number of this NPRM. Persons interested in being placed on a mailing list for future NPRM's should also request a copy of Advisory Circular No. 11-2, which describes the application procedure.

**The Proposal**

The FAA is considering an amendment to § 71.181 of Part 71 of the Federal Aviation Regulations (14 CFR Part 71) to establish a transition airspace area near Pickneyville, Illinois.

Section 71.181 of Part 71 of the Federal Aviation Regulations was republished in Handbook 7400.6 dated January 2, 1985.

The FAA has determined that this proposed regulation only involves an established body of technical regulations for which frequent and routine amendments are necessary to keep them operationally current. It, therefore—(1) is not a "major rule" under Executive Order 12291; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979); and (3) does not warrant preparation of a regulatory evaluation as the anticipated impact is so minimal. Since this is a routine matter that will only affect air traffic procedures and air navigation, it is certified that this rule, when promulgated, will not have a significant economic impact on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

**List of Subjects in 14 CFR Part 71**

Aviation safety/transition areas.

**The Proposed Amendment**

Accordingly, pursuant to the authority delegated to me, the Federal Aviation Administration (FAA) proposes to amend Part 71 of the FAR (14 CFR Part 71) as follows:

**PART 71—[AMENDED]**

1. The authority citation for Part 71 continues to read as follows:

**Authority:** 49 U.S.C. 1348(a), 1354(a), 1510; Executive Order 10854; 49 U.S.C. 106(g) (Revised, Pub. L. 97-449, January 12, 1983); 14 CFR 11.69.

2. By amending § 71.181 as follows:

**Pickneyville, IL**

That airspace extending upward from 700 feet above the surface, within a 5 mile radius of Pickneyville-DuQuoin Airport (lat. 37°58'39" N., long. 89°21'31" W.) and within 3 miles each side of the Pickneyville NDB 005° bearing extending from the 5 mile radius area to 8.5 miles north of the airport.

Issued in Des Plaines, Illinois, on September 23, 1985.

**Paul K. Bohr,**

*Director, Great Lakes Region.*

[FR Doc. 85-23691 Filed 10-3-85; 8:45 am]

BILLING CODE 4910-13-M

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**14 CFR Part 71**

**[Airspace Docket No. 85-ACE-11]**

## Proposed Designation of Transition Area; Centerville, IA

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of Proposed Rulemaking (NPRM).

**SUMMARY:** This Notice proposes to designate a 700-foot transition area at Centerville, Iowa, to provide controlled airspace for aircraft executing a new instrument approach procedure to the Centerville, Iowa, Municipal Airport utilizing the Centerville Nondirectional Radio Beacon (NDB) as a navigational aid. This proposed action will change the airport status from VFR to IFR.

**DATE:** Comments must be received on or before November 12, 1985.

**ADDRESSES:** Send comments on the proposal to: Federal Aviation Administration, Manager, Operations, Procedures and Airspace Branch, Air Traffic Division, ACE-540, 601 East 12th Street, Kansas City, Missouri 64106, Telephone (816) 374-3408.

The official docket may be examined at the Office of the Regional Counsel, Central Region, Federal Aviation Administration, Room 1558, 601 East 12th Street, Kansas City, Missouri.

An informal docket may be examined at the Office of the Manager, Operations, Procedures and Airspace Branch, Air Traffic Division.

**FOR FURTHER INFORMATION CONTACT:** Lewis G. Earp, Airspace Specialist, Operations, Procedures, and Airspace Branch, Air Traffic Division, ACE-540, FAA, Central Region, 601 East 12th Street, Kansas City, Missouri 64106, Telephone (816) 374-3408.

**SUPPLEMENTARY INFORMATION:**

**Comments Invited**

Interested persons may participate in the proposed rulemaking by submitting such written data, views or arguments as they may desire. Communications should identify the airspace docket number, and be submitted in duplicate to the Operations, Procedures and Airspace Branch, Air Traffic Division, Federal Aviation Administration, 601 East 12th Street, Kansas City, Missouri 64106. All communications received on or before the closing date for comments will be considered before action is taken on the proposed amendment. The proposal contained in this Notice may be changed in light of the comments received. All comments received will be available both before and after the closing date for comments in the Rules Docket for examination by interested persons.

**Availability of NPRM**

Any person may obtain a copy of this NPRM by submitting a request to the Federal Aviation Administration,

Operations, Procedures and Airspace Branch, 601 East 12th Street, Kansas City, Missouri 64106, or by calling (816) 374–3408.

Communications must identify the notice number of this NPRM. Persons interested in being placed on a mailing list for further NPRMS should also request a copy of Advisory Circular No. 11–2A which describes the application procedure.

**Discussion**

The FAA is considering an amendment to Subpart G, § 71.181 of the Federal Aviation Regulations (14 CFR 71.181) by designating a 700-foot transition area at Centerville, Iowa. To enhance airport usage, a new instrument approach procedure is being developed for the Centerville, Iowa, Municipal Airport utilizing the Centerville NDB as a navigational aid. This navigational aid will provide new navigational guidance for aircraft utilizing the airport. The establishment of a new instrument approach procedure based on this navigational aid entails designation of a transition area at Centerville, Iowa, at and above 700 feet above ground level within which aircraft are to provide air traffic control service. Transition areas are designed to contain IFR operations in controlled airspace during portions of the terminal operation and while transiting between the terminal and enroute environment. The intended effect of this action is to ensure segregations of aircraft using the approach procedure under Instrument Flight Rules (IFR) and other aircraft operating under Visual Flight Rules (VFR). This action will change the airport status from VFR to IFR. Section 71.181 of Part 71 of the Federal Aviation Regulations was republished in Handbook 7400.6A, dated January 2, 1985.

The FAA has determined that this proposed regulation only involves an established body of technical regulations for which frequent and routine amendments are necessary to keep them operationally current. It, therefore—(1) is not a "major rule" under Executive Order 12291; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979); and (3) does not warrant preparation of a regulatory evaluation as the anticipated impact is so minimal. Since this is a routine matter that will only affect air traffic procedures and air navigation, it is certified that this rule, when promulgated, will not have a significant economic impact on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

**List of Subjects in 14 CFR Part 71**

Aviation safety, Transition areas.

**The Proposed Amendment**

**PART 71—[AMENDED]**

Accordingly, pursuant to the authority delegated to me, the Federal Aviation Administration (FAA) proposes to amend Part 71 of the FAR (14 CFR Part 71) as follows:

1. The authority citation for Part 71 continues to read follows:

**Authority:** 49 U.S.C. 1348(a), 1354(a), 1510; Executive Order 10854; 49 U.S.C. 106(g) (Revised Pub. L. 97–449, January 12, 1983); 14 CFR 11.69.

2. By amending § 71.181 as follows:

**Centerville, Iowa**

That airspace extending upward from 700 feet above the surface within a 5 mile radius of Centerville Municipal Airport (latitude 40°41'02" N., longitude 92°54'00" W.); within 3 miles each side of the Centerville NDB (latitude 40°41'14" N., 92°54'00" W., 319 degree bearing extending from the 5 mile radius area, to 8.5 miles northwest of the airport; and within 3 miles of each side of the Centerville NDB 164 degree bearing extending from the 5 mile radius area, to 8.5 miles southeast of the airport.

Issued in Kansas City, Missouri, on September 26, 1985.

**Jerold M. Chavkin,**

*Acting Director, Central Region.*

[FR Doc. 85–23690 Filed 10–3–85; 8:45 am]

BILLING CODE 4310–B–M

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**14 CFR Part 71**

**[Airspace Docket No. 85–ACE–10]**

## Proposed Alteration of Transition Area; Wellington, KS

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of Proposed Rulemaking (NPRM).

**SUMMARY:** This Notice proposes to alter the 700-foot transition area at Wellington, Kansas, to provide controlled airspace for aircraft executing a new instrument approach procedure to the Wellington, Kansas, Municipal Airport utilizing the Wichita VORTAC as a navigational aid.

**DATES:** Comments must be received on or before November 12, 1985.

**ADDRESSES:** Send comments on the proposal to: Federal Aviation Administration, Manager, Operations, Procedures and Airspace Branch, Air Traffic Division, ACE-540, 601 East 12th Street, Kansas City, Missouri 64106, Telephone (816) 374–3408.

The official docket may be examined at the Office of the Regional Counsel, Central Region, Federal Aviation Administration, Room 1558, 601 East 12th Street, Kansas City, Missouri.

An informal docket may be examined at the Office of the Manager, Operations, Procedures and Airspace Branch, Air Traffic Division.

**FOR FURTHER INFORMATION CONTACT:** Dale L. Carnine, Airspace Specialist, Operations, Procedures, and Airspace Branch, Air Traffic Division, ACE–540, FAA, Central Region, 601 East 12th Street, Kansas City, Missouri 64106, Telephone (816) 374–3408.

**SUPPLEMENTARY INFORMATION:**

**Comments Invited**

Interested persons may participate in the proposed rulemaking by submitting such written data, views or arguments as they may desire. Communications should identify the airspace docket number, and be submitted in duplicate to the Operations, Procedures and Airspace Branch, Air Traffic Division, Federal Aviation Administration, 601 East 12th Street, Kansas City, Missouri 64106. All communications received on or before the closing date for comments will be considered before action is taken on the proposed amendment. The proposal contained in this Notice may be changed in light of the comments received. All comments recieved will be available both before and after the closing date for comments in the Rules Docket for examination by interested persons.

**Availability of NPRM**

Any person may obtain a copy of this NPRM by submitting a request to the Federal Aviation Administration, Operations, Procedures and Airspace Branch, 601 East 12th Street, Kansas City, Missouri 64106, or by calling (816) 374–3408.

Communications must identify the notice number of this NPRM. Persons interested in being placed on a mailing list for further NPRMS should also request a copy of Advisory Circular No. 11–2A which describes the application procedure.

**Discussion**

The FAA is considering an amendment to Subpart G, § 71.181 of the Federal Aviation Regulations (14 CFR 71.181) by altering the 700-foot transition area at Wellington, Kansas. To enhance airport usage, an additional instrument approach procedure to the Wellington, Kansas, Municipal Airport is being established utilizing the Wichita

VORTAC as a navigational aid. The establishment of this new instrument approach procedure based on this navigational aid entails alteration of the transition area at Wellington, Kansas, at and above 700 feet above ground level within which aircraft are provided air traffic control service. The intended effect of this action is to ensure segregation of aircraft using the approach procedure under Instrument Flight Rules (IFR) and other aircraft operating under Visual Flight Rules (VFR). Section 71.181 of Part 71 of the Federal Aviation Regulations was republished in Handbook 7400.6A, dated January 2, 1985.

The FAA has determined that this proposed regulation only involves an established body of technical regulations for which frequent and routine amendments are necessary to keep them operationally current. It, therefore—(1) is not a "major rule" under Executive Order 12291; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979); and (3) does not warrant preparation of a regulatory evaluation as the anticipated impact is so minimal. Since this is a routine matter that will only affect air traffic procedures and air navigation, it is certified that this rule, when promulgated, will not have a significant economic impact on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

**List of Subjects in 14 CFR Part 71**

Aviation safety, Transition areas

**The Proposed Amendment**

**PART 71—[AMENDED]**

Accordingly, pursuant to the authority delegated to me, the Federal Aviation Administration (FAA) proposes to amend Part 71 of the FAR (14 CFR Part 71) as follows:

The authority citation for Part 71 continues to read as follows:

Authority: 49 U.S.C. 1348(a), 1354(a), 1510; Executive Order 10854; 49 U.S.C. 106(g) (Revised Pub. L. 97-449, January 12, 1983); 14 CFR 11.69.

2. By amending § 71.181 as follows:

**Wellington, Kansas**

That airspace extending upward from 700 feet above the surface within a 5 mile radius of the Wellington Municipal Airport (Latitude 37°19'28" N., longitude 97°23'13" W.) and 3 miles either side of the Wellington NDB (Latitude 37°19'28" N; Longitude 97°23'13" W.) 017 ° bearing extending from the 5 mile radius area to 8.5 miles Northeast of the NDB and 5 miles either side of the ICT VORTAC 160 ° radial from 12 miles Northwest of the Wellington Municipal Airport extending to the 5 mile radius area excluding that portion which overlaps the Wichita, Kansas, transition area.

Issued in Kansas City, Missouri, on September 26, 1985.

**Jerold M. Chavkin,**

*Acting Director, Central Region.*

[FR Doc. 85-23689 Filed 10-3-85; 8:45 am]

BILLING CODE 4910-13-M

## DEPARTMENT OF THE INTERIOR

### National Park Service

### 36 CFR Part 7

### Saint Croix National Scenic Riverway, WI; Water Use Regulations

**AGENCY:** National Park Service, Interior.

**ACTION:** Proposed rule.

**SUMMARY:** This proposed rulemaking is an administrative change deleting the special regulations pertaining to water recreation at Saint Croix National Scenic Riverway. The existing regulation, which places restrictions on motorboats and water skiing activities, duplicates provisions of Minnesota and Wisconsin regulations that govern the same activities and that the National Park Service can adopt by using another authority. The existing regulation also includes restrictions that can be imposed by the superintendant without a formal rulemaking. Deletion of this regulation will result in no reduction in the levels of park and visitor protection measures provided. The same closures, restrictions and public use limits will remain in effect, but will be codified in other forms.

**DATE:** Written comments will be accepted through November 4, 1985.

**ADDRESS:** Comments should be addressed to: Superintendent, Saint Croix National Scienic Riverway, P.O. Box 708, St. Croix Falls, Wisconsin 54024.

**FOR FURTHER INFORMATION CONTACT:** Henry Hughlett, Chief, RM & VP, Saint Croix National Scenic Riverway, P.O. Box 708, St. Croix Falls, WI 54024, Telephone: 715-483-3284.

**SUPPLEMENTARY INFORMATION:**

**Background**

The existing National Park Service (NPS) special regulation that pertains to water recreation at Saint Croix National Scenic Riverway is codified at 36 CFR 7.9(a); it applies to the surface of the St. Croix River from the dam at St. Croix Falls, Wisconsin, downstream to the northern city limits of Stillwater, Minnesota. It imposes speed and wake restrictions on motorboat use and restricts water skiing activities by time and place, all in the interest of visitor safety.

Many of these restrictions duplicate provisions of Wisconsin and Minnesota regulations that apply in the same locations and that the NPS can adopt under the authority of 36 CFR 3.1(a). Adoption of non-conflicting State regulations by the NPS helps attain consistency in the management of State and NPS water recreation and safety programs. The NPS restrictions in § 7.9(a) that impose closures or public use limits may also be implemented locally, without a rulemaking, under the discretionary authority of the superintendent provided by 36 CFR 1.5. The public notice requirements that accompany such actions by the superintendent are found in 36 CFR 1.7.

The NPS considers 36 CFR 7.9(a) unnecessary since all of the provisions of this particular special regulation are either duplicative of State regulations that can be adopted and/or could be imposed by other methods. Visitors are best served by water safety regulations that are consistent among State and Federal agencies responsible for managing and regulating those activities. Deletion of this special regulation will help achieve such consistency and assure that a flexible regulatory mechanism is in place to respond to changes in local conditions that might occur in the future. The NPS considers this deletion an administrative change, since the restrictions will continue in effect after the deletion, but in other forms.

**Public Participation**

The policy of the National Park Service is, whenever practicable, to afford the public an opportunity to participate in the rulemaking process. Accordingly, interested persons may submit written comments regarding this proposed rule to the address noted at the beginning of this rulemaking.

The Saint Croix National Scenic Riverway staff has contacted the following agencies or their representatives regarding the subject of this rulemaking: Minnesota/Wisconsin Boundary Area Commission, Minnesota Department of Natural Resources and Wisconsin Department of Natural Resources.

**Drafting Information**

The primary authors of this rulemaking are Hugh P. Beattie, Superintendent, and Henry T. Hughlett, Chief Ranger, both of Saint Croix National Scenic Riverway.

### Paperwork Reduction Act

This rulemaking does not contain information collection requirements that require approval by the Office of Management and Budget under 44 U.S.C. 3501 *et seq.*

### Compliance with Other Laws

The Department of the Interior has determined that this document constitutes an administrative change, not subject to the provisions of Executive Order 12291, and certifies that this document will not have a significant economic effect on a substantial number of small entities under the the Regulatory Flexibility Act (5 U.S.C. 603 *et seq.*). This rulemaking has no economic effect since it neither removes existing restrictions nor imposes new ones.

The NPS has determined that this proposed rulemaking will not have a significant effect on the quality of the human environment, health and safety because it is not expected to:

(a) Increase public use to the extent of compromising the nature and character of the area or causing physical damage to it;

(b) Introduce noncompatible uses which might compromise the nature and characteristics of the area, or cause physical damage to it;

(c) Conflict with adjacent ownerships or land uses; or

(d) Cause a nuisance to adjacent owners or occupants. Based on this determination, this proposed rulemaking is categorically excluded from the procedural requirements of the National Environmental Policy Act (NEPA) by Departmental regulations in 516 DM 6, (49 FR 21438). As such, neither an Environmental Assessment nor an Environmental Impact Statement has been prepared.

### List of Subjects in 36 CFR Part 7

National parks.

In consideration of the foregoing, it is proposed to amend 36 CFR Chapter I as follows:

## PART 7—SPECIAL REGULATIONS, AREAS OF THE NATIONAL PARK SYSTEM

1. The authority citation for Part 7 continues to read as follows:

Authority: 16 U.S.C. 1, 3, 9a, 462(k).

2. By amending § 7.9 to read as follows:

### § 7.9 Saint Croix National Scenic Riverway

a. By removing paragraph (a).

b. By redesignating paragraph (b) as (a) and paragraph (c) as (b).

Dated: September 20, 1985.

**P. Daniel Smith,**

*Acting Deputy Assistant Secretary for Fish and Wildlife and Parks.*

[FR Doc. 85-23810 Filed 10-3-85; 8:45 am]

BILLING CODE 4310-70-M

## ENVIRONMENTAL PROTECTION AGENCY

### 40 CFR Part 228

[OW-10-FRL-2908-3]

### Ocean Dumping; Proposed Designation of Site

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Proposed rule.

**SUMMARY:** EPA today proposes to designate the Johnston Atoll Deep Ocean Disposal Site in the Pacific Ocean for the disposal of liquid and solid wastes generated at Johnston Atoll. This action is necessary to provide a suitable ocean dumping site for the current and future disposal of these materials. This proposed site designation does not authorize any actual dumping of wastes. Authorization to ocean dump liquid and solid waste material may be granted only by permit from the EPA Region having jurisdiction, in this case, Region IX.

**DATES:** Comments must be received on or before November 18, 1985.

**ADDRESSES:** Send comments to: Paul Pan, Chief, Environmental Analysis Branch (WH-556M), EPA, Washington, DC 20460.

The file supporting this proposed designation may be examined at the following locations:

EPA Public Information Reference Unit (PIRU), Room 2904 (rear), 401 M Street Southwest, Washington, DC

EPA Region IX Library, 215 Fremont Street, San Francisco, California

**FOR FURTHER INFORMATION CONTACT:** Paul Pan, 202/755-9231.

**SUPPLEMENTARY INFORMATION:**

### I. Background

Johnston Atoll (JA) is a military installation and National Wildlife Refuge located in the Pacific Ocean at latitude 16d 44' north and longitude 169d 31' west. It is administered jointly by the Department of Defense and the Department of the Interior. JA is one of the most isolated atolls in the Pacific. The closest atoll and island is French Frigate Shoals, approximately 460 nautical miles (nmi) to the north. Honolulu, Hawaii, is about 717 nmi to the northeast; Palmyra Island, about 780 miles to the southeast; the Marshall Islands, 1,300 miles to the southwest; and the Phoenix Islands, 1,300 miles to the south. The four small islands at JA have a combined area of about 691 acres, and are enclosed in an egg-shaped lagoon and reef complex about 21 miles in circumference. Johnston Island (JI), the largest of the four islands, has been much changed by construction through the years. Originally it had an area of only 60 acres. The two smallest islands are entirely manmade from material dredged from the ship channel.

During the 1950's and 1960's, JA was involved in the United States atmospheric nuclear testing program. Since ratification of the Limited Test Ban Treaty in 1963, JA has been maintained as one of the facilities needed to resume such testing if directed.

In 1971, at the request of the Japanese government, the United States removed chemical munitions and agents stored on Okinawa and moved them to JI for storage. The storage area ("RED HAT" area) is operated by the U.S. Army and is serviced by about 200 Army personnel.

The Army intends to destroy the obsolete and unserviceable munitions and agents now stored in the "RED HAT" area, and an Environmental Impact Statement (EIS) for the Johnston Atoll Chemical Agent Disposal System (JACADS) project was filed in 1983, with a Record of Decision published in December 1983. The alternative selected consists of incinerating the chemical agents and associated munitions items on JI. The combustion gases from this process are "scrubbed" by elaborate pollution abatement systems. The main end product is a scrubber brine containing inorganic salts and trace amounts of other materials. During the life of the project, several million gallons of liquid scrubber brine waste will be disposed.

A draft EIS has been prepared to assess disposal alternatives for the scrubber brine. The following alternatives to ocean dumping in a deep disposal site were considered:

(a) Dry the brine to salts, drum and interim store the salts at JI, along with other wastes generated there. This is not truly a disposal method because permanent disposal of the waste is not accomplished.

(b) Dry the brine and drum the salts as above, but ship to a continental U.S. landfill.

(c) Discharge the liquid brine through an ocean outfall outside the atoll barrier reef.

These alternatives were rejected because of adverse environmental impacts and/or significantly greater costs as described in more detail in the DEIS. Destruction of the munitions will also produce ash, scrap metal, and mixed solid waste. The DEIS also addresses alternative disposal methods for these materials; however, since the liquid scrubber brine is higher in volume and more complex, the analysis of alternatives emphasizes brine disposal.

In addition, the Army is considering disposal of construction debris and miscellaneous refuse from other operations on JA. The DEIS assesses alternative disposal methods for these materials.

### II. Statute and Regulations

Title I of the Marine Protection, Research, and Sanctuaries Act (MPRSA) authorizes the Administrator of EPA to issue ocean disposal permits for non-dredged material. Title I also requires EPA to establish criteria, based on factors listed in section 102(a), for the review and evaluation of permits under the program. In addition, section 102(c) gives the Administrator of EPA the authority to designate sites where ocean dumping may be permitted. On September 19, 1980, the Administrator delegated the authority to designate ocean dumping sites to the Assistant Administrator for Water and Waste Management, now the Assistant Administrator for Water. This proposed site designation is being made pursuant to that authority.

The EPA Ocean Dumping Regulations (40 CFR Chapter I, Subchapter H, § 228.4) state that ocean dumping sites will be designated by promulgation in Part 228.

The permitting process for ocean dumping requires two separate actions by EPA: (1) The selection and designation of a site at which materials may be ocean dumped; and (2) the issuance of a permit for the disposal of specific types and mounts of material for a specified period of time.

In the site selection and designation process, the nature of the waste is considered and a site is selected which would minimize the impacts of the particular type of waste proposed for disposal. EPA may also impose limits on times, rates, and amounts of dumping and require monitoring programs.

Pursuant to provisions of the MPRSA, EPA promulgated implementing regulations which provide for the designation and management of approved sites for ocean dumping (40 CFR Part 228). The criteria for the selection of ocean dumping sites are set out in 40 CFR 228.5 and 228.6. Generally these criteria provide that disposal sites will be selected so as to prevent unreasonable degradation of the marine environment from all wastes disposed in the ocean.

The proposed site is centered 13 nmi south of JA with coordinates at 16d 27.5' north latitude and 169d 32.0' west longitude. The site is trapezoidal with a length of four to six nmi and a width of two nmi; it has a water depth of more than 3,600 meters.

In the permit issuance procedure, the permitting authority, EPA Region IX in this case, considers the need for the proposed dumping and the environmental acceptability of the specific material for ocean disposal in accordance with the requirements of 40 CFR Part 227. After review of the permit application, the permitting authority will issue a public notice announcing a tentative determination and invite public comment on the proposed action. If the tentative determination is to issue a permit, the public notice will include the proposed conditions of the permit such as volumn permitted to be dumped, rate of discharge, and monitoring requirements.

### III. Environmental Impact Statements

EPA has prepared a draft EIS addressing the proposed ocean disposal of the products of the JACADS program and other solid wastes on Johnston Atoll in accordance with EPA's Statement of Policy for Voluntary Preparation of EIS's (39 FR 16186, May 7, 1974; 39 FR 37119, October 21, 1974). Notice of the availability of the draft EIS for public review and comment is expected to appear in the **Federal Register** on October 4, 1985.

The U.S. Army prepared a project EIS entitled "Johnston Atoll Chemical Agent Disposal System (JACADS)." The draft and final project EIS's were published in September and November 1983, respectively. This project EIS discussed the alternative processes and methods for the disposition of obsolete and deteriorated chemical munitions and agents presently stored at Johnston Atoll. The alternatives were analyzed to determine their feasibility, probable environmental impacts, and ability to fulfill the objectives of the project. Subsequent to the completion of this project EIS, EPA Region IX issued a RCRA permit on August 30, 1985, for operation of the land-based incinerators. The draft EIS and final project EIS are available for inspection at the addresses given above.

### IV. Proposed Site Designation

The purpose of this notice is to provide the public an opportunity to comment on the proposed designation of the Johnston Atoll Deep Ocean Disposal Site as an approved ocean dumping site for the disposal of agent-free liquid scrubber brine and solid waste material from the JACADS project and other solid wastes generated on Johnston Atoll. The comment period will end 45 days from the date of this notice. A public hearing is scheduled for 1:30–5:00 and 7–9:30 pm on November 7, 1985, at Manoa Library, 2716 Woodlawn Drive, Honolulu, Hawaii.

### V. Evaluation of Site Selection Criteria

Pursuant to the provisions of the MPRSA, EPA has promulgated implementing regulations which provide criteria both for the designation and management of approved sites for the ocean disposal of wastes. These criteria are found at 40 CFR Part 228. Section 228.5 includes the general criteria, and § 228.6 includes 11 specific factors to be considered in site designation to assure that the general criteria are met. The evaluation of the Johnston Atoll Deep Ocean Disposal Site in terms of the five general criteria is summarized in the following paragraphs and treated in greater detail in the discussion of the 11 specific factors in this notice and in the EIS.

*General Criteria*

Five general criteria are used in the selection and approval for continuing use of ocean disposal sites. Sites are selected so as to minimize interference with other marine activities, to keep temporary perturbations during the dumping from causing impacts outside the disposal site, and to permit effective monitoring to detect any adverse impacts at an early stage. If at any time disposal operations at a site designated on an interim basis cause unacceptable adverse impacts, EPA can restrict or terminate further use of the site. Where feasible, EPA designates sites beyond the edge of the Continental Shelf.

The proposed Johnston Atoll Deep Ocean Disposal Site satisfies the five general criteria for continuing use at the present time and for the foreseeable future. Due to the size and great depth at the site, its capacity will never be reached by disposal of JA generated wastes.

(a) The selection of a disposal site in the area of Johnston Atoll will minimize the interference of disposal activities with other activities in the marine environment. There presently are no existing fisheries or shellfisheries in the area, although American purse seine vessels may occasionally operate in the area in the future. The Johnston Atoll

area is not a region of heavy commercial or recreational navigation.

(b) The present proposed disposal site was chosen so that temporary perturbations in water quality or other environmental conditions during initial mixing caused by disposal operations anywhere within the site would be reduced to levels below EPA water quality criteria prior to leaving the boundaries of the site, thus precluding adverse effects to any beach, shoreline (including the reefs of Johnston Atoll), marine sanctuary, or known geographically limited fishery or shellfishery.

(c) There is presently no disposal site approved on an interim basis in the Johnston Atoll area. Consequently, this criterion is not relevant to this designation.

(d) The limited size of the proposed disposal site was selected so as to localize for identification and control any immediate adverse impacts and permit the implementation of effective monitoring and surveillance programs to prevent adverse long-range impacts. The size, configuration and location of the site were determined as a part of the disposal site ecological and oceanographic studies, data analysis, and the application of bioassay study results and mixing models to that data. The trapezoidal configuration and size were chosen based upon the scenario of ocean disposal by barge occurring along a straight north to south track near the upstream (east) side of the site over a maximum period of one hour, at a maximum speed of four knots, and with the agent-free liquid scrubber brine material diluting and mixing in the downstream (west) sectors of the site.

(e) The proposed site is far beyond the edge of the Continental Shelf; it is not in an area that has been historically used for ocean disposal of liquid or solid waste.

*Specific Factors*

Two locations within approximately three nmi off the leeward (south and west) side of the atoll were investigated initially. Site A, to the south of JA, and Site B, to the west of JA, are evaluated along with Site C, the proposed dump site.

• Factor 1—Geographical Position, Depth of Water, Bottom Topography and Distance From Coast

Alternative Site A is circular with a diameter of 2 nmi and its center located at 16d 41.5' north latitude and 169d 34.1' west longitude. It is centered approximately 4.5 nmi south of Johnston Island along the leeward reef slope, in water sloping to 1,000 meters deep. The bottom slope angle is 60–90 degrees (with overhangs), with some boulders on the slope which have broken off from above. The site is immediately south of the deep channel entrance to Johnston Atoll off the eastern side of JI.

Alternative Site B is circular with a diameter of 2 nmi and its center located at 16d 41.5' north latitude and 169d 34.1' west longitude. It is centered approximately 2 nmi west of Johnston Island along the leeward reef slope, in water sloping to 1,000 meters deep. The bottom slope angle is 60–90 degrees (with overhangs), with some boulders on the slope which have broken off from above. Although the site is closer to Johnston Island than Site A, the access route to the site by barge or ship would be longer than the route to Site A because of the location of the access channels along the south side of JI.

The proposed site is centered at 16d 27.5' north latitude and 169d 32.1' west longitude. The site is a trapezoid of 10 square nautical miles with lengths of 4 and 6 nmi and a width of 2 nmi, and has its center 16 nmi south of Johnston Island in water more than 3,600 meters deep. The bottom at this site was not directly observed because of its great depth. However, based on oceanographic surveys of similar areas, it is likely to be a relatively flat, featureless plain, gently sloping to abyssal depths and covered with fine sediment of varying thickness. Sediments of volcanic origin may also contributer to the total sediment volume.

• Factor 2—Location in Relation To Breeding, Spawning, Nursery, Feeding or Passage Areas of Living Resources in Adult or Juvenile Phases

Alternative Sites A and B, because of their proximity to the atoll, have relatively dense populations of larval reef organisms or eggs in their surface waters. They are not unique, since all of the waters close to coral atolls probalby have relatively dense populations of such organisms, although populations may vary from place to place and over time. The geological escarpment along the slopes of the atoll at a depth of 130 meters, which completely encircles the atoll, was identified as having a profusion of fishes. However, it is unlikely to be effected by agent-free liquid scrubber brine disposal at any alternative site since the escarpment is below the thermocline, since the brine is not expected to sink to the thermocline depth, since the brine will be disposed at a considerable distance away from the escarpment, and since prevailing currents will transport the brines away from the escarpment.

The proposed site has a biological community structure dominated by pelagic species. The planktonic community is less abundant than that of nearshore areas and generally contains larval forms of pelagic species. Also present are commerically valuable species such as tunas and billfish; however, there is presently no commercial fishery in the area. It is possible that tuna purse seiners may transit or briefly fish in the area from time to time in pursuit of migratory species in the future.

Disposal at the proposed site would be far enough away from the atoll not to allow water current eddies to return the brine close to the productive atoll reef slopes, and the migratory adult fish (those of commercial value) are generally less sensitive to pollution than larval forms.

The benthic community at the proposed site was not surveyed due to its great depth (about 3600 meters) but is likely to be similar to other areas in the tropical central Pacific. The benthic fauna below the thermocline and photic zone is depauperate with about one percent of the biomass found in the shallower areas of the atoll. The community is dominated by detritvours, scavengers, and filter-feeders such as sea cucumbers, worms, sponges, and crinoids or sea lilies. Other important and common members of the deep-sea community are carnivorous brittle-stars and bacteria. Since the benthic community is sparse and the area of the disposal site is small in comparison to the vast area these organisms inhabit, benthic community and subsequent ecosystem impact due to material disposal is expected to be minimal and temporary because of recolonization.

• Factor 3—Location in Relation to Beaches and Other Amenity Areas

The only beaches or other amenity areas within several hundred miles of Alternative Site A are on Johnston Island, approximately 4.5 nmi to the north. Small beaches are located along the south middle side and on the north side of Johnston Island, away from Alternative Site A. Beach areas are also located on Sand Island which is still farther away from Sites A and B and the proposed site. Access to beaches on all islands except the north side of JI is restricted for safety reasons.

As with Site A above, only Johnston Island and Sand Island beaches approximately 2 nmi to the northeast are in the vicinity of Site B.

The nearest beaches and amenity areas to the proposed site are at

Johnston Island and Sand Island, 13–19 nmi to the north, and up-current.

• Factor 4—Types and Quantities of Wastes Proposed To Be Disposed of, and Proposed Methods of Release, Including Methods of Packing the Waste if Any

Several kinds of waste are proposed for dumping at the site. The primary waste will be the liquid scrubber brine from the JACADS project. The brine will be an agent-free composite of liquid from the pollution abatement systems for the incinerator, the deactivation furnance and the metal parts furnace, and will vary in composition depending upon the type of agent and munition being deactivated.

The DEIS addresses disposal of three different chemical agents described as GB, VX, and HD. Since the MPRSA prohibits ocean disposal of any chemical warfare agent, the JACADS project must certify that the scrubber brines produced during the incineration of these materials is agent-free. Regarding liquid waste generated from the JACADS project, EPA is proposing to restrict the site designation to allow disposal only of liquid scrubber brines certified to be agent-free in accordance with a testing procedure to be determined by the Army and EPA during the permitting process.

The DEIS states that the brines will contain salts and other trace materials. It presents a chemical analysis of sample brines obtained during a test incineration of agents GB and VX. For HD, the DEIS contains an analysis of a typical brine produced during a previous disposal program. Bioassays using marine organisms found in the water column were performed for the sample GB and VX brines. The test indicates that the materials in the sample brines will not produce unacceptable impacts if the brines are adequately diluted. No bioassay has been performed for agent HD. Prior to issuing any ocean dumping permit, EPA must consider in detail the impacts on marine organisms of any material proposed for ocean disposal. This will require bioassay testing for brines from agent HD, the agents GB and VX actually destroyed as part of the JACADS program in addition to any other agents to be destroyed other than the above. Additional bioassays will also be required if the program decides to incinerate more than one agent at the same time.

Bioassay testing may focus on organisms found in the water column because the brine will be trapped above the thermocline, and it is unlikely that particulates formed due to coagulation which reach the bottom would cause significant accumulation.

To further assure that the brines will be acceptable for dumping, EPA must consider in permit proceedings whether each of the identified constituents would be diluted to levels below EPA ambient water quality criteria within the limits of the dump site. The DEIS contains enough information to make a preliminary conclusion of acceptability. The chemical analyses in the DEIS, however, do not describe all individual constituents of the organic carbon fraction of the brine. The HD analysis is based on a previous disposal program. Since the permit regulations will require EPA to determine whether all applicable water quality criteria are met, EPA will require further chemical analysis of all three brines prior to issuing any final permit.

Tables 5, 6, and 7 of the draft EIS contain information on the expected chemical composition of the three types of agent-free liquid scrubber brines to be produced. Therse alkaline brines may have a pH from 7.5 to 9.5. They contain sodium and other salts as well as trace amounts of metals, organic carbon, and other material. The agent-free liquid scrubber brine is proposed to be discharged from a self-propelled barge by pumps, into the propeller wash of the barge. It is possible that at peak operations as much as 180,000 gallons may be discharged once a week, but the Army expects an average of 100,000 gallons will be dumped every two weeks. Actual permissible dumping rate and frequency will be determined based on the characteristics of the waste and operating conditions in the permit issuance process.

As part of the permiting process, each category of brine to be disposed will require a chemical analysis to determine compliance with EPA's water quality criteria and determine bioaccumulation potential in addition to completion of bioassays to determine the absence of toxic impacts on sensitive indigenous biota.

The Army is also requesting permission for ocean disposal of six types of solid waste described in Table 7 of the draft EIS. These solid wastes consist of two categories: Wastes from the JACADS munitions destruction project, and miscellaneous solid wastes from general operations on JA.

Solid wastes from the munitions destruction project will include ash, scrap metal, and a mixed residue containing primarily metal and fiberglass.

*Ash* from the dunnage incinerator will equal 4–6 tons during the life of the JACADS project. Present plans are to dispose of the non-toxic, certified agent-free ash in the JI burn pit, but if this is determined not feasible, a permit for ocean disposal will be requested. Prior to ocean disposal, the ash would be encapsulated, dense enough to ensure the material will sink to the ocean bottom and not mix with surrounding seawater.

*Scrap metal* in the form of munitions components, which have been incinerated and certified to be agent and explosive free, is planned to be sold for its scrap value. If this is determined to be economically infeasible, a permit for ocean disposal will be requested. A total of 8,000 tons of scrap metal is expected to be generated during destruction of the M–55 rockets.

*Mixed waste* is generated during the destruction of M–55 rockets. The waste consists of the incinerated, agent-free residue of the aluminum warhead and fiberglass rocket motor ease, and some ash. The components cannot be separated at this time, but separation techniques are being studied. Some form of containerization or encapsulation will be required to ensure that this material will sink to the bottom, should the dumping of this material be pursued. Any material to be dumped must also be certified to be agent-free and must be containerized or encapsulated.

For the above three categories of material, to insure that there will not be adverse impacts on the indigenous biota should they be released to the surrounding water, chemical analysis and bioassays must be performed prior to permit issuance.

The second category consists of construction debris and wastes from other operations on the island. *Construction debris* such as concrete rubble will be generated, but most is expected to be used as fill material. Any solid debris which cannot be used for fill will be proposed for ocean dumping. A total of 87 tons of agent-free construction debris is expected to be generated, but the portion to be ocean dumped, if any, is unknown.

*Johnston Atoll operating waste* has been accumulating for several years. It includes salvaged vehicles, appliances, steel hulled boats and other metal objects. It may also include some plastic materials. All these items have been burned in the open air burn pit at JI, and are free of agents, petrochemicals or other combustible substances. Many of these items were used to construct a fisheries enhancement structure in a depauperate area southwest of Johnston Island in water approximately 60 feet deep. In the future, an ocean dumping

permit will be requested by the Defense Nuclear Agency for disposal of additional material at the proposed ocean disposal site.

• Factor 5—Feasibility of Surveillance and Monitoring

Alternative Sites A and B would be easier to monitor than the proposed site because they are closer to Johnston Island. Any of the three sites would be relatively easy to monitor for shallow water chemistry and oceanography. The bottom at the proposed site would be very difficult to monitor because of its depth; however, in-situ monitoring for liquid brine constituents in the bottom sediments would be unnecessary since the amount of particulates reaching the bottom would be insignificant. The solid wastes which may be proposed for ocean disposal will be large and heavy enough so that they would not disperse off site significantly.

• Factor 6—Dispersal, Horizonal Transport and Vertical Mixing Characteristics of the Area, Including Prevailing Current Direction and Velocity

The agent-free liquid scrubber brine waste proposed for disposal will be dispersed and diluted immediately as it is discharged from the tanker barge. Because it will be discharged directly into the turbulent wake of the barge's propellers, a dilution ratio of over 4,300 to one will be achieved almost instantly if the barge to be designed for liquid brine disposal moves at a speed of 4 knots during disposal. The diluted brine will continue to disperse and be further diluted by other ocean forces reaching a dilution of approximately 1.8 million times at the boundary of the disposal site. If disposal occurs in Alternative Sites A or B, the brine plume would be horizontally transported back toward the atoll reef slopes. Disposal at the proposed site of agent-free scrubber waste will be transported away from the atoll by the prevailing currents.

Based on the research dump of concentrated seawater, it is concluded that the diluted brine will slowly sink through the mixed layer until it reaches equilibrium, but it will not sink to or beneath the thermocline (at a depth of about 100 meters). The agent-free solid wastes which may be proposed for ocean disposal are large and heavy enough that they will sink rapidly to the bottom, not disperse significantly, or be transportred out of the disposal area. Since lighter materials such as ash or plastic will be encapsulated, no measurable mixing of the solid waste with the site waters is expected.

Johnston Atoll is within the band of latitudes historically considered part of the North Equatorial Current, a broad geostrophic, west-flowing current. The present view is that JA is within a looping current system called a gyre, which flows westerly, then northward to the vicinity of the Northwest Hawaiian Islands. Such large-scale currents vary with the season and other factors, and influence the local currents around Johnston Atoll.

Sites A and B are both in an area subjected to turbulent circular water current patterns called eddies. These eddies are formed in the wake of the atoll by the west-flowing prevailing current. The eddies spin off randomly from the atoll's wake but tend to move in a northerly direction, along the westward reef slopes of the atoll at speeds of approximately one-half knot. Current speeds within the eddies may be higher. Oceanographic research showed that material dumped near Site A or B would be entrained in eddies and returned to the reef slopes of the atoll.

The proposed site at a greater distance away is less influenced by the turbulent flow around the atoll. The prevailing current is westerly at approximately one knot. Eddies sometimes form in this area, but they move northwesterly, away from the atoll, so that material entrained would not be returned to the reef slopes.

• Factor 7—Existence and Effects of Current and Previous Discharges and Dumping in the Area (Including Cumulative Effects)

There has been no discharge or dumping of JACADS waste material in any of the three areas considered in the DEIS. Effects of the previous dumping of radoactively contaiminated debris, explosives, scrap metal, and a research dump of concentrated seawater and fluorescence dye were undetectable, except for some scrap metal visible on the ocean floor. There was no observed effect of the incineration of Herbicide Orange by the Dutch ship VULCANUS in 1977 at a site located 120 miles to the west of JA. Recently dioxin, an impurity of Herbicide Orange, was detected in some marine organisms from Johnston Atoll. Since Herbicide Orange was not known to have been dumped in the ocean at JA, it is assumed the dioxin entered the lagoon through runoff from Johnson Island where Herbicide Orange was stored before it was incinerated. It is highly unlikely that such runoff would have any effect at the proposed site, 13–19 nmi from JI.

• Factor 8—Interference With Shipping, Fishing, Recreation, Mineral Extraction, Desalination, Fish and Shellfish Culture, Areas of Special Scientific Importance and Other Legitimate Uses of the Ocean.

Johnston Atoll is not in a major shipping lane, and the infrequent dumping is not likely to interfere with shipping. No commercial fishing or fish or shellfish culture presently occur in any of the alternative locations; however, there has been a recent expansion of the American purse seine fishery into waters of the south, central and western Pacific. Since this fishery often relies on feeding seabirds to locate tuna schools and there are periodically large numbers of such birds at Johnston Atoll, it is possible that tuna fishing will occur at times in the area of the proposed site. During calm weather, recreational fishing may occur at Sites A and B, but not at the proposed site. At the present time there is no mineral extraction at or near JA. Deep sea manganese crustal deposits occur off the Line Islands and Hawaii along the deep slopes of islands, atolls and seamounts.

Crustal deposits also probably occur along the deep flanks of Johnston Atoll, although detailed oceanographic surveys for these deposits have yet to be done there. Recently, however, high grade cobalt crusts have been reported off Hawaii (north of latitude 19d), and the Minerals Management Service of the Department of Interior is presently investigating the feasibility of establishing a mineral leasing program for Hawaii. In August 1984, the German consortium, Metallgesellschaft and Preussag, using a research vessel in waters between Hawaii and the Line Islands, discovered a major high grade cobalt crustal deposit on a seamount 60 miles south of Johnston Atoll. This region is well south of Johnston Atoll and over 40 miles from any of the alternate disposal locations. Ocean dumping at any of the sites would not affect the exploratory or commercial extraction of the cobalt crustal deposits.

Potable fresh water at JA is produced in a reverse osmosis plant located on the north side of Johnston Island. The plant's salt water intake is located in the lagoon, several miles northwest from Sites A and B, and over 13 nmi from the proposed site, and will not be affected by ocean disposal.

The Johnston Atoll National Wildlife Refuge is the closest known site of scientific importance, and the refuge includes the atoll's shallow reefs to a depth of 30 meters. Outside the refuge there are no areas of special scientific importance, or other legitimate uses of

the ocean in the vicinity of the proposed site.

• Factor 9—The Existing Water Quality and Ecology of the Site as Determined by Available Data or by Trend Assessment or Baseline Surveys

The existing water quality is very good as would be expected in the open ocean. The water chemistry study reported in Appendix B of the draft EIS indicated the concentrations of the metals and other constituents tested for were generally within the normal range for pristine open ocean waters.

• Factor 10—Potentiality for the Development or Recruitment of Nuisance species in the Disposal Site

The disposal of the proposed waste is not likely to change the community composition nor will it result in development or recruitment of nuisance species in the disposal site because the materials proposed for dumping will not contain nutrients for nuisance species.

• Factor 11—Existence at or in Close Proximity to the Site of any Significant Natural or Cultural Features of Historic Importance

There are no known significant cultural features of historic importance in close proximity to any of the alternative disposal sites. Prevailing currents will protect the National Wildlife Refuge at JA.

Tentative Conclusion

Based on EPA's analysis of the EPA and Army EIS's, supporting studies, comments thereon to date, and informal comments on the proposed site designation, EPA has come to the following tentative conclusions:

The major advantage of using the Johnston Atoll Deep Ocean Disposal Site is that waste material from Johnston Atoll will be permanently disposed in a remote area with no adverse environmental impacts. An additional important advantage is that ocean disposal at this site involves much lower costs then other disposal alternatives.

Disposal of the wastes generated at JA will not have significant adverse effects on the ecology of Johnston Atoll or the ocean disposal site provided the waste is certified to be agent-free and undergoes complete chemical analysis and bioassay testing prior to permitting.

Prior to any actual disposal operations, a site management plan will be developed by EPA Region IX in coordination with the Army, the National Marine Fisheries Service, U.S. Fish and Wildlife Service, and the U.S. Coast Guard. The plan will include requirements and protocols for monitoring the effects of dumping in the water column, and copies of the plan will be available for inspection at the above locations after publication. Should monitoring show significant adverse effects, appropriate measures to mitigate such impact or to modify or withdraw the site designation will be taken by the Agency.

Management authority is delegated to EPA Region IX.

## VI. Regulatory Assessments

Under the Regulatory Flexibility Act, EPA is required to perform a Regulatory Flexibility Analysis for all rules which may have a significant impact on a substantial number of small entities. EPA has determined that this proposed action will not have a significant impact on small entities since the site designation will only have the effect of providing a disposal option for waste material. Consequently, this proposal does not necessitate preparation of a Regulatory Flexibility Analysis.

Under Executive Order 12291, EPA must judge whether a regulation is "major" and therefore subject to the requirement of a Regulatory Impact Analysis. This action will not result in an annual effect on the economy of $100 million or more or cause any of the other effects which would result in its being classified by the Executive Order as a "major" rule. Consequently, this proposed rule does not necessitate preparation of a Regulatory Impact Analysis.

This proposed rule does not contain any information collection requirements subject to Office of Management and Budget review under the Paperwork Reduction Act of 1980, 44 U.S.C. 3501 et seq.

**List of Subjects in 40 CFR Part 228.**

Water pollution control.

Dated: October 1, 1985.

**Edwin L. Johnson,**

*Acting Assistant Administrator for Water.*

In consideration of the foregoing, Subchapter H of Chapter I of Title 40 is proposed to be amended as set forth below.

1. The authority citation for Part 228 continues to read as follows:

**Authority:** 33 U.S.C. sections 1412 and 1418.

2. In part 228, it is proposed to add § 228.12(b)(31), an ocean dumping site for Region IX, as follows:

**§ 228.12 Delegation of management authority for ocean dumping sites.**

* * * * *

(b) * * *

(31) Johnston Atoll Deep Ocean Disposal Site—Region IX

Location: 16d 30' 00"N., 169d 31' 00"W.; 16d 31'., 169d 33' 00"W.; 16d 26' 00"N., 169d 31' 00"W.; 16d 25' 00'N., 169d 33' 00"W.

Size: Approximately 10 square nautical miles.

Depth: Approximately 3,600 meters.

Period of use: Continuing use.

Restriction: Disposal shall be limited to liquid scrubber brines and solid wastes resulting from the operation of the Johnston Atoll Chemical Agent Disposal System (JACADS) certified to be agent-free in accordance with a testing method to be specified in any ocean dumping permit issued for disposal of these materials, and solid wastes generated from other operations on Johnston Atoll. Additionally, chemical analyses and bioassays needed for application of EPA's ocean dumping permit criteria will be performed for all liquid and solid materials prior to final permit issuance.

[FR Doc. 85-23889, Filed 10-3-85; 8:45 am]

BILLING CODE 6560-50-M

# Notices

Federal Register
Vol. 50, No. 193
Friday, October 4, 1985

This section of the FEDERAL REGISTER contains documents other than rules or proposed rules that are applicable to the public. Notices of hearings and investigations, committee meetings, agency decisions and rulings, delegations of authority, filing of petitions and applications and agency statements of organization and functions are examples of documents appearing in this section.

## ADMINISTRATIVE CONFERENCE OF THE UNITED STATES

### Committee on Judicial Review; Public Meeting

Pursuant to the Federal Advisory Committee Act (Pub. L. No 92–463), notice is hereby given of a meeting of the Committee on Judicial Review of the Administrative Conference of the United States, to be held at 9:30 a.m. Tuesday, October 15, 1985, at the offices of Cadwalader, Wickersham, & Taft, 1333 New Hampshire Avenue, NW., 7th Floor, Washington, DC. The Committee will meet to discuss a draft report by Professor Stephen Legomsky on administrative and judicial review in immigration proceedings.

Attendance is open to the interested public, but limited to the space available. Persons wishing to attend should notify the Office of the Chairman of the Administrative Conference at least two days in advance. The committee chairman, if he deems it appropriate, may permit members of the public to present oral statements at the meeting; any members of the public may file a written statement with the committee before, during or after the meeting.

For further information concerning this meeting contact Mary Candace Fowler, Office of the Chairman, Administrative Conference of the United States, 2120 L Street, NW., Suite 500, Washington, DC (Telephone: 202–254–7065.) Minutes of the meeting will be available on request.

**Jeffrey S. Lubbers,**
*Research Director.*
October 1, 1985

[FR Doc. 85–23710 Filed 10–3–85; 8:45 am]
BILLING CODE 6110–01–M

## DEPARTMENT OF AGRICULTURE

### Forest Service

### Montana; Bitterroot National Forest and Deerlodge National Forest

**AGENCY:** Forest Service, USDA.

**ACTION:** Public hearing notice: Public hearings will be held as follows:

*December 11,* 1985—Hamilton, Montana, Ravalli County Courthouse (basement conference room), 205 Bedford Street, from 2–6 p.m. and 7–9 p.m.

*December 12,* 1985—Phillipsburg, Montana, Granite County Courthouse (Court Room), Corner Samson and Granite, from 2–6 p.m. and 7–9 p.m.

**SUMMARY:** Public hearings will be held concerning the Blue Joint and Sapphire Wilderness Study Areas as mandated by the Montana Wilderness Study Act (Pub. L. 95–150).

Hearings will be held in two western Montana cities in December of 1985.

**ADDRESSES:** Request for further information should be addressed to: Forest Supervisor, Bitterroot National Forest, 316 North Third Street, Hamilton, MT 59840 or Forest Supervisor, Deerlodge National Forest, P.O. Box 400, Butte, MT 59703.

**John F. Chansler,**
*Acting Regional Forester.*
[FR Doc. 85–23410 Filed 10–3–85; 8:45 am]
BILLING CODE 3410–11–M

### Adoption of Final Policy; Communication Sites

**AGENCY:** Forest Service, USDA.

**ACTION:** Notice of adoption of final policy.

**SUMMARY:** The Forest Service has developed a new policy for administering communication sites on National Forest System lands authorized under its special use regulations. The revised policy broadens the method of establishing fees, thus providing more flexibility in applying appraisal procedures and sound business management principles. The policy also reduces the number of authorization types to simplify the administration of communication site authorizations and establishes a new system for issuing authorizations on multiple-user sites.

**EFFECTIVE DATE:** This policy is effective upon receipt by Forest Service units of the implementing directive. It is estimated that units will receive the directive on or about October 15, 1985.

**FOR FURTHER INFORMATION CONTACT:** Paul M. Stockinger, Lands Staff, Forest Service, Room 1011B, 1621 North Kent Street, Rosslyn, Virginia, (703) 235–2410.

**SUPPLEMENTARY INFORMATION:** On July 6, 1984, the Forest Service published a Notice of proposed Policy in the **Federal Register** at 49 FR 27801–27804 proposing to change the existing policy for both authorizing and collecting fees for electronic communication sites. A copy of that Notice was provided to all existing electronic site permit holders.

#### Analysis of Public Response

The Forest Service received 115 comments on the proposed policy. The number and percentage of responses by category of respondent was as follows:

| Respondent | No. | Percent |
|---|---|---|
| Federal Agency | 20 | 17.4 |
| Amateur Radio Operators | 7 | 6.1 |
| Commercial Broadcaster | 9 | 7.8 |
| Non-Profit Users | 26 | 22.6 |
| Service or Utility Users | 43 | 37.4 |
| Nonusers | 10 | 8.7 |
| Total | 115 | 100.0 |

A summary of the originally proposed policy, public comments, and Forest Service response follows.

1. *Fee Determinations.* Under the proposal, the Forest Service would have established the fair market value for the use of electronic communication sites through one or more of the following three techniques: (1) individual appraisals for large sites, (2) fee schedules based on market studies, with periodic rate adjustments based on market indices, and (3) competitive bidding when several potential users apply for use of the same site.

Most of the comments received were directed to this topic. A number of respondents wanted exemptions from fees for a variety of reasons. Others wanted to have a more detailed policy on when each fee determination method would be applied.

a. *Waiver of Fees.* A number of respondents suggested broadening policies on fee waivers for electronic communication sites. Also a number of Federal agencies expressed concern that

they not lose their fee exemptions. The proposed policy did not include any recommendations to revise existing policy on the waiver of fees. Existing policy on qualifications for waiver of fees is set forth in Chapter 2710 of the Forest Service Manual (FSM). The policy applies to all Forest authorizations for which fees are charged, not just to waiver of fees for electronic communication sites. Pursuant to FSM 2710, the authorizing officer determines, upon application, whether a particular use qualifies for a full or partial waiver of fees.

With regard to exemption of fees for Federal agencies, Forest Service regulations at 36 CFR 251.57(c) provide for rental fee waivers for Federal agencies for all special use authorizations. The proposed policy and the final policy do not change those exemptions. Federal agencies should note, however, that in the event an electronic communication site is under an authorization that provides for multiple users and is issued to a site manager, a Federal agency would be expected to pay a fee to the holder for any use of the holder's facilities. Existing policy exempts only the land rental fee for Federal agencies.

b. *Method of Fee Determination.* The use of competitive bidding was somewhat misunderstood by reviewers. It was a major source of concern to smaller operators. Several of the industry respondents felt that they could stand to lose a significant part of their investment. The final policy clarifies the use of competitive bidding. We intend that it apply primarily to new, undeveloped areas, although it could apply at the end of the term of an authorization for sites that are significantly underdeveloped or underutilized. Direction has been added to require the authorized officer to require prompt development in new authorizations issued after competitive bidding. This requirement is intended to discourage bidders from tying up an area covered by a site plan merely to prevent its use by others. Competitive bidding for electronic sites is an accepted practice in industry. It should be used with some degree of caution, since all potential bidders may eventually locate on the site. To avoid conflict, the Forest Service strongly encourages the formation of a user group. This is discussed later in more detail under the authorization types section.

Finally, some respondents did not think we should use fair market value for determining rental fees. However, fair market value is required by the Federal Land Policy and Management Act of 1976 and regulations implementing that act at 36 CFR 251.57.

2. *Designating Sites for Electronic Use.* The proposal would have generally prohibited new electronic uses on existing, but undesignated electronic sites. The proposal noted that sites are authorized in accordance with land and resource management planning. Under the proposal, the Regional Forester would have continued to approve site designation.

One respondent expressed the concern that a hardship might occur if additional new users are not allowed on existing, but undesignated sites. We disagree. Allowing additional users on these sites without designating the areas as electronic sites would circumvent the forest planning process, resulting in the likely possibility that inappropriate sites would continue to expand without any reasonable control. If a definite hardship is proven, the Regional Forester may grant a waiver for an individual site, providing the use either conforms to the forest's land and resource management plan covering the area or such plan is amended or revised to allow the use.

3. *Application and Site Availability.* The draft proposal reemphasized existing policy that requires the authorized officer to notify applicants promptly of site availability and advise other users 30 days in advance of any decision on an application.

The only comment on this section questioned the need for any coordination requirements. The purpose of the 30 day notification is to advise other users so that they may check for frequency compatibility and interference problems. This provision is unchanged in the final policy.

4. *Frequency and Interference Coordination.* The proposed policy would have held individual users and applicants responsible for resolving potential electromagnetic compatibility conflicts in order to protect existing holders and site users.

We received both pro and con responses on this proposal. Those opposed felt that the Forest Service should have a stronger role in coordinating frequency assignments and interference problems. We have reviewed this section with the National Telecommunication and Information Administration (NTIA), which oversees federal electronic user frequencies and coordinates them with the Federal Communication Commission (FCC), which provides similar services to the nonfederal electronic users. Frequency coordination is a function of both these agencies, performed when assigning frequencies to a applicant for an FCC license or NTIA authorization. Interference coordination, on the other hand, is either the user's or landowner's responsibility. The Forest Service believes arbitration and resolution of interference problems is outside its mission of natural resource management, unless the Forest Service is a user on the site. However, in consideration of the comments received, we have added a provision to provide for a delay in the issuing of any authorization until interference problems are resolved among users. Another solution, that of user group control, is covered in the discussion of authorization types.

A number of respondents suggested that other site users should be notified of applications. This is already a requirement as previously noted and is not changed by this final policy.

5. *Authorization Types.* The proposed policy would have reduced the 7 existing types of authorizations to only 3 types as follows: (1) Single User authorizations for new or existing users authorized only on an interim or short term basis until a multiple user facility is needed; (2) Multiple User authorizations where one holder would pay a special use fee and manage the entire site or multiple user portion of the site; (3) Transition authorizations to allow existing authorizations to remain effective until expiration or until the holder voluntarily agrees to revise the authorization. On site with several authorizations, the Forest Service authorized officer would develop a transition plan as needed.

This section received the second highest number of comments. Many favor the concept of reducing the number of authorization types in order to simplify administration. The primary compaints against the proposal centered around the possibility of abuse by the primary holder and loss of control by the Forest Service.

Several modifications were suggested. Based on these and other internal discussions, some changes have been made in the multi-user authorization to *encourage*, rather than *require* the formation of user associations on sites having more than one operator. Under the final policy, an authorization may be issued to an association, a site manager, or developer. A few of the respondents suggested this approach. Problems of compatibility and space allocation may be greatly improved by this method.

Transition and single use authorizations also received comment. We have eliminated the prohibition against new, permanent construction in

conjuction with the single use authorization in order to give the authorized officer more flexibility in isolated cases. No significant changes have been made to the policy on transition authorizations.

6. *Appurtenant Electronic Uses.* The proposal would have authorized on-site communication systems under either the parent authorization or a spearate electronic site authorization.

The intent was not explicit according to the one respondent who commented on this section. The final policy direction indicates the options available to the responsible officer. there was some question as to who the authorized officer was. This would depend on who had the issuing authority for the principal use. A definite identification of the authorized officer is not possible without covering all of the various categories and designations of use. Delegations of authority are covered in Chapter 2710 of the Forest Service Manual.

7. *Electronic Receiver Sites.* The proposal would have authorized, without further delegation, the Forest Supervisor to designate receiving antenna sites and approve site plans.

One respondent correctly pointed out that the responsibility for site designation is a land management planning function to be approved only by the Regional Forester. Accordingly, the policy on designation has been revised to allow the Regional Forester the option of waiving the designation requirement on minor electronic receiver locations.

8. *Electronic Transmitter/ Receiver Sites.* The proposal would have authorized the Regional Forester to designate sites and issue easements, and would not have permitted the Regional Forester to redelegate such authority.

Several comments were received on this section. One suggested that the Forest Supervisor be delegated the authority to designate sites. Another provided recommendations that were either of a more technical nature or related to temporary use. Delegations have previously been discussed. One respondent pointed out that the authority reserved to the Regional Forester to approve easements pertained to easements in a general sense and was not needed here. Accordingly, we have eliminated the reference to easements from the final policy. Also, the separate designation policy for both receiver sites and receiver/transmitter sites has been changed so that site designation policy for all the electronic uses is covered together.

9. *Resource Telemetry.* The proposed policy would have exempted certain specific monitoring sites from classification and site plan requirements but would have continued to require an electronic site authorization.

One respondent questioned who the authorized officer was in this situation. Our intent was to have the Forest Supervisor make the decision on these in accordance with FSM 2710. However, the decision to waive designation requirements generally or for specific instances should come from the Regional Forester. This clarification is made in the final policy.

10. *General.* There was one recommendation that applied overall. One respondent correctly noted that the term "permit" did not cover all the types of authorizations available for electronic sites. The legislation that authorizes electronic sites provides for authorizing permits, leases, and easements. Therefore, in the final policy, the term "authorization" was substituted where "permit" was used in the proposed policy.

**Summary of Final Policy**

The Forest Service manages over 3,400 special use authorizations for electronic communication sites on National Forest System lands. The previous policy for administering this category of use has become obsolete. The final policy is intened to keep pace with changing technology and to better reflect conditions in the nonfederal marketplace for electronic sites, as is required by the Federal Land Policy and Management Act of 1976. The major changes include those affecting the determination of fees and reducing the number of authorization types.

The method of determining annual land use rental fees for electronic sites under the previous policy was a type of schedule of formula. Fees were based on 0.2 percent of the holder's total investment value for communication facilities and equipment plus 5 percent of the rental income from building tenants and/or equipment users served by the holder. Using this formula, fees for many holders are currently at established minimum levels of $25 to $250.

With this revised policy, fees shall more fully reflect market value. This not only will provide for fees that are fair to users, but, coupled with the changes in administrative policy, will also result in a more efficient use of the land, and ensure an equitable return to the public for the authorized use of National Forest System lands. It is anticipated that this method may result in generally higher fees for individual holders in the future, but no higher than those charged by knowledgeable private landowners for similar use. The authorized officer may phase in increases for existing uses over a three-year period.

The Chief or Regional Forester will determine which of three methods or combination thereof is appropriate for particular geographic areas as follows: (1) Appraisals shall be prepared for sites where significant income from rental fees is anticipated, for large sites situated along main communication corridors between cities, for key sites serving major metropolitan areas, and for sites at atypical locations, having unique types of equipment, or others that deviate substantially from the average site indicated in the fee schedule; (2) Competitive bidding would apply where there is competitive interest in developing a new site. This process uses direct market influence to establish a local rental fee and to ensure the efficient use of scarce resources. The responsible officer may require prompt site development in order to counter the potential problem of applicants holding a site merely to prevent others from occupying the location; (3) Regional or other geographic area fee schedules shall be developed, based on market studies conducted at 5 year intervals. Such studies are to include analyses of typical rentals of communication sites, market use of indices and minimum fees, and comparisons of other sound business management practices found in particular geographic areas. The fee schedules would provide for annual rate adjustments where appropriate.

Forest supervisors are responsible for identifying and recommending sites in accordance with current land management planning and environmental policy and for developing the coordinating requirements for review and approval by the Regional Forester. The Regional Forester shall approve site designation as either part of a forest plan or independently prior to any issuance of an authorization for additional electronic uses on presently occupied but undesignated sites.

This authority to designate sites for electronic use in reserve to Regional Foresters and shall not be redelegated. After a site is designated, a Region Forester may delegate the authority to approve site plans to Forest Supervisors. Plans must be made for each designated site prior to issuing a authorization. Following site plan approval, Forest Supervisors may delegate the authority to issue standard authorizations to District Rangers within the constraints and boundaries established by the site plan.

The Regional Forester may waive the designation policy for minor receiver sites or resource telemetry locations if these sites have a small number of users or relatively insignificant environmental impacts.

The responsibility for frequency assignment and enforcing the terms of related licenses and assignments rests with either the Federal Communication Commission (FCC) or National Telecommunication and Information Administration (NTIA). Both agencies hold their licensees/assignees responsible for operating within the assigned frequencies. The parties concerned and the responsible agency must work out any complaints.

On the other hand, neither the FCC nor NTIA is responsible for interference caused by the close proximity of users or equipment incompatibility, where the users are operating within the terms of their FCC or NTIA authorization. The responsible Forest Service official should inform the applicants and holders that individual users are responsible for resolving potential electromagnetic compatibility conflicts and protecting existing holders and site users.

The FCC or NTIA frequency assignment is not an authorization for the occupancy of National Forest System lands. A Forest Service special use authorization is required.

The final policy eliminates seven different classes of authorizations. The former policy required the issuance of separate electronic site authorizations for communication building and/or equipment owners, renters of space or equipment, and holders of either FCC or NTIA authorizations that use equipment directly related to the site. This requirement for different forms of authorization for the various classes of use has proven burdensome to applicants and Forest Service Administrators alike.

The final policy provides for individual or multiple user options for a site. The individual authorization provides for exclusive use of a site or portion thereof. It would apply to single user sites or to sites unsuitable for multiple user situations.

Under the multiple user option, one authorization could provide for construction of necessary buildings and towers, suitable rental space to other users, and operation of the electronic equipment. Under certain circumstances, separate authorizations would no longer be required of each site user such as building tenants or owner/operators of communication equipment located at the site. Existing and future users would be encouraged to form and join a user's association made up of all occupants and users of a site. Site managers or developers would be solicited for new sites to provide the infrastructure for future electronic users. The Forest Service may then issue an authorization to the user's association or site developer. The Forest Service would control and monitor the terms and conditions to be incorporated into the user association by-laws and operating plans and site developer's authorization to ensure sufficient management of the site.

Although the Forest Service may not require a separate authorization from each individual user group member or site tenant, a charge may be required from these users of a set fee amount, based on fair market value of the use, collected from either the user group or the site developer for each user that occupies space within their structure or authorized portion of a site. The user's association or developer may set maintenance rates for the member users and collect rents from the sublessees for space occupied within the improved facilities, both subject to approval by the Forest Service. Following prevailing industry practice, the fee charged to the association or developer by the Forest Service may be adjusted to reflect actual or potential income from the rental charges. The Forest Service may provide incentives in the form of reduced rental fees for consolidated structures and efficient use of the site. Such incentives would occur automatically for fees based on square footage of land occupied.

A transition authorization would cover existing uses. The conditions of these existing authorizations may remain in effect until expiration or until the holder voluntarily agrees to revise the authorization to conform with the direction of this section. For sites with several existing holders, the Forest Supervisor may develop a plan to govern the orderly transition from the old authorization system to the new.

This policy change should reduce the overall number of individual permits required on a particular site.

There are also a few minor changes included. Separately issued authorizations are not generally required if an associated electronic communication system serves only to support activities such as ski resorts, lodges, or marinas covered by a special use authorization. The authorization governing the dominant use may incorporate the communication system. Conversely, authorizations for electronic sites may specify appurtenant uses, such as minor access roads across National Forest System lands used solely to reach the site. Individual authorizations for these associated uses may not be required.

The Forest Service anticipates that the revised policy will substantially reduce the number of special use authorizations required to administer electronic sites, thereby easing recordkeeping, billing, and other administrative burdens on both holders and the government.

A transition period is necessary to shift from the old system to the new. Because of the wide variety of situations and authorization conditions, both systems could co-exist for a number of years. The Forest Service plans to issue the new policy initially as an interim directive to Chapter 2720 of the Forest Service Manuel, which is the primary source of agency direction to its personnel.

Dated: September 24, 1985.

**Robert E. Buckman,**

*Acting Chief, Forest Service.*

[FR Doc. 85-23800 Filed 10-3-85; 8:45 am]

BILLING CODE 3410-11-M

## DEPARTMENT OF COMMERCE

### Agency Form Under Review by the Office of Management and Budget (OMB)

DOC has submitted to OMB for clearance the following proposal for collection of information under the provisions of the Paperwork Reduction Act (44 U.S.C. Chapter 35).

Agency: National Oceanic and Atmospheric Administration.

Title: Licensing of Ocean Thermal Energy Conversion Facilities and Plantships.

Form number: Agency—N/A; OMB—0648-0144.

Type of request: Extension of the expiration date of a currently approved collection.

Burden: 1 respondent; 2,200 reporting/recordkeeping hours.

Needs and uses: The information is used by NOAA in determining the feasibility of issuing a license for construction, ownership and operation of an Ocean Thermal Energy Conversion facility or plantship and for monitoring environmental impact.

Affected public: State or local governments; businesses or other for-profit institutions; federal agencies or employees.

Frequency: Annually and upon submission of an application.

Respondent's obligation: Required to obtain or retain a benefit.

OMB desk officer: Sheri Fox, 395-3785.

Copies of the above information collection proposal can be obtained by calling or writing DOC Clearance Officer, Edward Michals (202) 377–4217, Department of Commerce, Room 6622, 14th and Constitution Avenue, NW., Washington, DC 20230.

Written comments and recommendations for the proposed information collection should be sent to Sheri Fox, OMB Desk Officer, Room 3235, New Executive Office Building, Washington, DC 20503.

Dated: September 26, 1985.

**Edward Michals,**

*Departmental Clearance Officer.*

[FR Doc. 85–23833 Filed 10–3–85; 8:45 am]

BILLING CODE 3510-CW-M

## International Trade Administration

**[Docket No. 50955–5155]**

## Change of Hours for Telephone Services

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

**ACTION:** Notice of change of hours for telephone services.

**SUMMARY:** The Office of Export Administration, Exporter Assistance Division, of the Department of Commerce is expanding its phone information hours Monday–Thursday from 8 a.m. to 8 p.m. to accommodate communications to the Office by exporters throughout the continental U.S. during the normal business hours of those exporters. This modification does not involve a change to the Export Administration Regulations.

**DATES:** This notice is effective October 4, 1985.

**FOR FURTHER INFORMATION CONTACT:** Cheryl D. White, Exporter Assistance Division, Telephone: (202) 377–2588.

Dated: September 30, 1985.

**James K. Pont,**

*Deputy Director, Office of Export Administration, International Trade Administration.*

[FR Doc. 85–23687 Filed 10–3–85; 8:45 am]

BILLING CODE 3510-01-M

## Articles of Quota Cheese; Quarterly Determination and Listing of Foreign Government Subsidies

**AGENCY:** International Trade Administration, Import Administration, Commerce.

**ACTION:** Publication of quarterly update of foreign government subsidies on articles of quota cheese.

**SUMMARY:** The Department of Commerce, in consultation with the Secretary of Agriculture, has prepared a quarterly update to its annual list of foreign government subsidies on articles of quota cheese. We are publishing the current listing of those subsidies that we have determined exist.

**EFFECTIVE DATE:** October 1, 1985.

**FOR FURTHER INFORMATION CONTACT:** Patricia W. Stroup or Richard W Moreland, Office of Compliance, International Trade Administration, U.S. Department of Commerce, Washington, DC 20230, telephone: (202) 377–2786.

**SUPPLEMENTARY INFORMATION:** Section 702(a) of the Trade Agreements Act of 1979 ("the TAA") requires the Department of Commerce ("the Department") to determine, in consultation with the Secretary of Agriculture, whether any foreign government is providing a subsidy with respect to any article of quota cheese, as defined in section 701(c)(1) of the TAA, and to publish an annual list and quarterly updates of the type and amount of those subsidies.

The Department has developed, in consultation with the Department of Agriculture, information on subsidies (as defined in section 702(h)(2) of the TAA) being provided either directly or indirectly by foreign governments on articles of quota cheese.

In current quarter, the Department has determined that the subsidy amounts have changed for each of the countries for which subsidies were identified in our July 1, 1985, quarterly update to our annual subsidy list. The appendix to this notice lists the country, the subsidy program or programs, and the gross and net amount of each subsidy on which information is currently available.

The Department will incorporate additional programs which are found to constitute subsidies, and additional information on the subsidy programs listed, as the information is developed.

The Department encourages any person having information on foreign government subsidy programs which benefit articles of quota cheese to submit such information in writing to the Deputy Assistant Secretary for Import Administration, U.S. Department of Commerce, 14th Street and Constitution Avenue NW., Washington, DC 20230.

This determination and notice are in accordance with section 702(a) of the TAA (19 U.S.C. 1202 note).

Dated: September 27, 1985

**Gilbert B. Kaplan,**

*Acting Deputy Assistant Secretary, Import Administration.*

APPENDIX.—QUOTA CHEESE SUBSIDY PROGRAMS

| Country | Program(s) | Gross [1] subsidy (cents per pound) | Net [2] subsidy (cents per pound) |
|---|---|---|---|
| Belgium | European Community (EC) restitution payments | 2.6 | 2.6 |
| Canada | Export assistance on certain cheeses | 25.7 | 25.7 |
| Denmark | EC restitution payments | .2 | .2 |
| Finland | Export subsidy | 30.2 | 30.2 |
| | Indirect subsidies | 14.0 | 14.0 |
| | | 44.2 | 44.2 |
| France | EC restitution payments | .0 | .0 |
| Ireland | EC restitution payments | 2.9 | 2.9 |
| Italy | EC restitution payments | 18.1 | 18.1 |
| Luxembourg | EC restitution payments | 2.6 | 2.6 |
| Netherlands | EC restitution payments | .0 | .0 |
| Norway | Indirect (milk) subsidy | 13.9 | 13.9 |
| | Consumer subsidy | 30.0 | 30.9 |
| | | 44.8 | 44.8 |
| Switzerland | Deficiency payments | 57.3 | 57.3 |
| U.K. | EC restitution payments | .0 | .0 |
| W. Germany | EC restitution payments | .0 | .0 |

[1] Defined in 19 U.S.C. 1677(5).
[2] Defined in 19 U.S.C. 1677(6).

[FR Doc. 85–23786 Filed 10–3–85; 8:45 am]

BILLING CODE 3510-DS-M

## Automated Manufacturing Equipment Technical Advisory Committee

A meeting of the Automated Manufacturing Equipment Technical Advisory Committee will be held October 31, 1985, at 9:30 a.m., Herbert C. Hoover Building, Room 3407, 14th Street and Constitution Avenue NW., Washington, DC.

The Committee advises the Office of Export Administration with respect to technical questions which affect the level of export control applicable to automated manufacturing equipment or technology.

The Export Administration Amendments Act of 1985 provides for annual review of the list and prompt revisions as may be necessary after each review. Before beginning each annual review, notice shall be made in the **Federal Register**, with opportunity during the review for comment and the submission of data by interested parties. This data is to include the availability from sources outside the United States of goods and technology comparable to those subject to export controls. This meeting will receive such comments, especially with a view to developing an annual plan. The controls affected will be for multilateral, unilateral, and for special (bulk) licensing.

Agenda:

1. Welcoming remarks by the Chairman.
2. Opening remarks by the Chairman.
3. Presentation of papers or comments by the public.
4. Programmable controllers.
5. Automatically Controlled Industrial Systems (ACIS)
6. Numerically controlled machines and components.
7. Robots and sensory systems.
8. Inspection equipment.
9. Presses, mills and special purpose machines.
10. Annual report.

Executive Session

11. Discussions of matters properly classified under Executive Order 12356, dealing with the U.S. and COCOM control program and strategic criteria related thereto.

The general session will be open to the public and a limited number of seats will be available. To the exent time permits, members of the public may present oral statements to the Committee. Written statements may be submitted at any time before or after the meeting.

The Assistant Secretary for Administration, with the concurrence of the delegate of the General Counsel, formally determined on February 6, 1984, pursuant to section 10(d) of the Federal Advisory Committee Act, as amended by section 5(c) of the Government In The Sunshine Act, Pub. L. 94–409, that the matters to be discussed in the Executive Session should be exempt from the provisions of the Federal Advisory Committee Act relating to open meetings and public participation therein, because the Executive Session will be concerned with matters listed in 5 U.S.C. 552b(c)(1) and are properly classified under Executive Order 12356.

A copy of the Notice of Determination to close meetings or portions thereof is available for public inspection and copying in the Central Reference and Records Inspection Facility, Room 6628, U.S. Department of Commerce, telephone: (202) 377–4217. For further information or copies of the minutes contact Jess M. Bratton (202) 377–2583.

Dated: October 1, 1985.

**Milton M. Baltas,**

*Director of Technical Programs, Office of Export Administration.*

[FR Doc. 85–23787 Filed 10–3–85; 8:45 am]

BILLING CODE 3510-DT-M

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## Licensing Procedures Subcommittee of the Computer Systems Technical Advisory Committee; Open Meeting

A meeting of the Licensing Procedures Subcommittee of the Computer Systems Technical Advisory Committee will be held October 29, 1985, 9:30 a.m., Herbert C. Hoover Building, Room 1414, 14th Street and Constitution Avenue NW., Washington, DC. The Licensing Procedures Subcommittee was formed to review the procedural aspects of export licensing and recommend areas where improvements can be made.

General Session

1. Opening remarks by the Subcommittee Chairman.
2. Presentation of papers or comments by the public.
3. Subcommittee business:
   a. Subcommittee proposals for candidate regulations simplification sections.
   b. Revision of GTE license.
   c. Report on other Licensing Procedures Subcommittee assignments.
4. Action items underway.
5. Action items due at next meeting.

The meeting will be open to the public and a limited number of seats will be available. To the extent time permits, members of the public may present oral statements to the Subcommittee. Written statements may be submitted at any time before or after the meeting.

For further information or copies of the minutes contact Margaret A. Cornejo, (202) 377–2583.

Dated: October 1, 1985.

**Milton M. Baltas,**

*Director, Technical Programs Staff, Office of Export Administration.*

[FR Doc. 85–23788 Filed 10–3–85; 8:45 am]

BILLING CODE 3510-DT-M

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## Software Subcommittee of the Computer Systems Technical Advisory Committee; Closed Meeting

A meeting of the Software Subcommittee of the Computer Systems Technical Advisory Committee will be held October 29, 1985, 9:30 a.m., the Herbert C. Hoover Building, Room 1092, 14th Street and Constitution Avenue NW., Washington D.C. The Software Subcommittee was formed to study computer software with the goal of making recommendations to the Department of Commerce relating to the appropriate parameters for controlling exports for reasons of national security.

The Subcommittee will meet ony in executive session to discuss matters properly classified under Executive Order 12356, dealing with the U.S. and COCOM control program and strategic criteria related thereto.

The Assistant Secretary for Administration, with the concurrence of the delegate of the General Counsel, formally determined on February 6, 1984, pursuant to section 10(d) of the Federal Advisory Committee Act, as amended by section 5(c) of the Government In The Sunshine Act, Pub. L. 94–409, that the matters to be discussed in the Executive Session should be exempt from the provisions of the Federal Advisory Committee Act relating to open meeting and public participation therein, because the Executive Session will be concerned with matters listed in 5 U.S.C. 552b(c)(1) and are properly classified under Executive Order 12356.

A copy of the Notice of Determination to close meetings or portions thereof is available for public inspection and copying in the Central Reference and Records Inspection Facility, Room 6628, U.S. Department of Commerce, telephone: 202–377–4217. For further information contact Margaret A. Cornejo, 202–377–2583.

Dated: October 1, 1985.

**Milton M. Baltas,**

*Director, Technical Programs Staff, Office of Export Administration.*

[FR Doc. 85–23789 Filed 10–3–85; 8:45 am]

BILLING CODE 3510-DT-M

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## Joint Meeting of the Telecommunications Technical Advisory Committee and the Computer Systems Technical Advisory Committee; Closed Meeting

A joint meeting of the Telecommunications Technical Advisory Committee and the Computer Systems Technical Advisory Committee will be held on October 22, 1985, 2:00 p.m., Herbert C. Hoover Building, Room 3407, 14th Street and Constitution Avenue, NW., Washington, DC. The Committees advise the Office of Export Administration with respect to technical

questions which affect the level of export controls applicable to telecommunications and computer systems equipment or technology.

The Committees will meet only in Exective Session to discuss matters properly classified under Executive Order 12356, dealing with the U.S. and COCOM control program and strategic criteria related thereto.

The Assistant Secretary for Administration, with the concurrence of the delegate of the General Counsel, formally determined on February 6, 1984, pursuant to section 10(d) of the Federal Advisory Committee Act, as amended by section 5 (c) of the Government In The Sunshine Act, Pub. L. 94-409, that the matters to be discussed in the Executive Session should be exempt from the provisions of the Federal Advisory Committee Act relating to open meetings and public participation therein, because the Executive Session will be concerned with matters listed in 5 U.S.C. 552b(c)(1) and are properly classified under Executive Order 12356.

Copies of the Notice of Determination to close meetings or portions thereof are available for public inspection and copying in the Central Reference and Records Inspection Facility, Room 6628, U.S. Department of Commerce, Telephone: 202-377-4217. For further information or copies of the minutes contract Margaret A. Cornejo, 202-377-2583.

Dated: October 1, 1985.

**Milton M. Baltas,**

*Director, Technical Programs Staff Office of Export Adminstration.*

[FR Doc. 85-23828 Filed 10-3-85; 8:45 am]

BILLING CODE 3510-DT-M

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[C-583-504]

## Postponement of Preliminary Countervailing Duty Determination; Oil Country Tubular Goods from Taiwan

**AGENCY:** Import Administration, International Trade Administration, Commerce.

**ACTION:** Notice.

**SUMMARY:** Based upon the request of petitioners, Lone Star Steel Company and CF & I Steel Corporation, the Department of Commerce is postponing its preliminary determination in the countervailing duty investigation of oil country tubular goods (OCTG) from Taiwan. The preliminary determination will be made on or before November 29, 1985.

**EFFECTIVE DATE:** October 4, 1985.

**FOR FURTHER INFORMATION CONTACT:** Laurel LaCivita or Mary Martin, Office of Investigations, Import Administration, International Trade Administration, U.S. Department of Commerce, 14th Street and Constitution Avenue, NW., Washington, DC 20230; telephone (202) 377-3003 or 377-3464.

**SUPPLEMENTARY INFORMATION:** On August 12, 1985, the Department initiated a countervailing duty investigation on OCTG from Taiwan. In our notice of initiation, we stated that we would issue our preliminary determination on or before October 15, 1985 (50 FR 33364, August 19, 1985).

On September 23, 1985, the petitioners requested that the preliminary determination in this investigation be postponed. Section 703(c)(1)(A) of the Tariff Act of 1930, as amended (the Act), provides that the preliminary determination in a countervailing duty investigation may be postponed when the petitioner has made a timely request for postponement. Pursuant to this provision and the request by petitioners in this investigation, the Department is postponing its preliminary determination to no later than November 29, 1985.

This notice is published pursuant to section 703(c)(2) of the Act.

**Gilbert B. Kaplan,**

*Acting Deputy Assistant Secretary for Import Administration.*

September 26, 1985.

[FR Doc. 85-23824 Filed 10-3-85; 8:45 am]

BILLING CODE 3510-DS-M

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## National Telecommunications and Information Administration

## Senior Executive Service; Performance Review Board

Below is a listing of individuals who are eligible to serve on the Performance Review Board in accordance with the National Telecommunications and Information Administration Senior Executive Service (SES) Performance Appraisal System:

Dennis R. Connors
Larry Eads
Richard D. Parlow
William Gamble
William F. Utlaut
Roger K. Salaman
Charles M. Rush
Francis S. Urbany
Neil B. Seitz
Frederick T. Knickerbocker

**Edward A. McCaw,**

*Executive Secretary, National Telecommunications and Information Administration, Performance Appraisal System.*

[FR Doc. 85-23801 Filed 10-3-85; 8:45 am]

BILLING CODE 3510-BS-M

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## International Trade Administration

[C-427-505]

## Initiation of Countervailing Duty Investigation; Certain Table Wine From France

**AGENCY:** Import Administration, International Trade Administration, Commerce.

**ACTION:** Notice.

**SUMMARY:** On the basis of a petition filed in proper form with the U.S. Department of Commerce, we are initiating a countervailing duty investigation to determine whether manufacturers, producers, or exporters in France of certain table wine, as described in the "Scope of Investigation" section of this notice, receive benefits which constitute subsidies within the meaning of the countervailing duty law. We are notifying the U.S. International Trade Commission (ITC) of this action, so that it may determine whether imports of the subject merchandise from France materially injure, or threaten material injury to, a U.S. industry. The ITC will make its preliminary determination on or before October 25, 1985. If our investigation proceeds normally, we will make our preliminary determination on or before December 4, 1985.

**EFFECTIVE DATE:** October 4, 1985.

**FOR FURTHER INFORMATION CONTACT:** Laura Winfrey or Barbara Tillman, Office of Investigations, Import Administration, International Trade Administration, U.S. Department of Commerce, 14th Street and Constitution Avenue, NW., Washington, DC 20230; telephone: (202) 377-0160 or 377-2438.

**SUPPLEMENTARY INFORMATION:**

### The Petition

On September 10, 1985, we received a petition in proper form filed by the American Grape Growers Alliance for Fair Trade (the "Alliance") and the following members of the alliance who are individually co-petitioners: The California Association of Wine Grape Growers, Allied Grape Growers, Italian Swiss Colony, Sun Diamond Growers of California, Guild Wineries and

Distilleries, and Gibson Winery filing on behalf of the U.S. industry producing wine grapes and ordinary table wine. In compliance with the filing requirements of § 355.26 of the Commerce regulations (19 CFR 355.26), the petition alleges that manufacturers, producers, or exporters in France of certain table wine receive subsidies within the meaning of section 701 of the Tariff Act of 1930, as amended (the Act).

Since France is a "country under the Agreement" within the meaning of section 701(b) of the Act, Title VII of the Act applies to this investigation and the ITC is required to determine whether imports of the subject merchandise from France materially injure, or threaten material injury to, a U.S. industry.

On September 26, 1985, in the exercise of their consultation rights under Article 3:1 of the Agreement on Interpretation and Application of Articles VI, XVI, and XXIII of the General Agreement on Tariffs and Trade, representatives of the European Community presented a Note Diplomatique. We have carefully considered their arguments relating to the Department of Commerce in making this determination to initiate.

### Initiation of Investigation

Under section 702(c) of the Act, we must determine, within 20 days after a petition is filed, whether the petition sets forth the allegations necessary for the initiation of a countervailing duty investigation, and whether it contains information reasonably available to the petitioner supporting the allegations. We have examined the petition on certain table wine from France and have found that it meets the requirements of section 702(b) of the Act. Therefore, we are initiating a countervailing duty investigation to determine whether manufacturers, producers, or exporters in France of certain table wine (as described in the "Scope of Investigation" section of this notice) receive benefits which constitute subsidies. If our investigation proceeds normally, we will make our preliminary determination on or before December 4, 1985.

### Scope of Investigation

The product covered by this investigation is ordinary table wine, defined as still wine produced from grapes containing not over 14 percent alcohol by volume, and in containers each holding not over 1 gallon. Such wines are commonly denominated as "vins de pays" (country wine), "vins de table" (table wine) and "vin ordinaire" (ordinary wine). This does not include wine categorized by the appropriate authorities as "Appelation d'Origine Controlee" or "Vins Delimites de Qualite Superieure." The product covered by this investigation is currently classifiable in the *Tariff Schedules of the United States, Annotated* (TSUSA), under items 167.3005, 167.3015, 167.3025, 167.3030, 167.3045, and 167.3060.

### Allegations of Subsidies

The petition lists a number of practices by the EC and the government of France which allegedly confer subsidies on manufacturers, producers, and exporters of certain table wine. Petitioners also have alleged that subsidies to grape growers benefit the production of wine. This raises the question of whether grapes are considered an "input" into wine, and as such, whether we should consider this an upstream issue.

Petitioners claim that grapes are not an input into wine, citing the "Final Affirmative Countervailing Duty Determination: Live Swine and Fresh, Chilled and Frozen Pork Products from Canada" (50 FR 20597) which was published in the June 17, 1985, issue of the **Federal Register**. In that case, the Department determined that live swine were not inputs into pork products, and that section 771A was not applicable in determining whether subsidies on swine production conferred benefits on the production of pork products. Petitioners claim that grapes bear the same relationship to wine as live swine do to pork products.

We disagree with petitioners' conclusions. Our decision in "Live Swine" was based primarily on two factors: (1) Pork packers added little value (roughly 10 percent) to the value of a live swine; and (2) a determination that live swine were inputs into pork products would have allowed for easy circumvention of any countervailing duty order. These factors do not appear to be present in the instant case. Materials submitted by petitioners indicate that the value added in converting grapes to wine is at least 20 percent, and there is little likelihood that foreign grape growers would begin to export wine grapes to the United States in order to circumvent any order on wine. Therefore, petitioners have not persuaded us that grapes are not an input into wine. Thus, the effect of any subsidies to grape growers must be analyzed under section 771A. Under section 771A, petitioners must allege that a subsidy

(1) is paid or bestowed by that government with respect to a product (hereafter referred to as an "input product") that is used in the manufacturer or production in that country of merchandise which is the subject of a countervailing duty proceeding;

(2) in the judgment of the administering authority bestows a competitive benefit on the merchandise; and

(3) has a significant effect on the cost of manufacturing or producing the merchandise.

Since petitioners have not made these allegations, we are not initiating an upstream investigation.

However, information submitted by petitioners indicates that there may be situations where the producers of wine are also grape growers within a single economic entity. In those instances where the producers of wine are also grape growers, we will investigate the alleged subsidies received for grape growing activities.

Based on the foregoing, we are initiating an investigation on the following programs.

### European Community Programs:

Petitioners allege that the EC provides production and financial subsidies to manufacturers, producers, and exporters of certain table wine in France. The following EC programs are made available through the European Agricultural Guidance and Guarantee Fund (EAGGF), with member states' participation.

- Distillation Subsidies.

—Preventive Distillation
—Compulsory Distillation
—Support Distillation
—Special Price Support Distillation

- Member States' Distillation Expenditures
  - Storage Subsidies.
  - Aids for Grape Must Use.

—Commission Regulation No. 2393/84
—Aid to Processors Who Use Grape Must
—Commission Regulation No. 2034/84

- Research and Development Grants.

—Article 1 of Commission Regulation 861/83
—Article 2 of Commissiosn Regulation 861/83

- Structural Aids.

—Marketing and Processing Subsidies
—Vineyard Modernization, Restructuring and Reconversion

- Regional Schemes and Special Aids.

—Mountain and Hill Farming
—Integrated Mediterranean Programs

- EC Investment Aid
- Grants for Capital Structures

### Government of France Programs:

Petitioners allege that the government of France provides countervailable benefits to certain table wine producers under the following programs.

- Preferential Financing.
- Export Promotion.

We are not initiating an investigation of the following EC programs:

*A. Export Refunds*

Petitioners allege that certain table wine producers in France receive export refunds that compensate them for the difference between the price for wine produced in the European Community and lower prices prevailing in certain export markets other that the United States. In the "Initiation of Countervailing Duty Investigation: Certain Table Wine from France" which was published in the February 23, 1984 issue of the **Federal Register** (49 FR 6779), we determined that, since we assess countervailing duties on merchandise entering the United States, we must measure subsidies on the same basis. Therefore, we did not initiate an investigation on this program. Because petitioners have not presented any new information or alleged changed circumstances with respect to the export refund program, we are not initiating on this program.

*B. EC Assistance to Young Farmers*

Petitioners allege that the EC provides special assistance to young farmers in the form of installation premiums and investment aid. Section 771(5) of the Act, in describing governmental benefits which should be viewed as domestic subsidies under the law, clearly limits such subsidies to those provided "to a specific enterprise on industry, or group of enterprises or industries." We have followed this statutory standard consistently, finding countervailable only the benefits from those programs which are applicable and available to any company or industry, a limited group of companies or industries companies or industries located within a limited region, or regions, within a country.

In the "Final Affirmative Countervailing Duty Determination: Live Swine and Fresh Chilled and Frozen Pork Products from Canada," which was published in the June 17, 1985 issue of the **Federal Register** (50 FR 25097), we determined that assistance which is provided to and used by producers of all agricultural commodities is not limited to a specific group of enterprises or industries. Petitioners have not alleged, nor have they provided any information to suggest, that this program operates in such a way as to favor producers of specific agricultural products or establishes differing terms for specified products, or for producers in specified regions. Therefore, we are not initiating on this program.

**Notification of ITC**

Section 702(d) of the Act requires us to notify the ITC of this action and to provide it with the information we used to arrive at this determination. We will notify the ITC and make available to it all non-privileged and non-confidential information. We also will allow the ITC access to all privileged and confidential information in our files, provided it confirms that it will not disclose such information either publicly or under an administrative protective order without the written consent of the Deputy Assistant Secretary for Import Administration.

**Preliminary Determination by ITC**

The ITC will determine by October 25, 1985, whether there is a reasonable indication that imports of certain table wine from France materially injure, or threaten material injury to, a U.S. industry. If its determination is negative, this investigation will terminate; otherwise, it will proceed according to statutory procedures.

Dated: September 30, 1985.

**Gilbert B. Kaplan,**

*Acting Deputy Assistant Secretary for Import Administration.*

[FR Doc. 85-23825 Filed 10-3-85; 8:45 am]

BILLING CODE 3510-DS-M

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[C-428-502 ]

## Initiation of Countervailing Duty Investigation; Certain Table Wine From the Federal Republic of Germany

**AGENCY:** Import Administration, International Trade Administration, Commerce.

**ACTION:** Notice.

**SUMMARY:** On the basis of a petiton filed in proper form with the U.S. Department of Commerce, we are initiating a countervailing duty investigation to determine whether manufacturers, producers, or exporters in the Federal Republic of Germany (FRG) of certain table wine, as described in the "Scope of Investigation" section of this notice, receive benefits which constitute subsidies within the meaning of the countervailing duty law. We are notifying the U.S. International Trade Commission (ITC) of this action, so that it may determine whether imports of the subject merchandise from the FRG materially injure, or threaten material unjury to, a U.S. industry. The ITC will make its preliminary determination on or before October 25, 1985. If our investigation proceeds normally, we will make our preliminary determination on or before December 4, 1985.

**EFFECTIVE DATE:** October 4, 1985.

**FOR FURTHER INFORMATION CONTACT:** Barbara Tillman or Roy Malmrose, Office of Investigations, Import Administration, International Trade Administration, U.S. Department of Commerce, 14th Street and Constitution Avenue NW., Washington, DC 20230; telephone: (202) 377-2438 or 377-8320.

**The Petition**

On September 10, 1985, we received a petition in proper form filed by the American Grape Growers Alliance for Fair Trade (the "Alliance") and the following members of the Alliance who are individually co-petitioners: the California Association of Wine Grape Growers, Allied Grape Growers, Italian Swiss Colony, Sun Diamond Growers of California, Guild Wineries and Distilleries, and Gibson Winery filing on behalf of the U.S. industry producing wine grapes and ordinary table wine. In compliance with the filing requirements of § 355.26 of the Commerce Regulations (19 CFR 355.26), the petiton alleges that manufacturers, producers, or exporters in the FRG of certain table wine receive subsidies within the meaning of section 701 of the Tariff Act of 1930, as amended (the Act).

Since the FRG is a "country under the Agreement" within the meaning of section 701(b) of the Act, Title VII of the Act applies to this investigation and the ITC is required to determine whether imports of the subject marchandise from the FRG materially injure, or threaten material injury to, a U.S. industry.

On September 26, 1985, in the exercise of their consultation rights under Article 3:1 of the Agreement on Interpretation and Application of Articles VI, XVI, and XXIII of the General Agreement on Tariffs and Trade, representatives of the European Community presented a Note Diplomatique. On September 25 and 26, 1985, the government of the FRG also exercised their consultation rights under the above agreements. We have carefully considered their arguments relating to the Department of Commerce in making this determination to initiate.

**Initiation of Investigation**

Under section 702(c) of the Act, we must determine, within 20 days after a petition is filed, whether the petition sets forth the allegations necessary for the initiation of a countervailing duty investigation, and whether it contains information reasonably available to the petitioner supporting the allegations. We have examined the petition on certain table wine from the FRG and have dound that it meets the requirements of section 702(b) of the Act. Therefore, we

are initiating a countervailing duty investigation to determine whether manufacturers, producers, or exporters in the FRG of certain table wine (as described in the "Scope of Investigation" section of this notice) receive benefits which constitute subsidies. If our investigation proceeds normally, we will make our preliminary determination on or before December 4, 1985.

**Scope of Investigation**

The product covered by this investigation is ordinary table wine, defined as still wine produced from grapes containing not over 14 percent alcohol by volume, and in containers each holding not over 1 gallon. Such wines are commonly denominated as "Tafelwein" or "Qualitaetswein" in the FRG. This does not include wine categorized by the appropriate authorities as "Qualitaetswein mit Praedikat". The product covered by this investigation is currently classifiable in the *Tariff Schedules of the United States, Annotated* (TSUSA), under items 167.3005, 167.3015, 167.3025, 167.3030, 167.3045, and 167.3060.

**Allegations of Subsidies**

The petition lists a number of practices by the EC which allegedly confer subsidies on manufacturers, producers, and exporters in the FRG of certain table wine. Petitioners also have alleged that subsidies to grape growers benefit the production of wine. This raises the question of whether grapes are considered an "input" into wine, and as such, whether we should consider this an upstream issue.

Petitioners claim that grapes are not an input into wine, citing the "Final Affirmative Countervailing Duty Determination: Live Swine and Fresh, Chilled and Frozen Pork Products from Canada" (50 FR 20597) which was published in the June 17, 1985, issue of the **Federal Register**. In that case, the Department determined that live swine were not inputs into pork products, and that section 771A was not applicable in determining whether subsidies on swine production conferred benefits on the production of pork products. Petitioners claim that grapes bear the same relationship to wine as live swine do to pork products.

We disagree with petitioners' conclusions. Our decision in "Live Swine" was based primarily on two factors: (1) Pork packers added little value (roughly 10 percent) to the value of a live swine; and (2) a determination that live swine were inputs into pork products would have allowed for easy circumvention of any countervailing duty order. These factors do not appear to be present in the instant case. Materials submitted by petitioners indicate that the value added in converting grapes to wine is at least 20 percent, and there is little likelihood that foreign grape growers would begin to export wine grapes to the United States in order to circumvent any order on wine. Therefore, petitioners have not persuaded us that grapes are not an input into wine. Thus, the effect of any subsidies to grape growers must be analyzed under section 771A. Under section 771A, petitioners must allege that a subsidy—

(1) Is paid or bestowed by that government with respect to a product (hereafter referred to as an "input product") that is used in the manufacture or production in that country of merchandise which is the subject of a countervailing duty proceeding;

(2) In the judgment of the administering authority bestows a competitive benefit on the merchandise; and

(3) Has a significant effect on the cost of manufacturing or producing the merchandise.

Since petitioners have not made these allegations, we are not initiating an upstream investigation.

However, information submitted by petitioners indicates that there may be situations where the producers of wine are also grape growers within single economic entity. In those instances where the producers of wine are also grape growers, we will investigate the alleged subsidies received for grape growing activities.

Based on the foregoing, we are initiating an investigation on the following programs.

**European Community Programs**

Petitioners allege that the EC provides production and financial subsidies to manufacturers, producers, and exporters of certain table wine in the FRG. The following EC programs are made available through the European Agricultural Guidance and Guarantee Fund (EAGGF) with member states' participation:

- Distillation Subsidies.

—Preventive Distillation
—Compulsory Distillation
—Support Distillation
—Special Price Support Distillation
—Member States' Distillation Expenditures

- Storage Subsidies.
- Aids for Grape Must Use.

—Commission Regulation No. 2393/84 —Aid to Processors Who Use Grape Must
—Commission Regulation No. 2034/84

- Research and Development Grants

—Article 1 of Commission Regulation 861/83
—Article 2 of Commission Regulation 861/83

- Structural Aids

—Marketing and Processing Subsidies
—Vineyard Modernization and Restructuring

- Regional Schemes and Special Aid for Mountain and Hill Farming
- EC Investment Aid
- Grants for Capital Structures.

We are not initiating an investigation on the following EC programs:

*A. Export Refunds*

Petitioners allege that certain table wine producers in the FRG receive export refunds that compensate them for the difference between the price for wine produced in the community and lower prices prevailing in certain export markets other than the United States. In the "Initiation of Countervailing Duty Investigation: Certain Table Wine from France" which was published in the February 23, 1984 issue of the **Federal Register** (49 FR 6779), we determined that, since we assess countervailing duties on merchandise entering the United States, we must measure subsidies on the same basis. Therefore, we did not initiate an investigation on this program. Because petitioners have not presented any new information or alleged changed circumstances with respect to the export refund program, we are not initiating on this program.

*B. EC Assistance to Young Farmers*

Petitioners allege that the EC provides special assistance to young farmers in the form of installation premiums and investment aid. Section 771(5) of the Act, in describing governmental benefits which should be viewed as domestic subsidies under the law, clearly limits such subsidies to those provided "to a specific enterprise or industry, or group of enterprises or industries." We have followed this statutory standard consistently, finding countervailable only the benefits from those programs which are applicable and available to one company or industry, or companies or industries located within a limited region, or regions, within a country.

In the "final Affirmative Countervailing Duty Determination: Live Swine and Fresh, Chilled and Frozen Pork Products from Canada" which was published in the June 17, 1985, issue of the **Federal Register** (50 FR 25097), we determined that assistance which is

provided to and used by producers of all agricultural commodities is not limited to a specific enterprise or industry, or group of enterprises or industries. Petitioners have not alleged, nor have they provided an information to suggest, that this program operates in such a way as to favor producers of specific agricultural products, or establishes differing terms for specified products, or for producers in specified regions. Therefore, we recommend not initiating on this program.

### Notification of ITC

Section 702(d) of the Act requires us to notify the ITC of this action and to provide it with the information we used to arrive at this determination. We will notify the ITC and make available to it all non-privileged and non-confidential information. We also will allow the ITC access to all privileged and confidential information in our files, provided it confirms that it will not disclose such information either publicly or under an administrative protective order without the written consent of the Deputy Assistant Secretary for Import Administration.

### Preliminary Determination by ITC

The ITC will determine by October 25, 1985, whether there is a reasonable indication that imports of certain table wine from the FRG materially injure, or threaten material injury to, a U.S. industry. If its determination is negative, this investigation will terminate; otherwise, it will proceed according to statutory procedures.

Dated: September 30, 1985.

**Gilbert B. Kaplan,**

*Acting Deputy Assistant Secretary for Import Administration.*

[FR Doc. 85-23826 Filed 10-3-85; 8:45 am]

BILLING CODE 3510-DS-M

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**[(C-475-502)]**

## Initiation of Countervailing Duty Investigation; Certain Table Wine from Italy

**AGENCY:** Import Administration, International Trade Administration, Commerce.

**ACTION:** Notice.

**SUMMARY:** On the basis of a petition filed in proper form with the U.S. Department of Commerce, we re initiating a countervailing duty investigation to determine whether manufacturers, producers, or exporters in Italy of certain table wine, as described in the "Scope of Investigation" section of this notice, receive benefits which constitute subsidies within the meaning of the countervailing duty law. We are notifying the U.S. International Trade Commission (ITC) of this action, so that it may determine whether imports of the subject merchandise from Italy materially injure, or threaten material injury to, a U.S. industry. The ITC will make its preliminary determination on or before October 25, 1985. If our investigation proceeds normally, we will make our preliminary determination on or before December 4, 1985.

**EFFECTIVE DATE:** October 4, 1985.

**FOR FURTHER INFORMATION CONTACT:** Ellie Shea or Barbara Tillman, Office of Investigations, Import Administration, International Trade Administration, U.S. Department of Commerce, 14th Street and Constitution Avenue NW., Washington, DC 20230; telephone: (202) 377-1784 or 377-2438.

**SUPPLEMENTARY INFORMATION:**

### The Petition

On September 10, 1985, we received a petition in proper form filed by the American Grape Growers Alliance for Fair Trade (the "Alliance") and the following members of the Alliance who are individually co-petitioners: The California Association of Wine Grape Growers, Allied Grape Growers, Italian Swiss Colony, Sun-Diamond Growers of California, Guild Wineries and Distilleries, and Gibson winery filing on behalf of the U.S. industry producing wine grapes and ordinary table wine. In compliance with the filing requirements of § 335.26 of the Commerce regulations (19 CFR 355.26), the petition alleges that manufacturers, producers, or exporters in Italy of certain table wine receive subsidies within the meaning of section 701 of the Tariff Act of 1930, as amended (the Act).

Since Italy is a "country under the Agreement" within the meaning of section 701(b) of the Act, Title VII of the Act applies to this investigation and the ITC is required to determine whether imports of the subject merchandise from Italy materially injure, or threaten material injury to, a U.S. industry.

On September 26, 1985, in the exercise of their consultation rights under Article 3:1 of the Agreement on Interpretation and Application of Articles VI, XVI, and XXIII of the General Agreement on Tariffs and Trade, representatives of the European Community presented a Note Diplomatique. We have carefully considered their arguments relating to the Department of Commerce in making this determination to initiate.

### Initiation of Investigation

Under section 702(c) of the Act, we must determine, within 20 days after a petition is filed, whether the petition sets forth the allegations necessary for the initiation of a countervailing duty investigation, and whether it contains information reasonably available to the petitioner supporting the allegations. We have examined the petition on certain table wine from Italy and have found that it meets the requirements of section 702(b) of the Act. Therefore, we are initiating a countervailing duty investigation to determine whether manufacturers, producers, or exporters in Italy of certain table wine (as described in the "Scope of Investigation" section of this notice) receive benefits which constitute subsidies. If our investigation proceeds normally, we will make our preliminary determination on or before December 4, 1985.

### Scope of Investigation

The product covered by this investigation is ordinary table wine, defined as still wine produced from grapes containing not over 14 percent alcohol by volume, and in containers each holding not over 1 gallon. This does not include wine categorized by the appropriate authorities as "Denominazione di Origine Controllata". The product covered by this investigation is currently classifiable in the *Tariff Schedules of the United States, Annotated* (TSUSA), under items 167.3005, 167.3015, 167.3025, 167.3030, 167.3045, and 167.3060.

### Allegations of Subsidies

The petition lists a number of practices by the EC, the government of Italy, and Italian regional governments which allegedly confer subsidies on manufacturers, producers, and exporters in Italy of certain table wine. Petitioners also have alleged that subsidies to grape growers benefit the production of wine. This raises the question of whether grapes are considered an "input" into wine, and as such, whether we should consider this an upstream issue.

Petitions claim that grapes are not an input into wine, citing the "Final Affirmative Countervailing Duty Determination: Live Swine and Fresh, Chilled and Frozen Pork Products from Canada" (50 FR 20597) which was published in the June 17, 1985 issue of the **Federal Register**. In that case, the Department determined that live swine were not inputs into pork products, and that section 771A was not applicable in determining whether subsidies on swine production conferred benefits on the

production of pork products. Petitioners claim that grapes bear the same relationship to wine as live swine do to pork products.

We disagree with petitioners' conclusions. Our decision in "Live Swine" was based primarily on two factors: (1) Pork packers added little value (roughly 10 percent) to the value of a live swine; and (2) a determination that live swine were inputs into pork products would have allowed for easy circumvention of any countervailing duty order. These factors do not appear to be present in the instant case. Materials submitted by petitioners indicate that the value added in converting grapes to wine is at least 20 percent, and there is little likelihood that foreign grape growers would begin to export wine grapes to the United States in order to circumvent any order on wine. Therefore, petitioners have not persuaded us that grapes are not an input into wine. Thus, the effect of any subsidies to grape growers must be analyzed under section 771A. Under section 771A, petitioners must allege that a subsidy—

(1) Is paid or bestowed by that government with respect to a product (hereafter referred to as an "input product") that is used in the manufacture or production in that country of merchandise which is the subject of a countervailing duty proceeding;

(2) In the judgment of the administering authority bestows a competitive benefit on the merchandise; and

(3) Has a significant effect on the cost of manufacturing or producing the merchandise.

Since petitioners have not made these allegations, we are not initiating an upstream investigation.

However, information submitted by petitioners indicates that there may be situations where the producers of wine are also grape growers within a single economic entity. In those instances where the producers of wine are also grape growers, we will investigate the alleged subsidies received for grape growing activities.

Based on the foregoing, we are initiating an investigation on the following programs.

**European Community Programs**

Petitioners allege that the EC provides production and financial subsidies to manufacturers, producers, and exporters of certain table wine in Italy. The following EC programs are made available through the European Agricultural Guidance and Guarantee Fund (EAGGF) with member state's participation:

- Distillation Subsidies.

—Preventive Distillation
—Compulsory Distillation
—Support Distillation
—Special Price Support Distillation
—Member States' Distillation Expenditures

- Storage Subsidies.
- Aids for Grape Must Use

—Commission Regulation No. 2393/84
—Aid to Processors Who Use Grape Must
—Commission Regulation No. 2034/84

- Research and Development Grants

—Article 1 of Commission Regulation 861/83
—Article 2 of Commission Regulation 861/83

- Structural Aids

—Marketing and Processing Subsidies
—Vineyard Modernization and Restructuring

- Regional Schemes and Special Aids

—Mountain and Hill Farming
—Integrated Mediterranean Programs

- EC Investment Aid
- Grants for Capital Structures

**Government of Italy Programs**

Petitioners allege that the government of Italy provides countervailable benefits to manufacturers, producers, and exporters of certain table wine under the following programs:

- Preferential Financing
- Grants
- Export Promotion

**Italian Regional Government Programs**

Petitioners allege the provision of regional government assistance under authority of both local law and EC programs. The regional programs cited by the petitioners are principally those identified by the EC Commission in its investigations of possible breaches of the Treaty of Rome. Petitioners also indicate the Italian government's claim that these specific programs have been eliminated, as called for by the EC Commission. However, since the programs provided long-term loans and grants, we intend to investigate them in order to determine whether countervailable benefits are accruing during the review period.

- Sicily

—Preferential Financing
—Grants
—Marketing

- Emilia-Romagna

—Preferential Financing
—Grants

We are including in this investigation the Cassa per il Mezzogiorno regional development programs which were previously determined to confer subsidies in the "Administrative Review in the Countervailing Duty Order: Float Glass from Italy" (48 FR 25255) and the "Final Affirmative Countervailing Duty Determinations: Certain Steel Products from Italy" (47 FR. 39356).

- Cassa per il Mezzogiorno

—Grants
—Preferential Financing
—Income Tax Reductions and Exemptions
—Social Security Tax Reductions

We are not initiating and investigation on the following EC programs:

*A. Export Refunds*

Petitioners allege that certain table wine producers in Italy receive export refunds that compensate them for the difference between the price for wine produced in the community and lower prices prevailing in certain export markets other than the United States. In the "Initiation of Countervailing Duty Investigation: Certain Table Wine from France" which was published in the February 23, 1984 issue of the **Federal Register** (49 FR 6779), we determined that, since we assess countervailing duties on merchandise entering the United States, we must measure subsidies on the same basis. Therefore, we did not initiate an investigation on this program. Because petitioners have not presented any new information or alleged changed circumstances with respect to the export refund program, we are not initiating on this program.

*B. EC Assistance to Young Farmers*

Petitioners allege that the EC provides special assistance to young farmers in the form of installation premiums and investment aid. Section 771(5) of the Act, in describing governmental benefits which should be viewed as domestic subsidies under the law, clearly limits such subsidies to those provided "to a specific enterprise or industry or group of enterprises or industries." We have followed this statutory standard consistently, finding countervailable only the benefits from those programs which are applicable and available to one company or industry, a limited group of companies or industries, or companies or industries located within a limited region, or regions, within a country.

In the "Final Affirmative Countervailing Duty Determination: Live Swine and Fresh, Chilled and Frozen Pork Products from Canada" which was published in the June 17, 1985, issue of the **Federal Register** (50 FR 25097), we determined that assistance which is provided to and used by producers of all agricultural commodities is not limited

to a specific enterprise or industry, or group of enterprises or industries. Petitioners have not alleged, nor have they provided any information to suggest, that this program operates in such a way as to favor producers of specific agricultural products, or establishes differing terms for specified products, or for producers in specified regions. Therefore, we are not initiating on this allegation.

### Notification of ITC

Section 702(d) of the Act requires us to notify the ITC of this action and to provide it with the information we used to arrive at this determination. We will notify the ITC and make available to it all non-privileged and non-confidential information. We also will allow the ITC access to all privileged and confidential information in our files, provided it confirms that it will not disclose such information either publicly or under an administrative protective order without the written consent of the Deputy Assistant Secretary for Import Administration.

### Preliminary Determination by ITC

The ITC will determine by October 25, 1985, whether there is a reasonable indication that imports of certain table from Italy materially injure, or threaten material injury to, a U.S. industry. If its determination is negative, this investigation will terminate; otherwise, it will proceed according to statutory procedures.

Dated: September 30, 1985.

**Gilbert B. Kaplan,**

*Acting Deputy Assistant Secretary for Import Administration.*

[FR Doc. 85-23827 Filed 10-3-85; 8:45 am]

BILLING CODE 3510-DS-M

## COMMITTEE FOR THE IMPLEMENTATION OF TEXTILE AGREEMENTS

### New Export Visa Stamp and Officials to Sign Visas for Certain Cotton, Wool and Man-Made Fiber Textile Products Produced or Manufactured in Malaysia

October 1, 1985.

The Chairman of the Committee for the Implementation of Textile Agreements (CITA), under the authority contained in E.O. 11651 of March 3, 1972, as amended, has issued the directive published below to the Commissioner of Customs to be effective on October 15, 1985. For further information contact Jane Corwin, International Trade Specialist, Office of Textiles and Apparel, U.S. Department of Commerce, (202) 377-4212.

### Background

On November 25, 1977 a directive to the Commissioner of Customs from the Chairman of the Committee for the Implementation of Textile Agreements was pubished in the **Federal Register** (42 FR 60198) which established an export visa requirement and certification for exempt textile products for cotton, wool and man-made fiber textile products subject to the terms of the bilateral agreement between the Governments of the United States and Malaysia. The purpose of this notice is to announce that the Government of Malaysia has advised the Government of the United States that it is changing the format of its textile/apparel export visa to include the correct category and quantity. The change will be effective for goods exported on and after October 15, 1985. The certification for exempt items is not being changed at this time.

The following officials are also currently authorized to issue visas and certifications in addition to those previously announced:

Ahmad Ibrahim, Gomathy Nambiar, Ismail Lajen, Alias Jamsuri.

Mr. Omar Haji Yusof will no longer issue these documents.

**Walter C. Lenahan,**

*Chairman, Committee for the Implementation of Textile Agreements.*

October 1, 1985.

**Committee for the Implementation of Textile Agreements**

Commissioner of Customs,
*Department of Treasury, Washington, DC.*

Dear Mr. Commissioner: This directive further amends, but does not cancel, the directive of November 17, 1977 from the Chairman of the Committee for the Implementation of Textile Agreements, which directed you to prohibit entry of specified categories of cotton, wool and man-made fiber textiles and textile produced or manufactured in Malaysia and exported on and after December 26, 1977, for which the Government of Malaysia has not issued an appropriate export visa or exempt certification.

Effective on October 15, 1985, the directive of November 17, 1977 is hereby further amended to require that cotton, wool and man-made fiber textile products in Categories 300-369, 400-469 and 600-669, as applicable, be visaed using a new visa stamp, a facsimile of which is enclosed. The new stamp provides for the inclusion of the corect category and quantity of the merchandise in the applicable category units; otherwise, entry shall be denied. The foregoing notwithstanding, if the quantity indicated on the visa is more than the actual quantity of the shipment, entry shall be permitted.

Merchandise exported before October 15, 1985 shall not be denied entry, or withdrawal from warehouse, for consumption in the United States for lack of the new visa until January 1, 1986, provided it is otherwise visaed in accordance with previously established visa procedures; however, merchandise exported before October 15, 1985 which is visaed using the new stamp shall be denied entry and a visa waiver obtained by the importer from the Government of Malaysia.

The Committee for the Implementation of Textile Agreements has determined that this action falls within the foreign affairs exception to the rulemaking provisions of 5 U.S.C. 553(a)(1).

Sincerely,

Walter C. Lenahan,

*Chairman, Committee for the Implementation of Textile Agreements.*

VISA STAMP FOR CERTAIN COTTON, WOOL AND MAN-MADE FIBER TEXTILE AND APPAREL PRODUCTS EXPORTED TO THE UNITED STATES FROM MALAYSIA

[FR Doc. 85-23785 Filed 10-3-85; 8:45 am]

BILLING CODE 3510-DR-M

## COMMODITY FUTURES TRADING COMMISSION

### Exchange Proposal to Trade Commodity Options; Chicago Board of Trade

**AGENCY:** Commodity Futures Trading Commission.

**ACTION:** Notice of availability of the terms and conditions for the application of the Chicago Board of Trade for trading commodity options on the physical European Currency Unit.

**SUMMARY:** The Chicago Board of Trade ("CBT") has submitted an application to trade options on the physical European Currency Unit under the pilot program adopted by the Commodity Futures Trading Commission ("Commission"). The Commission believes that public comment on the proposal is in the public interest and is consistent with its option

regulations and with the purposes of the Commodity Exchange Act.

**DATE:** Comments must be received on or before November 18, 1985.

**ADDRESS:** Interested persons should submit their views and comments to Jean A. Webb, Secretary, Commodity Futures Trading Commission, 2033 K Street, NW., Washington, DC 20581. Reference should be made to the CBT European Currency Unit option contract.

**FOR FURTHER INFORMATION CONTACT:** Richard Shilts, Division of Economic Analysis, Commodity Futures Trading Commission, 2033 K Street, NW., Washington, DC 20581, (202) 254–7303.

**SUPPLEMENTARY INFORMATION:** The Commission has previously adopted regulations to govern a pilot program under which options on certain commodity futures contacts and physical commodities are permitted to be traded on domestic boards of trade designated by the Commission as contract markets for option trading.[1] Initially, the pilot program provided that each board of trade would be approved for trading in no more than one futures option contract (46 FR 54500 (November 3, 1981)). These regulations were subsequently amended to permit domestic boards of trade to be designated as contract markets for up to five options on certain commodities, of which no more than two contracts may involve an option on a physical commodity (49 FR 33641 (August 24, 1984)). The CBT has been designated as a contract market in options on U.S. Treasury bond, silver and U.S. Treasury note futures contracts.[2]

The CBT has applied for contract market designation, pursuant to section 4c(c) of the Commodity Exchange Act, 7 U.S.C. 6c(c) (1982) ("Act"), and Commission Regulation 33.5 to trade options on the physical European Currency Unit.

A copy of the terms and conditions of the proposed CBT option on the physical European Currency Unit will be available for inspection at the Office of the Secretariat, Commodity Futures Trading Commission, 2033 K Street, NW., Washington, DC 20581. Copies of these materials can be obtained through the Office of the Secretariat by mail at the above address or by phone at (202) 254–6314.

Other materials submitted by the CBT in support of its application for contract market designation may be available upon request pursuant to the Freedom of Information Act (5 U.S.C. 552) and the Commission's regulations thereunder (17 CFR Part 145 (1985)), except to the extent they are entitled to confidential treatment as set forth in 17 CFR 145.5 and 145.9. Requests for copies of such material should be made to the FOI, Privacy and Sunshine Acts Compliance Staff of the Office of the Secretariat at the Commission's headquarters in accordance with 17 CFR 145.7 and 145.8.

Any person interested in submitting written data, views or arguments on the terms and conditions of the proposed option contract, or with respect to other materials submitted by the CBT in support of its application, should send such comments to Jean A. Webb, Secretary, Commodity Futures Trading Commission, 2033 K Street, NW., Washington, DC 20581, by November 18, 1985.

Issued in Washington, DC on, September 30, 1985.

**Jean A. Webb,**

*Secretary of the Commission.*

[FR Doc. 85–23738 Filed 10–3–85; 8:45 am]

BILLING CODE 6351-01-M

[1] The commodities which are eligible for the initial pilot program are commodities which are not enumerated in Section 2[a][1][A] of the Commodity Exchange Act. The enumerated commodities are generally agricultural products which are produced in this country. The European Currency Unit is not an enumerated commodity.

[2] In addition, the Commission has amended its regulations to permit each board of trade to be designated in up to two options on domestic agricultural futures contracts in addition to the five permissible option designations noted above (49 FR 2752 [January 23, 1984]). Under this amendment, the CBT has been designated as a contract market for options on soybean and corn futures contracts.

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## DEPARTMENT OF DEFENSE

### Office of the Secretary

### Acquisition Streamlining; Regional Briefings

**ACTION:** Notice.

**SUMMARY:** The Department of Defense (DoD) will provide introductory briefings on Acquisition Streamlining at seven regional locations. The briefings will be open to both government and industry personnel with no registration fee.

The Department of Defense is strongly supporting meaningful implementation of Acquisition Streamlining. Streamlining actions are under way to eliminate counter-productive solicitation and contract requirements—in particular, the how-to-manage, premature, untailored, and accidentally referenced requirements. The Military Departments have designated streamlining advocates.

Dates, locations, and regional contacts are as follows:

Reservations will be accepted in the sequence received by the regional contacts.

Tuesday, 15 October 1985, 1:00–4:00 p.m., Boston, MA, Base Theater, Building 1538, Room 12B, Hanscom AFB, MA—Contact: Mr. Gerald J. Chasko, DSMC—Eastern Region, Building 1728, Hanscom AFB, MA 01731, (617) 861–3583.

Wednesday, 16 October 1985, 9:00 a.m.–12:00 (noon), Huntsville, AL, Rocket Auditorium, Redstone Boulevard, Redstone Arsenal, AL—Contact: Dr. Jay C. Billings, DSMC—Southern Region, Building 7446, Redstone Arsenal, AL 35898, (205) 876–2730/2753.

Friday, 18 October 1985, 9:00 a.m.–12:00 (noon), Orlando, FL, Base Theatre, Naval Training Center, Orlando, FL—Contact: Colonel Sherretz, Naval Training Equipment Center, Code 34, Orlando, FL 32813, (305) 646–5244.

Tuesday, 29 October 1985, 1:00–4:00 p.m., St. Louis, MO, Federal Center, Building 105L, 4300 Goodfellow Boulevard, St. Louis, MO—Contact: Dr. Julius Hein, DSMC—Central Region, 4300 Goodfellow Boulevard, St. Louis, MO 63120, (314) 263–1142.

Thursday, 31 October 1985, 9:00 a.m.–12:00 (noon), Dallas, TX, Naval Air Station Theatre, Dallas, TX—Contact: Cmd. Andy Sewall, Naval Plant Representative Office, P.O. Box 225907, Dallas, TX 75265, (204) 266–5208.

Friday, 1 November 1985, 9:00 a.m.–12:00 (noon), Los Angeles, CA, Wadsworth Theatre, Veterans Adm. Center, Building 226, West Los Angeles, CA—Contact: Dr. Samuel S. Staley, III, SD, DSMC—Western Region, P.O. Box 92960, Worldway Postal Center, Los Angeles, CA 90000–2960, (213) 643–1159/1219.

Tuesday, 5 November 1985, 9:30 a.m.–12:30 p.m., Dayton, OH, Air Force Museum Theatre, Harshman Rd., So.—Contact: Lt. Col. John Borky, ASD/AV, Wright-Patterson AFB, OH 45433, (513) 255–2100.

Dated: October 1, 1985.

**Linda M. Lawson,**

*Alternate OSD Federal Register Liaison Officer, Department of Defense.*

[FR Doc. 85–23781 Filed 10–3–85; 8:45 am]

BILLING CODE 3810-01-M

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### Department of Defense Wage Committee; Closed Meetings

Pursuant to the provisions of section 10 of Pub. L. 92–463, the Federal Advisory Committee Act, notice is hereby given that a meeting of the

Department of Defense Wage Committee will be held on Tuesday, November 5, 1985; Tuesday, November 12, 1985; Tuesday, November 19, 1985; and Tuesday, November 26, 1985 at 10:00 a.m. in Room 1E801, The Pentagon, Washington, DC.

The Committee's primary responsibility is to consider and submit recommendations to the Assistant Secretary of Defense (Force Management and Personnel) concerning all matters involved in the development and authorization of wage schedules for federal prevailing rate employees pursuant to Pub. L. 92-392. At this meeting, the Committee will consider wage survey specifications, wage survey data, local wage survey committee reports and recommendations, and wage schedules derived therefrom.

Under the provisions of section 10(d) of Pub. L. 92-463, meetings may be closed to the public when they are "concerned with matters listed in 5 U.S.C. 552b." Two of the matters so listed are those "related solely to the internal personnel rules and practices of an agency" (5 U.S.C. 552b(c)(2)), and those involving "trade secrets and commercial or financial information obtained from a person and privileged or confidential" (5 U.S.C. 552b(c)(4)).

Accordingly, the Deputy Assistant Secretary of Defense (Civilian Personnel Policy & Requirements) hereby determines that all portions of the meeting will be closed to the public because the matters considered are related to the internal rules and practices of the Department of Defense (5 U.S.C. 552b(c)(2)), and the detailed wage data considered by the Committee during its meeting have been obtained from officials of private establishments with a guarantee that the data will be held in confidence (5 U.S.C. 552b(c)(4)).

However, members of the public who may wish to do so are invited to submit material in writing to the chairman concerning matters believed to be deserving of the Committee's attention.

Additional information concerning this meeting may be obtained by writing the Chairman, Department of Defense Wage Committee, Room 3D264, The Pentagon, Washington, DC 20301.

Dated: October 1, 1985.

**Linda M. Lawson,**

*Alternate OSD Federal Register Liaison Officer, Department of Defense.*

[FR Doc. 85-23760 Filed 10-3-85; 8:45 am]

BILLING CODE 3810-01-M

## Department of the Army

### Army Science Board; Ad Hoc Subgroup, Chief of Staff Task Force on Soldiers and Families; Open Meeting

In accordance with section 10(a)(2) of the Federal Advisory Committee Act (Pub. L. 92-463), announcement is made of the following Committee Meeting:

Name of the committee: Army Science Board (ASB).

Dates of meeting: 4 November 1985.

Time: 0900-1500.

Place: Pentagon, Washington, DC.

Agenda: The Ad Hod Subgroup, Chief of Staff Task Force on Soldiers and Families, will meet for briefings and discussions with the Chief of Staff, Army. The Task Force will provide independent judgment and observations on training and special needs of Army family. This meeting is open to the public. Any interested person may attend, appear before, or file statements with the committee at the time and in the manner permitted by the committee. The ASB Administrative Officer, Sally Warner, may be contacted for further information at (202) 695-3039/7046.

**Sally A. Warner,**

*Administrative Officer, Army Science Board.*

[FR Doc. 85-23693 Filed 10-3-85; 8:45 am]

BILLING CODE 3710-08-M

### Army Science Board; Ad Hoc Subgroup on Army Utilization of Space; Closed Meeting

In accordance with section 10(a)(2) of the Federal Advisory Committee Act (Pub. L. 92-463), announcement is made of the following Committee Meeting.

Name of the committee: Army Science Board (ASB).

Dates of meeting: Thursday 7 November, 1985.

Times of Meeting: 0800-1700 hours.

Places: Army Space Initiatives Study, Fort Leavenworth, KS

Agenda: The Army Science Board Ad Hoc Subgroup on Army Utilization of Space will meet to discuss certain aspects of the final report in detail. This meeting will be closed to the public in accordance with seciton 552b(c) of Title 5, U.S.C., specifically subparagraph (1) thereof, and Title 5, U.S.C., Appendix 1, subsection 10(d). The classified and nonclassified matters to be discussed are so inextricably intertwined so as to preclude opening any portion of the meeting. The ASB Administrative Officer, Sally Warner, may be contacted for further information at (202) 695-3039 or 695-7046.

**Sally A. Warner,**

*Administrative Officer, Army Science Board.*

[FR Doc. 85-23694 Filed 10-3-85; 8:45 am]

BILLING CODE 3710-08-M

### Army Science Board, General Membership Meeting; Closed Meeting

In accordance with section 10(a)(2) of the Federal Advisory Committee Act (Pub. L. 92-463), announcement is made of the following Committee Meeting:

Name of the committee: Army Science Board (ASB).

Dates of meeting: Monday 28 October thru Thursday 31 October 1985.

Place: Kennedy Space Center, Florida 32899.

Time: 28 October, 0900-1645; 29 October, 0910-1545; 30 October, 0900-1730; 31 October, 0845-1215

Agenda: The 1985 Army Science Board General Membership Meeting program will include briefings concerning 1985 ASB Summer Studies on Manpower Implications of Logistic Support for AirLand Battle; Training & Training Technology—Applications for AirLand Battle and Future Concepts, and all other ASB Ad Hoc Subgroups completed during FY-85. This meeting will be closed to the public in accordance with section 552b(c) of Title 5, U.S.C. specifically suparagraph (1) thereof, and Title 5, U.S.C., Appendix 1, subsection 10(d). The classified and nonclassified matters to be discussed are so inextricably interwined as to preclude opening any portion of the meeting. The Army Science Board Administrative Officer, Sally Warner, may be contacted for further information at (202) 695-3039/7046.

**Sally A. Warner,**

*Administrative Officer, Army Science Board.*

[FR Doc. 85-23695 Filed 10-3-85; 8:45 am]

BILLING CODE 3710-08-M

## Corps of Engineers, Department of the Army

### Intent To Prepare a Joint Federal EIS/State EIR for a Regulatory Permit Action To Dredge Year Round in the Lower Reach of the Feather River Beginning at River Mile Zero and Continuing Upstream to River Mile Nine in Sutter County, CA

**AGENCY:** Sacramento District, Army Corps of Engineers, DoD.

**ACTION:** Notice of intent to prepare EIS/EIR.

**SUMMARY:** Sierra Minerals Corporation submitted an application for a Department of the Army permit under section 10 of the River and Harbor Act and section 404 of the Clean Water Act to dredge 9 miles of the Feather River.

Sierra Minerals Corporation proposes to dredge in the Feather River during a ten year period with a small cutterhead dredge. Materials would be dredged from the center of the river to form a trench approximately 35 feet deep and 140 feet wide with 5 to 1 side slopes. About 60 tons of material per hour would be extracted from the river bottom through a 12-inch diameter

intake pipe screened with 2-inch mesh. Approximately 160 tons of material per hour would be returned to the trench through a 12-inch discharge pipe. Discharged materials would be less than 200 mesh or greater than 9/16 inch in size. The dredged material would be classified and dewatered on a processing barge and transferred by conveyor to a larger barge for transportation to Sacramento or the Bay Area.

The Feather River is a navigable water of the United States. Therefore, the work proposed in the Feather River requires authorization under section 10 of the Rivers and Harbors Act of 1899 and section 404 of the Clean Water Act. The project involves open water disposal of dredged material. In order to obtain authorization under section 404 the applicant must meet EPA's 404 (b)(1) guidelines and obtain water quality certification or a waiver of certification from the certifying agency, in this case the State of California, to insure that the proposed work will not violate applicable water quality standards.

*Alternatives:* The following alternatives will be presented in the EIS/EIR:

(1) No project.
(2) Reduced scope of the project
(3) Disposal of dredged material in upland areas
(4) Alternate dredging site

Other alternatives identified during the scoping process will also be considered.

Significant issues that have been identified to date that will be discussed in the EIS/EIR:

1. Hydrologic effects due to widening and lowering the channel bottom, particularly the steepening of the hydraulic gradient upstream of the dredging project.

2. Turbidity impacts from the discharge of approximately 100 cubic yards of material per hour to the river.

3. Water quality impacts due to resuspension of possible contaminants in the sediment and changes in temperature and light penetration.

4. Impacts on the fishing resources in the Feather River.

5. Effect on navigation.

6. Effect on existing facilities such as irrigation pumps; pipeline crossings, boating facilities, etc.

7. Effect on recreational useage in this reach of river.

Other issues identified during the scoping will be discussed in the EIS/EIR.

Concurrently with this notice, the Sacramento District is issuing a public notice to initiate the scoping process. The public notice will be sent to all known, interested parties, and will request that the reviewers provide comment on the topical scope, alternatives, and major issues to be covered in the EIS. It is intended to accomplish the scoping process in the manner; however, if it is perceived that this method is not adequate, the need for public scoping meetings will be considered.

Other environmental review and consultation requirements which will be conducted concurrently with the NEPA process includes sections 401 and 404 of the Clean Water Act, Fish and Wildlife Coordination Act, National Historic Preservation Act, Endangered Species Act, and Executive Order 11988 on Flood Plain Management.

We estimate the draft EIS/EIR will be made available to the public in May 1986.

Questions concerning the proposed actions and EIS/EIR should be directed to James Gibson, Regulatory Section, U.S. Army Corps of Engineers, 650 Capitol Mall, Sacramento, California 95814, telephone (916) 551-2261, FTS 460-2261.

Wayne J. Scholl,

*Colonel, Corps of Engineers, District Engineer.*

[FR Doc. 85-23737 Filed 10-3-85; 8:45 am]

BILLING CODE 3710-ER-M

## DEPARTMENT OF EDUCATION

### Office of the Secretary

### Meeting of the Study Group on Elementary Education

**AGENCY:** Office of the Secretary of Education.

**ACTION:** Notice of meeting.

**SUMMARY:** Notice is hereby given that the Secretary of Education will conduct a meeting on information and ideas about the improvement of elementary education in the United States.

**DATE:** October 8, 1985 at 9:30 a.m.-3:30 p.m.

**ADDRESS:** The Education Conference Center, Room 3000, 400 Maryland Avenue, SW., Washington, DC 20202.

**FOR FURTHER INFORMATION CONTACT:** Milton Goldberg, Program on Excellence in Education, Office of Education Research and Improvement, 1200 19th Street, NW., Washington, DC 20208. Telephone: (202) 254-6070.

**SUPPLEMENTARY INFORMATION:** The Secretary of Education has invited a number of distinguished individuals to meet informally for the purpose of exchanging information and views on elementary education in the United States. This meeting is open to the public. Written comments are invited and may be mailed to Milton Goldberg at his address provided above or hand delivered to Dr. Goldberg at the meeting.

Dated: October 4, 1985.

**William J. Bennett,**

*Secretary of Education.*

[FR Doc. 85-23641 Filed 10-3-85; 8:45 am]

BILLING CODE 4000-01-M

### Extension of Closing Dates for Transmittal of Applications for New Awards and of Intergovernmental Review Comments Under the Excellence in Education

**AGENCY:** Education.

**ACTION:** Extension of closing dates for transmittal of applications for new awards and of intergovernmental review comments under the Excellence in Education Program.

**SUMMARY:** The closing dates for the transmittal of applications for new awards and of intergovernmental review comments under the Excellence in Education Program are extended. Applications for new awards and intergovernmental review comments must be mailed or hand delivered by the new dates specified below, in accordance with the procedures and to the addresses specified in the application notice published in the **Federal Register** on July 31, 1985 (50 FR 31001).

#### Applications for new awards

The closing date for applications for new awards is extended from October 15, 1985 to October 30, 1985. The closing date is extended in order to provide local school districts with additional time to prepare the required application forms and submit them to the State for consideration.

Program information and application procedures are contained in the application notice.

#### Intergovernmental Review

The closing date for comments is extended from September 30, 1985 to December 30, 1985. The closing date is extended in order to provide State single points of contact and State, areawide, regional and local entities with additional time to review and comment on proposed Federal financial assistance under this program.

Information on the intergovernmental review process and on procedures for submitting comments is contained in the application notice.

**FURTHER INFORMATION:** For further information contact Patricia Alexander, U.S. Department of Education, Office of the Secretary, 400 Maryland Avenue SW., Room 4010, Washington, DC 20202. Telephone (202) 472-1762).

**Program Authority:** (20 U.S.C. 4031 *et seq.*)

(Catalog of Federal Domestic Assistance Number 84.171, Excellence in Education Program)

Dated: October 1, 1985.

**William J. Bennett,**

*Secretary of Education.*

[FR Doc. 85-23777 Filed 10-3-85; 8:45 am]

BILLING CODE 4000-01-M

## DEPARTMENT OF ENERGY

### Economic Regulatory Administration

### Issuance of Proposed Remedial Order to C&H Refinery, Inc. and Notice of Opportunity

**AGENCY:** Economic Regulatory Administration, DOE.

**ACTION:** Notice of issuance of proposed remedial order to C & H refinery, Inc. and notice of opportunity for objection.

Pursuant to 10 CFR 205.192(c), the Economic Regulatory Administration of the Department of Energy (DOE) hereby gives notice of a Proposed Remedial Order which was issued to C & H Refinery, Inc. (C & H). This Proposed Remedial Order (PRO) charges C & H with filing erroneous Refiners Monthly Reports (Form P-102-M-1) concerning crude oil refined under processing agreements with two other refiners. ERA alleges that C & H did not own 1,061,160 barrels of crude oil refined pursuant to those processing agreements and thus its receipt of $2,004,679 in small refiner bias entitlements on those barrels was unlawful. The reporting period was November 1976 through January 1977 and April through May 1977.

A copy of the Proposed Remedial Order, with confidential information deleted, may be obtained from the DOE Freedom of Information Reading Room, U.S. Department of Energy, 1000 Independence Avenue, SW., Room 1E-190, Washington, DC 20585.

Within fifteen (15) days of publication of this notice, any aggrieved person may file a Notice of Objection with the Office of Hearings and Appeals, U.S. Department of Energy, Room 6F-055, 1000 Independence Avenue, SW., Washington, DC 20585, in accordance with 10 CFR 205.193. A person who fails to file a Notice of Objection shall be deemed to have admitted the findings of fact and conclusions of law stated in the proposed order. If a notice of Objection is not filed in accordance with § 205.193, the proposed order may be issued as a final Remedial Order by the Office of Hearings and Appeals.

Issued in Washington, DC on the 23 day of September 1985.

**Avrom Landesman,**

*Director, Office of Enforcement Programs, Economic Regulatory Administration.*

[FR Doc. 85-23790 Filed 10-3-85; 8:45 am]

BILLING CODE 6450-01-M

## Federal Energy Regulatory Commission

**[Docket Nos. ER85-789-000 et al.]**

### Electric Rate and Corporate Regulation Filings; CP National Corp. et al.

Take notice that the following filings have been made with the Commission:

**1. CP National Company**

[Docket No. ER85-789-000]

September 26, 1985.

Take Notice that on September 23, 1985, CP National Corporation ("CPN") tendered for filing related to a Residential Purchase and Sale Agreement (Agreement between CPN and The Bonneville Power Administration ("BPA"):

1. Bonneville Power Administration's written report on Appendix 1 and Average System Cost submitted by CP National on October 1, 1984.

2. The Average System Cost as determined by Bonneville of 28.37 mills per kilowatt hour with a phase-in rate of 29.10 mills per kilowatt hour.

3. A revised Appendix 1 of CP National wherein the Average System Cost is 28.37 mills per kilowatt hour with a phase-in rate of 29.10 mills per kilowatt hour.

This filing is pursuant to section 205(c) of the Federal Power Act. The Agreement provides for the exchange of electric power between CPN and BPA for the benefit of CPN's residential and farm customers.

A copy of the letter submitting the filing was served upon BPA and "Industrial Customers of BPA."

*Comment date:* October 9, 1985, in accordance with Standard Paragraph E at the end of this notice.

**2. Central Illinois Public Service Company**

[Docket No. ER85-793-000]

September 27, 1985.

Take notice that on September 25, 1985, Central Illinois Public Service Company ("CIPS") tendered for filing a Power Supply Agreement, a Transmission Services Agreement and an Interim agreement, each dated September 1, 1985, between CIPS, Soyland Power Cooperative, Inc. ("Soyland") and Western Illinois Power Cooperative, Inc. ("WIPCO"). CIPS also tendered for filing an August 22, 1985 letter between the same three parties clarifying the intent of the Interim Agreement. The three interdependent agreements restructure the operational relationship between CIPS and the two cooperative customers.

Copies of the filing have been served on Soyland, WIPCO and the Illinois Commerce Commission. Copies of the transmittal letter have been served on CIPS' other wholesale customers.

*Comment date:* October 10, 1985, in accordance with Standard Paragraph E at the end of this notice.

**3. Idaho Power Company**

[Docket No. ER85-792-000]

September 27, 1985.

Take notice that on September 24, 1985 Idaho Power Company ("Idaho Power") tendered for filing the Average System Cost (ASC) determined by the Bonneville Power Administration ("BPA"), BPA's written ASC report, and Idaho Power's ASC schedules (Appendix 1) for Idaho Power's Idaho, Oregon and Nevada exchange jurisdictions. Idaho Power also submitted its agreement with and/or objections to BPA's Average System Cost determinations for each jurisdiction.

The ASC rates filed have been determined pursuant to the Revised Average System Cost Methodology approved by the Commission in its Order No. 400 issued October 1, 1984 in Docket No. RM84-16-000, and section 5(c) of the Pacific Northwest Electric Power Planning and Conservation Act (16 U.S.C. 830—839h). This act provides for the exchange of electric power between Idaho Power and BPA for the benefit of Idaho Power's residential and farm customers.

A copy of the filing has been served upon BPA and all parties to Idaho Power's Appendix 1 filing with BPA.

*Comment date:* October 10, 1985, in accordance with Standard Paragraph E at the end of this notice.

**Pacific Power & Light Company, an assumed business name of PacifiCorp.**

[Docket No. ER85-790-000]

September 26, 1985.

Take Notice that Pacific Power & Light Company (Pacific), an assumed business name of PacifiCorp, on September 24, 1985, tendered for filing, in accordance with § 35.13a(d)(5) of the Commission's

Regulations, Pacific's Revised Appendix 1 for the state of Washington. The Revised Appendix 1 calculates an average system cost for the state of Washington applicable to the exchange of power between Bonneville Power Administration (Bonneville) and Pacific.

Pacific request waiver of the Commission's notice requirements to permit this rate schedule to become effective October 1, 1984, which it claims is the date of commencement of service.

Copies of the filing were supplied to Bonneville, the Washington Utilities and Transportation Commission, and Bonneville's Direct Service Industrial Customers.

*Comment date:* October 9, 1985, in accordance with Standard Paragraph E at the end of this notice.

**5. Southern Company Services, Inc.**

[Docket No. ER85-791-000]

September 27, 1985.

Take notice that on September 24, 1985 Southern Company Services, Inc. tendered for filing a letter agreement extending the term of Service Schedule S to an interchange contract between Florida Power & Light Company and Southern Companies. By the terms of the letter agreement Service Schedule S has been extended to allow for additional purchases by Southern Companies from South Carolina Electric & Gas Company for contemporaneous sale and delivery to Florida Power & Light Company. The extended term of the service schedule shall be for a period which would allow delivery of up to an additional 460 GWH but not later than December 31, 1985.

*Comment date:* October 10, 1985, in accordance with Standard Paragraph E at the end of this notice.

**6. Idaho Power Company**

[Docket No. ES85-58-000]

September 30, 1985.

Take notice that on September 17, 1985, Idaho Power Company (Applicant), filed an application with the Federal Energy Regulatory Commission, pursuant to section 204 of the Federal Power Act, seeking an Order authorizing the issuance of $150 million of unsecured promissory notes or other evidence of indebtedness pursuant to Lines of Credit or other borrowing arrangements, and in the form of commerical paper.

*Comment date:* October 17, 1985, in accordance with Standard Paragraph E at the end of this notice.

**7. Union Electric Company**

[Docket No. ES85-59-000]

September 30, 1985.

Take notice that on September 23, 1985, Union Electric Company (Applicant) filed an application pursuant to section 204 of the Federal Power Act seeking an order authorizing the issuance of short-term, unsecured promissory notes in the aggregate amount of $300,000,000 at any one time, of which up to $150,000,000 at any one time may be in the form of commercial paper, with final maturities not later than December 31, 1987.

*Comment date:* October 23, 1985, in accordance with Standard Paragraph E at the end of this notice.

**Standard Paragraphs**

E. Any person desiring to be heard or to protest said filing should file a motion to intervene or protest with the Federal Energy Regulatory Commission, 825 North Capitol Street, NE., Washington, DC 20426, in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure (18 CFR 385.211 and 385.214). All such motions or protests should be filed on or before the comment date. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a motion to intervene. Copies of this filing are on file with the Commission and are available for public inspection.

**Kenneth F. Plumb,**

*Secretary.*

[FR Doc. 85-23804 Filed 10-3-85; 8:45 am]

BILLING CODE 6717-01-M

## Cities Service Oil and Gas Corporation, CanadianOxy Offshore Production Company and Oxy Petroleum, Inc.; Application for Blanket Certificate of Public Convenience and Necessity and for an Order Permitting and Approving Abandonment and Pre-Granted Abandonment

September 27, 1985.

Take notice that on September 19, 1985, Cities Service Oil and Gas Corporation, CanadianOxy Offshore Production Company, and Oxy Petroleum, Inc. ("Applicant" or "Cities") filed an Application pursuant to sections 4 and 7 of the Natural Gas Act (NGA), and the provisions of 18 CFR Parts 154, 157, and 385 seeking a blanket certificate of public convenience and necessity authorizing Cities and its joint interest owners to: (1) Make sales for resale in interstate commerce of gas owned by Cities and its joint interest owners, (2) abandon temporarily certain sales as described more fully in the Application (3) abandon, pursuant to pre-granted abandonment authority, sales for resale, and authorizing interstate pipelines, interstate pipelines and local distribution companies ("LDC's") to (1) transport and deliver gas supplies purchased and sold by Cities and its joint interest owners, including supplies of gas sold under the requested certificate as well as supplies of gas sold for which no additional certificate authority is needed, and (2) abandon, pursuant to pre-granted abandonment authority, these transportation services as more fully described in the Application which is on file with the Commission and open for public inspection. Applicant also requests that said blanket authorization be made effective on or before November 1, 1985.

Applicant states that the certificate, abandonment, and pre-granted abandonment authority sought herein, if granted, will ensure that Cities may continue to make spot market sales of natural gas to ready, willing and able purchasers, where that gas remains subject to the Commission's jurisdiction under the NGA and for which the maximum lawful ceiling price is higher than the ceiling price established by section 109 of the Natural Gas Policy Act of 1978 ("NGPA"), and permit pipelines and LDC's to transport in interstate commerce any of the natural gas sold in the spot market by Cities and its joint interest owners to any ready, willing and able purchaser.

Cities is requesting the authority described herein only to the extent that such authority is not provided for in any final rule issued by the Commission in its Notice of Proposed Rulemaking, Regulation of Natural Gas Pipelines After Partial Wellhead Decontrol, Docket No. RM85-1-000 (May 30, 1985) (NOPR), in the event a final rule in the NOPR is not issued by November 1, 1985, and/or in the event any such rule is stayed or not in effect after its issuance.

Specifically, Cities requests that the Commission authorize Cities, effective on or before November 1, 1985, to:

1. Make sales for resale in interstate commerce, without supply or market limitations of gas subject to the Commission's jurisdiction under the Natural Gas Act and for which the maximum lawful ceiling price is higher than the NGPA section 109 ceiling price, where such gas is attributable to Cities' interest or to its joint interest owners having interests in the same wells as

Cities, to the extent that such joint interest owners agree to make the sales for resale;

2. Abandon temporarily sales for resale of previously certificated gas subject to the Commission's jurisdiction under the NGA and for which the maximum lawful ceiling price is higher than the NGPA section 109 price, to the extent that interstate pipeline purchasers release the gas to Cities and its joint interest owners for resale in the spot market to third parties under the certificate issued herein;

3. Abandon, pursuant to pre-granted abandonment authority, any sale for resale in the spot market authorized pursuant to any blanket certificate issued herein;

4. Permit any interstate pipeline, intrastate pipeline, or local distribution company to transport in interstate commerce, on a self-implementing basis and without source or recipient limitations, any such gas, as well as natural gas which is no longer subject to the Commission's jurisdiction under the NGA, sold on the spot market by Cities and its joint interest-owners; and

5. Permit such transporters to abandon, pursuant to pre-granted abandonment authority, such transportation services.

Such authority, if granted, will permit Cities and its joint interest owners to market their supplies of natural gas which are subject to a maximum lawful price greater than that established by section 109 of the NGRA to any purchaser, and to have such gas transported to these customers on a self-implementing basis. The authority will enable Cities to continue uninterrupted sales of gas in the spot market, make additional supplies of gas available to interested purchasers at competitive prices, and provide increased throughout for all pipelines willing to transport gas sold under the certificate issued pursuant to this application.

Any person desiring to be heard or to make any protest with reference to said Application should, on or before October 10, 1985, file with the Federal Energy Regulatory Commission, Washington, DC 20426, a motion to intervene or a protest in accordance with the requirements of the Commission's Rules of Practice and Procedure (18 CFR 385.214). 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. Any person wishing to become a party to a proceeding or to participate as a party in any hearing therein must file a motion to intervene in accordance with the Commission's Rules.

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

**Kenneth F. Plumb,**

*Secretary.*

[FR Doc. 85-23811 Filed 10-3-85; 8:45 am]

BILLING CODE 6717-01-M

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**[Docket Nos. QF85-674-000 et al.]**

## Small Power Production and Cogeneration Facilities; Qualifying Status; Certificate Applications, etc.; Genstar Gas Recovery Systems et al.

*Comment date:* Thirty days from publication in the **Federal Register**, in accordance with Standard Paragraph E at the end of this notice.

Take notice that the following filings have been made with the Commission.

### 1. Genstar Gas Recovery Systems

[Docket No. QF85-674-000]

September 26, 1985.

On September 3, 1985, Genstar Gas Recovery Systems (Applicant), of 177 Bovet Road, Suite 550, San Mateo, California 94402, submitted for filing an application for certification of a facility as a qualifying small power production facility pursuant to § 292.207 of the Commission's regulations. No determination has been made that the submittal constitutes a complete filing.

The proposed small power production facility will be located at Shoreline Park Regional Sanitary Landfill, Mountain View, California. The facility will consist of two internal combustion engine generator units gas compression equipment, clean-up apparatus and protective switchgear. The primary source of energy will be landfill gas. The net electric power production capacity will be 3,395 kw.

### 2. Northeastern Power Company—Kline Township, PA

[Docket No. QF85-678-001]

September 27, 1985.

On September 9, 1985, Northeastern Power Company (Applicant), of 1101 Market Street, Philadelphia, Pennsylvania 19107, submitted for filing an application for certification of a facility as a qualifying cogeneration facility pursuant to § 292.207 of the Commission's regulations. No determination has been made that the submittal constitutes a complete filing. Applicant originally filed an application for certification of the facility as a small power production facility on September 3, 1985. Applicant is now seeking certification of the facility as both a qualifying cogeneration facility and a qualifying small power production facility.

The topping-cycle cogeneration facility will be located one mile south of the Borough of McAdoo in Kline Township, Schuylkill County, Pennsylvania. The facility will consist of a circulating fluidized bed boiler, steam turbine generator, and related auxiliary equipment. The useful thermal output will be used for hydroponic vegetable and flower production, processing of hydroponically grown produce, manufacturing of plastic containers for consumer products, and/or manufacturing of concrete building materials. The primary energy source for the facility will be anthracite refuse and anthracite coal. The net electric power production capacity of the facility will be 45 megawatts.

### 3. Chevron USA, Inc.

[Docket No. QF85-703-000]

September 27, 1985.

On September 16, 1985, Chevron USA, Inc. (Applicant), of 324 W. El Segundo Blvd., El Segundo, California 90245 submitted for filing an application for certification of a facility as a qualifying cogeneration facility pursuant to § 292.207 of the Commission's regulations. No determination has been made that the submittal constitutes a complete filing.

The topping-cycle cogeneration facility will be located at the existing El Segundo, California refinery. It will consist of two units, each of which includes a combustion gas turbine generator and heat recovery steam generator (HRSG). The primary fuel will be natural gas with refinery gas, vaporized LPG and natural gas used for supplemental firing in the HRSGs. The power production capacity will be 77,000 kilowatts.

### 4. Cogen Poso Creek, Inc.

[Docket No. QF85-699-000]

September 27, 1985.

On September 16, 1985, Cogen Poso Creek, Inc. (Applicant), of P.O. Box 19398, Houston, Texas 77224, submitted for filing an application for certification of a facility as a qualifying congeneration facility pursuant to § 292.207 of the Commission's regulations. No determination has been made that the submittal constitutes a complete filing.

The topping-cycle cogeneration facility will be located 12 miles north of Bakersfield, California. The 45,000

kilowatt facility will consist of a combustion turbine generator and a heat recovery steam generator. The primary energy source will be natural gas. The thermal output will be used for enhanced oil recovery. Installation will begin in April 1986.

**5. Kern Energy Corp.**

[Docket No. QF85-700-000]

September 27, 1985.

On September 16, 1985, Kern Energy Corp. (Applicant), of Union Bank Building, Suite 325, 400 Oceangate, Long Beach, California 90802, submitted for filing an application for certification of a facility as a qualifying cogeneration facility pursuant to § 292.207 of the Commission's regulations. No determination has been made that the submittal constitutes a complete filing.

The combined-cycle cogeneration facility will be located at Kern County, California. The electric power production capacity of the facility will be 42 MW. The primary energy source wil be natural gas.

**6. Southeast Energy, Inc.**

[Docket No. QF85-701-000]

September 27, 1985.

On September 16, 1985, Southeast Energy, Inc. (Applicant), of 4909 Stockdale Highway, Suite 316, Bakersfield, California 93309, submitterd for filing an application for certification of a facility as a qualifying cogeneration facility pursuant to § 292.207 of the Commission's regulations. No determination has been made that the submittal constitutes a complete filing.

The combined-cycle cogeneration facility will be located at Kern County, California. The electric power production capacity of the facility will be 42 MW. The primary energy source will be natural gas.

**7. Koppers Co., Inc.**

[Docket Nos. QF85-718-000 and QF85-718-001]

September 30, 1985.

On September 20, 1985, A. Foster, Kopper Co., Inc. (Applicant), of 436 Seventh Avenue, Pittsburgh, Pennsylvania 15219, submitted for filing an application for certification of a facility as a qualifying small power production facility and a cogeneration facility pursuant to § 292.207 of the Commission's regulations. No determination has been made that the submittal constitutes a complete filing.

The small power production facility and/or topping-cycle congeneration facility will be located at Koppers Co., Inc. Susquehanna Wood Treating Plant, Montgomery, Pennsylvania 17752. The facility will contain a wood waste-fired boiler, and an extraction steam turbinegenerator set. The extracted steam will be used for process heating in the wood treating plant. The primary energy source will be wood waste in the form of wood chips and used railroad crossties. The net power production capacity of the facility will be 6,600 kW. The operation of the facility is expected to begin on July 1, 1987.

**Standard Paragraphs**

E. Any person desiring to be heard or to protest said filing should file a motion to intervene or protest with the Federal Energy Regulatory Commission, 825 North Capitol Street, NE., Washington, DC 20426, in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure (18 CFR 385.211 and 385.214). All such motions or protests should be filed on or before the comment date. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a motion to intervene. Copies of this filing are on file with the Commission and are available for public inspection.

**Kenneth F. Plumb,**

*Secretary.*

[FR Doc 23805 Filed 10-3-85; 8:45 am]

BILLING CODE 6717-01-M

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**[Project No. 8565-001]**

## Independence Electric Corp.; Surrender of Preliminary Permit

September 27, 1985.

Take notice that Independence Electric Corporation, Permittee for the proposed Lock & Dam No. 8 Hydro Project No. 8565, has requested that its preliminary permit be terminated. The permit was issued on April 22, 1985, and would have expired May 31, 1987. The project would have been located on the Kentucky River near Lexington, Jessamine County, Kentucky. The Permittee cites that the proposed project is not economically feasible as the basis for the surrender request.

The Permittee filed the request on September 13, 1985, and the preliminary permit for Project No. 8565 shall remain in effect through the thirtieth day after issuance of this notice unless that day is a Saturday, Sunday or holiday as described in 18 CFR 385.2007, in which case the permit shall remain in effect through the first business day following that day. New applications involving this project site, to the extent provided for under 18 CFR Part 4, may be filed on the next business day.

**Kenneth F. Plumb,**

*Secretary.*

[FR Doc. 85-23812 Filed 10-3-85; 8:45 am]

BILLING CODE 6717-01-M

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**[Project No. 9011-001]**

## Independence Electric Corp.; Surrender of Preliminary Permit

September 27, 1985.

Take notice that Independence Electric Corporation, Permittee for the proposed Taylorsville Dam Project No. 9011, has requested that its preliminary permit be terminated. The permit was issued on June 10, 1985, and would have expired May 31, 1988. The project would have been located on the Salt River in Spencer County, Kentucky. The Permittee cites that the proposed project is not economically feasible as the basis for the surrender request.

The Permittee filed the request on September 16, 1985, and the preliminary permit for Project No. 9011 shall remain in effect through the thirtieth day after issuance of this notice unless that day is a Saturday, Sunday or holiday as described in 18 CFR 385.2007, in which case the permit shall remain in effect through the first business day following that day. New applications involving this project site, to the extent provided for under 18 CFR Part 4, may be filed on the next business day.

**Kenneth F. Plumb,**

*Secretary.*

[FR Doc. 85-23813 Filed 10-3-85; 8:45 am]

BILLING CODE 6717-01-M

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**[Docket No. C185-695-000]**

## TXP Operating Co.; Application

September 27, 1985.

Take notice that on September 20, 1985, TXP Operating Company ("TXPO" or "Applicant"), P.O. Box 1396 Houston, Texas 77251 filed an Application requesting that the Commission issue a blanket certificate authorizing TXPO, effective on or before November 1, 1985, (1) to make sales for resale in interstate commerce, without supply or market limitations, of NGA-gas with an applicable ceiling price higher than the NGPA section 109 ceiling price that is produced from various interests owned by TXPO and various interests attributable to other owners having interests in the same wells as TXPO, to the extent that such joint interest owners agree to same; (2) to abandon

temporarily sales for resale of NGA-gas with an applicable ceiling price higher than the NGPA section 109 price and previously certificated by the Commission, to the extent that such gas is released by interstate pipelines for resale in the spot market to third parties; (3) to abandon (pre-granted abandonment) any sale for resale in the spot market authorized pursuant to any blanket certificate issued herein; and (4) to have both NGA- and non-NGA-gas that is sold in the spot market by TXPO and its joint interest owners transported in interstate commerce, on a self-implementing basis and without source or recipient limitations, by any willing transporter to any willing and able purchaser of such gas, with pre-granted abandonment of same. TXPO is requesting the authorizations described in said Application only to the extent that any element of such authorizations are not otherwise made effective on or before November 1, 1985, as a result of Commission action in any other proceeding.

TXPO states that the results of special marketing programs to date amply demonstrate the beneficial impact of such programs on all segments of the industry. The authorizations applied for in its Application are consistent with the Commission's goals as set forth in the Notice of Proposed Rulemaking issued May 30, 1985 in Docket No. RM85-1-000 and are critical to the continuing success of the spot market. Without such authorizations, TXPO reports that it will be precluded from effectively, efficiently and fully participating in the spot market as of November 1, 1985.

Any person desiring to be heard or to make any protest with reference to said Application should on or before October 10, 1985, file with the Federal Energy Regulatory Commission, Washington, DC 20426, a petition to intervene or a protest in accordance with the requirements of the Commission's Rules of Practice and Procedure (18 CFR 385.214 or 385.211) and Regulations under the Natural Gas Act (18 CFR 157.10). 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. Any person wishing to become a party to a proceeding or to participate as a party in any hearing therein must file a petition to intervene in accordance with the Commission's Rules.

It appears reasonable and consistent with the public interest in this case to prescribe a period shorter than normal for the filing of protests and petitions to intervene. Therefore, any person desiring to be heard or to make any protests with reference to said application should on or before October 10, 1985, file with the Federal Energy Regulatory Commission, Washington, D.C. 20426, a petition to intervene or a protest in accordance with the requirements of the Commission's Rules of Practice and Procedure (18 CFR 385.211, 385.214). 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. Any person wishing to become a party to a proceeding or to participate as a party in any hearing therein must file a petition to intervene in accordance with the Commission's Rules.

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

**Kenneth F. Plumb,**

*Secretary.*

[FR Doc. 85-23814 Filed 10-3-85; 8:45 am]

BILLING CODE 6717-01-M

## ENVIRONMENTAL PROTECTION AGENCY

**[OPTS-51591; TSH-FRL 2907-1]**

### Certain Chemicals Premanufacture Notices

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Notice.

**SUMMARY:** Section 5(a)(1) of the Toxic Substances Control Act (TSCA) requires any person who intends to manufacture or import a new chemical substance to submit a premanufacture notice (PMN) to EPA at least 90 days before manufacture or import commences. Statutory requirements for section 5(a)(1) premanufacture notices are discussed in EPA statements of the final rule published in the **Federal Register** of May 13, 1983 (48 FR 21722). This notice announces receipt of twenty-six PMNs and provides a summary of each.

**DATES:** Close of Review Period:

P 85-1490, 85-1491, 85-1492, 85-1493, 85-1494, 85-1495, 85-1496, 85-1497, 85-1498, 85-1499, 85-1500, 85-1501, 85-1502 and 85-1503—December 18, 1985.

P 85-1504—December 21, 1985.

P 85-1505, 85-1506, 85-1507 and 85-1508—December 22, 1985.

P 85-1509, 85-1510, 85-1511 and 85-1512—December 23, 1985.

P 85-1513, 85-1514 and 85-1515—December 24, 1985.

Written comments by:

P 85-1490, 85-1491, 85-1492, 85-1493, 85-1494, 85-1495, 85-1496, 85-1497, 85-1498, 85-1499, 85-1500, 85-1501, 85-1502 and 85-1503—November 18, 1985.

P 85-1504—November 21, 1985.

P 85-1505, 85-1506, 85-1507 and 85-1508—November 22, 1985.

P 85-1509, 85-1510, 85-1511 and 85-1512—November 23, 1985.

P 85-1513, 85-1514 and 85-1515—November 24, 1985.

**ADDRESS:** Written comments, identified by the document control number "[OPTS-51591]" and the specific PMN number should be sent to: Document Control Officer (TS-793), Chemical Information Branch, Information Management Division, Office of Toxic Substances, Environmental Protection Agency, Room E-201, 401 M Street, SW., Washington, DC 20460, (202) 382-3532

**FOR FURTHER INFORMATION CONTACT:** Wendy Cleland-Hamnett, Premanufacture Notice Management Branch, Chemical Control Division (TS-794), Office of Toxic Substances, Environmental Protection Agency, Room E-611, 401 M Street SW., Washington, DC 20460, (202) 382-3725.

**SUPPLEMENTARY INFORMATION:** The following notice contains information extracted from the non-confidential version of the submission provided by the manufacturer on the PMNs received by EPA. The complete non-confidential document is available in the Public Reading Room E-107 at the above address.

**P 85-1490**

*Manufacturer.* Pioneer Plastics Division of LOF Plastics, Inc.

*Chemical.* (S) Polymer of 2,2-dimethyl 1,3-propanediol, 2-butenedioic acid and dimethyl terephthalate.

*Use/Production.* (S) Industrial alkyd molding compounds. Prod. range. 100,000-250,000 kg/yr.

*Toxicity Data.* No data submitted.

*Exposure.* Manufacture: Dermal and inhalation, a total of 9 workers, up to 8 hrs/da.

*Environmental Release/Disposal.* Disposal by publicly owned treatment works (POTW).

**P 85-1491**

*Manufacturer.* Pioneer Plastics, Division of LOF Plastics, Inc.

*Chemical.* (S) Polymer of 1,2-ethanediol, 1,2-propanediol, 1,4-benzenedicarboxylic acid and 2,5-furandione.

*Use/Production.* (S) Industrial alkyd molding compounds. Prod. range. 270,000-400,000 kg/yr.

Toxicity Data. No data submitted.

*Exposure.* Manufacture: Dermal and inhalation, a total of 9 workers, up to 8 hrs/da.

*Environmental Release/Disposal.* Disposal by POTW.

**P 85-1492**

*Manufacturer.* Jim Walter Resources, Inc.

*Chemical.* (G) Acetate capped alkyl ester grafted alkoxylated polyol.

*Use/Production.* (S) Industrial surfactant for cellular plastic insulation. Prod. range. 300,000 kg/yr.

*Toxicity Data.* No data submitted.

*Exposure.* Manufacture: Dermal, a total of 17 workers, up to 2 hrs/da, up to 67 da/yr.

*Environmental Release/Disposal.* 20 to 25 kg/batch released to water. Disposal by biological treatment facility.

**P 85-1493**

*Manufacturer.* Confidential.

*Chemical.* (G) Hydrophobic cationic acrylic terpolymer.

*Use/Production Import.* (S) Flocculant for dewatering sludges in industrial and muncipal waste steams; retention and drainage aid for manufacture of paper. Prod. range. Confidential.

*Toxicity Data.* No data submitted.

*Exposure.* Confidential.

*Environmental Release/Disposal.* Confidential. Disposal by POTW.

**P 85-1494**

*Manufacturer.* Confidential.

*Chemical.* (G) Hydrophobic cationic acrylic terpolymer.

*Use/Production.* (S) Flocculant for dewatering sludges in industrial and muncipal waste steams; retention and drainage aid for manufacture of paper. Prod. range. Confidential.

*Toxicity Data.* No data submitted.

*Exposure.* Confidential.

*Environmental Release/Disposal.* Confidential. Disposal by POTW.

**P 85-1495**

*Manufacturer.* Confidential.

*Chemical.* (G) Hydrophobic cationic acrylic terpolymer.

*Use/Production.* (S) Flocculant for dewatering sludges in industrial and muncipal waste steams; retention and drainage aid for manufacture of paper. Prod. range. Confidential.

*Toxicity Data.* No data submitted.

*Exposure.* Confidential.

*Environmental Release/Disposal.* Confidential. Disposal by POTW.

**P 85-1496**

*Manufacturer.* Confidential.

*Chemical.* (G) Hydrophobic cationic acrylic terpolymer.

*Use/Production.* (S) Flocculant for dewatering sludges in industrial and muncipal waste steams; retention and drainage aid for manufacture of paper. Prod. range Confidential.

*Toxicity Data.* No data submitted.

*Exposure.* Confidential.

*Environmental Release/Disposal.* Confidential. Disposal by POTW.

**P 85-1497**

*Manufacturer.* Confidential.

*Chemical.* (G) Hydrophobic cationic acrylic terpolymer.

*Use/Production.* (S) Flocculant for dewatering sludges in industrial and muncipal waste steams; retention and drainage aid for manufacture of paper. Prod. range. Confidential.

Toxicity Data. No data submitted.

*Exposure.* Confidential.

*Environmental Release/Disposal.* Confidential. Disposal by POTW.

**P 85-1498**

*Manufacturer.* Confidential.

*Chemical.* (G) Hydrophobic cationic acrylic terpolymer.

*Use/Production.* (S) Flocculant for dewatering sludges in industrial and muncipal waste streams; retention and drainage aid for manufacture of paper. Prod. range. Confidential.

*Toxicity Data.* No data submitted.

*Exposure.* Confidential.

*Environmental Release/Disposal.* Confidential. Disposal by POTW.

**P 85-1499**

*Manufacturer.* Confidential.

*Chemical.* (G) Hydrophobic cationic acrylic terpolymer.

*Use/Production.* (S) Flocculant for dewatering sludges in industrial and municipal waste streams; retention and drainage aid for manufacture of paper. Prod. range. Confidential.

*Toxicity Data.* No data submitted.

*Exposure.* Confidential.

*Environmental Release/Disposal.* Confidential. Disposal by POTW.

**P 85-1500**

*Manufacturer.* Confidential.

*Chemical.* (G) Hydrophobic cationic acrylic terpolymer.

*Use/Production.* (S) Flocculant for dewatering sludges in industrial and municipal waste streams; retention and drainage aid for manufacture of paper. Prod. range. Confidential.

*Toxicity Data.* No data submitted.

*Exposure.* Confidential.

*Environmental Release/Disposal.* Confidential. Disposal by POTW.

**P 85-1501**

*Manufacturer.* Confidential.

*Chemical.* (G) Hydrophobic cationic acrylic terpolymer.

*Use/Production.* (S) Flocculant for dewatering sludges in industrial and municipal waste streams; retention and drainage aid for manufacture of paper. Prod. range. Confidential.

*Toxicity Data.* No data submitted.

*Exposure.* Confidential.

*Environmental Release/Disposal.* Confidential. Disposal by POTW.

**P 85-1502**

*Manufacturer.* Confidential.

*Chemical.* (G) Silyl substituted amine carboxylate-potassium salt.

*Use/Production.* (G) Anticoalescing agent. Prod. range. Confidential.

*Toxicity Data.* Acute oral: 1.35 g/kg; Irritation: Skin—Moderate, Eye—Severe.

*Exposure.* Manufacture: Dermal, a total of 4 workers, up to 13 hrs/da, up to 13 da/yr.

*Environmental Release/Disposal.* 55 kg incinerated.

**P 85-1503**

*Manufacturer.* Confidential.

*Chemical.* (G) Silyl substituted amino carboxylate-sodium salt.

*Use/Production.* (G) Anticoalescing agent. Prod. range. Confidential.

*Toxicity Data.* Acute oral: 1.58 g/kg; Irritation: Skin—Moderate, Eye—Severe.

*Exposure.* Manufacture: dermal, a total of 4 workers, up to 12 hrs/da, up to 12 da/yr.

*Environmental Release/Disposal.* 55 kg incinerated.

**P 85-1504**

*Manufacturer.* Confidential.

*Chemical.* (S) Amine, hydrogenated tallow amine, reaction product with toluene diisocyanate and para-toluidine.

*Use/Production.* (G) Gelling or viscosity-increasing agent for organic liquids. Prod. range. Confidential.

*Toxicity Data.* Acute dermal: 3.16 g/kg; Irritation: Skin—Slight; Skin sensitization: Non-sensitizer.

*Exposure.* Confidential.

*Environmental Release/Disposal.* Release to land with essentially zero to air and water. Disposal by POTW and plant solid waste system.

**P 85-1505**

*Manufacturer.* Confidential.

*Chemical.* (G) Alumina organometallic compound.

*Use/Production.* (G) Contained use. Prod. range. Confidential.

*Toxicity Data.* No data submitted.

*Exposure.* Manufacture: Dermal, a total of 3 workers, up to .50 hr/da.

*Environmental Release/Disposal.* 0.5 kg of sample retained and sent to offsite disposal.

**P 85-1506**

*Manufacturer.* NL Chemicals/NL Industries, Inc.

*Chemical.* (G) Water-based polyurethane elastomer.

*Use/Production.* (G) A polyurethane elastomer to be used in an open, non-dispersive manner. Prod. range. Confidential.

*Toxicity Data.* No data submitted.

*Exposure.* Confidential.

*Environmental Release/Disposal.* No data submitted.

**P 85-1507**

*Importer.* Confidential.

*Chemical.* (S) [4-Sulphonamido-benzene-ethyl sulfonyl sulfuric ester-sodium salt] 1,4-[sulfonic acid sodium salt] 2,6 of nickel-phthalocyanine.

*Use/Production.* (S) Reactive dye for textiles. Import range. 10,000 kg/yr.

*Toxicity Data.* No data submitted.

*Exposure.* No exposure.

*Environmental Release/Disposal.* No release.

**P 85-1508**

*Manufacturer.* Confidential.

*Chemical.* (G) Polymeric diphenylmethane diisocyanate prepolymer.

*Use/Production.* (S) Industrial flame-retardant cross-linking agent for castor oil modified polyols for potting and encapsulation of electrical components. Prod. range. Confidential.

*Toxicity Data.* No data submitted.

*Exposure.* Manufacture: A total of 6 workers, up to 8 hrs/da, up to 20 da/yr.

*Environmental Release/Disposal.* Trace release to air with 1 kg/batch to land.

**P 85-1509**

*Manufacturer.* Confidential.

*Chemical.* (S) Mixed $C_4$ and $C_5$ methyl ethers.

*Use/Production.* (S) Industrial automotive fuel component. Prod. range. Confidential.

*Toxicity Data.* Confidential.

*Exposure.* Acute oral: Male—2.71 g/kg. Female—3.41 g/kg. Combined—3.0 g/kg; Acute dermal: >3.16 g/kg; Irritation: Skin—Moderate, Eye—Moderate.

*Exposure.* Manufacture: Dermal.

*Environmental Release/Disposal.* No release expected.

**P 85-1510**

*Manufacturer.* H.B. Fuller Company.

*Chemical.* (G) Ethylene, vinyl acetate, methacrylic acid, hydroxy substituted hydrocarbon copolymer.

*Use/Production.* (G) Industrial adhesive coatings. Prod. range. 20,000-1,000,000 kg/yr.

*Toxicity Data.* No data submitted.

*Exposure.* Manufacture and use: Dermal, a total of 80 workers, up to 2 hrs/da, up to 25 da/yr.

*Environmental Release/Disposal.* 15 to 50 kg/batch released to land. Disposal by licensed landfill.

**P 85-1511**

*Importer.* KAY-FRIES, Inc.

*Chemical.* (G) Polyester resin of an aryl dicarboxylic acid plus an alkane diol.

*Use/Import.* (S) Industrial general coating for building products. Import range. Confidential.

*Toxicity Data.* No data submitted.

*Exposure.* No data submitted.

*Environmental Release/Disposal.* No data submitted.

**P 85-1512**

*Importer.* American Hoechst Corporation.

*Chemical.* (S) Reaction product of tallowamine with bisphenol-A diglycidyl ether, ethoxlylated.

*Use/Import.* (S) Industrial dispersing agent for pigments. Import range. 500-2,000 kg/yr.

*Toxicity Data.* No data submitted.

*Exposure.* Manufacture: Dermal, 80-100 manhours/yr.

*Environmental Release/Disposal.* No data submitted.

**P 85-1513**

*Manufacture.* Confidential.

*Chemical.* (G) Toluene diisocyanate and mixed alkane diols.

*Use/Production.* (G) Industrial and commercial crosslinker for two-component polyurethane coatings. Prod. range. 181,000-454,000 kg/yr.

*Toxicity Data.* No data submitted.

*Exposure.* Manufacture: Dermal, a total of 30 workers, up to 6 hrs/da, up to 50 da/yr.

*Environmental Release/Disposal.* 0.1 to 2.0 kg/gatch released to air with 2.0 kg/batch to water. Disposal by incineration and on site biological treatment plant.

**P 85-1514**

*Importer.* Ashland Chemcial Company.

*Chemical.* (G) Phenolic polyester.

*Use/Import.* (G) Coating resin. Prod. range. Confidential.

*Toxicity Data.* No data submitted.

*Exposure.* Confidential.

*Environmental Release/Disposal.* Release to water and land. Disposal by POTW and incineration.

**P 85-1515**

*Importer.* Ashland Chemical Company.

*Chemical.* (G) Phenolic polyester resin.

*Use/Import.* (G) Coating resin. Import range. Confidential.

*Toxicity Data.* No data submitted.

*Exposure.* Confidential.

*Environmental Release/Disposal.* Release to water and land. Disposal by POTW and incineration.

Dated: September 30, 1985.

**Linda A. Travers,**

*Acting Director, Information Management Division.*

[FR Doc. 85-23783 Filed 10-3-85; 8:45 am]

BILLING CODE 6560-50-M

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**[OPTS-59734; TSH-FRL 2907-2]**

## Certain Chemicals Premanufacture Notices

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Notice.

**SUMMARY:** Section 5(a)(1) of the Toxic Substance Control Act (TSCA) requires any person who intends to manufacture or import a new chemical substance to submit a premanufacture notice (PMN) to EPA at least 90 days before manufacture or import commences. Statutory requirements for section 5(a)(1) premanufacture notices are discussed in EPA statements of the final rule published in the **Federal Register** of May 13, 1983 (48 FR 21722). In the **Federal Register** of November 11, 1984, (49 FR 46066) (40 CFR 723.250), EPA published a rule which granted a limited exemption from certain PMN requirements for certain types of polymers. PMNs for such polymers are reviewed by EPA within 21 days of receipt. This notice announces receipt of three such PMNs and provides a summary of each.

**DATES:** Close of Review Period:

Y 85-167—October 10, 1985.

Y 85-168 and 85-169—October 15, 1985.

**FOR FURTHER INFORMATION CONTACT:** Wendy Cleland-Hamnett, Chemical Control Division (TS-794), Office of Toxic Substances, Environmental Protection Agency, Room E-611, 401 M Street SW., Washington, DC 20460 (202-382-3725).

**SUPPLEMENTARY INFORMATION:** The following notice contains information extracted from the non-confidential version of the submission by the manufacturer on the exemptions received by EPA. The complete non-confidential document is available in the Public Reading Room E-107 at the above address between 8:00 a.m. and 4:00 p.m., Monday through Friday, excluding legal holidays.

**Y 85-167**

*Manufacturer.* NL Chemicals/NL Industries, Inc.

*Chemical.* (G) Alkyd resin.

*Use/Production.* (G) An alkyd resin to be used in an open, nondispersive manner. Prod. range. Confidential.

*Toxicity Data.* No data submitted.

*Exposure.* No data submitted.

*Environmental Release/Disposal.* No data submitted.

**Y 85-168**

*Manufacturer.* Confidential.

*Chemical.* (G) Polyester of carbomonocyclic acid, alkylene glycol and alkanedioate.

*Use/Production.* (S) Industrial modifier of polyester resins used in fiber production. Prod. range. Confidential.

*Toxicity Data.* No data on the PMN substance submitted.

*Exposure.* No data submitted.

*Environmental Release/Disposal.* No data submitted.

**Y 85-169**

*Manufacturer.* Confidential.

*Chemical.* (G) Polyester of carbomonocyclic acid, alkylene glycol and alkanedioate.

*Use/Production.* (S) Industrial modifier of polyester resins used in fiber production. Prod. range. Confidential.

*Toxicity Data.* No data on the PMN substance submitted.

*Exposure.* No data submitted.

*Environmental Release/Disposal.* No data submitted.

Dated: September 30, 1985.

**Linda A. Travers,**

*Acting Director, Information Management Division.*

[FR Doc. 85-23784 Filed 10-3-85; 8:45 am]

BILLING CODE 6560-50-M

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**[SAB-FRL-2906-7]**

## Science Advisory Board, Environmental Engineering Committee; Open Meeting

Under Pub. L. 92-463, notice is hereby given that a two-day meeting of the Environmental Engineering Committee (EEC) of the Science Advisory Board will be held at the Westpark Hotel, Shenandoah B-C Room, 2nd floor, 1900 N. Fort Myer Drive, Arlington, VA, on October 21-22, 1985. The meeting will begin at 10:00 a.m. on October 21 and 9:00 a.m. on October 22 and last until approximately 5:00 p.m. each day.

The principal agenda item for the meeting will be the initiation of Committee review of technical information supporting revisions to Agency Ocean Dumping Regulations (40 CFR Parts 220-229) and technical regulations for the reuse and disposal of sewage sludge under section 405(d) of the Clean Water Act. Additional agenda items will include continuation of Committee review of Agency guidance for the establishment of alternate concentration limits for releases from hazardous waste disposal facilities, and several informational briefings from Agency staff.

The meeting is open to the public. Any member of the public wishing to participate or obtain further information about the meeting should contact Harry C. Torno, Executive Secretary, at (202) 382-2552, or Terry F. Yosie, Director, Science Advisory Board, at (202) 382-4126. Public comments will be accepted at the meeting. Written comments will be accepted in any form, and there will be opportunity for brief oral statements. Anyone wishing to make oral or written comments must contact Mr. Torno prior to October 16, 1985, in order to be placed on the agenda.

Any member of the public wishing to attend should contact Mrs. Brenda Browne at (202) 382-2552.

Dated: September 30, 1985.

**Terry F. Yosie,**

*Director.*

[FR Doc. 85-23780 Filed 10-3-85; 8:45 am]

BILLING CODE 6560-50-M

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**[ER-FRL-2905-8]**

## Environmental Impact Statements; Availability

**Responsible Agency**

Office of Federal Activities, General Information (202) 382-5073 or (202) 382-5075.

Availability of Environmental Impact Statements filed September 23, 1985 Through September 27, 1985 Pursuant to 40 CFR 1506.9.

EIS No. 850413, DSuppl, EPA, CT, MA, Hodges Village Dam, Low Flow Augmentation, French River Cleanup Program, Due: November 18, 1985, Contact: Larry MacMillan (617) 223-0834.

EIS No. 850414, Final, AFS, LA, Kisatchie National Forest, Land and Resource Management Plan, Due: November 4, 1985, Contact: John Alcock (404) 881-4177.

EIS No. 850415, DSuppl, VAD, MI, Allen Park Veterans Administration Medical Center (VAMC), Split Site Care Facility and Allen Park VAMC Enlargement, Additional Alternatives, Wayne County, Due: November 18, 1985, Contact: Susan Livingstone (202) 389-2922.

EIS No. 850416, Draft, EPA, PAC, Johnston Atoll Vicinity, Brine and Solid Waste Deep Ocean Disposal Site, Designation, Due: November 18, 1985, Contact: Paul Pan (202) 775-9241.

EIS No. 850417, Final, BLM, NM, Rio Puerco Resource Area, Resource Management Plan, Due: November 4, 1985, Contact: Herrick Hanks (505) 766-3114.

EIS No. 850418, Draft, AFS, ID, Salmon National Forest, Land and Resource Management Plan, Idaho, Lemhi, and Valley Cos., Due: November 18, 1985, Contact: Elena Green (202) 447-4710.

EIS No. 850420, Draft, IBR, CO, Grand Valley Unit Stage II Development, Construction and Operation, Colorado River Basin Salinity Control Project, Mesa County, Due: November 25, 1985, Contact: Gordy Lind (801) 524-5463.

EIS No. 850421, DSuppl, COE, CA, Upper Santa Ana River Main Stem and Santiago Creek Flood Control Project, Mentone Dam Upstream Flood Storage Alternatives, Orange, Riverside, and San Bernardino Cos., Due: November 18, 1985, Contact: John Kennedy (213) 894-2314.

EIS No. 850422, Final, AFS, GA, Chattahooche-Oconee National Forests, Land and Resource Management Plan, Due: November 4, 1985, Contact: W. Pat Thomas (404) 536-0541.

EIS No. 850423, Final, BLM, MT, Garnet Resource Area, Resource Management Plan, Missoula, Granite, and Powell Cos., Due: November 4, 1985, Contact: David Baker (406) 329-3914.

EIS No. 850424, Final, COE, HI, Waikoloa Beach Resort Development, Fill of Anchialine Ponds and Excavation of a Recreational Lagoon, Permits, Hawaii County, Due: November 4, 1985, Contact: Michael Lee (808) 438-9258.

EIS No. 850425, Draft, NPS, VA, MD, DC, George Washington Memorial Parkway, Traffic and Recreational Management Study, Spout Run Parkway to Theodore Roosevelt Bridge, Due: November 26, 1985, Contact: Keith Dunbar (303) 236-8976.

Amended Notices:

EIS No. 850381, DSuppl, IBR, CO, Colorado-Big Thompson, Windy Gap Projects, Green Mountain Reservoir Water Marketing, Due: November 15, 1985, Published FR 9-3-85—Filing date reestablished.

EIS No. 850387, Final, BLM, NM, White Sands Resource Area, Resource Management Plan, Due: November 4,

1985, Published FR 9-20-85—Review period reestablished.
EIS No. 850392, Draft, IBR, CA, State Water and Federal Central Valley Projects, Coordinated Operation Agreement, Approval Due: November 13, 1985, Published FR 9-20-85 Filing date reestablished.

Dated: October 1, 1985.

Allan Hirsch,

*Director, Office of Federal Activities.*

[FR Doc. 85-23846 Filed 10-3-85; 8:45 am]

BILLING CODE 6560-50-M

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[ER-FRL-2905-9]

## Environmental Impact Statements and Regulations; Availability of EPA Comments

Availability of EPA comments prepared September 16, 1985 through September 20, 1985 pursuant to the Environmental Review Process (ERP), under section 309 of the Clean Air Act and section 102(2)(c) of the National Environmental Policy Act as amended. Requests for copies of EPA comments can be directed to the Office of Federal Activities at (202) 382-5075/76. An explanation of the ratings assigned to draft environmental impact statements (EISs) was published in the **Federal Register** dated October 19, 1984 (49 FR 41108).

### Draft EISs

ERP No. D-AFS-K65105-CA, Rating EC1, Angeles Nat'l. Forest, Land and Resource Mgmt. Plan, CA. SUMMARY: EPA is concerned that intensified forest management multiple use activities (such as grazing, mining, recreation, and water resource development) may adversely affect the maintenance of good water quality and reparian habitats. Additional analysis to resolve this potential conflict was requested.

ERP No. D-BLM-K08013-00, Rating LO, Mead/McCollough—Victorville/Adelanto 500 kV Transmission Line, Design, Construction, Operation and Maintenance, Right-of-Way Grants, Temporary Use Permit, NV and CA. SUMMARY: EPA expressed a lack of objections to the project, but cited the need for mitigation measures to protect the water quality of desert streams; coordination with the Army Corps of Engineers on possible dredge and fill permits; and more dicussion of potential herbicide application along the power line corridor.

ERP No. D-BLM-L61165-OR, Rating EC2, Oregon Wilderness Study Area, Wilderness Designation, OR. SUMMARY: EPA suggested expansion of discussions in the FEIS to include typical impacts, (especially water quality), from commodity activities for the no action alternatives and a description of how natural values were factored into the wilderness suitability determination. Additionally, it was suggested that some boundaries need to be expanded to on the basis of topographic units, complete watersheds, or plant and animal communities.

ERP No. D-FHW-C40082-NJ, Rating EO2, NJ-147 Improvement, US-9 in Middle Township to the New Jersey Ave. and Spruce Ave. Intersection in N. Wildwood, Sect. 404 and 10 Permits, CGD Permit, NJ. SUMMARY: EPA believes that the 32 acres of wetlands that will be filled have significant value and that the impact will be adverse. EPA requested that additional mitigation beyond what is now proposed will be needed to resolve EPA's objections to the project.

### Final EISs

ERP No. F-BLM-K65069-00, Yuma District Resource Mgmt. Plan, AZ and CA. SUMMARY: EPA's review indicated that the FEIS addressed most of the concerns EPA had raised on the DEIS, however, it recommended that BLM's future site-specific Environmental Assessments for District activities fully address air and water quality impacts.

ERP No. F-BLM-L70001-WA, Spokane District Resource Mgmt. Plan, WA. SUMMARY: EPA made no formal comments. EPA reviewed the FEIS and found the project to be satisfactory.

ERP No. F-FHW-L40142-OR, SW 257th Ave. Extension, I-84 to Stark St., Construction, Modified Build Alternatives, Right-of-Way Acquisition, OR. SUMMARY: EPA made no formal comments. EPA reviewed the FEIS and found the project to be satisfactory.

ERP No. F-GSA-K81017-CA, Los Angeles Federal Ctr. Master Plan, Development, Construction, Metropolitan Detention, VA Outpatient Clinic, and Federal Bldg. Courthouse, CA. SUMMARY: EPA indicated that the FEIS adequately addressed the project's environmental impacts, provided GSA implemented air quality-related transportation mitigation measures. EPA requested that GSA commit to adopt such mitigation in the Record of Decision.

ERP No. F-IBR-K28009-AZ, Tucson Aqueduct Phase B, Construction, Operation and Maintenance, Feature of Central Arizona Project, Colorado R., (404 Permit), AZ. SUMMARY: EPA requested that two air quality concerns be further discussed in the FEIS; potential increases in dust concentrations from project construction, and possible indirect air quality impacts caused by added population growth.

### Amended Notices

The following reviews commented on the week of September 9, through September 13, 1985, and reported in the September 27, 1985 FR, had lines inadvertently omitted.

ERP No. D-COE-G36030-LA, Rating EC1, Aloha—Rigolette Area Agriculture Flood Control Plan, Bayou Rigolette and Iatt Lake, LA. SUMMARY: EPA expressed environmental concerns with the proposed action as described. EPA is not opposed to the implementation of the flood damage reduction features of the preferred action; however, EPA believes the inclusion of the no development easements in the plan would significantly reduce the potential for increased flooding loss to life and human resources, substantially increase the overall environmental benefits, and clearly establish a reliable mechanism to protect and preserve the remaining bottomland hardwoods in the project area. EPA, therefore, supports Plan 19C and recommends that it be selected as the preferred action.

ERP No. DS-GSA-B11003-RI, Rating EC2, Hoskins Park, Old Wickford, Naval Gardens, and Gould Island, Disposal of Surplus Gov't Property, RI. SUMMARY: EPA requested that the Supplemental Final EIS identify the toxic and hazardous waste sites on Gould Island, address a schedule for clean up, and a commitment to conduct the approved remedial action. EPA also recommended that the negotiated sale for the Hoskins Park Housing Area include conditions such as conservation easements to protect surrounding wetlands; cite the federal, state and local laws, and ordinances in place to protect the wetlands; and, require that the Hoskins Park pumping facility be operational before occupancy of the development.

ERP No. F-FHW-E40260-KY, Great River Rd. Construction, Cairo Bridge to Reelfoot Lake, 404 Permit, KY. SUMMARY: EPA requested that additional information be presented concerning possible water quality/wetland impacts before the Federal Highway Administration completes the Record of Decision.

Dated: October 1, 1985.

Allan Hirsch,

*Director, Office of Federal Activities.*

[FR Doc. 85-23847 Filed 10-3-85; 8:45 am]

BILLING CODE 6560-50-M

## FEDERAL COMMUNICATIONS COMMISSION

**[MM Docket No. 85-287; File No. BPCT-850315 KF et al.]**

### Meycom, Inc. et al.; Hearing Designation Order

Adopted: September 17, 1985.

Released: September 27, 1985.

By the Chief, Video Services Division.

In re applications of Meycom, Inc., MM Docket No. 85-287; File No. BPCT-850315KF; Naples Broadcasting, Inc., File No. BPCT-850509KL; and Naples Television Associates Limited Partnership, File No. BPCT-850509KN for construction permit for new television station, Naples, Florida.

1. The Commission, by the Chief, Video Services Division, acting pursuant to delegated authority, has before it the above-captioned mutually exclusive applications for authority to construct a new commercial television station on Channel 46, Naples, Florida.

2. The Commission is not in receipt of a determination from the Federal Aviation Administration that the tower height and location proposed by each applicant would not constitute a hazard to air navigation. Accordingly, an issue regarding this matter will be specified.

3. Except as indicated by the issues specified below, the applicants are qualified to construct and operate as proposed. Since the applications are mutually exclusive, the Commission is unable to make the statutory finding that their grant will serve the public interest, convenience, and necessity. Therefore, the applications must be designated for hearing in a consolidated proceeding on the issues specified below.

4. Accordingly, it is ordered, That pursuant to section 309(e) of the Communications Act of 1934, as amended, the applications are designated for hearing in a consolidated proceeding, to be held before an Administrative Law Judge at a time and place to be specified in a subsequent Order, upon the following issues:

1. To determine, with respect to each of the applicants, whether there is a reasonable possibility that the tower height and location proposed by each would constitute a hazard to air navigation.

2. To determine which of the proposals would, on a comparative basis, best serve the public interest.

3. To determine, in light of the evidence adduced pursuant to the foregoing issues, which of the applications should be granted.

5. It is further ordered, That the Federal Aviation Administration is made a party respondent to this proceeding with respect to issue 1.

6. It is further ordered, That to avail themselves of the opportunity to be heard, the applicants and the party respondent herein shall, pursuant to § 1.221(c) of the Commission's Rules, in person or by attorney, within 20 days of the mailing of this Order, file with the Commission, in triplicate, a written appearance stating an intention to appear on the date fixed for the hearing and present evidence on the issues specified in this Order.

7. It is further ordered, That the applicants herein shall, pursuant to § 311(a)(2) of the Communications Act of 1934, as amended, and § 73.3594 of the Commission's rules, give notice of the hearing within the time and in the manner prescribed in such Rule, and shall advise the Commission of the publication of such notice as required by § 73.3594(g) of the Rules.

Federal Communications Commission.

**Roy J. Stewart,**

*Chief, Video Services Division, Mass Media Bureau.*

[FR Doc. 85-23739 Filed 10-3-85; 8:45 am]

BILLING CODE 6712-01-M

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**[Report No. W-1]**

### Window Notice for the Filing of FM Broadcast Applications

Released: September 27, 1985.

Notice is hereby given that application for vacant FM broadcast allotment(s) listed on the attached appendix may be submitted for filing during the period beginning October 15, 1985 and ending November 15, 1985 inclusive. Selection of a permittee from a group of acceptable applicants will be by the Comparative Hearing process.

Federal Communications Commission.

**William J. Tricarico,**

*Secretary.*

**Appendix**

*Channel—243 A*

| | |
|---|---|
| England | AR |
| Colusa | CA |
| Marseilles | IL |
| Corydon | IN |
| Breaux Bridge | LA |
| Portage | MI |
| Sparta | MO |
| Clarksdale | MS |
| West Yellowstone | MT |
| Fredonia | NY |
| Pine Ridge | SD |
| Harrogate | TN |
| Algoma | WI |
| Moundsville | WV |

[FR Doc. 85-23740 Filed 10-3-85; 8:45 am]

BILLING CODE 6712-01-M

## FEDERAL DEPOSIT INSURANCE CORPORATION

### Statement of Policy; Bank Merger Transactions

**AGENCY:** Federal Deposit Insurance Corporation ("FDIC").

**ACTION:** Notice of proposed policymaking.

**SUMMARY:** As a result of the changes in the competitive environment for financial services over the past few years, the FDIC is proposing to supplant its current policy on applications for mergers by adopting a revised statement of policy on bank merger transactions. The revised statement of policy would represent a shift in the FDIC's public posture toward competitive analysis of bank merger transactions in three primary areas:

- It would expand the "line of commerce" for which an analysis would be made;
- It would effectively deemphasize the significance of a relatively "localized" geographic market for both small and large banks; and
- It would address mergers involving relatively large banking organizations on a variety of levels (ranging from local to nationwide).

Safety and soundness considerations would be strengthened in that the statement would set forth, for the first time as a written policy, the FDIC's concern over the diminution of either capital or financial and managerial resources as a consequence of a bank merger transaction. Also, standards for voluntary merger transactions involving financially weakened institutions would be established.

**DATE:** Comments must be received by November 4, 1985.

**ADDRESS:** Comments on the revised policy statement should be sent to Hoyle L. Robinson, Executive Secretary, Federal Deposit Insurance Corporation, 550 17th Street NW., Washington, DC 20429. Comments may be hand delivered to Room 3008 on weekdays between 8:30 a.m. and 5:00 p.m. and should reference the date and page number of this issue of the **Federal Register.** All written comments will be made available for public inspection during normal business hours at the Office of the Executive Secretary.

**FOR FURTHER INFORMATION CONTACT:** Dean Forrester Cobos, Examination Specialist, Division of Bank Supervision, (202) 389-4761, or Thomas A. Schulz, Counsel, Legal Division, (202) 389-4684, Federal Deposit Insurance Corporation,

550 17th Street, NW., Washington, DC 20429.

Comment is solicited on the following proposed statement of policy.

**Bank Merger Transactions**

*A. Introduction*

It is the policy of the Federal Deposit Insurance Corporation to preserve the soundness of the banking system and promote market structures conducive to competition. Bank merger transactions may facilitate the orderly flow of investment capital and can be a valuable free market mechanism to effectively redeploy the productive resources of uncompetitive, weakened or inefficiently mangaged institutions. Thus, they may serve to strengthen the banking system, stimulate competition and provide improved service and convenience to the banking public.

*B. Statutory Authority and Requirements*

A proposed merger, consolidation, or purchase of assets and assumption of liabilities are all hereafter referred to collectively as mergers or merger transactions.

Section 18(c) of the Federal Deposit Insurance Act (12 U.S.C. 1828(c), as amended), popularly known as the Bank Merger Act, provides that, except with the prior written approval of the FDIC, no insured bank may merge with any other insured bank, if the acquiring, assuming or resulting bank is to be a nonmember bank. The section also requires such approval before any insured bank may merge with a noninsured bank or institution.

Paragraph (5)(A) of section 18(c) prohibits the FDIC from approving a transaction under the same test as would constitute a violation of section 2 of the Sherman Act (15 U.S.C. 2). Similarly, paragraph (5)(B) prohibits approval of a transaction under the same test as would constitute a violation of section 1 of the Sherman Act (15 U.S.C. 1) or section 7 of the Clayton Act (15 U.S.C. 18), unless the "anticompetitive effects . . . are clearly out-weighed in the public interest by the probable effect of the transaction in meeting the convenience and needs of the community to be served." The exception of paragraph (5)(B) applies only when the enumerated anticompetitive effects are established. In order to invoke this exception, the proponents must show (i) that the probable effect of the transaction in meeting convenience and needs is likely to benefit a broad segment of potential bank customers, and (ii) that the expected benefit cannot reasonably be achieved through other less anticompetitive means.

In addition to the competitive impact, the statute requires the FDIC to consider in every case the financial and managerial resources and future prospects of the existing and proposed institutions (referred to as "banking factors") as well as the convenience and needs of the community to be served. The FDIC, in the evaluation of proposed merger transactions, will also consider the requirements of the Community Reinvestment Act and the National Environmental Policy Act of 1969.

*C. Standards for Approval*

It is the policy of the FDIC's Board of Directors to approve all merger-type proposals involving sound banking institutions when the proposed transaction will not substantially lessen competition and will not significantly weaken the resulting institution by diluting its capital base or its financial and managerial resources.

Proposed merger transactions involving the acquisition of a financially weakened instituiton (or between financially weakened, but not insolvent institutions) which are not prohibited by the Bank Merger Act will be approved when it can be clearly demonstrated that the resulting insured institution will have sufficient financial and managerial resources to assure reasonable prospects for continued viability and satisfactory operation. The proposed acquisition of a seriously weakened institution, in which a significant lessening of competition would be likely, generally will be approved only when the adverse competitive impact would be offset or outweighed in the public interest by the probable effect of the transaction in resolving the problems of the weakened institution and in meeting the convenience and needs of the community by continuing or restoring banking service in a market. Under such circumstances, the FDIC will carefully weigh the potential disruptive impact to the banking public in the absence of such a transaction, and will consider the availability of less anticompetitive alternatives.

In no case, however, will the FDIC approve a merger proposal in which the resultant institution would not be financially sound or which would result in an institution which would be materially weaker than the existing parties to the merger.

*D. Evaluation of the Proposed Transaction*

The FDIC will analyze each proposed merger transaction, on which it must act under the provisions of the Bank Merger Act, on an individual case-by-case basis. The analysis will first consider the probable competitive impact of the proposal and, subsequently, the future prospects of the resulting institution based upon a review of the proponent's financial and managerial resources and other relevant considerations.

The competitive analysis will be conducted by the FDIC on a "tiered" approach subjecting the proposal first to a judgment based on concentration levels in selected major product lines and geographic market(s). If this review reveals little anticompetitive impact, further analysis (of the competitive factors) generally will not be conducted. If a material anticompetitive impact is disclosed in this first or subsequent levels of review, additional study of overlapping product lines, geographic market(s) served, and the significance of the transaction's overall effect will be necessary. When serious anticompetitive effects are in evidence, a thorough analysis of all material aspects of the proposal must be conduct in order to develop and properly document a basis on which the FDIC's Board of Directors may act.

In order to determine the probable competitive impact of a proposed merger, it is necessary to establish both the relevant line(s) of commerce and the relevant geographic market(s) in which the transaction's effect will be most direct and immediate. The FDIC will consider where the merging institutions typically seek customers, the nature of services likely to be provided, and where existing or potential customers of the resulting institution may reasonably be expected to find alternative sources for these products and services. Thus, the product and geographic market(s) may be local, regional or nationwide (or some combination thereof) as appropriate to the individual circumstances. For purposes of this determination, it will generally not be necessary to delineate all possible forms of financial service products, but only those individual products or services which are material to the proponent's overall business (as measured by dollar volume, earnings or commitment of resources). When deposits or deposit originations are used as one of the proxies for measuring competitive levels in a geographic market, the funds of governmental entities and insured depository institutions will not be considered by the FDIC as originating within the local market as part of the normal course of a bank's business. In addition, when deposit proxy is used to measure the level of competition in a geographic market, the FDIC will

aggregate the deposits of affiliated or commonly controlled financial institutions.

Within the delineated market(s) for the appropriate financial products or services, the FDIC will weigh the probable significance of the proposed transaction on existing competition, potential competition and the level of concentration of financial resources. The following financial service organizations will be included in the FDIC's analysis when it can be shown that they are likely to engage in significant competition with the resulting institution by price, convenience, customer service or other means for one or more of the product lines under consideration:

- All FDIC and FSLIC insured depository institutions represented by deposit taking offices in the delineated geographic market(s);
- Noninsured depository institutions, similar financial service firms and nonbank financial organizations represented by offices in the delineated geographic market(s);
- Depository institutions and nonbank financial organizations based outside of the delineated geographic market(s) when it can be demonstrated that they serve as a viable alternative source of service, originate a material volume of business and exert a measurable impact on the pricing of one or more specific financial-type services within the geographic market(s) under review.

Relatively large regional and national firms, with little or no physical presence in the local market(s), may often exert a substantial influence on local pricing decisions and competition. When appropriate, the market power and competitive influence of such firms will be taken into consideration by the FDIC in judging the potential anticompetitive impact of a proposed merger transaction.

Proposed merger transactions between relatively large regional, multistate, or multinational banking organizations, while not inherently anticompetitive, may raise substantial competitive issues and concern. The acquisition of a locally based insured depository institution can often provide the acquiring organization with a cost effective "toehold" entry into a new market and stimulate competition in otherwise stagnant local markets. Similarly, the combination of two significant firms in a localized or regional market may be approved by the FDIC if the transaction would result in improved service and a better ability by the resulting organization to withstand external market pressures. An acquisition of one of the local or regional market's largest competitors by a nonlocally based firm, however, may raise substantial competitive concerns by diminishing competitive incentives and reducing the number of potential *de novo* entrants. No proposal will be approved by the FDIC which will substantially increase the level of concentration of financial resources in any significant product, service or line of commerce in any relevant geographic market or section of the country.

*E. Procedures and Related Matters*

Insured depository institutions seeking the FDIC's approval of a merger transaction may obtain forms and instructions from the regional office (Division of Bank Supervision) in which the head office of the resulting institution will be based. Completed applications and other pertinent materials, if any, should be filed with the appropriate regional director. The application will be reviewed by the regional office for compliance with applicable laws and with the rules and regulations of the Corporation. When all necessary information has been received, the application will be processed and a decision rendered by the regional director pursuant to the delegation of authority set forth in § 303.7 of the Corporation's rules and regulations (12 CFR 303.7) or the application will be forwarded to Washington.

1. Publication of Notice

The FDIC will not take final action on a merger application until notice of the proposed transaction is published in a newspaper or newspapers of general circulation in accordance with the requirements of paragraph (3) of section 18(c) of the Federal Deposit Insurance Act. The applicant will be furnished a suggested form of notice and advised of the appropriate intervals, and the number of times, required for such publication. The applicant must furnish a certificate of publication of notice to the regional director following compliance with the publication requirement. (Refer to section 303.6 of the FDIC's rules and regulations (12 CFR 303.6).)

2. Reports on Competitive Factors

Paragraph (4) of section 18(c) of the Federal Deposit Insurance Act provides that, before acting on an application for consent to merge, the FDIC must request reports on the competitive factors involved from the Attorney General, the Comptroller of the Currency and the Board of Governors of the Federal Reserve System. These reports must ordinarily be furnished within 30 days and the applicant will, if it so requests, be given an opportunity to submit comments to the FDIC on the contents of the competitive factor reports.

3. Notification to the Attorney General

The FDIC will immediately notify the Attorney General of its approval of any merger transaction where the resulting bank is a state nonmember insured bank. Unless an emergency exists requiring expeditious action, the transaction may not be consummated until the thirtieth calendar day after the date of the FDIC's approval.

4. Insured Status of Deposit Accounts

Under section 8(q) of the Federal Deposit Insurance Act (12 U.S.C. 1818(q)), whenever the liabilities of an insured bank are assumed: (i) The insured status of the bank whose liabilities are assumed terminates upon the date of receipt by the FDIC of satisfactory evidence of the assumption; (ii) the separate insurance of all assumed deposits terminates at the end of six months from the date the assumption takes effect or, in the case of any time deposit, the earliest maturity after the six-month period.

5. Legal Fees and Expenses

The applicant should review the FDIC's Statement of Policy on Applications, Legal Fees and Other Expenses.

By Order of the Board of Directors, this 23rd day of September 1985.

Federal Deposit Insurance Corporation.

**Hoyle L. Robinson,**

*Executive Secretary.*

[FR Doc. 85-23779 Filed 10-3-85; 8:45 am]

BILLING CODE 6714-01-M

## FEDERAL MARITIME COMMISSION

### Ocean Freight Forwarder License; Revocations

Notice is hereby given that the following ocean freight forwarder licenses have been revoked by the Federal Maritime Commission pursuant to section 19 of the Shipping Act of 1984 (46 U.S.C app. 1718) and the regulations of the Commission pertaining to the licensing of ocean freight forwarders, 46 CFR Part 510.

License Number: 2537
Name: Francesco Parisi Midwest, Inc.
Address: 327 La Salle Street, Chicago, IL 60604
Date Revoked: August 26, 1985
Reason: Requested revocation voluntarily

License Number: 2554
Name: Atlantic Freight Forwarders, Inc.
Address: 9420 S.W. 68th Street, Miami, FL 33173
Date Revoked: August 28, 1985
Reason: Failed to maintain a valid surety bond

License Number: 723
Name: Harold S. Unger, Inc.
Address: 114 Liberty Street, New York, NY 10006
Date Revoked: September 5, 1985
Reason: Surrendered license voluntarily

License Number: 2591–R
Name: Simpson Export Service Co.
Address: 310 Selvidge Street, Dalton, GA 30720
Date Revoked: September 23, 1985
Reason: Surrendered license voluntarily

License Number: 2079–R
Name: D.E. Reardon Export Company, Inc.
Address: P.O. Box 424, East Boston, MA 02128
Date Revoked: September 23, 1985
Reason: Surrendered license voluntarily

**Robert G. Drew, Director,**

*Bureau of Tariffs.*

[FR Doc. 85–23770 Filed 10–3–85; 8:45 am]

BILLING CODE 6730–01–M

## FEDERAL RESERVE SYSTEM

### Central Arizona Bancorp; Application To Engage de Novo in Permissible Nonbanking Activities

The company listed in this notice has filed an application under § 225.23(a)(1) of the Board's Regulation Y (12 CFR 225.23(a)(1)) for the Board's approval under section 4(c)(8) of the Bank Holding Company Act (12 U.S.C. 1843(c)(8)) and § 225.21(a) of Regulation Y (12 CFR 225.21(a)) to commence or to engage *de novo*, either directly or through a subsidiary, in a nonbanking activity that is listed in § 225.25 of Regulation Y as closely related to banking and permissible for bank holding companies. Unless otherwise noted, such activities will be conducted throughout the United States.

The application is available for immediate inspection at the Federal Reserve Bank indicated. Once the application has been accepted for processing, it will also be available for inspection at the offices of the Board of Governors. Interested persons may express their views in writing on the question whether consummation of the proposal can "reasonably be expected to produce benefits to the public, such as greater convenience, increased competition, or gains in efficiency, that outweigh possible adverse effects, such as undue concentration of resources, decreased or unfair competition, conflicts of interests, or unsound banking practices." Any request for a hearing on this question must be accompanied by a statement of the reasons a written presentation would not suffice in lieu of a hearing, identifying specifically any questions of fact that are in dispute, summarizing the evidence that would be presented at a hearing, and indicating how the party commenting would be aggrieved by approval of the proposal.

Unless otherwise noted, comments regarding the application must be received at the Reserve Bank indicated or the offices of the Board of Governors not later than October 23, 1985.

**A. Federal Reserve Bank of San Francisco** (Harry W. Green, Vice President) 101 Market Street, San Francisco, California 94105:

1. *Cental Arizona Bancorp*, Chandler, Arizona; to engage *de novo* through its subsidiary, Central Arizona Mortgage Corporation, Chandler, Arizona, in mortgage banking and commercial finance activities relating to commercial and residential real estate pursuant to § 225.25(b)(1) (iii) and (iv) of Regulation Y.

Board of Governors of the Federal Reserve System, September 30, 1985.

**James McAfee,**

*Associate Secretary of the Board.*

[FR Doc. 85–23726 Filed 10–3–85; 8:45 am]

BILLING CODE 6210–01–M

### First Wisconsin Corp., et al.; Formations of; Acquisitions by; and Mergers of Bank Holding Companies

The companies listed in this notice have applied for the Board's approval under section 3 of the Bank Holding Company Act (12 U.S.C 1842) and § 225.14 of the Board's Regulation Y (12 CFR 225.14) to become a bank holding company or to acquire a bank or bank holding company. The factors that are considered in acting on the applications are set forth in section 3(c) of the Act (12 U.S.C. 1842(c)).

Each application is available for immediate inspection at the Federal Reserve Bank indicated. Once the application has been accepted for processing, it will also be available for inspection at the offices of the Board of Governors. Interested persons may express their views in writing to the Reserve Bank or to the offices of the Board of Governors. Any comment on an application that requests a hearing must include a statement of why a written presentation would not suffice in lieu of a hearing, identifying specifically any questions of fact that are in dispute and summarizing the evidence that would be presented at a hearing.

Unless otherwise noted, comments regarding each of these applications must be received not later than October 25, 1985.

**A. Federal Reserve Bank of Chicago** (Franklin D. Dreyer, Vice President) 230 South LaSalle Street, Chicago, Illinois 60690:

1. *First Wisconsin Corporation*, Milwaukee, Wisconsin; to acquire 100 of the successor by merger to Island City Bancorp, Inc., Minocqua, Wisconsin and thereby indirectly acquire 97.8 percent of Security State Bank of Minocqua, Minocqua, Wisconsin, and will acquire the remaining 2.2 percent of the successor by merger to Security State Bank of Minocque, Minocqua, Wisconsin.

2. *St. Joseph Bancorporation, Inc.*, South Bend, Indiana; to merge with Summcorp, Fort Wayne, Indiana, thereby indirectly acquiring Summit Bank, Fort Wayne, Indiana, and indirectly acquiring common stock and convertible subordinated debentures representing 15.51 percent of Decatur Financial, Inc., Decatur, Indiana, a bank holding company with respect to Decatur Bank and Trust Company, Decatur, Indiana.

**B. Federal Reserve Bank of San Francisco** (Harry W. Green, Vice President) 101 Market Street, San Francisco, California 94105:

1. *Mission Valley Bancorp*, Pleasanton, California; to acquire 100 percent of the voting shares of Yosemite Bank, Mariposa, California.

Board of Governors of the Federal Reserve System, September 30, 1985.

**James McAfee,**

*Associate Secretary of the Board.*

[FR Doc. 85–23727 Filed 10–3–85; 8:45 am]

BILLING CODE 6210–01–M

### Agency Forms Under Review

September 30, 1985.

#### Background

On June 15, 1985, the Office of Management and Budget (OMB) delegated to the Board of Governors of the Federal Reserve System (Board) its approval authority under the Paperwork Reduction Act of 1980, a per 5 CFR 1320.9, "to approve of and assign OMB control numbers to collection of information requests and requirements conducted or sponsored by the Board under conditions set forth in 5 CFR 1320.9." Board-approved collections of information will be incorporated into the official OMB inventory of currently

approved collections of information. A copy of the SF 83 and supporting statement and the approved collection of information instrument(s) will be placed into OMB's public docket files. The following forms, which are being handled under this delegated authority, have received initial Board approval and are hereby published for comment. At the end of the comment period, the proposed information collection, along with an analysis of comments and recommendations received, will be submitted to the Board for final approval under OMB delegated authority.

**DATE:** Comments must be received within fifteen working days of the date of publication in the Federal Register.

**ADDRESS:** Comments, which should refer to the OMB Docket number (or Agency form number in the case of a new information collection that has not yet been assigned an OMB number), should be addressed to Mr. William W. Wiles, Secretary, Board of Governors of the Federal Reserve System, 20th and C Streets, N.W., Washington, D.C. 20551, or delivered to room B-2223 between 8:45 a.m. and 5:15 p.m. Comments received may be inspected in room B-1122 between 8:45 a.m. and 5:15 p.m., except as provided in § 261.6(a) of the Board's Rules Regarding Availability of Information, 12 CFR 261.6(a).

A copy of the comments may also be submitted to the OMB desk officer for the Board: Robert Neal, Office of Information and Regulatory Affairs, Office of Management and Budget, New Executive Office Building, Room 3208, Washington, D.C. 20503.

**FOR FURTHER INFORMATION CONTACT:** A copy of the proposed form, the request for clearance (SF 83), supporting statement, instructions, and other documents that will be placed into OMB's public docket files once approved may be requested from the agency clearance officer, whose name appears below.

Federal Reserve Board Clearance Officer—Cynthia Glassman—Division of Research and Statistics, Board of Governors of the Federal Reserve System, Washington, D.C. 20551 (202-452-3822)

**Proposal To Approve Under OMB Delegated Authority the Extension Without Revision of the Following Reports**

1. Report title: Quarterly Report of Interest Rates on Selected Direct Consumer Installment Loans
Agency form number: FR 2835
OMB Docket number: 7100-0085
Frequency: Quarterly
Reporters: Commercial banks
Small businesses are not affected
General description of report: This information collection is voluntary [12 U.S.C. 248(a)(2)] and is not given confidential treatment.

This report collects interest rate information on selected consumer installment loans from a sample of member banks. Information provided by this report is needed in assessing interet rate development, and used in general financial analysis for monetary policy purposes.

2. Report title: Quarterly Gasoline Company Report
Agency form number: FR 2580
OMB Docket number: 7100-0009
Frequency: Quarterly
Reporters: Gasoline companies
Small businesses are not affected
General description of report:

This information collection is voluntary [12 U.S.C. 353 et seq., 263, and 461] and is given confidential treatment [5 U.S.C. 552(b)(4)].

This report collects the amount outstanding of retail credit card accounts as gasoline companies. These data are included in the installment credit component of total consumer credit which is used by the Federal Reserve in general financial analysis for monetary policy purposes.

Board of Governors of the Federal Reserve System, September 30, 1985.

**William Wiles,**

*Secretary of the Board.*

[FR Doc. 85-23730 Filed 10-3-85; 8:45 am]

BILLING CODE 6210-01-M

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**Amsouth Bancorporation, et al.; Applications to Engage de Novo in Permissible Nonbanking Activities**

The companies listed in this notice have filed an application under § 225.23(a)(1) of the Board's Regulation Y (12 CFR 225.23(a)(1)) for the Board's approval under section 4(c)(8) of the Bank Holding Company Act (12 U.S.C. 1843(c)(8)) and § 225.21(a) of Regulation Y (12 CFR 225.21(a)) to commence or to engage *de novo*, either directly or through a subsidiary, in a nonbanking activity that is listed in § 225.25 of Regulation Y as closely related to banking and permissible for bank holding companies. Unless otherwise noted, such activities will be conducted throughout the United States.

Each application is available for immediate inspection at the Federal Reserve Bank indicated. Once the application has been accepted for processing, it will also be available for inspection at the offices of the Board of Governors. Interested persons may express their views in writing on the question whether consummation of the proposal can "reasonably be expected to produce benefits to the public, such as greater convenience, increased competition, or gains in efficiency, that outweigh possible adverse effects, such as undue concentration of resources, decreased or unfair competition, conflicts of interests, or unsound banking practices." Any request for a hearing on this question must be accompanied by a statement of the reasons a written presentation would not suffice in lieu of a hearing, identifying specifically any questions of fact that are in dispute, summarizing the evidence that would be presented at a hearing, and indicating how the party commenting would be aggrieved by approval of the proposal.

Unless otherwise noted, comments regarding the applications must be received at the Reserve Bank indicated or the offices of the Board of Governors not later than October 24, 1985.

**A. Federal Reserve Bank of Atlanta** (Robert E. Heck, Vice President) 104 Marietta Street, N.W., Atlanta, Georgia 30303:

1. *AmSouth Bancorporation*, Birmingham; *SouthTrust Corporation*, Birmingham; *First Alabama Bancshares, Inc.*, Montgomery; *Central Bancshares of the South, Inc.*, Birmingham; *The Colonial Bancgroup, Inc.*, Montgomery; *First National Corporation of Alexander City, Inc.*, Alexander City; and *Auburn National Bancorporation*, Auburn, all located in Alabama; to engage *de novo* through their subsidiary, Alabama Network, Inc, Birmingham, Alabama, in the operation of an electronic funds transfer system for interchanging financial transactions. This activity would be conducted in the state of Alabama.

**B. Federal Reserve Bank of Dallas** (Anthony J. Montelaro, Vice President) 400 South Akard Street, Dallas, Texas 75222:

1. *First Community Bancshares, Inc.*, Houston, Texas; to engage *de novo* through its subsidiary, Central Texas Computronics, Inc., Killeen, Texas, in providing to others financially related data processing and data transmission services, facilities and data bases; or access to them. Comments on this application must be received not later than October 25, 1985.

Board of Governors of the Federal Reserve System, September 30, 1985.

**James McAfee,**

*Associate Secretary of the Board.*

[FR Doc. 85-23728 Filed 10-3-85 8:45 am]

BILLING CODE 6218-01-M

### First Fidelity Bancorp, Inc., et al.; Formations of; Acquisitions by; and Mergers of Bank Holding Companies

The companies listed in this notice have applied for the Board's approval under section 3 of the Bank Holding Company Act (12 U.S.C. 1842) and § 225.14 of the Board's Regulation Y (12 CFR 225.14) to become a bank holding company or to acquire a bank or bank holding company. The factors that are considered in acting on the applications are set forth in section 3(c) of the Act (12 U.S.C. 1842(c)).

Each application is available for immediate inspection at the Federal Reserve Bank indicated. Once the application has been accepted for processing, it will also be available for inspection at the offices of the Board of Governors. Interested persons may express their views in writing to the Reserve Bank or to the offices of the Board of Governors. Any comment on an application that requests a hearing must include a statement of why a written presentation would not suffice in lieu of a hearing, identifying specifically any questions of fact that are in dispute and summarizing the evidence that would be presented at a hearing.

Unless otherwise noted, comments regarding each of these applications must be received not later than October 25, 1985.

**A. Federal Reserve Bank of Richmond** (Lloyd W. Bostian, Jr., Vice President) 701 East Byrd Street, Richmond, Virginia 23261:

1. *First Fidelity Bancorp, Inc.*, Fairmont, West Virginia; to acquire 100 percent of the voting shares of Bridgeport Bank, Bridgeport, West Virginia.

2. *Gassaway Bancshares, Inc.*, Gassaway, West Virginia; to become a bank holding company by acquiring 100 percent of the voting shares of Bank of Gassaway, Gassaway, West Virginia.

**B. Federal Reserve Bank of Chicago** (Franklin D. Dreyer, Vice President) 230 South LaSalle Street, Chicago, Illinois 60690:

1. *Advance BanCorp, Inc.*, Chicago, Illinois; to become a bank holding company by acquiring 100 percent of the voting shares of South Chicago Savings Bank, Chicago, Illinois.

2. *Jennings Union Bancorp*, North Vernon, Indiana; to become a bank holding company by acquiring 100 percent of the voting shares of Union Bank and Trust Company, North Vernon, Indiana.

**C. Federal Reserve Bank of St. Louis** (Delmer P. Weisz, Vice President) 411 Locust Street, St. Louis, Missouri 63166:

1. *Turner Bancshares, Inc.*, Belgrade, Missouri; to become a bank holding company by acquiring 90.8 percent of the voting shares of Belgrade State Bank, Belgrade, Missouri.

**D. Federal Reserve Bank of Dallas** (Anthony J. Montelaro,Vice President) 400 South Akard Street, Dallas, Texas 75222:

1. *Alice Bancshares, Inc.*, Alice, Texas; to acquire 100 percent of the voting shares of The First State Bank, Premont, Texas. Comments on this application must be received not later than October 28, 1985.

2. *FWNB Bancshares, Inc.*, Carrollton, Texas; to acquire 100 percent of the voting shares of The First Western National Bank, Mesquite, Texas, a *de novo* bank. Comments on this application must be received not later than October 28, 1985.

3. *FWNB Bancshares, Inc.*, Carrollton, Texas; to acquire 100 percent of the voting shares of First Western National Bank of Plano, Plano, Texas, a *de novo* bank. Comments on this application must be received not later than October 28, 1985.

Board of Governors of the Federal Reserve System, September 30, 1985.

**James McAfee,**

*Associate Secretary of the Board.*

[FR Doc. 85-23729 Filed 10-3-85 8:45 am]

BILLING CODE 6210-01-M

## DEPARTMENT OF HEALTH AND HUMAN SERVICES

### Office of the Secretary

### Agency Forms Submitted to the Office of Management and Budget for Clearance

Each Friday the Department of Health and Human Services (HHS) publishes a list of information collection packages it has submitted to the Office of Management and Budget (OMB) for clearance in compliance with the Paperwork Reduction Act (44 U.S.C. Chapter 35). The following are those packages submitted to OMB since the last list was published on September 27, 1985.

**Health Care Financing Administration**

Subject: State Agency Sheets for Verifying Exclusions From the Prospective Payment System—HCFA-437—Extension (0938-0358).

Respondents: State/local governments, non-profit institutions, small businesses or organizations.

Subject: Integrated Quality Control Review Worksheet—HCFA-316—Revision (0938-0094).

Respondents: State/local governments.

Subject: Information Collection Requirements Contained in 42 CFR 442.402, 442.404, 442.406, 442.460, 442.486, 442.492, 442.500, 442.501, Conditions of Participation for ICF/MRs—HCFA-R-47—Extension (0938-0366).

Respondents: Small businesses or organizations.

Subject: Information Collection Requirements in 42 CFR 405.1315, 405.1316, 405.1317, Conditions for Participation for Laboratories—HCFA-R-42—Extension (0938-0368).

Respondents: Businesses or other for-profit institutions, small businesses or organizations.

Subject: Information Collection Requirements Contained in 42 CFR 405.1121, 405.1123, 405.1124, 405.1125, 405.1126, 405.1127, 405.1128, 405.1136 and 405.1137, Conditions of Participation for Skilled Nursing Facilities—HCFA-R-46—Extension (0938-0364).

Respondents: Businesses or other for-profit institutions, small businesses or organizations.

Subject: Annual Survey of Independent Prepaid and Self-Insured Health Plans—HCFA-1807—Extension (0938-0249).

Respondents: Non-profit institutions, small businesses or organizations.

Subject: Indirect Cost of Medical Education 42 CFR 412.118(d)—(BERC 315F)—New—HCFA-R-64.

Respondents: Businesses or other for-profit institutions.

OMB Desk Officer: Fay S. Iudicello.

**Public Health Service; Health Resources and Services Administration**

Subject: Application Scholarship Program for First Year Students of Exceptional Financial Need (EFN)—Extension (0915-0028).

Respondents: Individuals or households, non-profit institutions.

**Centers for Disease Control**

Subject: Regulation 42 CFR Part 71—Foreign Quarantine—Extension (0920-0134).

Respondents: Individuals or households, businesses or other for-profit institutions.

OMB Desk Officer: Fay S. Iudicello

**National Institutes of Health**

Subject: Manpower in the Field of Environmental Toxicology—New.

Respondents: Individuals or households, state/local governments, businesses or other for-profit institution, Federal agencies or employees, non-profit institutions, small businesses or organizations.

Subject: Cancer Research Project Registration Form—Extension (0925–0021).

Respondents: State/local government, businesses or other for-profit institutions, Federal agencies or employees, non-profit institutions, small businesses or organizations.

OMB Desk Officer: Bruce Artim

**Social Security Administration**

Subject: Report on Claims of Good Cause for Refusing to Cooperate in Establishing Paternity and Security Child Support and Case Report—SSA–4680 and SSA–4681—Extension (0960–0177).

Respondents: States.

OMB Desk Officer: Judy A. McIntosh

Copies of the above information collection clearance packages can be obtained by calling the HHS Reports Clearance Officer on 202–245–6511.

Written comments and recommendations for the proposed information collections should be sent directly to the appropriate OMB Desk Officer designated above at the following address: OMB Reports Management Branch, New Executive Office Building, Room 3208, Washington, D.C. 20503, Attn: (name of OMB Desk Officer).

Date: October 1, 1985.

**Wallace O. Keene,**

*Acting Deputy Assistant Secretary for Management Analysis and Systems.*

[FR Doc. 85–23834 Filed 10–3–85; 8:45 am]

BILLING CODE 4150–04–M

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**Food and Drug Administration**

**Advisory Committee, Notice of Meeting**

**AGENCY:** Food and Drug Administration.

**ACTION:** Notice.

**SUMMARY:** The notice announces a forthcoming meeting of a public advisory committee of the Food and Drug Administration (FDA). This notice also summarizes the procedures for the meetings and methods by which interested persons may participate in open public hearings before FDA's advisory committees.

*Meeting:* The following advisory committee meeting is announced:

**Device Good Manufacturing Practice Advisory Committee**

*Date, time, and place.* October 23 and 24, 9 a.m., Auditorium, Hubert H. Humphrey Bldg., 200 Independence Ave. SW., Washington, DC.

*Type of meeting and contact person.* Open public hearing, October 23, 9 a.m. to 12 m.; open committee discussion, 1 p.m. to 3:30 p.m.; open committee discussion, October 24, 9 a.m. to 3:30 p.m.; Ms. Sharon M. Kalokerinos, Center for Devices and Radiological Health (HFZ–332), Food and Drug Administration, 8757 Georgia Ave., Silver Spring, MD 20910, 301–427–7194.

*General function of the committee.* The committee reviews regulations and/or guidelines regarding current good manufacturing practices (GMP) governing the methods used in, and the facilities and controls used for, the manufacture, packing, storage, and installation of devices, as well as any petition submitted by a manufacturer for an exemption or variance from GMP regulations applicable to medical devices.

*Agenda—Open public hearing.* Interested persons may present data information, or views, orally or in writing, on issues pending before the committee. Those desiring to make formal presentations should notify the contact person before October 9, and submit a brief statement of the general nature of the evidence or arguments they wish to present, the names and addresses of proposed participants, and an indication of the approximate time required to make their comments.

*Open committee discussion.* The committee will discuss the draft guideline entitled "Guideline on General Principles of Process Validation," which was announced in the **Federal Register** of March 29, 1983 (48 FR 13096), and made available for public comment. An FDA speaker will discuss the comments received on the draft guideline and proposed revisions under consideration by the agency. A transcript of the discussion on this matter will become part of the administrative record (82D–0350). Other topics of discussion include the "Guideline List of Critical Devices" (see July 21, 1978; 43 FR 31511), FDA's Medical Device Reporting (MDR) and GMP complaint file requirements, and the review by an internal FDA task force of criticisms of FDA's device GMP regulations.

FDA public advisory committee meetings may have as many as four separable portions: (1) An open public hearing, (2) an open committee discussion, (3) a closed presentation of data, and (4) a closed committee deliberation. Every advisory committee meeting shall have an open public hearing portion. Whether or not it also includes any of the other three portions will depend upon the specific meeting involved. There are no closed portions for the meetings announced in this notice. The dates and times reserved for the open portions of each committee meeting are listed below.

The open public hearing portion of each meeting shall be at least 1 hour long unless public participation does not last that long. It is emphasized, however, that the 1 hour time limit for an open public hearing represents a minimum rather than a maximum time for public participation, and an open public hearing may last for whatever longer period the committee chairman determines will facilitate the committee's work.

Public hearings are subject to FDA's guidelines (Subpart C of 21 CFR Part 10) concerning the policy and procedures to expedite electronic media coverage of FDA's public administrative proceedings, including hearings before public advisory committees under 21 CFR Part 14. Under 21 CFR 10.205, representatives of the electronic media may be permitted, subject to certain limitations, to videotape, film, or otherwise record FDA's public administrative proceedings, including presentations by participants.

Meetings of advisory committees shall be conducted, insofar as is practical, in accordance with the agenda published in this **Federal Register** notice. Changes in the agenda will be announced at the beginning of the open portion of a meeting.

Any interested person who wishes to be assured of the right to make an oral presentation at the open public hearing portion of a meeting shall inform the contact person listed above, either orally or in writing, prior to the meeting. Any person attending the hearing who does not in advance of the meeting request an opportunity to speak will be allowed to make an oral presentation at the hearing's conclusion, if time permits, at the chairman's discretion.

Persons interested in specific agenda items to be discussed in open session may ascertain from the contact person the appropriate time of discussion.

A list of committee members and summary minutes of meetings may be requested from the Dockets Management Branch (HFA–305), Food and Drug Administration, Rm. 4–62, 5600 Fishers Lane, Rockville, MD 20857.

between the hours of 9 a.m. and 4 p.m., Monday through Friday.

This notice is issued under section 10(a) (1) and (2) of the Federal Advisory Committee Act (Pub. L. 92-463, 86 Stat. 770.776 (5 U.S.C. App. I)), and FDA's regulations (21 CFR Part 14) on advisory committees.

Dated: September 30, 1985.

**Adam J. Trujillo,**

*Acting Associate Commissioner for Regulatory Affairs.*

[FR Doc. 85-23701 Filed 10-3-85; 8:45 am]

BILLING CODE 4160-01-M

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[Docket No. 85D-0336]

## Expiration Dating and Stability Testing of Human Drugs; Availability of Compliance Policy Guide

**AGENCY:** Food and Drug Administration.

**ACTION:** Notice.

**SUMMARY:** The Food and Drug Administration (FDA) is announcing the availability of Compliance Policy Guide 7132a.04, which delineates those situations concerning expiration dating and stability testing of human drugs in which the agency is prepared to consider regulatory action.

**ADDRESS:** Requests for single copies of Compliance Policy Guide 7132a.04 and any comments to the Dockets Management Branch (HFA-305), Food and Drug Administration, Rm. 4-62, 5600 Fishers Lane, Rockville, MD 20857.

**FOR FURTHER INFORMATION CONTACT:** Joel S. Davis, Center for Drug and Biologics (HFN-325), Food and Drug Administration, 5600 Fishers Lane, Rockville, MD 20857, 301-443-7291.

**SUPPLEMENTARY INFORMATION:** The current good manufacturing practice (CGMP) regulations published in the **Federal Register** of June 20, 1963, under 21 CFR 133.13 required stability testing and expiration dating. The CGMP regulations published in the **Federal Register** of January 15, 1971, expanded these requirements (21 CFR 133.13 and 133.14); and revisions of the CGMP regulations published in the **Federal Register** of September 29, 1978, further expanded the requirements for stability testing and expiration dating (21 CFR 211.166 and 211.137, respectively).

Compliance Policy Guide 7132a.04 delineates those situations in which the agency is prepared to consider regulatory action as a result of a firm's failure to fulfill the requirements of 21 CFR 211.137 and 211.166.

A copy of Compliance Policy Guide 7132a.04 and copies of the **Federal Register** and Code of Federal Regulations references mentioned above have been placed on public display with the Dockets Management Branch (address above) and are available for public examination between 9 a.m. and 4 p.m., Monday through Friday. In accordance with 21 CFR 10.85(d)(3) and (i), any person may submit written comments on the guide. Requests for single copies of the filed documents and any comments on Compliance Policy Guide 7132a.04 should reference the docket number found in brackets in the heading of this document and should be submitted to the Dockets Management Branch. Two copies of any comments are to be submitted, except that individuals may submit one copy.

Although such comments will be considered if the guide is revised, the agency will not defer regulatory actions pending any such revision.

Dated: September 27, 1985.

**Adam J. Trujillo,**

*Acting Associate Commissioner for Regulatory Affairs.*

[FR Doc. 85-23702 Filed 10-3-85; 8:45 am]

BILLING CODE 4160-01-M

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## Health Care Financing Administration

## Medicaid Program; Hearing: Reconsideration of Disapproval of the Effective Date of a Pennsylvania State Plan Amendment

**AGENCY:** Health Care Financing Administration (HCFA), HHS.

**ACTION:** Notice of hearing.

**SUMMARY:** This notice announces an administrative hearing on October 22, 1985 in Philadelphia, Pennsylvania to reconsider our decision to disapprove the effective date of Pennsylvania State Plan Amendment 84-16.

Closing Date: Requests to participate in the hearing as a party must be received by the Docket Clerk October 21, 1985.

**FOR FURTHER INFORMATION CONTACT:** Docket Clerk, Hearing Staff, Bureau of Eligibility, Reimbursement and Coverage, 365 East High Rise, 6325 Security Boulevard, Baltimore, Maryland 21207, Telephone: (301) 594-8261.

**SUPPLEMENTARY INFORMATION:**

This notice announces an administrative hearing to reconsider our decision to disapprove the effective date of a Pennsylvania State Plan Amendment.

Section 1116 of the Social Security Act and 45 CFR Parts 201 and 213 establish Department procedures that provide an administrative hearing for reconsideration of a disapproval of a State plan or plan amendment. HCFA is required to publish a copy of the notice to a State Medicaid Agency that informs the agency of the time and place of the hearing and the issues to be considered. (If we subsequently notify the agency of additional issues which will be considered at the hearing, we will also publish that notice.)

Any individual or group that wants to participate in the hearing as a party must petition the Hearing Officer within 15 days after publication of this notice, in accordance with the requirements contained in 45 CFR 213.15(b)(2). Any interested person or organization that wants to participate as amicus curiae must petition the Hearing Officer before the hearing begins in accordance with the requirements contained in 45 CFR 213.15(c)(1).

If the hearing is later rescheduled, the Hearing Officer will notify all participants.

The issue in this matter is whether Pennsylvania's request to establish an effective date of July 1, 1984 for State Plan Amendment 84-16 violates Federal regulations at 42 CFR 447.253 and 42 CFR 447.205.

Pennsylvania's proposed plan makes a number of changes to the currently approved plan for payment of non-State operated intermediate care facilities for the mentally retarded. Some of the changes are: (1) The introduction of a new limit on reimbursement of allowable costs, (2) a new efficiency incentive, and (3) revisions to comply with section 2314 of Pub. L. 98-369 regarding the valuation of assets as a result of a change of ownership.

Federal regulations at 45 CFR 205.5(a) require a State plan to be amended to reflect new or revised Federal statutes or regulations or material change in any phase of State law, organization, policy, or State agency operations. However, in accordance with Federal regulations at 42 CFR 447.253(f), the Medicaid agency must comply with the public notice requirements in § 447.205 when it is proposing significant changes to its methods and standards for setting rates for long-term care services. Section 447.205(d)(1) requires that the notice be published before the proposed effective date of the change. Section 447.205 (c) and (d) set forth additional requirements regarding the content of the notice.

The plan amendment was submitted by the Commonwealth in September 1984, together with assurances and related rate information.

The Commonwealth published a public notice which met all the requirements of § 447.205 on July 28, 1984. Accordingly, HCFA has determined that the effective date for

the amendment cannot be July 1, 1984 because the requirements of regulations at 42 CFR 447.253 and 42 CFR 447.205 were not met until July 28, 1984.

Therefore, HCFA approved the plan amendment (as revised by a Commonwealth letter dated April 16, 1985 which provides necessary clarification of the payment methodology) with an effective date of July 29, 1984, the day following publication of the Commonwealth's notice.

The notice to Pennsylvania announcing an administrative hearing to reconsider our disapproval of the effective date of its State plan amendment reads as follows:

Mr. Brian T. Baxter,
*Executive Deputy Secretary, Pennsylvania Department of Public Welfare, 515 Health and Welfare Building, Harrisburg, Pennsylvania 17120*

Dear Mr. Baxter: This is to advise you that your request for reconsideration of the decision to disapprove the effective date of Pennsylvania State Plan Amendment 84–16 was received on August 12, 1985. Pennsylvania State Plan Amendment 84–16 makes a number of changes to the currently approved plan for payment of non-State operated intermediate care facilities for the mentally retarded. You have requested a reconsideration of the disapproval of the proposed effective date of the amendment.

I am scheduling a hearing on your request to be held on October 22, 1985 at 10 a.m., in Room 3020, 3535 Market Street, Philadelphia, Pennsylvania. If this date is not acceptable, we would be glad to set another date that is mutually agreeable to the parties.

I am designating Mr. Stanley Krostar as the presiding official. If these arrangements present any problems, please contact the Docket Clerk. In order to facilitate any communication which may be necessary between the parties to the hearing, please notify the Docket Clerk of the names of the individuals who will represent the State at the hearing. The Docket Clerk can be reached at (301) 594–8261.

Sincerely yours,

C. McClain Haddow,

*Acting Administrator.*

(Sec. 1116 of the Social Security Act (42 U.S.C. 1316))

(Catalog of Federal Domestic Assistance Program No. 13.714, Medicaid Assistance Program)

Dated: September 9, 1985.

**C. McClain Haddow,**

*Acting Administrator, Health Care Financing Administration.*

[FR Doc. 85–23919 Filed 10–2–85; 4:45 pm]

BILLING CODE 4120–01–M

## Office of Human Development Services

### President's Committee on Mental Retardation; Meeting

Agency holding the meeting: President's Committee on Mental Retardation.

Time and date: October 28, 1985 9:00 a.m.–5:00 p.m., October 29, 1985 9:00 a.m.–5:00 p.m.

Place: Capitol Holiday Inn, 550 C Street SW., Washington, DC 20024.

Status: Meetings are open to the public. An interpreter for the deaf will be available upon advance request. All locations are barrier free.

Matters to be considered: Reports by the Steering Committee of the President's Committee on Mental Retardation (PCMR) will be given. The PCMR plans to discuss critical issues concerning prevention, family and community services, full citizenship, public awareness and other issues relevant to the PCMR's goals.

The PCMR: (1) Acts in an advisory capacity to the President and the Secretary of the Department of Health and Human Services on matters relating to programs and services for persons who are mentally retarded; and (2) is responsible for evaluating the adequacy of current practices in programs for the retarded, and reviewing legislative proposals that affect the mentally retarded.

Contact Person for More Information: Susan Gleeson, R.N., M.S.N. 330 Independence Avenue, SW., Room 4061—North, Washington, DC 20201, (202) 245–7634.

Dated: September 30, 1985.

**Susan Gleeson,**

*Executive Director, PCMR.*

[FR Doc. 85–22807 Filed 10–3–85; 8:45 am]

BILLING CODE 4130–01–M

## National Institutes of Health

### Board of Scientific Counselors, National Library of Medicine, Meeting

Pursuant to Pub. L. 92–463, notice is hereby given of the meeting of the Board of Scientific Counselors, National Library of Medicine, November 4 and November 5, 1985, in the Board Room of the National Library of Medicine, Building 38, 8600 Rockville Pike, Bethesda, Maryland.

The meeting will be open to the public from 9:00 a.m. to 4:00 p.m. on November 4, 1985, and from 9:00 a.m. to 12:00 Noon on November 5, 1985, for the review of research and development programs of the Lister Hill National Center for Biomedical Communications. Attendance by the public will be limited to space available.

In accordance with the provisions set forth in section 552b(c)(6), Title 5, U.S.C. and section 10(d) of Pub. L. 92–463, the meeting will be closed to the public on November 4, from approximately 4:00 p.m. to 5:00 p.m. for the consideration of personnel qualifications and performance of individual investigators and similar items, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

The Executive Secretary, Mr. Earl Henderson, Acting Director, Lister Hill National Center for Biomedical Communications, National Library of Medicine, 8600 Rockville Pike, Bethesda, Maryland 20894, telephone (301) 496–4441, will furnish summaries of the meeting, rosters of committee members, and substantive program information.

Dated: September 27, 1985.

**Betty J. Beveridge,**

*NIH Committee Management Officer.*

[FR Doc. 85–23715 Filed 10–3–85; 8:45 am]

BILLING CODE 4140–01–M

### Board of Scientific Counselors; National Institute of Environmental Health Sciences; Meeting

Pursuant to Pub. L. 92–463, notice is hereby given of the meeting of the Board of Scientific Counselors, NIEHS, November 5–6, 1985, in Building 101 Conference Room, South Campus, NIEHS, Research Triangle Park, North Carolina.

This meeting will be open to the public 9 a.m. to 12 noon on November 5, for the purpose of presenting an overview of the organization and conduct of research in the Laboratory of Genetics. Attendance by the public will be limited to space available.

In accordance with the provisions set forth in section 552b(c)(6) of Title 5 U.S.C and section 10(d) of Pub. L. 92–463, the meeting will be closed to the public on November 5 from approximately 1 p.m. to adjournment on November 6, for the evaluation of the programs to the Laboratory of Genetics, including consideration of personnel qualifications and performance, the competence of individual investigators, and similar items, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

The Executive Secretary, Dr. Martin Rodbell, Scientific Director, NIEHS, Research Triangle Park, N.C. 27709, telephone (919) 541–3205, FTS 629–3205.

will furnish summaries of the meeting, rosters of committee members and substantive program information.

Dated: September 27, 1985.

**Betty J. Beveridge,**

*Committee Management Officer, NIH.*

[FR Doc. 85-23714 Filed 10-3-85; 8:45 am]

BILLING CODE 4140-01-M

## Animal Resources Review Committee, Subcommittee on Animal Resources; Meeting

Pursuant to Pub. L. 92-463, notice is hereby given of the meeting of the Subcommittee on Animal Resources, Animal Resources Review Committee, Division of Research Resources, on October 31, 1985, at 8:30 a.m., National Institutes of Health, Building 31, Conference Room 7, 9000 Rockville Pike, Bethesda, Maryland 20892.

The meeting will be open to the pubic on October 31, from 2:00 p.m. to approximately 4:00 p.m., for a brief staff presentation on the current status of the Animal Resources Program and the selection of future meeting dates. Attendance by the public will be limited to space available.

In accordance with the provisions set forth in sections 552b(c)(4) and 552b(c)(6), Title 5, U.S. Code and section 10(d) of Pub. L. 92-463, the meeting will be closed to the public on October 31 from 8:30 a.m. to approximately 2:00 p.m. for the review, discussion, and evaluation of individual grant applications submitted to the Laboratory Animal Sciences Program. These applications and the discussions could reveal confidential trade secrets or commercial property such as patentable material and personal information concerning individuals associated with the applications, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

Mr. James Augustine, Information Officer, Division of Research Resources, National Institutes of Health, Building 31, Room 5B13, Bethesda, Maryland 20892, (301) 496-5545, will provide a summary of the meeting and a roster of the committee members upon request. Dr. Carl E. Miller, Executive Secretary of the Animal Resources Review Committee, Division of Research Resources, National Institutes of Health, Building 31, Room 5B55, Bethesda, Maryland 20892, (301) 496-5175, will furnish substantive program information upon request.

(Catalog of Federal Domestic Assistance Programs No. 13.306, Laboratory Animal Sciences, National Institutes of Health)

Dated: September 24, 1985.

**Betty J. Beveridge,**

*NIH Committee Management Officer.*

[FR Doc. 85-23735 Filed 10-3-85; 8:45 am]

BILLING CODE 4140-01

## Biomedical Library Review Committee and the Subcommittee for the Review of Medical Library Resource Improvement Grant Application; Meeting

Pursuant to Pub. L. 92-463, notice is hereby given of the meeting of the Biomedical Library Review Committee on November 13-14, 1985, convening each day at 8:30 a.m. in the Board Room of the National Library of Medicine, Building 38, 8600 Rockvile Pike, Bethesda, Maryland, to adjournment on November 14, and the meeting of the Subcommittee for the Review of Medical Library Resource Improvement Grant Applications on November 12 from 2:00 p.m. to 5:00 p.m. in the 5th-Floor Conference Room of the Lister Hill Center Building.

The meeting on November 13 will be open to the public from 8:30 to 11:00 a.m. for the discussion of administrative reports and programs developments. Attendance by the public will be limited to space available.

In accordance with provisions set forth in section 552b(c)(4) and 552b(c)(6), Title 5, U.S. Code, and section 10(d) of Pub. L. 92-463, the regular meeting and the subcommittee meeting will be closed to the public for the review, discussion, and evaluation of individual grant applications as follows: The regular meeting on November 13 from 11:00 a.m. to 5:00 p.m., and on November 14, from 8:30 a.m. to adjournment; and the subcommittee meeting on November 12 from 2:00 p.m. to 5:00 p.m. These applications and the discussion could reveal confidental trade secrets or commercial property, such as patentable material, and personal information concerning individuals associated with applications, disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

Dr. Roger W. Dahlen, Executive Secretary of the Committee, and Chief, Biomedical Information Support Branch, Extarmural Programs, National Library of Medicine, 8600 Rockvile Pike, Bethesda, Maryland 20894, telephone number: 301-496-4221, will provide summaries of the meeting, rosters of the committee members, and other information pertaining to the meeting.

(Catalog of Federal Domestic Assistance Program No. 13.879—Medical Library Assistance, National Institutes of Health)

Dated: September 24, 1985.

**Betty J. Beveridge,**

*NIH Committee Management Officer.*

[FR Doc. 85-23731 Filed 10-3-85; 8:45 am]

BILLING CODE 4140-01-M

## Cancer Clinical Investigation Review Committee; Meeting

Pursuant to Pub. L. 92-463, notice is hereby given of the meeting of the Cancer Clinical Investigation Review Committee, National Cancer Institute, National Institutes of Health, October 21, 1985, Building 31C, Conference Room 10, Bethesda, Maryland 20892. This meeting will be open to the public on October 21, from 8:30 a.m. to 9:00 a.m., to review administrative details. Attendance by the public will be limited to space available.

In accordance with provision set forth in sections 552b(c)(4) and 552(c)(6), Title 5, U.S. Code and section 10(d) of Pub. L. 92-463, the meeting will be closed to the public on October 21, from approximately 9:00 a.m. until adjournment for the review, discussion and evaluation of cooperative agreement applications. These applications and the discussions could reveal confidential trade secrets or commercial property such as patentable material and personal information concerning individuals associated with the applications, disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

Mrs. Winifred Lumsden, the Committee Management Officer, National Cancer Institute, Building 31, Room 10A06, National Institutes of Health, Bethesda, Maryland 20892 (301/496-5708) will provide summaries of the meeting and rosters of committee members, upon request.

Dr. Richard Hsieh, Executive Secretary, Cancer Clinical Investigation Review Committee, National Cancer Institute, Westwood Building, Room 819, National Institutes of Health, Bethesda, Maryland 20892 (301/496-7481) will furnish substantive program information.

Dated: September 24, 1985.

**Betty J. Beveridge,**

*Committee Management Officer, NIH.*

[FR Doc. 85-23734 Filed 10-3-85; 8:45 am]

BILLING CODE 4140-01-M

## Cancer Therapeutics Program Project Review Committee; Meeting

Pursuant to Pub. L. 92-463, notice is hereby given of the meeting of the Cancer Therapeutics Program Project

Review Committee, National Cancer Institute, National Institutes of Health, December 5–6, 1985, Building 31C, Conference Room 8, Bethesda, Maryland 20892. This meeting will be open to the public on December 5, from 8:30 a.m. to 9:00 a.m., to review administrative details. Attendance by the public will be limited to space available.

In accordance with provisions set forth in sections 552b(c)(4) and 552(c)(6), Title 5, U.S. Code and section 10(d) of Pub. L. 92–463, the meeting will be closed to the public on December 5, from approximately 9:00 a.m. unitil recess, and on December 6, from 8:30 a.m. until adjournment for the review, discussion and evaluation of grant applications. These applications and the discussions could reveal confidential trade secrets or commercial property such as patentable material and personal information concerning individuals associated with the applications, disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

Mrs. Winifred Lumsden, the Committee Management Officer, National Cancer Institute, Building 31, Room 10A06, National Institutes of Health, Bethesda, Maryland 20892 (301/496–5708) will provide summaries of the meeting and rosters of committee members, upon request.

Dr. Suzanne E. Fisher, Executive Secretary, Cancer Therapeutics Program Project Review Committee, National Cancer Institute, Westwood Building, Room 806, National Institutes of Health, Bethesda, Maryland 20892 (301/496–7415) will furnish substantive program information.

Dated: September 24, 1985.

**Betty J. Beveridge,**

*Committee Management Officer, NIH.*

[FR Doc. 85–23716 Filed 10–3–85; 8:45 am]

BILLING CODE 4140–01–M

## Clinical Cancer Program Project Review Committee; Meeting

Pursuant to Pub. L. 92–463, notice is hereby given of the meeting of the Clinical Cancer Program Project Review Committee, National Cancer Institute, National Institutes of Health, November 21–22, 1985, Linden Hill Hotel, 5400 Pooks Hill Road, Bethesda, Maryland 20814. This meeting will be open to the public on November 21 from 8:30 a.m. to 10:00 a.m. for reports by the Director, Division of Extramural Activities; the Chief, Grants Review Branch, Division of Extramural Activities; the Executive Secretary and Chairman of the Committee; and to review administrative details. Attendance by the public will be limited to space available.

In accordance with provisions set forth in sections 552b(c)(4) and 552b(c)(6), Title 5, U.S. Code and section 10(d) of Pub. L. 92–463, the meeting will be closed to the public on November 21, from 10:00 a.m. to recess; and on November 22, from 8:30 a.m. to adjournment, for the review, discussion and evaluation of individual grant applications. These applications and the discussions could reveal confidential trade secrets or commercial property such as patentable material and personal information concerning individuals associated with the applications, disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

Mrs. Winifred Lumsden, the Committee Management Officer, National Cancer Institute, Building 31, Room 10A06, National Institutes of Health, Bethesda, Maryland 20892 (301/496–5708) will provide summaries of the meeting and rosters of committee members, upon request.

Mrs. Barbara S. Bynum, Acting Executive Secretary, Clinical Cancer Program Project Review Committee, National Cancer Institute, Westwood Building, Room 848, National Institutes of Health, Bethesda, Maryland 20892 (301/496–7924) will furnish substantive program information.

Dated: September 24, 1985.

**Betty J. Beveridge,**

*Committee Management Officer, NIH.*

[FR Doc. 85–23723 Filed 10–3–85; 8:45 am]

BILLING CODE 4140–01–M

## Clinical Trials Review Committee; Meeting

Pursuant to Pub. L. 92–463, notice is hereby given of the meeting of the Clinical Trials Review Committee, National Heart, Lung, and Blood Institute, December 2–4, 1985, at the Holiday Inn Crowne Plaza, 1750 Rockville Pike, Rockville, Maryland 20852.

This meeting will be open to the public on December 2, 1985, from 7:00 p.m. to approximately 7:30 p.m. to discuss administrative details and to hear a report concerning the current status of the National Heart, Lung, and Blood Institute. Attendance by the public is limited to space available.

In accordance with the provisions set forth in sections 552(c)(4) and 552(c)(6), Title 5, U.S. Code, and section 10(d) of Pub. L. 92–463, the meeting will be closed to the public on December 2, from approximately 7:30 p.m. to recess, and from 8:00 a.m. on December 3 to adjournment on December 2, for the review, discussion, and evaluation of individual grant applications. These applications and the discussions could reveal confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the applications, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy. Therefore, this meeting is concerned with matters exempt from mandatory disclosure under Sections 552(c)(4) and 552b(c)(6) of Title 5, U.S. Code.

Ms. Terry Bellicha, Chief, Public Inquiries Reports Branch, National Heart, Lung, and Blood Institute, Building 31, Room 4A–21, National Institutes of Health, Bethesda, Maryland 20892, phone (301) 496–4236, will provide a summary of the meeting and a roster of the Committee members.

Dr. Norman S. Braveman, Contracts, Clinical Trials and Training Review Section, Division of Extramural Affairs, National Heart, Lung, and Blood Institute, Westwood Building, Room 550B, Bethesda, Maryland 20892, phone (301) 496–7361, will furnish substantive program information.

(Catalog of Federal Domestic Assistance Program Nos. 13.837, Heart and Vascular Diseases Research, National Institutes of Health)

Dated: September 24, 1985.

**Betty J. Beveridge,**

*NIH Committee Management Officer.*

[FR Doc. 85–23722 Filed 10–3–85; 8:45 am]

BILLING CODE 4140–01–M

## Geriatrics Review Committee; Meeting

Pursuant to Pub. L. 92–463, notice is hereby given of the meeting of the Geriatrics Review Committee, National Institute on Aging, on November 13, 14, and 15, 1985, in Building 31, Conference Room 9, National Institutes of Health, Bethesda, Maryland.

The meeting will be open to the public from 8:30 a.m. to 9:00 a.m. on November 13 for introductory remarks. Attendance by the public will be limited to space available.

In accordance with the provisions set forth in sections 552b(c)(4) and 552b(c)(6), Title 5, U.S. Code and section 10(d) of Pub. L. 92–463, the meeting will be closed to the public on November 13 from 9:00 a.m. to adjournment on November 15 for the review, discussion, and evaluation of individual grant applications. These applications and the discussions could reveal confidential

trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the applications, disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

Ms. June C. McCann, Committee Management Officer, NIA, Building 31, Room 2C05, National Institutes of Health, Bethesda, Maryland, Area Code 301, 496–5898, will provide summaries of meetings and rosters of Committee members as well as substantive program information.

(Catalog of Federal Domestic Assistance Program No. 13.866, Aging Research, National Institutes of Health)

Dated: September 24, 1985.

**Betty J. Beveridge,**

*NIH Committee Management Officer.*

[FR Doc. 85–23725 Filed 10–3–85; 8:45 am]

BILLING CODE 4140–01–M

## Heart, Lung, and Blood Research Review Committee A; Meeting

Pursuant to Pub. L. 92–463, notice is hereby given of the meeting of the Heart, Lung, and Blood Research Review Committee A, National Heart, Lung, and Blood Institute, National Institutes of Health, on December 5–6, 1985, in Building 31, Conference Room 7, 9000 Rockville Pike, Bethesda, Maryland 20892.

This meeting will be open to the public on December 5, 1985 from 8:30 AM to approximately 9:30 AM to discuss administrative details and to hear reports concerning the current status of the National Heart, Lung, and Blood Institute. Attendance by the public will be limited to space available.

In accordance with the provisions set forth in sections 552b(c)(4) and 552b(c)(6), Title 5, U.S. Code, and section 10(d) of Pub. L. 92–463, the meeting will be closed to the public on December 5, from approximately 9:30 AM until recess, and from 8:30 AM to adjournment on December 6, for the review, discussion, and evaluation of individual grant applications. These applications and the discussion could reveal confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the applications, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

Ms. Terry Bellicha, Chief, Public Inquiry Reports Branch, National Heart, Lung, and Blood Institute, Building 31, Room 4A21, National Institutes of Health, Bethesda, Maryland 20892, (301) 496–4236, will provide a summary of the meeting and a roster of the committee members.

Dr. Peter M. Spooner, Executive Secretary, Heart, Lung, and Blood Research Review Committee A, Westwood Building, Room 554, National Institutes of Health, Bethesda, Maryland 20892, phone (301) 496–7265, will furnish substantive program information.

(Catalog of Federal Domestic Assistance Program Nos. 13.837, Heart and Vascular Diseases Research; 13.838, Lung Diseases Research; National Institutes of Health)

Dated: September 24, 1985.

**Betty J. Beveridge,**

*NIH Committee Management Officer.*

[FR Doc. 85–23717 Filed 10–3–85; 8:45 am]

BILLING CODE 4140–01–M

## Heart, Lung, and Blood Research Review Committee B; Meeting

Pursuant to Pub. L. 92–463, notice is hereby given of the meeting of the Heart, Lung, and Blood Research Review Committee B, National Heart, Lung, and Blood Institute, National Institutes of Health, 9000 Rockville Pike, Bethesda, Maryland 20892, on December 5, 1985, in Building 31, Conference Room 9.

This meeting will be open to the public on December 5, 1985, from 8:30 AM to approximately 10:00 AM to discuss administrative details and to hear reports concerning the current status of the National Heart, Lung, and Blood Institute. Attendance by the public will be limited to space available.

In accordance with the provisions set forth in sections 552b(c)(4) and 552b(c)(6), Title 5, U.S. Code, and section 10(d) Pub. L. 92–463, the meeting will be closed to the public on December 5, 1985, from approximately 10:00 AM to adjournment for the review, discussion, and evaluation of individual grant applications. These applications and discussions could reveal confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the applications, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

Ms. Terry Bellicha, Chief, Public Inquiry Reports Branch, National Heart, Lung, and Blood Institute, Building 31, Room 4A21, National Institutes of Health, Bethesda, Maryland 20892, (301) 496–4236, will provide a summary of the meeting and a roster of the committee members.

Dr. Louis M. Ouellette, Executive Secretary, NHLBI, Westwood Building, Room 554, National Institutes of Health, Bethesda, Maryland 20892, phone (301) 496–7915, will furnish substantive program information.

(Catalog of Federal Domestic Assistance Program No. 13.837, Heart and Vascular Diseases Research; and 13.839, Blood Diseases and Resources Research, National Institutes of Health)

Dated: September 24, 1985.

**Betty J. Beveridge,**

*NIH Committee Management Officer.*

[FR Doc. 85–23721 Filed 10–3–85; 8:45 am]

BILLING CODE 4140–01–M

## Interagency Technical Committee; Meeting

Notice is hereby given of the meeting of the Interagency Technical Committee (IATC) of Heart, Blood, Vessel, Lung, and Blood Diseases and Blood Resources sponsored by the National Heart, Lung, and Blood Institute, on November 6, 1985, from 9 a.m. to 12:00 noon, National Institutes of Health, Building 31, C Wing, Conference Room 7, 9000 Rockville Pike, Bethesda, Maryland 20852.

The entire meeting is open to the public. This is the regular meeting of the Interagency Technical Committee to examine and coordinate Federal research activities that concern heart, blood vessel, lung, and blood diseases and blood resources attendance by the public will be limited by space available.

For further program information and an agenda and minutes of the meeting, contact: Ms. Joan Long, Office of Program Planning and Evaluation, National Heart, Lung, and Blood Institute, Building 31, Room 5A03, NIH, 9000 Rockville Pike, Bethesda, Maryland 20852, (301) 496–5031.

Dated: September 24, 1985.

**Betty J. Beveridge,**

*Committee Management Officer, NIH.*

[FR Doc. 85–23736 Filed 10–3–85; 8:45 am]

BILLING CODE 4140–01–M

## National Institute of Child Health and Human Development; Meetings

Pursuant to Pub. L. 92–463, notice is hereby given of meetings of the review committees of the National Institute of Child Health and Human Development for November 1985.

These meetings will be open to the public to discuss items relative to committee activities including annoucements by the Director, Scientific Review Program, and executive secretaries, for approximately one hour at the beginning of the first session of the first day of the meeting. Attendance

by the public will be limited to space available.

In accordance with the provisions set forth in sections 552 (c)(4) and 552 (c)(6) Title 5, U.S. Code and section 10(d) of Pub. L. 92–463, these meetings will be closed to the public for the review, discussion, and evaluation of individual grant applications. These applications and the discussions could reveal confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the applications, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

Mrs. Marjorie Neff, Committee Management Officer, NICHD, Landow Building, Room 6C08, National Institutes of Health, Bethesda, Maryland, Area Code 301, 496–1485, will provide a summary of the meeting and a roster of committee members.

Substantive program information may be obtained from each executive secretary whose name, room number, and telephone number are listed below each committee.

Name of committee: Population Research Committee.

Executive secretary: Dr. Dinesh Sharma, Room 6C03, Landow Building, Telephone: 301, 496–1696.

Date of meeting: November 7, 1985.

Place of meeting: Landow Building, Conference Room A.

Open: November 7, 1985, 9:00 a.m.–10:00 a.m.

Closed: November 7, 1985, 10:00 a.m.–adjournment.

Name of committee: Maternal and Child Health Research Committee.

Executive secretary: Dr. Jane Showacre, Room 6C03, Landow Building, Telephone: 301, 496–1696.

Date of meeting: November 12–13, 1985.

Place or meeting: Landow Building, Conference Room A.

Open: November 12, 1985, 9:00 a.m.–10:00 a.m.

Closed:
November 12, 1985, 10:00 a.m.–5:00 p.m.
November 13, 1985, 9:00 a.m.–adjournment.

Name of committee: Mental Retardation Research Committee.

Executive secretary: Dr. Standley Slater, Room 6C03, Landow Building, Telephone: 301, 496–1696.

Date of meeting: November 14, 1985.

Place of meeting: Landow Building, Conference Room A.

Open: November 14, 1985, 9:00 a.m.–10:00 a.m.

Closed: November 14, 1985, 10:00 a.m.–adjournment.

(Catalog of Federal Domestic Assistance Program No. 13.864, Population Research and No. 13.865, Research for Mothers and Children, National Institutes of Health)

Dated: September 24, 1985.

Betty J. Beveridge,

*Committee Management Officer, NIH.*

[FR Doc. 85–23732 Filed 10–3–85; 8:45 am]

BILLING CODE 4140–01–M

## National Institute of Dental Research Special Grants Review Committee; Meeting

Pursuant to Pub. L. 92–436, notice is hereby given of the meeting of the National Institute of Dental Research Special Grants Review Committee, November 20–21, 1985, in Conference Room 7, Building 31, National Institutes of Health, Bethesda, Maryland. The meeting will be open to the public from 9:00 a.m to 9:30 a.m. November 20 for general discussions. Attendance by the public is limited to space available.

In accordance with provisions set forth in sections 552b(c)(4) and 552b(c)(6), Title 5, U.S. Code and section 10(d) of Pub. L. 92–463, the meeting will be closed to the public from 9:30 a.m. November 20 to adjournment November 21 for the review, discussion and evaluation of individual grant applications. These applications and the discussions could reveal confidential trade secrets or commercial property such as patentable material, and personal information concening individuals associated with the applications, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

Dr. H. George Hausch, Executive Secretary, NIDR Special Grants Review Committee, NIH, Westwood Building, Room 507, Bethesda, MD 20892, (telephone 301/496–7658) will provide a summary of the meeting, roster of committee members and substantive program information upon request.

(Catalog of Federal Domestic Assistance Program Nos. 13.121-Diseases of the Teeth and Supporting Tissues; Caries and Restorative Materials; Periodontal and Soft Tissue Diseases; 13–122–Disorders of Structure, Function, and Behavior; Craniofacial Anomalies, Pain Control, and Behavioral Studies; 13–845-Dental Research Institutes; National Institutes of Health)

Dated: September 24, 1985.

Betty J. Beveridge,

*NIH Committee Management Officer.*

[FR Doc. 85–23724 Filed 10–3–85; 8:45 am]

BILLING CODE 4140–01–M

## National Institute of General Medical Sciences; Meetings

Pursuant to Pub. L. 92–463, notice is hereby given of the meetings of the committees of the National Institute of General Medical Sciences for November 1985.

These meetings will be open to the public to discuss administrative details relating to committee business for approximately two hours at the beginning of the first session of the first day of the meeting. Attendance by the public will be limited to space available. These meetings will be closed thereafter in accordance with provisions set forth in section 552b(c)(4) and 552b(c)(6), Title 5, U.S. Code and section 10(d) of Pub. L. 92–463, for the review, discussion, and evaluation of individual research training grant and research center grant applications. These applications and the discussions could reveal confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the applications, the disclosure of which would constitute a clearly unwarrantied invasion of personal privacy.

Mrs. Ann Dieffenbach, Public Information Officer, National Institute of General Medical Sciences, National Institutes of Health, Building 31, Room 4A52, Bethesda, Maryland 20892 (Telephone: 301–496–7301), will provide a summary of the meeting and a roster of committee members.

Substantive program information may be obtained from each executive secretary whose name, room number, and telephone number are listed below each committee.

Name of committee: Cellular and Molecular Basis of Disease Review Committee.

Executive secretary: Dr. Helen Sunshine, Room 950 Westwood Building, Telephone: 301–496–7125.

Date of meeting: November 4, 1985.

Place of Meeting: Building 31C, Conference Room 7, National Institutes of Health, Bethesda, Maryland.

Open: November 4, 1985, 8:30 a.m.–10:30 a.m.

Closed: November 4, 1985, 10:30 a.m.–adjournment.

Name of committee: Minority Access to Research Careers Review Committee.

Acting executive secretaries:
Dr. Anthony Rene, Room 949 Westwood Building, Telephone: 301–496–7585; and
Dr. Helen Sunshine, Room 950 Westwood Building, Telephone: 301–496–7125

Date of Meeting: November 6, 1985.

Place of meeting: Building 31C, Conference Room 8, National Institutes of Health, Bethesda, Maryland.

Open: November 6, 1985, 8:30 a.m.–10:30 a.m.

Closed: November 6, 1985, 10:30 a.m.–adjournment.

Name of Committee: Genetic Basis of Disease Review Committee.

Executive secretary: Ms. Linda Engel, Room 950 Westwood Building, Telephone: 301–496–7125.

Date of meeting: November 15, 1985.

Place of meeting: Building 31C, Conference Room 6, National Institutes of Health, Bethesda, Maryland.

Open: November 15, 1985, 8:30 a.m.–10:30 a.m

Closed: November 15, 1985, 10:30 a.m.–adjournment.

(Catalog of Federal Domestic Assistance Program No. 13–863, 13–862, 13–880, National Institute of General Medical Sciences, National Institutes of Health)

Dated: September 24, 1985.

**Betty J. Beveridge,**

*Committee Management Officer, NIH.*

[FR Doc. 85–23733 Filed 10–3–85; 8:45 am]

BILLING CODE 4140–01–M

## DEPARTMENT OF THE INTERIOR

### Bureau of Land Management

[INT DES 85–43]

### Colorado; Federal Prototype Oil Shale Lease Tract C–a Offtract Lease

**AGENCY:** Bureau of Land Management (BLM), Interior.

**ACTION:** Notice of Availability of the Draft Environmental Impact Statement (DEIS).

**SUMMARY:** Pursuant to section 102(2)(C) of the National Environmental Policy Act of 1969, the BLM has prepared a DEIS for the proposed Federal Prototype Oil Shale Tract C-a Offtract Lease.

**DATE:** Comments will be accepted through December 9, 1985.

**ADDRESS:** Comments and/or questions should be sent to: C–a EIS Project Coordinator, Bureau of Land Management, PO Box 928, Meeker, Colorado 81641, (303) 878–3601.

**SUPPLEMENTARY INFORMATION:** The BLM prepared a DEIS on the proposed offtract lease for Federal Prototype Oil Shale Lease Tract C–a in northwest Colorado. The project proponent, Rio Blanco Oil Shale Company, has submitted a proposal to lease approximately 6,400 acres of federal land adjacent to the existing Federal Prototype Oil Shale Lease Tract C–a. The "offtract" lease would be for the purpose of disposal of overburden and retorted shale plus necessary retorting plants and support facilities. Other sites were selected as alternatives to the proposed disposal location. The DEIS analyzes the potential impacts of the proposed action and alternatives.

#### Availability

Single copies of the DEIS may be obtained at the above address. Public reading copies are also available at the following locations:

Bureau of Land Management, Colorado State Offce, 2020 Arapahoe Street, Denver, CO 80205

Craig-Moffat County Library, 651 Green Street, Craig, CO 81625

Bureau of Land Management, Craig District Office, 455 Emerson Street, Craig, CO 81625

Colorado State University, University Library, Fort Collins, CO 80523

Denver Public Library, Govt. Publications Dept., 1357 Broadway, Denver, CO 80203

Mesa County Public Library, 530 Grand Ave., Grand Junction, CO 81501

Uintah County Library, 155 East Main, Vernal, UT 84078

Fort Lewis College Library, College Heights, Durango, CO 81301

Public meetings to receive oral and/or written comments on the proposed project will be held at 7:00 p.m. at the following locations:

November 5, 1985, Bureau of Land Management, White River Resource Area, 73544 Highway 64, Meeker, Colorado

November 7, 1985, Holiday Inn West, 14707 W. Highway 40, Golden, Colorado

Oral comments will be limited to 10 minutes and should be accompanied with a written synopsis of the comments.

Dated: September 23, 1985.

**Bob Moore,**

*Associate State Director.*

[FR Doc. 85–23199 Filed 10–3–85; 8:45 am]

BILLING CODE 4310–JB–M

[N–12906]

### Nevada; Designation of Public Lands as Area of Environmental Concern; Correction

In Federal Register Document 83–33352 issued on Thursday December 15, 1983, third column, line 32 under T. 39 N., R. 42 E., should read section 31, SE¼SW¼SE¼.

Dated: September 27, 1985.

**Frank C. Shields,**

*District Manager.*

[FR Doc. 85–23751 Filed 10–3–85; 8:45 am]

BILLING CODE 4310–HC–M

### Environmental Assessment; Availability; Desolation Canyon Wilderness Study Area, UT

September 27, 1985.

**AGENCY:** Bureau of Land Management; Interior.

**ACTION:** Notice of proposal to Construct Riparian Habitat Exclosure within the Desolation Canyon Wilderness Study Area (UT–060–068A).

**SUMMARY:** The Moab District of the Bureau of Land Management, proposes to construct approximately one mile of barbwire fence within the Desolation Canyon Wilderness Study Area (UT–060–068A). The fence will be parallel to the Range Creek road between private land on the north and the confluence with Turtle Canyon on the south. The land is specifically described as T. 17 S., R. 16 E., section 22, W½SW¼, Salt Lake Baseline and Meridian. The purpose of the fence is to protect the riparian area from livestock and vehicles. The exclosure will be used as a study site to determine the present impacts on the riparian habitat, evaluate potential for riparian rehabilitation on the remainder of Range Creek and determine the potential for establishment of a cold water fishery. In addition to the fence, instream structures such as gabions and bank deflectors/protectors may be installed to stabilize banks, improve pool/riffle ratios and slow velocity of the stream.

A draft environmental assessment (EA) is available for public review and comment. Persons wanting to offer comments or receive copies of the EA should contact: Price River Resource Area Manager, Bureau of Land Management, P.O. Drawer AB, Price, UT 84501. Comments on the proposal and EA will be accepted for 30 days following publication of this notice.

Dated: September 27, 1985.

**Kenneth V. Rhea,**

*Acting District Manager.*

[FR Doc. 85–23741 Filed 10–3–85; 8:45 am]

BILLING CODE 4310–DQ–M

### Environmental Assessment; Availability: Mexican Mountain, Muddy Creek Wilderness Study Areas, Utah

September 27, 1985.

**AGENCY:** Bureau of Land Management; Interior.

**ACTION:** Notice of Proposal to Transplant Desert Bighorn Sheep into the Mexican Mountain and Muddy Creek Wilderness Study Areas.

**SUMMARY:** The Bureau of Land Management (BLM), Moab District in Utah is considering a recent proposal by the Utah Division of Wildlife Resources (UDWAR) to make supplemental release of desert bighorn sheep into the Mexican Mountain and Muddy Creek wilderness Study Areas. Desert bighorn

sheep populations which were native to these areas were extirpated in the early 1900's as a result of human and environmental pressures.

The current proposal is a continuation of a program initiated in 1978 between the BLM and the UDWR to reintroduce and manage for stable populations of desert bighorn sheep in historic ranges in southeastern Utah.

Ten to 15 sheep are proposed for release in Spring Canyon within the Mexican Mountain Wilderness Study Area, UT-060-054 (Township 20 South, Range 13 East, section 34, SLB&M) and 15 to 20 sheep along the Muddy Creek Wilderness Study Area, UT-060-007. (Township 24 South, Range 8 East, section 27, SLB&M) The releases would be accomplished in January 1986 and would supplement existing small isolated sheep populations introduced into adjacent habitat areas over the past 8 years. If the proposal is approved, desert bighorn sheep will be trapped from BLM and/or National Park Service lands near Moab and transported via helicopter to the prospective release sites.

An environmental assessment written on the proposal is available for review and comment from the Price Office of the Bureau of Land Management, P.O. Drawer AB, Price, UT 84501. Comments will be accepted for 30 days following publication of this notice.

Dated: September 27, 1985.

**Kenneth V. Rhea,**

*Acting District Manager.*

[FR Doc. 85-23742 Filed 10-3-85; 8:45 am]

BILLING CODE 4310-DQ-M

## Colorado; Filing of Plats of Survey

September 26, 1985.

The plats of survey of the following described land, will be officially filed in the Colorado State Office, Bureau of Land Management, Denver, Colorado, effective 10:00 a.m., September 26, 1985.

The plat representing the dependent resurvey of a portion of the First Standard Parallel South (south boundary), a portion of the east boundary, and subdivisional lines, and the survey of the subdivision of sections 25 and 36, T. 5 S., R. 90 W., Sixth Principal Meridian, Colorado, Group No. 746, was accepted September 11, 1985.

The plat prepared to show an amended lot, created by the survey of Tract 37 in T. 3 N., R. 78 W., Sixth Principal Meridian, Colorado, was accepted September 11, 1985.

The survey was executed and the Supplement Plat prepared to meet certain administrative needs of this Bureau.

All inquiries about this land should be sent to the Colorado State Office, Bureau of Land Management, 2020 Arapahoe Street, Denver, Colorado 80205.

**Kenneth D. Witt,**

*Chief Cadastral Surveyor for Colorado.*

[FR Doc. 85-23747 Filed 10-3-85; 8:45 am]

BILLING CODE 4310-84-M

[N-41352]

## Realty Action; Modified Competitive Sale; Public Lands in Washoe County, NV

The following land has been examined and identified as suitable for disposal by modified-competitive bidding sale under section 203 of the Federal Land Policy and Management Act of 1976 (90 Stat. 2750; 43 U.S.C. 1713) at not less than fair market value:

**Mount Diablo Base and Meridian**

T. 30 N., R. 22 E.,
Sec. 25, E½NW¼.

The above described public lands comprise 80 acres, more or less.

The sale is consistent with the Bureau's planning system. The land is not needed for any resource program and is not suitable for management by the Bureau or another Federal department or agency. The land will not be offered for sale for at least 60 days after the date of this notice.

The patent, when issued, will contain the following reservations to the United States:

1. A right-of-way thereon for ditches and canals constructed by the authority of the United States, Act of August 30, 1890, 26 Stat. 391; 43 U.S.C. 945.

2. Geothermal and sodium/potassium resources shall be reserved to the United States, together with the right to prospect for, mine and remove these minerals. A more detailed description of this reservation, which will be incorporated in the patent document, is available for review of this BLM office.

Additional conditions of the sale will be:

1. The successful bidder agrees that he or she takes the real estate subject to the existing grazing preference of Mr. W.B. Ceresola, holder of grazing authorization number 2011. The preference of Mr. Ceresola, to graze domestic livestock on the real estate according to the conditions and terms of grazing authorization number 2011, shall cease on September 16, 1987. The successful bidder is entitled to receive annual grazing fees from Mr. Ceresola, in an amount not to exceed that which would be authorized under the federal grazing fee pubished annually in the **Federal Register**.

2. The lands will be sold without any guarantees for access or water rights.

The sale will be subject to the following right-of-way of record:

N-38129, granted to Empire Farms for a water diversion structure.

**Bid Information**

No bids will be accepted for less than the appraised fair market value of the property. The property has been appraised at $145 per acre, for a total of $11,600. Federal law requires that bidders be U.S. citizens or in the case of a corporation, subject to the laws of any state of the United States, proof of citizenship shall accompany the bid.

Sealed bids may be made by a principal or a duly qualified agent.

Sealed bids shall be considered only if received at the Winnemucca District Office, Bureau of Land Management, 705 East 4th Street, Winnemucca, Nevada 89445 prior to 11:00 AM, December 18, 1985. Each bid shall be accompanied by a certified check, postal money order or cashiers check made payable to the Bureau of Land Management for not less than one-fifth (⅕) of the amount bid, and shall be enclosed in a sealed envelope which shall be marked *BLM Land Sale, N-41352.* The remainder of the full bid price shall be paid within 60 days of the sale. Failure to pay the full price within 60 days shall disqualify the apparent high bidder and the deposit shall be forfeited and disposed of as other receipts of the sale.

As adjoining landowner, Mr. Michael B. Stewart of Empire Farms will be given a perference right to purchase the property by meeting the high bid within 30 days of the subject sale. Failure to exercise this option shall constitute a waiver of such bidding provision.

All bids will be either returned, accepted, or rejected within 30 days of the sale date.

BLM may accept or reject any and all offers, or withdraw any land or interest in land from sale if, in the opinion of the authorized officer, consummation of the sale would not be fully consistent with FLPMA or other applicable laws.

**General Information**

Publication of this notice in the **Federal Register** segregates the public lands from the operation of the public land laws and the mining laws. The segregative effect will end upon issuance of a patent or 270 days from the date of the publication, whichever occurs first.

Conveyance of the available mineral interest will occur simultaneously with the sale of the lands. Acceptance of a bid offer will constitute an application

for conveyance of those mineral interests.

For a period of 45 days from the date of publication of this notice in the Federal Register, interested parties may submit comments to the District Manager, Bureau of Land Management, 705 E. 4th Street, Winnemucca, Nevada 89445. Objections will be reviewed by the State Director who may sustain, vacate, or modify this realty action. In the absence of any objections, this realty action will become the final determination of the Department of the Interior.

Dated: September 23, 1985.

**Frank C. Shields,**

*District Manager.*

[FR Doc. 85-23744 Filed 10-3-85; 8:45 am]

BILLING CODE 4310-HC-M

## Filing of Plats of Survey; Oregon/Washington

**AGENCY:** Bureau of Land Management, Interior.

**ACTION:** Notice.

**SUMMARY:** The plats of survey of the following described lands have been officially filed in the Oregon State Office, Portland, Oregon on the dates hereinafter stated:

**Willamette Meridian**

Or T. 10. S., R. 39 E.

Officially filed, August 23, 1985.

OR T. 11 S., R. 9 W.,
OR T. 11 S., R. 10 W.

Officially filed, September 3, 1985.

WA T. 10 N., R. 14 E., (2 sheets)
WA T. 11 N., R. 14 E.,
WA T. 11 N., R. 15 E.

Officially filed, September 16, 1985.

WA T. 27 N., R. 16 E.

Officially filed, September 20, 1985.

All of the above-listed plats represent dependent resurveys, subdivisions, supplemental plats, and a corrective dependent resurvey.

**FOR FURTHER INFORMATION CONTACT:** Bureau of Land Management, 825 N. E. Multnomah Street, P.O. Box 2965, Portland, Oregon 97208.

Dated: September 26, 1985.

**Leland D. Morrison,**

*Acting Chief, Branch of Lands and Minerals Operations.*

[FR Doc. 85-23709 Filed 10-3-85; 8:45 am]

BILLING CODE 4310-33-M

[OR39231, et al.]

## Realty Action; Direct Sale of Public Land in Chelan County, WA; Competitive Sale of Public Land in Benton County, WA

The following lands are suitable for sale under section 203 of the Federal Land Policy and Management Act of 1976, 43 U.S.C. 1713, at no less than the appraised fair market value:

| Serial No. and Parcel No. | Legal description | Acreage | Value | Minimum bid deposit (percent) | Bidding procedure |
|---|---|---|---|---|---|
| OR 39231 (7) | T. 9 N., R. 27 E., sec. 8, lot 1 | 22.76 | $8,100 | 30 | Competitive. |
| OR 39232 (8) | T. 9 N., R. 28 E., sec. 18, NW¼SW¼ (lot 3). | 38.81 | $35,000 | 20 | Competitive. |
| OR 39233 (9) | T. 26 N., R. 20 E., sec. 20, lot 8 | 2.0 | $1,500 | 30 | Direct. |

The sale will be held on December 18, 1985, at the Bureau of Land Management's Spokane District Office, E. 4217 Main Avenue, Spokane, Wash. 99202. The two competitive sale parcels are isolated and are difficult and uneconomic to manage. The direct sale parcel is the subject of an unintentional unauthorized use. These public lands are not suitable for management by another Federal agency and no significant resource values will be affected by this disposal. The sales are consistent with BLM's planning for the land involved and the public interest will be served by offering this land for sale.

Additional data on the land offered for sale is available upon request from the District Manager at the above address.

The above described lands are hereby segregated from appropriation under the public land laws, including the mining laws but not from sale under the above cited statute.

### Bidder Qualifications

Bidders must be U.S. citizens, 18 years of age or more; a state or state instrumentality authorized to hold property; or a corporation authorized to own real estate in the state in which the land is located.

### Competitive Bidding Procedures

Parcels No. 7 and 8 will be offered using competitive bidding procedures. Sealed written bids, delivered or mailed, must be received by the Bureau of Land Management at the aforementioned address prior to 10:00 a.m., Wednesday, December 18, 1985.

A (separate) written bid must be submitted for each parcel desired. Each written sealed bid must be accompanied by a certified check, postal money order, bank draft or cashier's check, made payable to the Department of the Interior-BLM for at least the percent indicated in the above listing and shall be enclosed in a sealed envelope clearly marked, in the lower left hand corner, "Bid for Public Land Sale OR39231 (or OR39232), Sale Parcel Number 7 (or 8), Benton County, Washington, December 18, 1985". The written sealed bids will be opened and publicly declared at the sale. If two or more envelopes containing valid high bids of the same amount are received, the designated tied high bidders will be notified through certified mail to submit supplemental sealed bids within 30 days. The balance of the purchase price must be paid within 180 days or the deposit will be forfeited and the parcel will be reoffered to the public until sold or withdrawn from the market.

### Direct Sale Procedures

Direct Sale procedures will be used in offering parcel No. 9 in order to resolve a longstanding title and survey problem of an adjacent landowner.

The parcel identified by Serial No. OR 39233 is being offered to Dean M., and Izetta R. Fisher using direct sale procedures authorized under 43 CFR 2711.3-3. The land will be sold at fair market value without competitive bidding.

The prospective purchaser is required to render a minimum deposit of 30 percent of the purchase price no later than 30 days after the sale date of December 18, 1985, and the balance within 180 days of the sale date. If the deposit is not submitted or the full purchase price not rendered within 180 days of the sale date, the preference right is cancelled, the deposit will be forfeited, and the parcel will be sold through competitive bidding procedures.

**Terms and Conditions of the Sale**

The terms, conditions, and reservations applicable to the sale are as follows:

1. All minerals in the lands will be reserved to the United States in accordance with section 209 of the Federal Land Policy and Management Act of 1976.

2. The rights of prior permittees or lessees to use so much of the surface of parcel 7 as is required for oil and gas operations, without compensation to the patentee for damages resulting from proper oil and gas operations for the duration of oil and gas lease OR 23592 and any authorized extension of that lease (Section 29 of the act of February 25, 1920, 41 Stat. 449, 30 U.S.C. 186 and the Act of March 4, 1933, 47 Stat. 1570, 30 U.S.C. 124).

3. Rights-of-way for ditches and canals will be reserved to the United States under 43 U.S.C. 945.

4. Patents will be issued subject to all valid existing rights and reservations of records.

5. The BLM may accept or reject any and all offers, or withdraw any land or interest in land from sale if, in the opinion of the authorized officer, consummation of the sale would not be fully consistent with the Federal Land Policy and Management Act or other applicable laws.

6. The sale parcels will be subject to:

a. Such rights-of-way for public road purposes as Benton and Chelan County, Wash. or their successor in interest may have across parcels 7 and 9, respectively, pursuant to R.S 2477 (43 U.S.C. 932).

b. The highway right-of-way for U.S. Route 12 (W04267) across parcel 8.

**Unsold Parcels**

If any of the parcels identified in this Notice are not sold on December 18, 1985, the parcels will be offered to the public using competitive sale procedures (43 CFR 2711.3–1) until sold or withdrawn from the market. Sealed bids will be solicited at the BLM, Spokane District Office, during regular business hours. All bids received will be opened the first Wednesday of each month, beginning on February 5, 1986. To be considered, bids must be received by 10:00 A.M. on the day of the bid opening.

**Comments**

For a period of 45 days from the date of publication of this notice in the **Federal Register**, interested parties may submit comments to the District Manager, Bureau of Land Management, at the aforementioned address. Objections will be received by the State Director who may sustain, vacate, or modify this realty action. In the absence of any objections, this realty action will become the final determination of the Department of the Interior.

Dated: September 26, 1985.

**Joseph K. Buesing,**

*District Manager.*

[FR Doc. 85–23745 Filed 10–3–85; 8:45 am]

BILLING CODE 4310-33-M

**[OR 39080 (WA)]**

## Realty Action; Competitive Sale of Public Land in Whitman County, WA

The following lands are suitable for sale under section 203 of the Federal Land Policy and Management Act of 1976, 43 U.S.C. 1713, at no less than the appraised fair market value.

| Serial No. and Parcel No. | Legal description | Acreage | Appraised value | Minimum bid deposit (percent) | Bidding procedure |
|---|---|---|---|---|---|
| OR39080 (WA) (10) | T. 11 N., R. 46 E., sec. 8, NW¼NW¼. | 40.00 | $3,000.00 | 30 | Competitive. |

The sale will be held on December 18, 1985, at the Bureau of Land Management, Spokane District Office, E. 4217 Main Avenue, Spokane, WA 99202. This isolated parcel is not suitable for management by another Federal agency. No significant resource values will be affected by this disposal. The sale is consistent with BLM's planning for the land involved and the public interest will be served by offering this land for sale. Sale brochures containing pertinent data on the land offered for sale are available upon request from the District Manager at the above address.

**Bidder Qualifications**

Bidders must be U.S. citizens, 18 years of age or more; a state or state instrumentality authorized to hold property; or a corporation authorized to own real estate in the state in which the land is located.

**Competitive Bidding Procedures**

Sealed written bids, delivered or mailed, must be received by the Bureau of Land Management at the aforementioned address prior to 10:00 a.m., Wednesday, December 18, 1985.

A written bid must be submitted for the parcel desired. Each written sealed bid must be accompanied by a certified check, postal money order, bank draft or cashier's check, made payable to the Department of the Interior-BLM for at least the percent indicated in the above listing and shall be enclosed in a sealed envelope clearly marked, in the lower left hand corner, "Bid for Public Land Sale OR 39080 (WA), Sale Parcel Number 10, Whitman County, Washington, December 18, 1985." The written sealed bids will be opened and publicly declared at the sale. If two or more envelopes containing valid high bids of the same amount are received, the designated tied high bidders will be notified through certified mail to submit supplemental sealed bids within 30 days. The balance of the purchase price must be paid within 180 days or the deposit will be forfeited and the parcel will be reoffered to the public until sold or withdrawn from the market.

**Terms and Conditions of the Sale**

The terms, conditions, and reservations applicable to the sale are as follows:

1. All minerals in the lands will be reserved to the United States in accordance with section 209 of the Federal Land Policy and Management Act of 1976.

2. Rights-of-way for ditches and canals will be reserved to the United States under 43 U.S.C. 945.

3. Patents will be issued subject to all valid existing rights and reservations of records.

4. The patent will be subject to:

a. The rights of prior permittees or lessees to use so much of the surface of said land as is required for oil and gas operations, without compensation to the patentee for damages resulting from proper oil and gas operations for the duration of oil and gas lease OR 33449 and any authorized extension of that lease. Section 29 of the Act of February 25, 1920, 41 Stat. 449, 30 U.S.C. 186 and the Act of March 4, 1933, 47 Stat. 1570, 30 U.S.C. 124.

**Unsold Parcels**

If any of the parcels identified in this Notice are not sold on December 18, 1985, the parcels will be offered to the public, using competitive sale procedures 43 CFR 2711.3–1, until sold or withdrawn from the market. Sealed bids will be solicited at the BLM, Spokane District Office, during regular business

hours. All bids received will be opened the first Wednesday of each month, beginning on January 8, 1985. To be considered, bids must be received by 10:00 A.M. on the day of the bid opening.

**Comments**

For a period of 45 days from the date of publication of this notice in the **Federal Register**, interested parties may submit comments to the Spokane District Manager, at the above address. Objections will be reviewed by the State Director who may sustain, vacate, or modify this realty action. In the absence of any objections, this realty action will become the final determination of the Department of the Interior.

Dated: September 27, 1985.

**Joseph K. Buesing,**

*District Manager.*

[FR Doc. 85-23746 Filed 10-3-85; 8:45 am]

BILLING CODE 4310-33-M

## Wyoming; Filing of Plats of Survey

**AGENCY:** Bureau of Land Management, Interior.

**ACTION:** Filing of Plats of Survey.

**SUMMARY:** The plats of survey of the following described lands were officially filed in the Wyoming State Office, Bureau of Land Management, Cheyenne, Wyoming, effective 10:00 A.M., September 25, 1985.

**Sixth Principal Meridian**

T. 51 N., R. 72 W.

The plat showing a subdivision of certain sections, T. 51 N., R. 72 W., Sixht Principal Meridian, Wyoming, was accepted September 13, 1985.

T. 52 N., R. 72 W.

The plat showing a subdivision of certain sections, T. 52 N., R. 72 W., Sixth Principal Meridian, Wyoming, was accepted September 13, 1985.

T. 53 N., R. 72 W.

The plat showing a subdivision of certain sections, T. 53 N., R. 72 W., Sixth Principal Meridian, Wyoming, was accepted September 13, 1985.

T. 54 N., R. 72 W.

The plat showing a subdivision of sections 29, 32 and 33, T. 54 N., R. 72 W., Sixth Principal Meridian, Wyoming, was accepted September 13, 1985.

T. 52 N., R. 73 W.

The plat showing a subdivision of certain sections, T. 52 N., R. 73 W., Sixth Principal Meridian, Wyoming, was accepted September 13, 1985.

T. 53 N., R. 73 W.

The plat showing a subdivision of certain sections, T. 53 N., R. 73 W., Sixth Principal Meridian, Wyoming, was accepted September 13, 1985.

T. 52 N., R. 101 W.

The plat showing a subdivision of original lot 5, Sec. 8, T. 52 N., R. 101 W., Sixth Principal Meridian, Wyoming, was accepted September 13, 1985.

T. 52 N., R. 103 W.

The plat showing a subdivision of original Lot No. 71, T. 52 N., R. 103 W., Sixth Principal Meridian, Wyoming, was accepted September 13, 1985.

These supplemental plats were prepared to meet certain administrative needs of this Bureau.

**Wind River Meridian**

T. 1 N., R. 3 E.

The plat representing the dependent resurvey of portions of the south boundary (Wind River Base Line), subdivisional lines, subdivision of section 35, the 1898 adjusted meander line through section 35, and the survey of a portion of the subdivision of section 35, T. 1 N., R. 3 E., Wind River Meridian, Wyoming, Group No. 376, was accepted September 20, 1985.

T. 1 S., R. 4 E.

The plat, in five sheets, representing the dependent resurvey of portions of the west boundary, subdivisional lines, subdivision of sections, 1905 and 1908 adjusted meander lines, and the survey of the subdivision and parcels of certain sections, T. 1 S., R. 4 E., Wind River Meridian, Wyoming, Group No. 376, was accepted September 20, 1985.

These surveys were executed to meet certain administrative needs of the Bureau of Indian Affairs.

**ADDRESS:** All inquiries concerning these lands should be sent ot the Wyoming State Office, Bureau of Land Management, P.O. Box 1828, 2515 Warren Avenue, Cheyenne, Wyoming 82003.

Dated: September 26, 1985.

**Richard L. Oakes,**

*Chief Cadastral Surveyor for Wyoming.*

[FR Doc. 85-23748 Filed 10-3-85; 8:45 am]

BILLING CODE 4310-22-M

## Geological Survey

### Information Collection Submitted to the Office of Management and Budget for Review Under the Paperwork Reduction Act

The proposed collection of information described below has been submitted to the Office of Management and Budget for approval under the provisions of the Paperwork Reduction Act (44 U.S.C. Chapter 35). Copies of the proposed collection of information, related forms, and explanatory material may be obtained by contacting the Bureau's clearance officer at the telephone number listed below. Comments and suggestions on the requirements should be made within 30 days directly to the Bureau clearance officer and to the Office of Management and Budget, Interior Department Desk Officer, Washington, DC 20503, telephone (202) 395-7313.

Title: Water-Resources Research Program and the Water-Resources Technology Development Program, 30 CFR Part 402.

Abstract: Respondents submit proposals containing plans for water-resources research or technology-development projects. This information will be used as the basis for selection and award of projects meeting the program objectives. Quarterly and final reports are required on each selected project to assess scientific performance.

Bureau Form Number: None.

Frequency: Annual proposals, quarterly and final reports.

Description of Respondents: Educational institutions, private foundations, private firms, individuals, and agencies of local or State governments.

Total Responses: 350.

Total Burden Hours: 7,400.

Bureau Clearance Officer: Geraldine A. Wilson, telephone (703) 860-7211.

Dated: September 10, 1985.

**R. Hal Langford,**

*Acting Chief Hydrologist.*

[FR Doc. 85-23796 Filed 10-3-85; 8:45 am]

BILLING CODE 4310-31-M

## Bureau of Land Management

**[A-17600, A-20347]**

### Realty Action; Designation of Public Lands To Be Included In State Exchange in Cochise, Graham, Greenlee, Pima and Pinal Counties, AZ and Cancellation of Public Land Sale

*Correction*

In FR Doc. 85-22537 beginning on page 38215 in the issue of Friday, September 20, 1985, make the following correction:

1. On page 38215, in the second column, under T. 6 S., R. 16 E., in the third line, "25" should read "35".

2. On page 38216, in the first column, under T. 7 S., R. 31 E., in Sec. 34, ", SE¼NE¼;" should read ", SE¼SE¼;".

3. Also on page 38216, in the first column, under T. 10 S., R. 31 E. in Sec. 11, "E½SE¼SW¼;" should read "E½, SE¼SW¼;".

BILLING CODE 1505-01-M

## Fish and Wildlife Service

### Receipt of Applications for Permits

The following applicants have applied for permits to conduct certain activities

with endangered species. This notice is provided pursuant to section 10(c) of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531, *et seq.*):

*Applicant:* Buffalo Zoo, Buffalo, NY—PRT–698687

The applicant requests a permit to import two female Asian elephants (*Elephas Maximus*) from the Trivandrum Zoo, Kerala, India, for the purpose of enhancement of propagation.

*Applicant:* Atlanta Zoo, Atlanta, GA—PRT–698688

The applicant requests a permit to export 10 captive-bred Morelet's crocodiles (*Crocodylus moreleti*) to the Madras Crocodile Bank, Madras, India, for the enhancement of propagation.

*Applicant:* Dave Hodgin, Laurel, MT—PRT–699018

The applicant requests a permit to import the personal sport-hunted trophy of a bontebok (*Damaliscus dorcas dorcas*), culled from the captive herd of F.W.M. Bowker, Jr., in Grahamstown, Republic of South Africa, for the purpose of enhancement of propagation.

*Applicant:* New York Zoological Society, Bronx, NY—PRT–697669

The applicant requests a permit to import two captive-born female white-naped cranes (*Grus vipio*) from Tama Zoological Park, Tokyo, Japan, for the purpose of enhancement of propagation.

*Applicant:* Don R. Mullins, Houston, TX—PRT–699432

The applicant requests a permit to import the personal sport-hunted trophy of a bontebok (*Damaliscus dorcas dorcas*), culled from the captive herd of F.W.M. Bowker, Jr. in Grahamstown, Republic of South Africa, for the purpose of enhancement of propagation.

*Applicant:* Lloydean Martin, Jemez Springs, NM—PRT–699786

The applicant requests a permit to import the personal sport-hunted trophy of a bontebok (*Damaliscus dorcas dorcas*), culled from the captive herd of F.W.M. Bowker, Jr. in Grahamstown, Republic of South Africa, for the purpose of enhancement of propagation.

*Applicant:* Pittsburgh Zoo, Pittsburgh, PA—PRT–698788

The applicant requests a permit to import one male and one female lowland gorilla (*Gorilla gorilla*) from the Polar Park Zoo, Alberta, Canda, for the purpose of enhancement of propagation.

*Applicant:* Lose Angeles Zoo, Los Angeles, CA—PRT–699695

The applicant requests a permit to import 2 female yellow-footed rock wallabies (*Petrogale xanthopus*), captive born in the Adelaide Zoo, Adelaide, Australia, for the purpose of enhancement of propagtion.

*Applicant:* Gerald E. Floeck III, Tucumcari, NM—PRT–699729

The applicant requests a permit to import the personal sport-hunted trophy of a bontebok (*Damaliscus dorcas dorcas*), culled from the captive herd of Phil van der Merwe in Cape Province, South Africa, for the purpose of enhancement of propagation.

Documents and other information submitted with these applications are available to the public during normal business hours (7:45 am to 4:15 pm) Room 611, 1000 North Glebe Road, Arlington, Virginia 22201, or by writing to the Director, U.S. Fish and Wildlife Service of the above address.

Interested persons may comment on any of these applications within 30 days of the date of this publication by submitting written views, arguments, or data to the Director at the above address. Please refer to the appropriate PRT number when submitting comments.

Dated: September 26, 1985.

**R. K. Robinson,**

*Chief, Branch of Permits, Federal Wildlife Permit Office.*

[FR Doc. 85–23763 Filed 10–3–85; 8:45 am]

BILLING CODE 4310–55–M

## Minerals Management Service

### Alaska Outer Continental Shelf; Availability of the Environmental Assessment for Revised Resource Estimates, Oil and Gas Lease Sale 92, North Aleutian Basin

The regulations, 40 CFR 1502.9(c)(1), for implementing the National Environmental Policy Act, as amended, require that a Federal Agency "shall prepare supplements to either the draft or final environmental impact statements (EIS's) if: (i) The Agency makes substantial changes in the proposed action that are relevant to environmental concerns; or (ii) There are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts."

The final environmental impact statement (EIS) for oil and gas lease Sale 92, North Aleutian Basin, provided an analysis based on original mean conditional resource estimates. As a result of new data and new analysis that have become available, revised mean conditional resource estimates are now available. An environmental assessment (EA) has been prepared which analyzes the effects of the revised mean conditional resource estimates and compares them with the original mean conditional resource estimates.

The Minerals Management Service has reviewed the information in the EA and the information in the final EIS for this proposed sale and has determined that a supplemental EIS is not required. Copies of the EA may be obtained by written request to Minerals Management Service, Offshore Environmental Assessment Division, Room 2528, MS–644, 18th and C Streets, NW., Washington, DC 20240, or by telephone request to Richard Miller, Minerals Management Service, Environmental Evaluation Branch, (202) 343–6264. Any person who would like to comment on the EA may do so by submitting written comments to the above address on or before November 5, 1985.

Dated: September 30, 1985.

**William D. Bettenberg,**

*Director, Minerals Management Service.*

[FR Doc. 85–23749 Filed 10–3–85; 8:45 am]

BILLING CODE 4310–MR–M

### Development Operations Coordination Document; Shell Offshore Inc.

**AGENCY:** Minerals Management Service, Interior.

**ACTION:** Notice of the Receipt of a Proposed Development Operations Coordination Document (DOCD).

**SUMMARY:** Notice is hereby given that Shell Offshore Inc. has submitted a DOCD describing the activities it proposes to conduct on Lease OCS 0442, Block 128A, Eugene Island Area, offshore Louisiana. Proposed plans for the above area provide for the development and production of hydrocarbons with support activities to be conducted from an onshore base located at Morgan City, Louisiana.

**DATE:** The subject DOCD was deemed submitted on September 13, 1985. Comments must be received within 15 days of the date of this Notice or 15 days after the Coastal Management Section receives a copy of the DOCD from the Mineral Management Service.

**ADDRESSES:** A copy of the subject DOCD is available for public review at the Office of the Regional Director, Gulf of Mexico OCS Region, Minerals Management Service, 3301 North Causeway Blvd., Room 147, Metairie, Louisiana (Office Hours: 9 a.m. to 3:30 p.m., Monday through Friday). A copy of the DOCD and the accompanying Consistency Certification are also available for public review at the Coastal Management Section Office

located on the 10th Floor of the State Lands and Natural Resources Building, 625 North 4th Street, Baton Rouge, Louisiana (Office Hours: 8 a.m. to 4:30 p.m., Monday through Friday). The public may submit comments to the Coastal Management Section, *Attention OCS Plans*, Post Office Box 44396, Baton Rouge, Louisiana 70805.

**FOR FURTHER INFORMATION CONTACT:** Ms. Angie D. Gobert; Minerals Management Service; Gulf of Mexico OCS Region; Rules and Production; Plans, Platform and Pipeline Section; Exploration/Development Plans Unit; Phone (504) 838-0876.

**SUPPLEMENTARY INFORMATION:** The purpose of this Notice is to inform the public, pursuant to section 25 of the OCS Lands Act Amendments of 1978, that the Minerals Management Service is considering approval of the DOCD and that it is available for public review. Additionally, this Notice is to inform the public, pursuant to § 930.61 of Title 15 of the CFR, that the Coastal Management Section/Louisiana Department of Natural Resources is reviewing the DOCD for consistency with the Louisiana Coastal Resources Program.

Revised rules governing practices and procedures under which the Minerals Management Service makes information contained in DOCDs available to affected states, executives of affected local governments, and other interested parties became effective December 13, 1979, (44 FR 53685). Those practices and procedures are set out in revised § 250.34 of Title 30 of the CFR.

Dated: September 13, 1985.

**John L. Rankin,**

*Regional Director, Gulf of Mexico OCS Region.*

[FR Doc. 85-23750 Filed 10-3-85; 8:45 am]

BILLING CODE 4310-MR-M

## Outer Continental Shelf Oil and Gas Lease Sales; List of Restricted Joint Bidders

Pursuant to the authority vested in the Director of the Minerals Management Service by the joint bidding provisions of 30 CFR 256.41, each entity within one of the following groups shall be restricted from bidding with any entity in any other of the following groups at Outer Continental Shelf oil and gas lease sales to be held during the bidding period from November 1, 1985, through April 30, 1985. The List of Restricted Joint Bidders published in the **Federal Register** on April 3, 1985, at 50 FR 13290 covered the bidding period of May 1, 1985, through October 31, 1985.

Group I. Chevron U.S.A. Inc.; Chevron Corporation.
Group II. Exxon Corporation.
Group III. MTS Limited Partnership (Mesa Petroleum Co., Texaco Inc., Sequoia Petroleum Inc.); Texaco Inc.; Getty Oil Company; Texaco Oils Inc.; Texaco Producing Inc.
Group IV. Shell Offshore Inc.; Shell Oil Company; Shell Western E&P Inc.
Group V. Mobil Oil Corporation; Mobil Oil Exploration and Producing Southeast Inc.; Mobil Producing Texas and New Mexico Inc.; Superior Oil Company.

Dated: September 30, 1985.

**William D. Bettenberg,**

*Director, Minerals Management Service.*

[FR Doc. 85-23791 Filed 10-3-85; 8:45 am]

BILLING CODE 4310-MR-M

## National Park Service

## Mining Plan of Operations at Glacier Bay National Park and Preserve; Availability

Notice is hereby given that pursuant to the provisions of Section 2 of the Act of September 28, 1976, 16 U.S.C. 1901 et seq., and in accordance with the provisions of § 9.17 of 36 CFR Part 9A, Jeanne E. Trump has filed a plan of operations in support of proposed mining operations on lands embracing the LEROY #1 and #2 Lode Mining Claims within the Glacier Bay National Park and Preserve. These plans are available for inspection during normal business hours at the Alaska Regional Office, National Park Service, 2525 Gambell Street, Anchorage, Alaska.

**Robert Peterson,**

*Acting Regional Director, Alaska Region.*

[FR Doc. 85-23809 Filed 10-3-85; 8:45 am]

BILLING CODE 4310-70-M

## Information Collection Submitted for Review Under the Paperwork Reduction Act

The proposal for the collection of information listed below has been submitted to the Office of Management and Budget for approval under the provisions of the Paperwork Reduction Act (44 U.S.C. Chapter 35). Copies of the proposed information collecton requirement and related forms and explanatory material may be obtained by contacting the Bureau's clearance officer at the phone number listed below. Comment and suggestions on the requirement should be made directly to the Bureau clearance officer and the Office of Management and Budget reviewing official, Washington, D.C. 20503, telephone 202-395-7340.

Title: National Register of Historical Places Registration Form.

Abstract: Public Law requires Federal agencies to request determinations of eligibility for listing of properties under their jurisdiction or affected by their programs or projects. The form provides the historical documentation on which decisions for listing and eligibility are based.

Bureau Form Number: 10-900, 10-900A.

Frequency: On Occasion.

Description of Respondents: Individuals; State and Local Governments; Federal Agencies.

Annual Responses: 3,736.

Annual Burden Hours: 89,664.

Bureau Clearance Officer: Russell K. Olsen, (202) 523-5133.

**Russell K. Olsen,**

*Information Collection Clearance Officer.*

[FR Doc. 85-23797 Filed 10-3-85; 8:45 am]

BILLING CODE 4310-70-M

## Padre Island National Seashore; Revision of Seashore Boundaries

Section 111 of the Act of March 5, 1980, 94 Stat. 70, authorizes the Secretary of the Interior to revise the boundary of Padre Island National Seashore, to add approximately two hundred and seventy-four acres and to delete approximatley two thousand acres. Sections 302 and 303 of the Act of April 11, 1972, 86 Stat. 120, 121, shall apply to the boundary revision so authorized.

The purpose of the boundary revision was to allow the deletion of two detached parcels of land and those State-donated shorelands lying south of the Mansfield Channel, and the addition of a tract proposed for visitor facilities at the southern end of the National Seashore. Since that time, it has been determined that the proposed 274-acre addition is not in the best interests of the National Seashore, and that the boundary revision should be limited to the authorized deletion.

The 274-acre tract lies within the boundary of Coastal Barrier Resources System Unit T11 and is subject to the provisions of the Coastal Barrier Resources Act of 1982, 16 U.S.C. 3809. The law established a 186-unit system of undeveloped coastal barriers along the Atlantic and Gulf of Mexico coastlines within which most direct and indirect federal expenditures (e.g., flood insurance) are no longer available to promote eocnomic growth or development. The purposes of the act

are to minimze the loss of human life, reduce wasteful expenditure of federal revenues, and reduce the damage to fish and wildlife and other natural resources that can occur when coastal barriers are developed.

Section 302 of the Act of April 11, 1972, provides that the boundary revisions authorized shall become effective upon publication in the **Federal Register** of a map or other description of the lands added or excluded by the Secretary of the Interior.

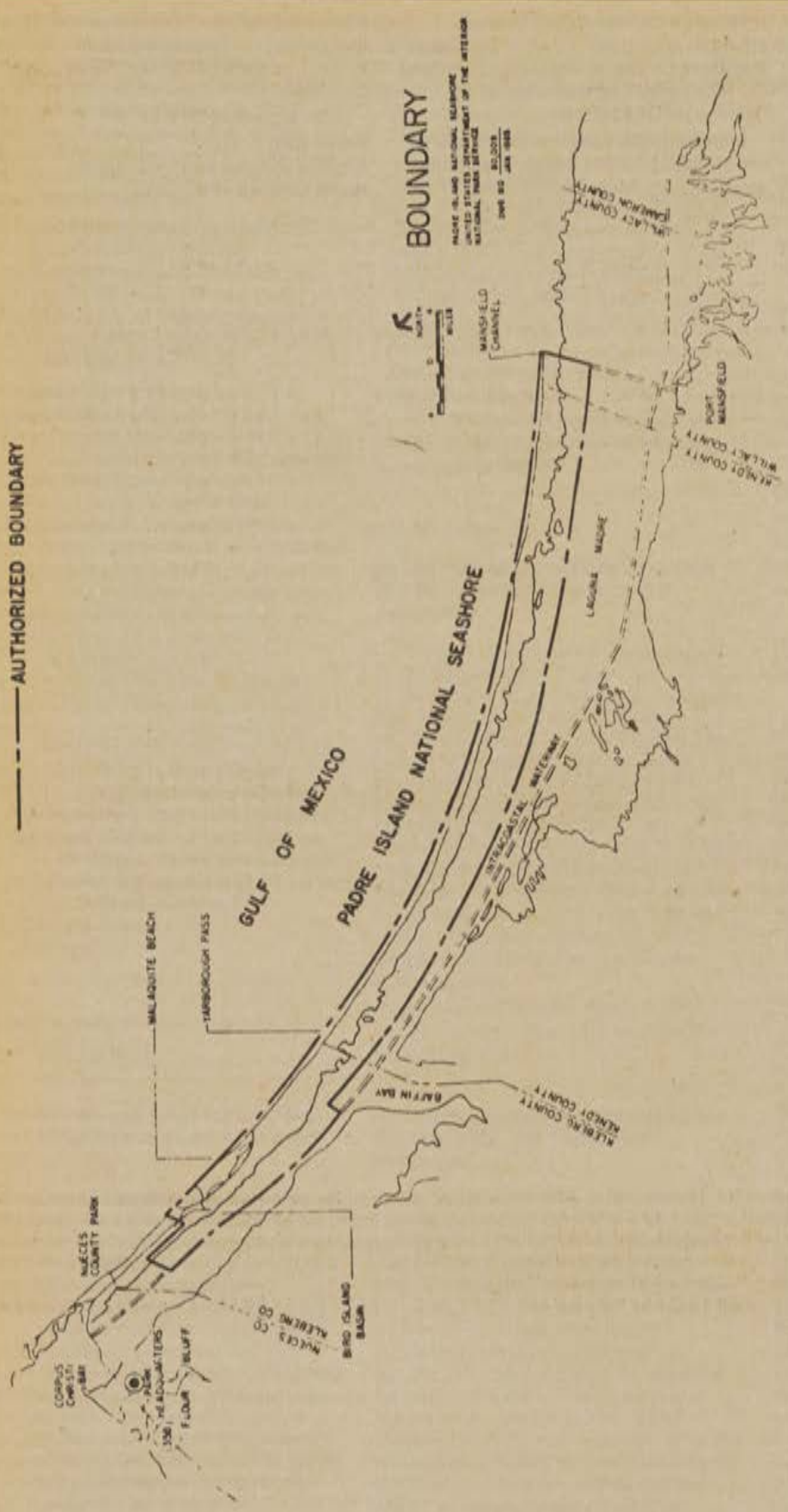
In accordance with this provision, we are attaching hereto a map, designated as "Boundary Map, Padre Island National Seashore," numbered 80,009 and dated Jan. 1985, which shows the present, revised boundary of the Seashore.

Dated September 13, 1985.

**Robert Kerr,**

*Regional Director, Southwest Region.*

BILLING CODE 4310-70-M




[FR Doc. 85-23808 Filed 10-3-85; 8:45 am]

BILLING CODE 4310-70-C

## INTERSTATE COMMERCE COMMISSION

[Docket No. AB-27; Sub-No. 1X]

### Alabama Great Southern Railroad Co.; Abandonment Exemption in Chattanooga, TN

Applicant has filed a notice of exemption under 49 CFR Part 1152 Subpart F—*Exempt Abandonments* to abandon a total of 1.73 miles of rail line in Chattanooga, TN, extending (1) between Milepost B-2.06 and Milepost B-2.83, a distance of 0.77 miles, and (2) between Milepost B-3.09 and Milepost B-4.05, a distance of 0.96 miles.

Applicant has certified (1) that no local traffic has moved over the line for at least 2 years and that overhead traffic is not moved over the line, and (2) that no formal complaint filed by a user of rail service on the line (or by a State or local governmental entity acting on behalf of such user) regarding cessation of service over the line either is pending with the Commission or any U.S. District Court, or has been decided in favor of the complainant within the 2-year period. The appropriate State agency has been notified in writing at least 10 days prior to the filing of this notice.

As a condition to use of this exemption, any employee affected by the abandonment shall be protected pursuant to *Oregon Short Line R. Co.-Abandonment-Goshen*, 360 I.C.C. 91 (1979).

The exemption will be effective November 3, 1985, (unless stayed pending reconsideration). Petitions to stay must be filed by October 15, 1985, and petitions for reconsideration, including environmental, energy, and public use concerns, must be filed by October 24, 1985, with: Office of the Secretary, Case Control Branch, Interstate Commerce Commission, Washington, DC 20423.

A copy of any petition filed with the Commission should be sent to applicant's representative: Angelica D. Lloyd, 204 South Jefferson St., Roanoke, VA 24042-0069.

If the notice of exemption contains false or misleading information, use of the exemption is void *ab initio*.

A notice to the parties will be issued if use of the exemption is conditioned upon environmental or public use conditions.

Decided: September 30, 1985.

By the Commission, Heber P. Hardy, Director, Office of Proceedings.

James H. Bayne,

*Secretary*.

[FR Doc. 85-23775 Filed 10-3-85; 8:45 am]

BILLING CODE 7035-01-M

[Docket No. AB-52; Sub-No. 43X]

### Atchison, Topeka and Santa Fe Railway Co.; Abandonment Exemption in Kay County, OK

Applicant has filed a notice of exemption under 49 CFR Part 1152 Subpart F—*Exempt Abandonments* to abandon its 10.0-mile line of railroad between milepost 128.0 near Blackwell Junction and milepost 138.0 near Ponca City, in Kay County, OK.

Applicant has certified (1) that no local traffic has moved over the line for at least 2 years and that overhead traffic may be rerouted, and (2) that no formal complaint filed by a user of rail service on the line (or by a State or local governmental entity acting on behalf of such user) regarding cessation of service over the line either is pending with the Commission or any U.S. District Court, or has been decided in favor of the complainant within the 2-year period. The appropriate State agency has been notified in writing at least 10 days prior to the filing of this notice.

As a condition to use of this exemption, any employee affected by the abanadonment shall be protected pursuant to *Oregon Short Line R. Co.-Abandonment-Goshen*, 360 I.C.C. 91 (1979).

The exemption will be effective November 3, 1985, (unless stayed pending reconsideration). Petitions to stay must be filed by October 15, 1985, and petitions for reconsideration, including environmental, energy, and public use concerns, must be filed by October 24, 1985, with: Office of the Secretary, Case Control Branch, Interstate Commerce Commission, Washington, DC 20423.

A copy of any petition filed with the Commisson should be sent to applicant's representative: Michael W. Blaszak, 80 East Jackson Boulevard, Chicago, IL 60604.

If the notice of exemption contains false or misleading information, use of the exemption is void *ab initio*.

A notice to the parties will be issued if use of the exemption is conditioned upon environmental or public use conditions.

Decided: September 30, 1985.

By the Commission, Heber P. Hardy, Director, Office of Proceedings.

James H. Bayne,

*Secretary*.

[FR Doc. 85-23773 Filed 10-3-85; 8:45 am]

BILLING CODE 7035-01-M

[Finance Docket No. 30680]

### Chehalis Western Railroad Co.; Exemption To Operate Line in State of Washington

**AGENCY:** Interstate Commerce Commission.

**ACTION:** Notice of exemption.

**SUMMARY:** The Interstate Commerce Commission exempts the Chehalis Western Railroad Company from the provisions of 49 U.S.C. Subtitle IV to operate approximately 165 miles of line in the State of Washington as a feeder or switching railroad in the State of Washington.

**DATES:** This decision is effective on November 4, 1985. Petitions for reconsideration must be filed by October 24, 1985. Petitions to stay must be filed by October 14, 1985.

**ADDRESSES:** Send pleadings referring to Finance Docket No. 30680 to:

(1) Office of the Secretary, Case Control Branch, Interstate Commerce Commission, Washington, DC 20423

(2) Robert A. Dowdy, Attorney, Chehalis Western Railroad Company, c/o Weyerhaeuser Company, Tacoma, WA 98477

**FOR FURTHER INFORMATION CONTACT:** Louis E. Gitomer, (202) 275-7245.

**SUPPLEMENTARY INFORMATION:** Additional information is contained in the Commission's decision. To purchase a copy of the full decision, write to T.S. InfoSystems, Inc. Room 2229, Interstate Commerce Commission Building, Washington, DC 20423, or call 289-4537 (DC Metropolitan area) or toll free (800) 424-5403.

Decided: August 28, 1985.

By the Commission, Chairman Taylor, Vice Chairman Gradison, Commissioners Sterrett, Andre, Simmons, Lamboley, and Strenio. Commissioner Simmons commented with a separate expression. Commissioner Lamboley concurred with a separate expression. Commissioner Sterrett did not participate in the disposition of this proceeding. Chairman Taylor was absent and did not participate in the disposition of this proceeding.

James H. Bayne,

*Secretary*.

[FR Doc. 85-23774 Filed 10-3-85; 8:45 am]

BILLING CODE 7035-01-M

### Intent To Engage in Compensated Intercorporate Hauling Operations

This is to provide notice as required by 49 U.S.C. 10524(b)(1) that the named corporations intend to provide or use compensated intercorporate hauling

operations as authorized in 49 U.S.C. 10524(b).

1. Parent corporation and address of principal office: American Cyanamid Company, One Cyanamid Plaza, Wayne, NJ 07470.

2. Wholly-owned subsidiaries which will participate in the operations, and state(s) of incorporation:

(i) Cyanamid Canada Inc., a Canadian corporation
(ii) Cyanamid Inter-America Corporation, a Delaware corporation
(iii) Cyanamid International Sales Corporation, a U.S. Virgin Islands corporation
(iv) Cyanamid Overseas Corporation, a Delaware corporation
(v) Cyanamid Plastics, Inc., a Delaware corporation
(vi) Cyanamid Urethane, Inc., a New Jersey corporation
(vii) Davis & Geck, Inc., a New Jersey corporation
(viii) Glendale Protective Technologies, Inc., a New York corporation
(ix) Jacqueline Cochran, Inc., a New Jersey corporation
(x) La Prairie, Inc., a New Jersey corporation
(xi) Lederle Parenterals, Inc., a New Jersey corporation
(xii) Lederle Piperacillin, Inc., a New Jersey corporation
(xiii) Shulton, Inc., a New Jersey corporation
(xiv) Shulton Canada Inc., an Ontario, Canada corporation
(xv) Toiletries, Inc., a New Jersey corporation.

1. Parent corporation and address of principal office Bethlehem Steel Corporation, Martin Tower, Bethlehem, Pa. 18016.

2. Wholly-owned subsidiaries which will participate in the operations, and states of incorporation:

A. BETHTRAN, Inc.—A Delaware Corporation.
B. Cambria and Indiana Railroad Company—A Pennsylvania Corporation.
C. Conemaugh and Black Lick Railroad Company—A Pennsylvania Corporation.
D. Patapsco and Back Rivers Railroad Company—A Maryland Corporation.
E. Philadelphia, Bethlehem and New England Railroad Company—A Pennsylvania Corporation.
F. South Buffalo Railway Company—A New York Corporation.
G. Steelton and Highspire Railroad Company—A Pennsylvania Corporation.
H. BethEnergy Mines, Inc.—A West Virginia Corporation.
I. Caradco Corporation—A Delaware Corporation.
J. EGL Steel Inc.—A Delaware Corporation.
K. Fiber Glass Systems, Inc.—A Delaware Corporation.
L. HPM Corporation—A Delaware Corporation.
M. Kusan, Inc.—A Delaware Corporation.
N. Lane Fabricators, Inc.—A New York Corporation.
O. Lane Metal Products Company, Inc.—A New York Corporation.
P. Mastic Corporation—An Indiana Corporation.
Q. Nichols-Kusan, Inc.—A Texas Corporation.
R. Schaper Manufacturing, Inc.—A Minnesota Corporation.
S. Schapter Promotion, Inc.—A Wisconsin Corporation.
T. Southeastern-Kusan, Inc.—A South Carolina Corporation.
U. J. M. Tull Industries, Inc.—A Georgia Corporation.

1. The parent corporation and address of its principal office is Cascades Inc., 404 Marie-Victorin Street, C.P. 30, Kingsey Falls, Quebec, Canada J0A 1B0.

2. Wholly-owned subsidiaries of Cascades Inc. which will participate in the operations, in addition to those listed in the initial notice, and their provinces and states of incorporation are:

(a) *Les Industries Cascades Limitee*, incorporated in the province of Quebec, Dominion of Canada, 467 Marie-Victorin Street, Kingsey Falls, Quebec, Canada J0A 1B0.

(b) *Cascades Industries Inc.*, incorporated in North Carolina, 805 Midway Road, Rockingham, North Carolina 28379.

(c) *Papier Cascades (Cabano) Inc.*, incorporated in the province of Quebec, Dominion of Canada, Route Transcanadienne, Cabano, Quebec, Canada G0L 1E0.

(d) *Cascades U.S., Inc.*, incorporated in Maryland, 817 South Bond Road, Baltimore, Maryland 21231.

(e) *Lupel SNA Inc.*, incorporated in the province of Quebec, Dominion of Canada, 700 Notre Dame Street, Cap-de-la Madeleine, Quebec, Canada G8T 2G9.

(f) *Cascades PSH Inc.*, incorporated in the province of Quebec, Dominion of Canada, 999 Farrell Street, Drummondville, Quebec, Canada J2C 5P6.

(g) *Les Emballages Cascades Inc.*, incorporated in the province of Quebec, Dominion of Canada, 38 Boulevard des Artisans, Victoriaville, Quebec, Canada G6P 6S4.

1. The parent corporation and address of principal office: Color Tile, Inc. (a Delaware Corporation), 515 Houston, St., Ft. Worth, Texas 76102.

2. The Wholly-owned subsidiaries which will participate in the operations and States of incorporation:

(i) Color Tile Supermart, Inc., a Colorado Corporation
(ii) Color Tile Manufacturing, Inc., a Texas Corporation
(iii) C. Tile Transportation, Inc., a Texas Corporation
(iv) Color Your World (NY), Inc., a New York Corporation
(v) Color Your World, Inc., a Canadian Corporation
(vi) Ultima Walcoverings, Inc., a Canadian Corporation

1. Parent company and address of principal office: Foodland Distributors, 12701 Middlebelt Road, Livonia, MI 48150

2. Wholly-owned subsidiary which will participate in the operations, and State of incorporation: (i) Foodland Transportation, Inc.; Livonia, MI

1. Parent corporation and address of principal office: J.M. Schultz Seed Company, P.O. Box 211, Dieterich, IL 62424.

2. Wholly-owned subsidiaries which will participate in the operations, and state(s) of incorporation.

(1) JMS Chemco, Inc., and IL corp., Box 1222, Effingham, IL 62401.

1. Parent corporation and address of principal office:

Scrivner, Inc., an Oklahoma corporation, Corporate Office, 1301 Southeast 59th Street, Post Office Box 26030, Oklahoma City, Oklahoma 73126 with Division Offices at:
Oklahoma City Food Service, Don Lombardo, V.P. and General Manager, 1101 S.E. 59th Street, Oklahoma City, OK 73129, (405) 670–7200.
Oklahoma City Wholesale Division, Jim Costello, General Manager, 1101 S.E. 59th Street, Oklahoma City, OK 73129, (405) 670–7200.

2. Wholly/owned subsidiaries which will participate in the operations and State(s) of incorporation:

(i) Boogaart Supply, Inc., a Kansas corporation, Wholesale Division, Ron Kuhn, V.P. & General Mgr., P.O. Box 569, Concordia, KS 66901, (913) 243–1656
(ii) Chris Hoerr & Son Co., an Illinois corporation, Wholesale Division, Chris Hoerr, III, Chairman & CEO, 600 W. Camp St., East Peoria, IL 61611, (309) 694–4211
(iii) Groce-Wearden Company, a Texas corporation with offices at:

Wholesale Division, Fred Cox, General Manager, P.O. Box 458 Donna, TX 78537, (512) 464–3354
Wholesale Division, Paul Warren, General Mgr., P.O. Box 1638, Victoria, TX 77901, (512) 573–5201

(iv) Hakes Foods, Inc., an Iowa corporation, Wholesale Division, C.B. Stewart, President, 210 N. First St., Laurens, IA 50554, (712) 845–2611

(v) Hudson-Thompson, Inc., an Alabama corporation, Wholesale Division, Ron Koch, President, P.O. Drawer Q, Montgomery, AL 36196–1801, (205) 288–5250

(vi) Pay Cash Grocery Company, Inc., a Tennessee corporation, Wholesale Division, Leo Matthews, President, P.O. Box 1709, Knoxville, TN 37901, (615) 637–3550

(vii) S.M. Flickinger Co., Inc., a New York corporation with offices at:
Buffalo Wholesale Division, Tom Heine, Division Manager, P.O. Box 1086, Buffalo, NY 14240, (716) 668–7200
Buffalo Food Svc. Division, Tom Gumkowski, Food Svc. Mgr., P.O. Box 1270, Buffalo, NY 14240, (716) 874–6370
Columbus Wholesale Division, Dick Dolan, Division Mgr., 1033 Brentnell Ave., Columbus, OH 43219, (614) 253–8701
Elmira Wholesale Division, John T. Driscoll, Division Mgr., P.O. Box 2300, Elmira Heights, NY 14903, (607) 734–2011
Jamestown Wholesale Division, Tom Sexton, Division Manager, P.O. Box 160, Jamestown, NY 14702–0160, (716) 665–5620
Olean Wholesale Division, Jack Sennett, V.P. & Division Mgr., 416 East State Street, Olean, NY 14760, (716) 372–5050
Syracuse Wholesale Division, Pat Cupelo, Division Manager, P.O. Box 13220, Syracuse, NY 13221, (315) 437–7120
Syracuse Food Service Division, Dale Conklin, V.P. & Division Mgr., P.O. Box 308, Liverpool, NY 13088, (315) 457–6600

(viii) P.A. & S. Small Company, a New York corporation (a wholly owned subsidiary of S.M. Flichinger Co., Inc.), Wholesale Division, Dick Ilgenfritz, V.P. & Division Mgr., P.O. Box 589, York, PA 17405, (717) 755–1976.

James H. Bayne,
*Secretary.*

[FR Doc. 85–23771 Filed 10–3–85; 8:45 am]
BILLING CODE 7035–01–M

**[Section 5a Application No. 58; (Amdt. 3)]**

## Machinery Haulers Association; Agreement

**AGENCY:** Interstate Commerce Commission.

**ACTION:** Notice of decision and request for comment.

**SUMMARY:** Machinery Haulers Association (MHA) has filed, pursuant to Section 14(e) of the Motor Carrier Act of 1980 (MCA), an application for approval of its ratemaking agreement under 49 U.S.C. 10706(b). Because several modifications are required before the agreement receives final approval, and because new and complex questions are involved in determining whether the agreement is consistent with the MCA and the decision implementing it, the Commission has decided to solicit public comment on its interpretation and application of specific rate bureau provisions. Copies of MHA's proposed amended agreement are available for public inspection and copying at the Office of the Secretary, Interstate Commerce Commission, 12th St. and Constitution Ave., NW., Washington, DC, 20423, and from MHA's representative: W.A. Hallman, Machinery Haulers Association, 1745 University Avenue, St. Paul, MN 55104.

Copies of the complete Commission decision are available for inspection and copying at the Interstate Commerce Commission, or may be purchased from TS Infosystems, Inc., Room 2229, Interstate Commerce Commission Building, 12th St., and Constitution Ave., NW., Washington, DC, 20423; or call toll-free (800) 424–5403, or (202) 289–4357 in the Washington, DC, metropolitan area.

**DATES:** Comments from interested persons are due November 4, 1985.

Replies are due November 19, 1985.

**ADDRESS:** An original and fifteen copies, if possible, of comments should be sent to: Section 5a No. 58, Office of the Secretary, Case Control Branch, Interstate Commerce Commission, Washington, DC 20423.

**FOR FURTHER INFORMATION CONTACT:**
Richard Johnson, (202) 275–7939
or
Howell I. Sporn, (202) 275–7691.

**SUPPLEMENTARY INFORMATION:** Machinery Haulers Association (MHA) has filed an application for approval of its proposed amended collective ratemaking agreement as required by section 14(e) of the Motor Carrier Act of 1980, Pub. L. 96–296 (1980) (MCA). Since filing its application, MHA has been obligated to observe the requirements of the MCA and the standards set forth in our decision implementing Section 14, found in Ex Parte No. 297 (Sub-No. 5), *Motor Carrier Rate Bureaus-Implementation of Pub. L. 96–296*, 364 I.C.C. 464 (1980) and 364 I.C.C. 921 (1981), in order to enjoy antitrust immunity for designated activities.

We provisionally approve MHA's agreement as consistent with 49 U.S.C. 10706(b) and Ex Parte No. 297 (Sub-No. 5), *supra*, subject to certain modifications including the following subject areas: identification and description of member carriers; right of independent action; quorum standards; final disposition of cases; open meetings and notice of meetings; notice of rate changes; general rate increases and decreases; and zone of rate freedom and released rates. We have also offered comments and imposed requirements concerning the agreement generally. MHA is directed to file a revised agreement conforming to the imposed conditions within 120 days of service of the decision provisionally approving the agreement.

In light of the complex interpretation involved in determining whether the agreement is consistent with the MCA and Ex Parte No. 297 (Sub-No. 5), *supra*, we request applicant and other interested parties to comment on our interpretation of the controlling statutory and administrative criteria generally, and their application to MHA's agreement in particular.

A copy of any comments filed with the Commission shall also be served on MHA, which shall have 15 days from the expiration of the comment period to reply. These comments will be considered in conjunction with our review of the modifications that MHA must submit to the Commission as a condition precedent to final approval of its agreement.

This action will not significantly affect either the quality of the human environment or the conservation of energy resources.

This notice and accompanying decision are issued pursuant to 49 U.S.C. 10321 and 10706 and 5 U.S.C. 553.

Decided: September 18, 1985.

By the Commission, Chairman Taylor, Vice Chairman Gradison, Commissioner Sterrett, Andre, Simmons, Lamboley, and Strenio.

James H. Bayne,
*Secretary.*

[FR Doc. 85–23776 Filed 10–3–85; 8:45 am]
BILLING CODE 7035–01–M

## DEPARTMENT OF JUSTICE

### City of Okmulgee, OK; Proposed Consent Decree Pursuant to the Clean Water Act

In accordance with Departmental Policy, 28 CFR 50.7, notice is hereby given that on September 23, 1985, a proposed consent decree in *United States* v. *City of Okmulgee, Oklahoma, State of Oklahoma*, Civil Action No. 85-263-C was lodged with the United States District Court for the Eastern District of Oklahoma. The proposed consent decree concerns the discharge of pollutants from the City of Okmulgee's wastewater treatment plant into Okmulgee Creek. The proposed consent decree requires the City to comply with the terms of its NPDES permit, and to pay as a stipulated penalty $25,000 to the United States.

The Department of Justice will receive for a period of thirty (30) days from the date of this publication comments relating to the proposed consent decree. Comments should be addressed to the Assistant Attorney General of the Land and Natural Resources Division, Department of Justice, Washington, DC 20530, and should refer to *United States* v. *City of Okmulgee, Oklahoma, et al.*, DOJ No. 90-5-1-1-2166.

The proposed consent decree may be examined at the office of the United States Attorney for the Eastern District of Oklahoma, Fifth and Okmulgee Street, Muskogee, Oklahoma, and at the Region VI office of the Environmental Protection Agency, Interfirst Two Building, 1201 Elm Street, Dallas, Texas. Copies of the proposed consent agreement may be examined at the Environmental Enforcement Section, Land and Natural Resources Division of the Department of Justice, Room 1517, Ninth Street and Pennsylvania Avenue NW., Washington, DC 20530. A copy of the proposed consent decree may be obtained in person or by mail from the Environmental Enforcement Section, Land and Natural Resources Division of the Department of Justice.

**F. Henry Habicht II,**

*Assistant Attorney General, Land and National Resources Division.*

[FR Doc. 85-23794 Filed 10-3-85; 8:45 am]

BILLING CODE 4410-01-M

### State of Maine; Consent Decree Pursuant to the Clean Air Act

In accordance with Departmental policy, 28 CFR 50.7, notice is hereby given that a proposed consent decree in *United States* v. *State of Maine*, et al., Civil Action No. 84-0152-B was lodged with the United States District Court for the District of Maine on September 25, 1985. The proposed consent decree concerns violation of applicable statutory provisions and regulations related to use of leaded gasoline in vehicles originally designed for unleaded gasoline. The proposed consent decree requires the defendants to implement and maintain for at least eighteen months a state-wide motor vehicle tampering inspection program, to air three public service announcements on anti-tampering and use of leaded gasoline in vehicles designed for unleaded gasoline, and to inspect Maine Bureau of Forestry vehicles and Maine Department of Conservation facilities for non-compliance and to correct any non-compliance that is found.

The Department of Justice will receive, for a period of thirty (30) days from the date of this publication, comments relating to the proposed consent decree. Comments should be addressed to the Assistant Attorney General of the Land and Natural Resources Division, Department of Justice, Washington, DC 20530, and should refer to *United States* v. *State of Maine*, et al., Civil Action No. 84-0152-B, D.J. Ref. 90-5-2-1-679.

The proposed consent decree may be examined at the office of the United States Attorney, District of Maine, 202 Harlow Street, Room 321, Bangor, Maine 04401 and at the Region I Office of the United States Environmental Protection Agency, John F. Kennedy Federal Building, Office of Regional Counsel, Boston, Massachusetts 02203. Copies of the consent decree may be examined at the Environmental Enforcement Section, Land and Natural Resources Division of the Department of Justice, Room 1517, Ninth Street and Pennsylvania Avenue NW., Washington, DC 20530. A copy of the proposed consent decree may be obtained in person or by mail from the Environmental Enforcement Section, Land and Natural Resources Division of the Department of Justice. In requesting a copy of the consent decree, please enclose a check in the amount of $1.60 (10 cents per page reproduction cost) payable to the Treasurer of the United States.

**F. Henry Habicht II,**

*Assistant Attorney General, Land and Natural Resources Division.*

[FR Doc. 85-23793 Filed 10-3-85; 8:45 am]

BILLING CODE 4410-01-M

## DEPARTMENT OF LABOR

### Bureau of Labor Statistics

### Business Research Advisory Council Committees; Meetings and Agenda

The regular fall meetings of the committees of the Business Research Advisory Council will be held on October 21, 22, and 23, 1985. All of the meetings will be held in Washington, DC.

The Business Research Advisory Council and its committees advise the Bureau of Labor Statistics with respect to technical matters associated with the Bureau's programs. Membership consists of technical officers from American business and industry.

The schedule and agenda for the meetings are as follows:

*Monday, October 21*

1:30 p.m.—Committee on Price Indexes
Room 4712, Bicentennial Building, 600 E Street, NW.

(Agenda until be announced at a late date)

*Tuesday, October 22*

10 a.m.—Committee on Productivity/Foreign Labor
Room N-5437 A and B, Frances Perkins Department of Labor Building, 200 Constitution Avenue, NW.

1. Two-Digit Multi-Factor Productivity Measures
2. Impact of R & D on Productivity
3. Capacity Utilization Change and Productivity Change
4. Results of Survey of Hours Worked and Hours Paid
5. Other Business

1:30 p.m.—Committee on Economic Growth
Room N-5437 A and B, Frances Perkins Department of Labor Building, 200 Constitution Avenue, NW.

1. Overview of Current Projections
2. Highlights of Program Development for FY 1986
3. Committee Input During Projection Development
4. Other Business

*Wednesday, October 23*

9:30 a.m.—Committee on Employment and Unemployment Statistics
Room N-5437 A and B, Frances Perkins Department of Labor Building, 200 Constitution Avenue, NW.

1. Report on Research on the Temporary Help Industry
2. Plant Closing/Mass Layoff and Dislocated Worker Report

3. Review of Local Area Unemployment Statistics Methodology Revision Project
4. Plans for the 1987 Standard Industrial Classification Revision
5. Presentation of Results of 790 Survey User Survey
6. Discussion of Methods for Designation of Statistical Areas and Labor Market Areas
7. Other Business

9:30 a.m.—Committee on Wages and Industrial Relations

Room N-3437 A, B, and C, Frances Perkins Department of Labor Building, 200 Constitution Avenue, NW.

1. Wages and Compensation Concepts, Today
2. Keeping an Eye on Changing Benefits
3. Review of Benefits in the Employment Cost Index
4. Status of Lump-Sum
5. Other Business.

The meetings are open to the public. It is suggested that persons planning to attend these meetings as observers contact Janice D. Murphey, Liaison, Business Research Advisory Council on Area Code (202) 523-1347.

Signed at Washington, DC this 27th day of September 1985.

**Janet L. Norwood,**

*Commissioner of Labor Statistics.*

[FR Doc. 85-23765 Filed 10-3-85; 8:45 am]

BILLING CODE 4510-24-M

## Meeting of the Board of the Business Research Advisory Council

The fall meeting of the Board of the Business Research Advisory Council will be held at 1:30 p.m., October 23, 1985, in Room N-3437 A, B & C of the Frances Perkins Department of Labor Building, 200 Constitution Avenue, NW., Washington, DC.

The Business Research Advisory Council advises the Bureau of Labor Statistics with respect to technical matters associated with the Bureau's programs. Membership consists of technical officers from American business and industry. The agenda for the meeting is as follows:

1. Chairperson's Opening Remarks—William J. Hawkes
2. Commissioner's Remarks—Janet L. Norwood
3. Committee Reports:
   (a) Occupational Safety and Health Statistics
   (b) Price Indexes
   (c) Productivity/Foreign Labor
   (d) Economic Growth
   (e) Employment and Unemployment Statistics
   (f) Wages and Industrial Relations
4. Other Business
5. Chairperson's Closing Remarks.

This meeting is open to the public. It is suggested that persons planning to attend as observers contact Janice D. Murphey, Liaison, BRAC, on Area Code (202) 523-1347.

Signed at Washington, DC this 27th day of September 1985.

**Janet L. Norwood,**

*Commissioner of Labor Statistics.*

[FR Doc. 85-23764 Filed 10-3-85; 8:45 am]

BILLING CODE 4510-24-M

## Employment and Training Administration

### Labor Surplus Area Classifications Under Executive Orders 12073 and 10582; Additions to Annual List of Labor Surplus Areas

**AGENCY:** Employment and Training Administration, Labor.

**ACTION:** Notice.

**DATE:** The additions to the annual list are effective on September 1, 1985.

**SUMMARY:** The purpose of this notice is to announce additions to the annual list of labor surplus areas.

**FOR FURTHER INFORMATION CONTACT:** William J. McGarrity, Labor Economist, 601 D Street, NW., Attention: TEESS, Washington, DC 20213. Telephone: 202-376-6191.

**SUPPLEMENTARY INFORMATION:** Executive Order 12073 requires executive agencies to emphasize procurement set-asides in labor surplus areas. The Secretary of Labor is responsible under that Order for classifying and designating areas as labor surplus areas.

Under Executive Order 10582 executive agencies may reject bids or offers of foreign materials in favor of the lowest offer by a domestic supplier, provided that the domestic supplier undertakes to produce substantially all of the materials in areas of substantial unemployment as defined by the Secretary of Labor. The preference given to domestic suppliers under Executive Order 10582 has been modified by Executive Order 12260. Federal Procurement Regulations Temporary Regulation 57 (41 CFR Chaper 1, Appendix), issued by the General Services Administration on January 15, 1981, (46 FR 3519), implements Executive Order 12260. Executive agencies should refer to Temporary Regulation 57 in procurements involving foreign businesses or products in order to assess its impact on the particular procurements.

The Department of Labor regulations implementing Executive Orders 12073 and 10582 are set forth at 20 CFR Part 654, Subparts A and B. Subpart A requires the Assistant Secretary of Labor to classify jurisdictions as labor surplus areas pursuant to the criteria specified in the regulations and to publish annually a list of labor surplus areas. Pursuant to those regulations the Assistant Secretary or Labor published the annual list of labor surplus areas on September 26, 1984, (49 FR 37865).

Subpart B of Part 654 states that an area of substantial unemployment for purposes of Executive Order 10582 is any area classified as a labor surplus area under Subpart A. Thus, labor surplus areas under Executive Order 12073 are also areas of substantial unemployment under Executive Order 10582.

The areas described below have been classified by the Assistant Secretary of Labor as labor surplus areas pursuant to 20 CFR 654.5(b) (48 FR 15615 April 12, 1983) and are added to the annual list of labor surplus areas, effective September 1, 1985. The following additions to the annual list of labor surplus areas are published for the use of all Federal agencies in directing procurement activities and locating new plants or facilities. Attention of Federal contracting agencies is directed to the retroactive impact of the effective date, since the appropriate jurisdictions were made public.

Signed at Washington, DC on September 30, 1985.

**Roberts T. Jones,**

*Acting Deputy Assistant, Secretary of Labor.*

ADDITIONS TO THE ANNUAL LIST OF LABOR SURPLUS AREAS

[September 1, 1985]

| Labor surplus area | CIVIL Jurisdiction included |
|---|---|
| New Mexico: | |
| Guadalupe County | Guadalupe County |
| Torrance County | Torrance County. |

[FR Doc. 85-23766 Filed 10-3-85; 8:45 am]

BILLING CODE 4510-30

## Occupational Safety and Health Administration

[V-85-7]

### Midwest Sterilization Corp.; Application for Temporary Variance and Interim Order; Grant of Interim Order

**AGENCY:** Occupational Safety and Health Administration, Labor.

**ACTION:** Notice of application for temporary variance and interim order; grant of interim order.

**SUMMARY:** This notice announces the application of the Midwest Sterilization Corporation for a temporary variance and an interim order from the engineering controls implementation requirement of the standard for Occupational Exposure to Ethylene Oxide (29 CFR 1910.1047 (m)(2)(ii)). It also announces the granting of an interim order until a decision is rendered on the application for variance.

**DATES:** The effective date of the interim order is October 4, 1985. The last date for interested persons to submit comments is November 4, 1985. The interim order shall remain in effect until February 21, 1986, or until a decision is rendered on the application for variance, whichever occurs first.

**ADDRESSES:** Send comments or requests for a hearing to: Office of Variance Determination, Occupational Safety and Health Administration, U.S. Department of Labor, Third Street and Constitution Avenue, NW., Room N3656, Washington, DC 20210.

**FOR FURTHER INFORMATION CONTACT:**

James J. Concannon, Director, Office of Variance Determination at the above address. Telephone: (202) 523-7193

or the following Regional and Area Offices:

U.S. Department of Labor—OSHA, 911 Walnut Street, Rm. 406, Kansas City, Missouri 64106

U.S. Department of Labor—OSHA, 4300 Goodfellow Boulevard, Building 105E, St. Louis, Missouri 63120

### Notice of Application

Notice is hereby given that the Midwest Sterilization Corporation, Nash Road, Cape Girardeau, Missouri 63701, has made application pursuant to section 6(b)(6)(A) of the Occupational Safety and Health Act of 1970 (84 Stat. 1594, 29 U.S.C. 655) and 29 CFR 1905.10 for temporary variance, and interim order pending a decision on the application for variance, from the standard prescribed in 29 CFR 1910.1047(m)(2)(ii) which specifies the effective date for the implementation of engineering controls.

The address of the place of employment that will be affected by this application is as follows: Midwest Sterilization Corporation, Nash Road, Cape Girardeau, Missouri 63701.

The applicant certifies that employees who would be affected by the variance have been informed of the application by posting copies at all places where notices to employees are normally posted. Employees have also been informed of their right to petition the Assistant Secretary for a hearing.

Regarding the merits of the application, the applicant contends that it is unable to comply with the requirement of 29 CFR 1910.1047(m)(2)(ii) for engineering controls to be implemented by August 21, 1985, because necessary construction to modify the facility being purchased cannot be completed until February 21, 1986.

The applicant is presently leasing space to operate its ethylene oxide sterilization facility at Nash Road, Cape Girardeau, Missouri 63701. The applicant alleges that the ethylene oxide regulation will require an expenditure of $200,000 to $400,000 to come into compliance. The applicant decided to negotiate a contract to purchase the warehouse in which they operate their business. The applicant has shown evidence of entering into a contract to purchase and states that settlement should occur during October 1985. The applicant further states that arrangements for financing have taken longer than anticipated and further delayed the improvements.

The applicant states and has submitted evidence to show that an engineering company was contracted to develop specifications necessary to meet the requirements of the ethylene oxide standard. The applicant received the completed study on May 31, 1985.

The applicant has shown through exhibits submitted with its application that it will require approximately six months lead time to purchase and make the necessary modifications and installations at the facility. The applicant states that the equipment orders have been placed but will not be acted upon until the financing arrangements for purchase of the facility have been completed.

The applicant states that its employees are being protected from the hazard of ethylene oxide by wearing the appropriate NIOSH approved respirators and by additional temporary ventilation which has been provided by adding high volume fans to move air in and out of the warehouse work environment.

Therefore, the applicant contends, that the evidence presented demonstrates that Midwest Sterilization Corporation is unable to comply with 29 CFR 1910.1047(m)(2)(ii) of the standard by its required date.

All interested persons, including employers and employees who believe they would be affected by the grant or denial of the application for variance are invited to submit written data, views, and arguments relating to the issues raised in the application no later than November 4, 1985. In addition, employers and employees who believe they would be affected by a grant or denial of the variance may request a hearing on the application no later than November 4, 1985, in conformance with the requirements of 29 CFR 1905.15. Submission of written comments and requests for a hearing should be in quadruplicate, and must be addressed to the Office of Variance Determination at the above address.

### Grant of Interim Order

It appears from the application for temporary variance and interim order that, as required by section 6(b)(6)(A) of the Act, the Midwest Sterilization Corporation is unable to comply with the requirements of 29 CFR 1910.1047(m)(2)(ii) by the date required by the standard. It appears that the applicant is taking all available steps to safeguard its employees during the time needed to come into compliance with the standard. It further appears that the interim order is necessary to prevent undue hardship to the applicant and its employees pending a decision on the variance. Therefore, it is ordered, pursuant to the authority in section 6(b)(6)(A) of the Occupational Safety and Health Act of 1970, in 29 CFR 1905.10(c) and in Secretary of Labor's Order No. 9-83 (48 FR 35736), the Midwest Sterilization Corporation is authorized to comply with the requirements of the order set forth below in lieu of complying with the requirements of 29 CFR 1910.1047(m)(2)(ii). All other provisions of the ethylene oxide standard are unaffected by this order and therefore must be complied with in conjunction with the terms of this Order.

The terms of the Order are as follows:

1. The terms of the order apply to all employees in the ethylene oxide exposed workforce.

2. In lieu of paragraph (d)(3)(i) which requires that the employers repeat the measurements required by paragraph (d)(2) at least every six months, the repetitions shall be at least every two months.

3. The employer shall agree to allow OSHA to inspect its premises in connection with the interim order.

4. The employer shall comply with all other provisions of the ethylene oxide standard which are unaffected by this order, with particular emphasis on the following:

a. Use of respirators: All affected employees must be required to wear

respirators based upon their exposure levels and periodic monitoring to ensure proper respirator use.

b. Maintenance of work practices and air handling equipment: A complete and comprehensive work program must be maintained and employees trained in good work practices. Air handling equipment must be maintained correctly to ensure maximum efficiency in reducing ethylene oxide levels and cleaning and repair of such equipment performed promptly.

c. Exposure monitoring and measurements: All periodic monitoring to ensure proper respiratory usage and employee notification to ensure employee knowledge of exposure must be continued and proper records completed and maintained.

d. Medical surveillance conducted: All aspects of the required medical surveillance program, including examinations and pulmonary function tests to detect impaired lung function, must be administered and medical opinions and records properly obtained and kept.

e. Employee education and training: An in-depth training and education program through which employees become aware of the hazards and their exposure to ethylene oxide must be continued. Exposure notices and warning signs must be posted and respirator-wear time for each area and shift must be given to employees. Training in proper wearing of respirators and in proper respirator handling and storage must be also be continued.

As soon as possible the Midwest Sterilization Corporation shall give notice of this interim order to employees affected thereby by the same means required to be used to inform them of the application for a variance.

This interim order shall remain in effect until February 21, 1986, or until a decision is rendered on the application for variance, whichever occurs first.

Signed at Washington, D.C., on this 30th day of September 1985.

Patrick R. Tyson,

*Acting Assistant Secretary.*

[FR Doc. 85-23767 Filed 10-3-85; 8:45 am]

BILLING CODE 4510-26-M

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[V-85-6]

## Union Boiler Co.; Grant of Variance

**AGENCY:** Occupational Safety and Health Administration, Labor.

**ACTION:** Grant of Variance.

**SUMMARY:** This notice announces the grant of variance to Union Boiler Company from the standards prescribed in 29 CFR 1926.451(1)(5) concerning boatswain's chairs and in 29 CFR 1926.552(c)(2), (c)(3), (c)(4), (c)(8), (c)(13), (c)(14)(i), (c)(14)(iii) and (c)(16) concerning personnel hoists.

**DATE:** The effective date of the variance is October 4, 1985.

**FOR FURTHER INFORMATION CONTACT:**

James J. Concannon, Director, Office of Variance Determination, Occupational Safety and Health Administration, U.S. Department of Labor, Third Street and Constitution Avenue, NW., Room N-3656, Washington, DC 20210. Telephone: (202) 523-7193

or the following Regional Offices:

U.S. Department of Labor, Occupational Safety and Health Administration, 16-18 North Street, 1 Dock Square Building, 4th Floor, Boston, Massachusetts 02109

U.S. Department of Labor, Occupational Safety and Health Administration, 1515 Broadway (1 Astor Plaza), Room 3445, New York, New York 10036

U.S. Department of Labor, Occupational Safety and Health Administration, Gateway Building—Suite 2100, 3535 Market Street, Philadelphia, Pennsylvania 19104

U.S. Department of Labor, Occupational Safety and Health Administration, 1375 Peachtree Street, NE., Suite 587, Atlanta, Georgia 30367

U.S. Department of Labor, Occupational Safety and Health Administration, 32nd Floor, Room 3244, 230 South Dearborn Street, Chicago, Illinois 60604

U.S. Department of Labor, Occupational Safety and Health Administration, 525 Griffin Street, Room 602 Dallas, Texas 75202

U.S. Department of Labor, Occupational Safety and Health Administration, 911 Walnut Street—Room 406, Kansas City, Missouri 64106

U.S. Department of Labor, Occupational Safety and Health Administration, Federal Building, Room 1554, 1961 Stout Street, Denver, Colorado 80294

U.S. Department of Labor, Occupational Safety and Health Administration, 11349 Federal Building, 450 Golden Gate Avenue, P.O. Box 36017, San Francisco, California 94102

U.S. Department of Labor, Occupational Safety and Health Administration, Federal Office Building, Room 6003, 909 First Avenue, Seattle, Washington 98174

**SUPPLEMENTARY INFORMATION:**

### I. Background

Union Boiler Company, P.O. Box 425 Nitro, West Virginia 25143, has made application pursuant to section 6(d) of the Occupational Safety and Health Act of 1970 (84 Stat. 1596; 29 U.S.C. 655) and 29 CFR 1905.11 for a permanent variance from the standards prescribed in 29 CFR 1926.451(1)(5) concerning boatswain's chairs and 1926.552(c)(2), (c)(3), (c)(4), (c)(8), (c)(13), (c)(14)(i), (c)(14)(iii) and (c)(16) concerning personnel hoists. The facilities affected by the application are all of the applicant's present and future construction projects in States under Federal jurisdication where the erection, maintenance and modification of chimney liners and similar work occur.

Notice of the application and the grant of interim order were published in the **Federal Register** on August 2, 1985 (50 FR 31441). The notice invited interested persons, including affected employers and employees to submit written data, views, and arguments regarding the grant or denial of the variance requested. In addition, affected employers and employees were notified of their right to request a hearing on the variance application. No written comments or requests for a hearing were received.

### II. Facts

The applicant is enaged in construction work, such as the erection, modification, and maintenance of steel chimney liners, which necessitates the hoisting of men and material to and from an elevated work platform. In constructing a chimney liner, a support consisting of steel beams is placed on top of the chimney. This support can sustain the liner down to the first permanent support. Hoisting beams are also placed on top of the chimney for the purpose of hoisting 40 to 90 foot long cans and other material.

The cans are constructed from rolled steel plates in circular sections, complete with insulation and stiffners. They are assembled at ground level (maximum working height 12 feet) and hoisted to the top of the chimney. Employees are then hoisted to the working platform in a cage, which operates inside the chimney liner, to connect the can to the support or previously connected can. After the can is attached, the working platform is lowered to the ground. According to the applicant, this method of constructing chimney liners allows at least 90 percent of the work to be performed at ground level.

Section 1926.451(a)(13) requires that access to an elevated work platform shall be provided for the employees by an access ladder or an equivalent safe means. The applicant states that when the height of the construction rises above 400 feet, it becomes impractical,

unsafe and sometimes impossible to use an access ladder. Therefore, the employer must provide some other safe means of access.

Section 1926.552(c) sets forth the requirements for personnel hoisting from one elevation to another. The purpose of the standard is to provide requirements so that employees are safely transported to and from the elevated work platform by mechanical means during the construction, alteration, repair, maintenance, or demolition of a structure, building, or other work. This standard, however, does not provide specific safety requirements for hosting personnel to and from an elevated work platform that is constantly being moved to different elevations and which tapers to correspond to the diameter of a structure which tapers throughout its height. According to the applicant, the tappering diameter contributes essential stability to structure. Consequently, the applicant contends that it is unable to comply with §§ 1926.552 (c)(2), (c)(4), (c)(8), (c)(13), (c)(14)(i), (c)(14)(iii) and (c)(16), insofar as they set requirements for constructing a hoist tower inside a structure, anchoring the hoist tower to the structure, hoistway doors or gates, emergency stop switches, and using a minimum of two wire ropes for drum type hoists, respectively.

The applicant contends that it is hazardous to erect and brace a hoist tower inside a structure because it interferes with the design and construction of proper scaffolding. The applicant also notes that, because the diameter of the structure decreases as it rises, there is insufficient space for a hoist tower either between the chimney liner and the chimney or inside the liner. Moreover, the bracing and guying necessary to support the tower would make ground level assembly and subsequent hoisting of the cans infeasible, so all assembly would be at elevated levels.

Acordingly, the applicant proposes to use a special workmen's hoist system to safely transport employees from the bottom landing to the elevated work platform. The special workmen's hoist system consists of a hoist drum hauling a rope suspended cage between ground level and one or more elevated work platforms. The cage will run on a pair of taut guide ropes designed to hold the cage in the hoistway during all stages of loading and vertical movement. The applicant will use the safety cage only to hoist workmen. The safety cage and safety cables are to be pulled aside on the foundation while the hoisting rope-connection is used to hoist material.

Safety features, such as limit switches to prevent overtravel of the cage, are incorporated in the controls to maintain the maximum level of worker protection. If the main hoist line failed, an independent, automatically activated emergency braking system attached to the top of the cage (safety clamps) would be activated, gripping the two guide ropes to stop the falling cage.

The applicant also contends that it is infeasible to transport employees in the cage to and from elevated scaffold for construction of chimney linings of small diameter or to the bracket scaffold on the interior of the chimney liners. The applicant states that it will raise and lower employees on a single-point suspension scaffold where space permits or in a boatswain's chair when it is not feasible to use the cage. Under the applicant's proposal, the material handling attachment will be temporarily disconnected from the hoisting cable and a single-point suspension scaffold or boatswain's chair will be securely attached to the cable. The employee's safety belt will be attached to a suitable lifeline securely attached to the rigging at the top and to a weight at the bottom, in order to further ensure the safety of the employees on the single-point suspension scaffold or in the boatswain's chair.

Under the terms of § 1926.451(l)(5), employers are required to provide and enforce the use of a block and falls with a boatswain's chair. The primary purpose of the standard is to provide an employee who is suspended in a boatswain's chair with a safe method for controlling ascent, descent and stopping locations. The applicant contends that a block and falls are very difficult or impossible to operate on a structure over 200 feet. The applicant proposes to substitute a hoisting cable for the block and falls required by § 1926.451(l)(5).

The applicant bases his variance application on its many years of successful experience using safe practices in chimney liner construction. Since 1960 the applicant has constructed approximately 700 liners in more than 200 chimeys.

The applicant has also submitted detailed specifications and drawings, which describe the function of the components and safety devices provided in the special workmen's hoist system, to protect the safety of employees being transported in the cage.

## III. Decision

Section 1926.552(c) sets forth the requirements for personnel hoisting from one elevation to another by mechanical means. OSHA has determined, however, that the standard does not include pertinent safety requirements for hoisting personnel to and from a work platform that tapers in diameter as it rises to higher elevation. As a consequence, the applicant is unable to comply with certain sections of the standard.

The applicant has demonstrated, through the submission of its variance application and supporting data, that compliance with the hoist tower requirements is infeasible and hazardous. For instance, the hoist tower interferes with the proper design and construction of scaffolding and, as the diameter of the structure decreases, space becomes insufficient to accommodate the tower within the structure. Moreover the bracing and guying necessary to support the tower would make ground level assembly and subsequent hoisting of the cans infeasible, so all assembly would be at elevated levels.

Under the term of §1926.451(l)(5) employers are required to provide and enforce the use of block and falls with the boatswain's chair to provide for the safe means of access and egress. The applicant has demonstrated that compliance with the block and falls requirement is not always technically feasible. For example, as a rule, the block and falls may be used safely to reach heights up to 200 feet. Most structures are over 200 feet. Therefore, a hoisting cable may be substituted for the block and falls in order to safely raise and lower employees to elevations over 200 feet.

On the basis of the record, OSHA has determined that the procedures used by the applicant during the construction of a chimney liner or similar structures, as described in the Fact section, will provide employment and places of employment which are as safe as or, indeed, safer than those which would prevail if the applicant was to comply with the requirements of the standards. Accordingly, OSHA has determined that the applicant has established a method for hoisting personnel which results in the least hazardous exposure to the employee. Therefore, Union Boiler Company merits relief from 29 CFR 1926.451(l)(5) and 29 CFR 1926.552 (c)(2), (c)(3), (c)(4), (c)(8), (c)(13), (c)(14)(i), (c)(14)(iii) and (c)(16).

## IV. Order

Pursuant to the authority in section 6(d) of the Occupational Safety and Health Act of 1970, the Secretary of Labor's Order No. 9–83 (48 FR 35736), and 29 CFR Part 1905, it is ordered that Union Boiler Company is hereby authorized to:

(1) Utilize a special workmen's hoist system to safely transport personnel between the bottom landing and elevated work platform during the construction of chimney liners and similar work in lieu of complying with 29 CFR 1926.552 (c)(2), (c)(3), (c)(4), (c)(8), (c)(13), (c)(14)(i), (c)(14)(iii) and (c)(16). The system includes the hoist machine, cage, safety cables, and safety measures, such as limit swithes to prevent overrun of the cage at the top and bottom landings and safety clamps that grip the safety cables, in the event the main hoist line fails.

(2) Use a single-point suspension scaffold to safely transport personnel to and from the elevated scaffold when constructing structures of small diameter or to safely transport employees to and from the bracket scaffold on the interior of the chimney liner. The single point suspension scaffold shall be raised and lowered by the hoisting cable used for the cage instead of the power unit required by 29 CFR 1926.451(k).

(3) Use a boatswain's chair in situations where the cage or single-point suspension scaffold is infeasible. A hoisting cable may be used with the boatswain's chair where heights preclude the use of the block and falls required by 29 CFR 1926.451(f)(5).

All other applicable provisions of 29 CFR Part 1910, 29 CFR Part 1926, and ANSI A10.4–1963 are unaffected by this order and must be complied with in conjunction with the terms of the order.

The terms of the order are as follows:

**1. Qualified Person**

(a) A qualified person as defined in § 1926.32 (f) and (l) shall be responsible for the design, maintenance and inspection of the personnel hoisting system.

(b) A qualified person shall remain at ground level at all times whenever employees are being transported to and from the elevated work platform to assist in the event of an emergency.

**2. Hoist Machine**

(a) *Type of hoist.* The hoist machine shall be designated as a portable personnel hoist.

(b) *Power up and power down.* The hoist machine shall be a base-mounted multiple-drum hoist designed so that linespeed is controlled. Power up and power down requirements are as follows:

(i) Lowering by disengagement of the driving components (freewheeling) shall not be permitted;

(ii) The drive system for the hoist shall be designed so that the system is continuously interconnected through a torque converter, mechanical coupling or equivalent coupling;

(iii) When a forward/reverse coupling or shifting transmission is used in the drive train, a braking mechanism as described in paragraph (f) of this section shall automatically apply when the transmission is in the neutral position; and

(iv) Belt drives shall not be permitted.

(c) *Source of power.* The hoist machine may be powered by any air, electric, hydraulic or internal combustion drive mechanism.

(d) *Constant pressure control switch.*

(i) The hoist shall be equipped with a hand or foot operated constant pressure control switch (deadman control switch) which shall stop the hoist immediately upon release; and

(ii) The switch shall be provided with appropriate protection to prevent it from activating in the event it is struck by falling or moving objects.

(e) *Line speed indicator.* The hoist shall be equipped with a line speed indicator maintained in good working order.

(f) Braking systems. The hoist shall be provided with two independent braking systems, (one automatic braking system and one manual), each capable of stopping and holding 150 percent of the maximum line-load for personnel hoisting.

(g) *Frame.* The hoist machine frame shall be self-supporting, rigid, welded steel structure with skid base. Holding brackets for anchor lines, as well as legs for anchor bolts, shall be located at corners.

(h) *Location.* The hoist machine shall be located far enough from the footblock to obtain correct fleet angle for proper spooling of the cable on the drum.

(i) *Drum and flange diameters.*

(i) The hoist shall have a winding drum not less than 30 times the diameter of the rope used; and

(ii) The flange diameter shall be approximately 1½ times the rope drum diameter.

(j) *Spooling of the rope.* The rope shall not be spooled closer than 2 inches from the outer edge of the hoist drum flange.

(k) *Electrical system.* All electrical equipment shall be weatherproof.

(l) *Limit switches.* The hoisting system shall be equipped with limit switches and related equipment which will automatically prevent over travel of the cage at the top of the supporting structure and at the base of the structure.

**3. Operating Controls and Devices**

(a) *Operator.* Only trained employees who are knowledgeable in the operation of the hoist system shall control the hoist machine.

(b) *Operating procedures.* Procedures for operating the hoist shall be conspicuously posted at the hoist operator's station.

(c) *Speed limitations.* The hoist shall not be operated at a speed in excess of:

(i) 100 ft./min. when using the single-point suspension scaffold or boatswain's chair; and

(ii) 250 ft./min. for the cage when transporting employees.

(d) *Communication.*

(i) Communication between the hoist operator and employees on the working platforms, in the moving cage, on the single-point suspension scaffold or in the boatswain's chair, shall be maintained by a voice-type intercommunication system.

(ii) When communication stops, is interrupted or fails, the hoisting motion shall cease until communication is resumed.

**4. Hoist Rope**

(a) *Grade.* Hoist wire rope shall be extra improved plow steel or equivalent grade of nonrotating type or regular lay rope with proper swivel.

(b) *Factor of safety.* The hoist rope shall maintain a factor of safety not less than 8.90 throughout its use for hoisting personnel.

(c) *Size.* The hoist ropes shall be not less than one-half inch in diameter and shall be free of damage at all times.

(d) *Installation, removal and replacement.*

(i) Wire rope shall be thoroughly inspected before the start of each job or new setup; and

(ii) During use, wire rope shall be removed and replaced with new wire rope if any of the conditions described in § 1926.552(a)(3) for wire rope removal occur.

(e) *Attachments.* The rope shall be attached to the cage by a shackle or positive locking link.

(f) *Wire rope fastenings.* Where clip fastenings are used:

(i) They shall be used in conformance to § 1926.251(c) and Table H20;

(ii) There shall be at least three clips used at each fastening;

(iii) Clips shall be installed with the "U" of the clips on the deadend of rope; and

(iv) Spacing clip-to-clip shall be six times the diameter of the rope.

**5. Footblocks**

(a) *Type of block.* The footblocks shall be:

(i) Construction-type or an equivalent block with roller bearings and a safety factor of four times the safe workload;

(ii) Designed for the applied loading, size and type of rope being used;

(iii) Designed with a guard to guarantee containment of the rope within the sheave groove;

(iv) Equipped with a slack rope switch to prevent further rotation of the hoist drum in slack rope condition;

(v) Rigidly bolted down; and

(vi) Serve to turn the moving rope to and from the horizontal or vertical for suitable change of direction of rope travel.

(b) *Directional change.* The change from the horizontal direction of the hoist rope at the footblock to the vertical direction shall be approximately 90°.

(c) *Diameter.* The line diameter of the footblock shall be not less than 20 times the rope diameter.

**Note.**—This diameter-to-diameter ratio for rope to sheave size is predicated on regular inspection of the rope and immediate discard from the system when any one of the conditions listed in § 1926.552(a)(3) exists.

**6. Cathead and Sheaves**

(a) *Qualified person.* A qualified person shall be responsible for the design and maintenance of the cathead (overhead structure).

(b) *Support.* The overhead sheave support shall be securely bolted to prevent spreading.

(c) *Installation.* All sheaves shall be installed between the supporting members and shall revolve on a fixed shaft which rotates on tapered roller block bearings. Bearings shall be securely mounted to maintain proper bearing position at all times.

(d) *Sheave safeguards.* Each sheave shall be provided with suitable rope guides to prevent the hoist rope from leaving the sheave grooves in case there is abnormal vibration or swing of the hoist rope.

(e) *Diameter.*

(i) The cathead sheaves shall have a minimum diameter equal to 20 times the diameter of the rope when the rope travels on the sheave at an angle of approximately 90° (see note to paragraph 5(c) of this order); and

(ii) When using ½-inch rope, the corresponding minimum sheave diameter shall be 12-inches.

**7. Guide Ropes**

(a) *Number of cables.* Two guide ropes (steel safety cables not less than one-half inch in diameter) shall be fixed by swivels to the cathead and shall be free of damage or defect at all times.

(b) *Cable fastening and alignment tension.* One end of each cable shall be securely and properly fastened to the overhead support, with appropriate tension applied at the foundation.

(c) *Safety clamps.* Safety clamps shall be properly designed and constructed to fit the guide ropes.

(d) *Application of tension.* The clamping device used for tension shall be of a type that will not damage the ropes.

(e) *Height.* The guide ropes shall run the height of the structure.

**8. Cage**

(a) *Construction.* The cage shall have a steel frame.

(b) *Floor.* The floor shall be securely fastened in place with a loading factor of 4.

(c) *Walls.* The cage walls shall be:

(i) Made of aluminum expanded metal or the equivalent; and

(ii) Permanently enclosed on all sides except the entrance, exit, and emergency exit.

(d) *Roof.* The roof shall:

(i) Cover the top of the cage to protect occupants in the cage from falling objects; and

(ii) Be constructed of ⅛ inch aluminum or equivalent sheet metal, with a declining slope of approximately 30 degrees to the horizontal, from the center to the outside edge of the cage.

(e) *Overhead weight.*

(i) An overhead weight, such as a headache ball, of sufficient weight shall be used to compensate for the weight of the hoist rope between the cathead and footblock, if required, to prevent line run; and

(ii) Provisions shall be made to restrain the movement of the overhead weight.

(f) *Types of gates.*

(i) The gates shall guard the full height of the entrance openings;

(ii) The gates shall operate with a mechanical locking device; and

(iii) The gates shall not open outwardly from the side of the cage.

(g) *Hand-holds.* The cage shall be equipped with hand-holds to accommodate each occupant.

(h) *Capacity.* The rated capacity of the cage shall conform to the following:

(i) The maximum load for the two-employee cage shall be 2 employees or 500 pounds, and for the four-employee cage it shall be 4 employees or 1000 pounds;

(ii) The weight of the cage and all auxiliary equipment attached to the cage shall be included in the maximum rated load for material hoisting; and

(iii) A sign stating the loading capacities and the drop tests results, shall be posted in the cage.

**9. Safety Clamps**

(a) *Attachment and operation.* Safety clamps shall be attached to the cage for gripping the guide ropes and shall operate on the broken rope principle.

(b) *Function.* The safety clamps shall be capable of stopping and holding the cage at the maximum allowable speed and load.

(c) *Spring compression force.* The clamping force required for each individual hoisting system shall be pre-determined and pre-set.

(d) *Maintenance.* The safety clamp assemblies shall be kept clean and functional at all times.

**10. Emergency Escape**

(a) *Location.* An emergency escape device shall be provided in the cage or at the bottom landing. The device shall conform to the following requirements:

(i) If the emergency escape device is stored in the cage it shall be long enough to reach the bottom landing from the highest escape point;

(ii) If the emergency escape device is stored at the bottom landing there shall be a means provided in the cage for raising the device to the highest escape point; and

(iii) Operating instructions shall be attached to the escape device.

(b) *Training.* All new and existing employees to be transported in the cage shall be instructed in the use of the hoisting and emergency escape system prior to being transported in the cage and every three months thereafter.

**11. Single-Point Suspension Scaffolds and Boatswain's Chairs**

(a) *Single-point suspension scaffold.*

(i) A single-point suspension scaffold with 42-inch high enclosure may be used to raise and lower employees whenever it is not technically feasible to use the cage;

(ii) The employer shall comply with the applicable scaffolding strength factor provisions in §§ 1926.451 (a)(7) and (a)(19);

(iii) Not more than two employees shall occupy the single-point suspension scaffold at any one time; and

(iv) No employees are allowed to be transported on the single-point suspension scaffold while hoisting material.

(b) *Boatswain's chairs.* A boatswain's chair shall only be used when the cage or single-point suspension scaffold is impracticable.

(c) *Hoisting cable.* A hoisting cable may be used where the distances involved in hoisting preclude the use of the block and falls required by § 1926.451(l)(5).

(d) *Safety belts and lifelines.*

(i) Each employee riding on the single-point suspension scaffold or in the boatswain's chair shall be equipped with a safety belt and lifeline in accordance with § 1926.104 and the applicable provisions of § 1926.451(l); and

(ii) Each lifeline shall be suspended from a separate building support, reaching from the top of the structure to the ground.

**12. Welding**

All field welding shall be done by qualified welders in accordance with §1926.556(b)(5).

Union Boiler Company shall give notice of this grant of variance to all affected employees of the terms of this order by the same means required to inform them of the variance application.

Effective Date: The order shall become effective on October 4, 1985, and shall remain in effect unless modified or revoked in accordance with section 6(d) of the Occupational Safety and Health Act of 1970.

Signed at Washington, D.C. this 30th day of September, 1985.

**Patrick R. Tyson,**

*Acting Assistant Secretary.*

[FR Doc. 85-23768 Filed 10-3-85; 8:45 am]

BILLING CODE 4510-26-M

## INTERNATIONAL BOUNDARY AND WATER COMMISSION, UNITED STATES AND MEXICO

### Final Environmental Assessment and Final Finding of No Significant Impact; IBWC Interceptors; San Diego, CA

**AGENCY:** United States Section, International Boundary and Water Commission, United States and Mexico.

**ACTION:** Notice of Availability of Final Environmental Assessment and Final Finding of No Significant Impact.

**SUMMARY:** Pursuant to section 102(2)(C) of the National Environmental Policy Act of 1969; the Council on Environmental Quality Regulations (40 CFR Part 1500); and the United States Section Operational Procedures for Implementing section 102 of NEPA, published in the **Federal Register** September 2, 1981 (46 FR 44083), the United States Section hereby gives notice that the final environmental assessment and final finding of no significant impact for the construction, operation, and maintenance of the IBWC Interceptors near the international boundary in San Diego County, California are available. A notice of finding of no significant impact was published in the **Federal Register** July 11, 1985 (50 FR 28291) and provided a thirty (30) day comment period before making the finding final.

**ADDRESS:** George R. Baumli, Principal Engineer, Investigations and Planning Division; United States Section, International Boundary and Water Commission, United States and Mexico; The Commons, C-310; 4171 North Mesa; El Paso, Texas 79902. Telephone (915) 541-7304, FTS 572-7304.

**SUPPLEMENTARY INFORMATION:** .

**Proposed Action**

The United States Section, International Boundary and Water Commission (U.S. Section) proposes to construct, operate, and maintain a system to intercept, divert, and dispose of fugitive raw sewage flows originating from Tijuana that enter the United States through Canyon del Sol and two easterly drains. The sewage interceptor system will be designed to intercept fugitive raw sewage flows from Canyon del Sol, Silva Drain, and Stewart's Drain and convey them to Mexico's pumping plant or to the San Diego Metro System.

**alternatives Considered**

Four alternatives were considered:

*Preferred Alternative:* The Proposed Action is the U.S. Section's Preferred Alternative. Sewage interceptor works, including two 50,000-gallon concrete box sumps, will be constructed near the international boundary. The system will have sufficient capacity, 1.6 mgd, to intercept all usual fugitive sewage flows in the named canyon and drains and safely dispose them to Mexico's pumping plant or to the San Diego Metro System.

*No Action:* This alternative would result in continued fugitive flows of raw sewage down Canyon del Sol and two drains to the lower Tijuana River Valley.

*Gravity Return of Sewage Flows:* This alternative would require that right-of-way on privately owned land be acquired to take advantage of the natural contours of the area. An agreement could not be reached with the landowner for the needed right-of-way.

*Interceptors Adjacent to the International Boundary:* This alternative would provide for interceptor structures located adjacent to the drains at the international boundary. This would require expensive pumping to convey the captured sewage flows eastward over the very mountainous terrain along the international boundary. Additonally, right-of-way agreement could not be reached with the landowners to construct the interceptor works adjacent to the international boundary.

**Availability**

Single copies of the Final Environmental Assessment and Final Finding of No Significant Impact may be obtained by request at the above address.

Dated: September 23, 1985.

**Darcy A. Frownfelter,**

*Legal Advisor.*

[FR Doc. 85-23795 Filed 10-3-85; 8:45 am]

BILLING CODE 4710-03-M

## NATIONAL SCIENCE FOUNDATION

### Advisory Committee for Astronomical Sciences; Meeting

In accordance with the Federal Advisory Committee Act, Pub. L. 92-463, as amended, the National Science Foundation announces the following meeting:

Name: Advisory Committee for Astronomical Sciences.

Date and time: October 15-16, 1985 9AM-5PM.

Place: Room 1242, National Science Foundation.

Type of meeting: Partially Closed.

Contact person: Dr. Laura P. Bautz, Director, Division of Astronomical Sciences, Room 615, National Science Foundation, Washington, DC 20550 (202 357-9488).

Summary minutes: May be obtained from the contact person at the above address.

Purpose of committee: To provide advice and recommendations concerning research programs, proposals, and projects in NSF-funded astronomy with the objective of achieving the highest quality forefront research for the funds allocated. To provide advice and recommendations concerning short range and long range plans in astronomy, including a recommendation of relative priorities.

Agenda:

**Tuesday, October 15**

9AM-4PM—Status of FY 1986 and FY 1987 Budgets; Report on AURA/NSF Study of Goals and Priorities of the National Solar Observatory; Interim Report from Subcommittee on Large Optical/Infrared Telescopes.

4PM-5PM—Closed session-Proposal Review.

**Wednesday, October 16**

9AM-5PM—Discussion of Impact of Space Telescope; NSF Review of Centers Management; Continuation of Discussions from Previous Day.

Reason for closing: The proposals being reviewed include information of a proprietary or confidential nature, including technical information; financial data, such as salaries; and personal information concerning individuals associated with proposals. These matters are within exemptions (4) and (6) of 5 U.S.C. 552b(c), Government in the Sunshine Act.

Authority to close meeting: This determination was made by the Committee Management Officer pursuant to provisions of Section 10(d) of Pub. L. 92-463. The Committee Management Officer delegated the authority to make such determinations by the Director, NSF, July 6, 1979.

Reason for late notice: Difficulty in establishing an Agenda.

**M. Rebecca Winkler,**

*Committe Management Officer.*

October 1, 1985.

[FR Doc. 85-23713 Filed 10-3-85; 8:45 am]

BILLING CODE 7555-01-M

## NUCLEAR REGULATORY COMMISSION

### Baltimore Gas & Electric Co.; No Significant Impact

**[Docket Nos. 50-317 and 50-318]**

The U.S. Nuclear Regulatory Commission (the Commission) is considering the granting of an exemption from certain requirements of Appendix J to 10 CFR Part 50, "Primary Reactor Containment Leaking Testing for Water-Cooled Power Reactors." The proposed exemption involves the schedular requirements for the Type A reactor containment Integrated Leak Rate Test (ILRT) as specified in 10 CFR Part 50, Appendix J, Section III.D.1.(a).

**Environment Assessment**

*Indentification of Proposed Action*

The requirements of Appendix J of 10 CFR Part 50 Section III.D.1(a) state ". . . a set of three Type A tests shall be performed at approximately equal intervals during each 10-year service period. The third test of each set shall be conducted during the shutdown for the 10-year plant inservice inspection."

The currently scheduled 10-year Inservice Inspection (ISI) outage would be in the fall of 1986 for Unit 1 and in the spring of 1987 for Unit 2. Performance of the third ILRT during the 10-year ISI outage which is required by Appendix J would result in the violation of the 40 ± 10 month interval required by Technical Specification 4.6.1.2a. Accordingly, the licensee has requested a change to the ILRT schedule to allow the third ILRT to be conducted earlier than indicated by Appendix J.

*The Need for the Proposed Action*

The granting of the requested exemption from the Type A schedule requirements would allow the licensee to maintain the 40 ± 10 month test interval required by Technical Specification 4.6.1.2a.

*Environmental Impacts of the Proposed Action*

Our evaluation of the proposed request for exemption from the Type A test schedule requirements indicates that the exemption will not, in any way, reduce the integrity of the containment systems. Accordingly, post-accident radiological releases will not be greater than previously determined nor does the proposed exemption otherwise affect radiological plant effluents, and there is no significant increase in occupational exposures. Therefore, the Commission concludes that there are no significant radiological environmental impacts associates with this proposed exemption.

*Alternative Use of Resources*

This action does not involve the use of resources not previously considered in connection with the "Final Environmental Statement Relating to Operation of Calvert Cliffs Nuclear Power Plant Units 1 and 2" dated April 1973.

*Agencies and Persons Consulted*

The NRC staff reviewed the licensee's request and did not consult other agencies or persons.

*Finding of No Significant Impact*

The Commission has determined not to prepare an environmental impact statement for the proposed exemption.

Based upon the foregoing environmental assessment, we conclude that the proposed action will not have a significant effect on the quality of the human environment.

For further details with respect to this action, see the application for exemption dated August 15, 1985, which is available for public inspection at the Commission's Public Document Room, 1717 H Street NW., Washington, DC, and at the Calvert County Library, Prince Frederick, Maryland.

Dated at Bethesda, Maryland, this 26th day of September, 1985.

For the Nuclear Regulatory Commission.

**Gus C. Lainas,**

*Assistant Director for Operating Reactors, Division of Licensing Office of Nuclear Reactor Regulation.*

[FR Doc. 85-23835 Filed 10-3-85; 8:45 am]

BILLING CODE 7590-01-M

## SECURITIES AND EXCHANGE COMMISSION

**[Release No. IC-14739; File No. 811-3223]**

### Savings Industry Primary Liquidity Fund, Inc.; Application for an Order Declaring That Applicant Has Ceased To Be an Investment Company

September 30, 1985.

Notice is hereby given that Savings Industry Primary Liquidity Fund, Inc. ("Applicant"), 12900 Preston Road, Dallas, Texas 75230, registered under the Investment Company Act of 1940 ("Act") as an open-end, non-diversified management investment company, filed an application on August 16, 1985, for an order of the Commission, pursuant to section 8(f) of the Act, declaring that Applicant has ceased to be an investment company. All interested persons are referred to the application on file with the Commission for a statement of the representations contained therein, which are summarized below, and to the Act for the applicable provisions thereof.

Applicant states that it filed a registration statement pursuant to section 8(b) of the Act on September 4, 1981, and its registration statement became effective on December 7, 1981. Applicant further states that it is a corporation duly organized and existing under the laws of the State of Texas. The application states that all of Applicant's shareholders elected to redeem their shares at net asset value and all such redemptions were completed on or about January 4, 1985. The application also states that on August 14, 1985, Applicant's Board of Directors authorized the filing of this application and the taking of all action necessary to dissolve the corporation pursuant to Texas law. Applicant states that it does not have any shareholders; it does not have any assets or liabilities; it is not a party to any litigation or administrative proceeding and it does not propose to engage in any business activities other than those necessary for the winding up of its affairs.

Notice is further given that any interested person wishing to request a hearing on the Application may, not later than October 25, 1985, at 5:30 p.m., do so by submitting a written request setting forth the nature of his/her interest, the reasons for the request, and the specific issues, if any, of fact or law that are disputed, to the Secretary, Securities and Exchange Commission, Washington, DC 20549. A copy of the request should be served personally or by mail upon the Applicant at the address stated above. Proof of service

(by affidavit or, in the case of an attorney-at-law, by certificate) shall be filed with the request. After said date, an order disposing of the Application will be issued unless the Commission orders a hearing upon request or upon its own motion.

For the Commission, by the Division of Investment Management, pursuant to delegated authority.

**John Wheeler,**

*Secretary.*

[FR Doc. 85-23837 Filed 10-3-85; 8:45 am]

BILLING CODE 8010-01-M

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**[Release No. IC-14740; File No. 811-3701]**

## Savings Industry Primary Liquidity Fund II, Inc.; Application for an Order Declaring That Applicant Has Ceased To Be an Investment Company

September 30, 1985.

Notice is hereby given that Savings Industry Primary Liquidity Fund II, Inc. ("Applicant"), 12900 Preston Road, Dallas, Texas 75230, registered under the Investment Company Act of 1940 ("Act") as an open-end, diversified management investment company, filed an application on August 16, 1985, for an order of the Commission, pursuant to section 8(f) of the Act, declaring that Applicant has ceased to be an investment company. All interested persons are referred to the application on file with the Commission for a statement of the representations contained therein, which are summarized below, and to the Act for the applicable provisions thereof.

Applicant states that it filed a registration statement pursuant to section 8(b) of the Act on March 25, 1983, and its registration statement became effective on June 23, 1983. Applicant further states that it is a corporation duly organized and existing under the laws of the State of Texas. The application states that all of Applicant's shareholders elected to redeem their shares at net asset value and all such redemptions were completed on or about December 31, 1984. The application also states that on August 14, 1985, Applicant's Board of Directors authorized the filing of this application and the taking of all action necessary to dissolve the corporation pursuant to Texas law. Applicant states that it does not have any shareholders; it does not have any assets or liabilities; it is not a party to any litigation or administrative proceeding and it does not propose to engage in any business activities other than those necessary for the winding-up of its affairs.

Notice is further given that any interested person wishing to request a hearing on the Application may, not later than October 25, 1985, at 5:30 p.m., do so by submitting a written request setting forth the nature of his/her interest, the reasons for the request, and the specific issues, if any, of fact or law that are disputed, to the Secretary, Securities and Exchange Commission, Washington, DC 20549. A copy of the request should be served personally or by mail upon the Applicant at the address stated above. Proof of service (by affidavit or, in the case of an attorney-at-law, by certificate) shall be filed with the request. After said date, an order disposing of the Application will be issued unless the Commission orders a hearing upon request or upon its own motion.

For the Commission, by the Division of Investment Management, pursuant to delegated authority.

**John Wheeler,**

*Secretary.*

[FR Doc. 85-23838 Filed 10-3-85; 8:45 am]

BILLING CODE 8010-01-M

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**[Release No. 34-22469; Files Nos. SR-Amex-84-29, SR-CBOE-84-27, SR-NASD-85-15, SR-NYSE-84-38, SR-PSE-84-20, SR-Phlx-84-32, and SR-Phlx-85-18]**

## Self-Regulatory Organizations; American Stock Exchange, Inc. et al.; Order Approving Proposed Rule Changes; Granting Accelerated Approval of Proposed Rule Changes; and Partially Approving Proposed Rule Changes

Pursuant to section 19(b)(1) of the Securities Exchange Act of 1934 ("Act") [1] and Rule 19b-4 [2] thereunder, the American ("Amex"), New York ("NYSE"), Pacific "(PSE") and Philadelphia ("Phlx") Stock Exchanges, the Chicago Board Options Exchange, Incorporated ("CBOE') and the National Association of Securities Dealers, Inc. ("NASD") [collectively, the self-regulatory organizations ("SROs")] have filed with the Commission proposed rule changes to amend their rules to establish a uniform, premium-based customer margin system for "short" options positions.[3]

The proposed rules would provide for a uniform margin system applicable to all options products based on the option premium plus a specified percentage of the current value of the underlying product. In addition, the proposals provide for margin adjustments for out-of-the-money options subject to a minimum margin level that must be maintained.

Notice of the proposed rule changes, together with the terms of substance of the proposed rule changes, was given by the issuance of Securities Exchange Act Release Nos. 21579, December 18, 1984, 22258, July 19, 1985 (File No. SR-Phlx-85-18) and 22235, July 12, 1985 (File No. SR-NASD-85-15); and by publication in the **Federal Register**, 49 FR 50489, 50 FR 30553 and 29291.[4]

### I. Background

Current, by the various options exchanges and the NASD maintain different systems for calculating margin for different options products (equity, broad and narrow-based indexes, foreign currencies and treasuries). Generally, a new format for calculating margin has been developed each time a new options product has been introduced. As a consequence, different computer programs to calculate margin for different options products must be maintained by broker-dealers. In addition, this has meant that customers interested in writing options on different underlying instruments must be familiar with a variety of complex calculations to understand the margin treatment associated with establishing and maintaining such options positions. For example, the margin requirements for writing options in an equity security or an industry stock index are based, respectively, on a percentage of the value of the underlying stock or the aggregate index value and not directly on the option premium. In comparison, the margin requirement for writing options on a broad-based index is computed as the option premium plus a fixed percentage of the aggregate index value.

In addition, while the exchanges and the NASD have the authority to specify by rule, subject to the approval of the Commission, the margin levels for options on products other than equity

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[1] 15 U.S.C. 78s(b)(1)(1982).

[2] 17 CFR 240.19b-4 (1985).

[3] A short position is the number of outstanding option contracts of a given series of options with respect to which a person is obligated as a writer (seller).

[4] No comments were received by the Commission regarding the proposed rule changes. The Board of Governors of the Federal Reserve System (FRB"), however, received 18 comment letters regarding its proposal to change the structure of the initial margin requirements for the writing of options on equity securities to allow for a uniform premium based system of margin. These comment letters are discussed below.

securities, until recently the FRB, pursuant to §§ 220.5 and 220.18 of Regulation T under the Act, established margin levels for options on equity securities.[5] On February 12, 1985, however, the FRB published for comment in the **Federal Register** [6] proposed amendments to Regulation T that would change the structure of the initial margin requirement for the writing of options on equity securities to allow for a uniform premium-based system of margin for all types of option contracts. In this regard, FRB noted that the "premium plus" proposals currently before the Commission would permit the use of one basic program for all types of options, and thereby reduce computer programming requirements for the brokerage industry.[7]

The FRB staff analyzed the effect of the proposed rule changes on margin for options on equity securities and in a memorandum to the FRB, dated January 31, 1985, concluded that "the proposed stucture, while providing lower margins for less volatile stocks than the present structure, would provide ample coverage.[8]

On June 19, 1985, the FRB approved the proposed amendments to Regulation T. The amendments efectively delegate to the SROs, subject to approval by the Commission, the authority to set initial margin requirements for equity options.

The amendments to Regulation T state that the initial margin shall be the amount specified by the rules of the national securities exchanges or association authorized to trade the option if the SEC has approved the rules.[9] As approved by the FRB, the rule no longer specifies the amount for initial margin for options on equity securities and consolidates the existing provisions for different options products into a single rule. An additional provision has been added to the regulation to cover options not effected on SRO facilities.[10] These changes enable the SROs to proceed with instituting a uniform margin system.[11]

## II. The Proposed Rule Changes

The proposed uniform margin system developed by the SROs contemplates use of a formula applicable to all current and future options products. The proposed formula results in initial and maintenance margin levels equal to: 100% of the current option premium value, plus a fixed percentage of the underlying product value (the percentage to vary with each option product), with an adjustment for "out-of-the-money" options [12] and a minimum of not less than 100% of the current premium, plus a fixed lesser percentage of the current value of the underlying product. The percentage requirement varies with the options product, as described below:

UNIFORM OPTION MARGIN REQUIREMENTS

| Option issues | Premium plus percentage of underlying (percent) | Adjusted for out-of-money | Minimum (percent) |
|---|---|---|---|
| Equity | 15 | Yes | 5 |
| Narrow based index | 15 | Yes | 5 |
| Broad based index | 5 | Yes | 2 |
| Foreign currencies | [13] 4 | Yes | ¾ |
| Treasury bonds | 3½ | Yes | ⅝ |
| Treasury notes | 2 | Yes | ⅜ |
| Treasury bills (95 days) | .35 | Yes | 1/16 |
| Contracts not registered on a National Securities Exchange, displayed in NASDAQ system, or issued by a Registered Clearing Corporation. | 45 | Yes | 10 |

[13] The margin requirement for options on foreign currencies initially was 100% of the premium value plus 2% of the product of units per foreign currency contract and the closing spot price with a minimum of ½%. Because the volatility of foreign currency prices has increased since the rule filings were submitted, the CBOE, Phlx, NYSE, PSE and NASD have amended their proposals to require a percentage level of 4% on foreign currency options with a minimum requirement of ¾%. *See* letter from Margaret Wiermanski, Supervisor, Department of Financial Compliance, CBOE, to Brandon Becker, Assistant Director, Division of Market Regulation, dated August 22, 1985; Susan R. Mann, Vice President, Director of Examinations, Phlx, to Brandon Becker, dated August 21, 1985; letter from Donald van Weezel, Managing Director, Regulatory Affairs, NYSE, to Brandon Becker, dated September 6, 1985; letter from Steven Wolf, Staff Attorney, PSE, to Sharon Lawson, Staff Attorney, Division of Market Regulation, SEC, dated September 24,1985; and letter from Grant Callery, Assistant General Counsel, NASD to Sharon Lawson, dated September 24, 1985. We note that because the Amex does not have margin provisions for foreign currency options such an amendment is not necessary to their filing.

In addition, certain exchanges are proposing to delete margin requirements for option products they do not presently trade or do not currently plan to trade in the future. For example, CBOE has proposed to delete any reference to the "mini-series" of Treasury bond options because these products are not currently traded on CBOE and there are no current plans to resume trading. Similarly, because Amex does not trade and has no current plans to trade options on Government National Mortgage Association (GNMA) securities, certain United States Government obligations, and certificates of deposit, Amex proposes to delete margin requirements for these products.[14] Finally, in its rule filing the Phlx not only proposed its uniform premium based margin system, it also put forth its proposal to merge its margin rules, for the convenience of its members, so that all the Phlx's options margin requirements would be contained in one rule.[15]

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[5] *See* §§ 220.5 and 220.18 [12 CFR 220.5 and 220.18] under Regulation T of the Act.

[6] *See* 50 FR 5766.

[7] *See* memorandum to Board of Governors from the Division of Banking Supervision and Regulation, Division of Research and Statistics, FRB, dated June 13, 1985, at 1.

[8] *Id.* at 2.

[9] In pertinent part, the amendments to Regulation T read as follows:

Section 220.5—Margin Account Exceptions and Special Provisions

(c) * * *

(2) *Margin for options on equity securities.* The required margin for each transaction involving any short put or short call on an equity security shall be the amount set forth in Section 220.18 [the Supplement].

Section 220.18—Supplement: Margin Requirements

The required margin for each security position held in a margin account shall be as follows:

* * * * * *

(f) Short put or short call on a security, certificate of deposit, securities index or foreign currency:

(1) in the case of puts and calls issued by a registered clearing corporation and listed or traded on a registered national securities exchange or a registered securities association, the amount, or other position (except in the case of an option on an equity security), specified by the rules of the registered national securities exchange or the registered securities association authorized to trade the option, provided that all such rules have been approved or amended by the SEC, or

(2) in the case of all other puts and calls, the amount, or other position (except in the case of an option on an equity security), specified by the maintenance rules of the creditor's self-regulatory organization.

[10] In its approval of the amendments to Regulation T, the FRB also gave notice that it intends to consider deleting paragraphs (c)(3), (4), (5) and (6) under § 220.5 of Regulation T which discuss "Margin Account Exceptions and Special Provisions" of the Regulation, if all the SROs incorporate the substance of those provisions in their rules.

[11] In order to allow for necessary changes to computer programs and Commission action on the proposed rule changes, the FRB delayed the effective date of the amendments to September 30, 1985.

[12] When the exercise price of a call is above the current market price of the stock, or, for puts, when the exercise price is below the current market price, the option is described as being "out-of-the-money" by that amount. Under the proposed margin formula the amount required to be deposited by the option writer will, thus, in the case of out-of-the-money calls or puts be decreased by any excess of the aggregate exercise price of the option over the current market value of the underlying product, but in no event will the amount required be less than the option premium plus a minimum add-on percentage.

[14] There will be no substantive margin changes for options on government securities that are currently traded on CBOE and Amex.

[15] To this end, in rule filing SR-Phlx-84-82, Phlx also proposes to delete its Rule 1130A which sets forth margin provisions of broad and narrow-based index options. In rule filing SR-Phlx-85-18, Phlx, in pertinent part, sets forth its proposed amendments to Phlx Rule 722 on margin accounts that would, in

Continued

### III. Commentators Concerns

As indicated above, the Commission received no comment letters regarding the uniform premium-based margin proposals. The FRB, however, received 18 comment letters regarding its proposal to delegate equity option margin authority to the exchanges. The commentators consisted of nine Federal Reserve Banks, four national securities exchanges, four broker-dealers, and one trade and professional association.[16]

Generally, commentators favored the amendments and the establishment of a uniform premium based system. While recognizing the risks inherent in having an interested entity, such as an exchange, set margin by rule, commentators found Commission oversight to be a sufficient safeguard, and generally believed that a flexible premium-based system would more accurately reflect the risks involved in trading specific options products. The comments also reflect a belief that a premium-based system, while generally resulting in lower margin requirements, would continue to maintain adequate investor protection.

The comment letters received from CBOE, NYSE and Phlx [17] all recommended a phase-in process to allow broker-dealers to make programming changes to accommodate the new margining system. They proposed an approach whereby broker-dealers would be allowed to use the new margin provisions within three months of approval and would be required to be in compliance with the new margin provisions within six months. In its comment letter, Amex stated the exchange had conducted an informal survey of firms and found that a 60-day period would provide ample time for the computer changes needed to implement the new margin system for equity options.[18]

### IV. Discussion

In their respective rule filings, the SROs indicate that the proposed uniform margin system will provide broker-dealers with adequate loss protection by correlating margin requirements to the risk exposure involved in trading any specific option product. The SROs contend that the proposal also will decrease the incidence of excessive or inappropriate margining in customer accounts.

In their respective rule filings, the SROs contend that the proposed percentage requirement will achieve a more accurate reflection of adverse risk exposure.[19] As stated, the proposed formula would require 100% of the current option premium *plus* a percentage of the underlying security with an adjustment for out-of-the-money options, not to be less than 100% of the option premium plus a stipulated lesser percentage of the underlying security. The percentages recommended as the proposed margin requirements of the underlying products were developed by relating margin to the annualized price volatility of the underlying security.[20] The resulting percentage was then adjusted to provide for initial margin that would cover the underlying product's historical volatility over a seven-day period, with a 95% confidence level. In some instances, groups of related options (*e.g.*, all individual stock options, all currency options, all broad-based index options) have been classified together for margin purposes, even though the volatility of individual underlying instruments may vary substantially. In particular, the historical volatility of individual stocks can vary substantially between seasoned companies in stable industries (*e.g.*, established utility stocks) and emerging companies in more growth-oriented industries (*e.g.*, new computer companies). Although mathematical precision might have been afforded by setting separate fixed amounts for each individual security, the SROs believed that, in the interest of simplicity, a single formula for all individual stock options would be most workable. While this has necessitated a review of the proposed formula from the perspective of the coverage provided for options on the more volatile stocks, the Commission is satisfied, based on a review of historical price information, that, generally, the proposal should result in adequate coverage even for volatile individual stocks meeting present options listing standards.[21] In addition, the SROs indicate that they intend to review the percentage level of the underlying instrument periodically to ensure that the required percentage remains appropriate in view of the volatility of the underlying instrument.[22]

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effect, merge all its option margin rules, including those pertaining to index options, into one rule for the convenience of its members.

[16] The Board received comments from the following Federal Reserve Banks: Atlanta; Boston; Chicago; Cleveland; Dallas; Kansas City; Minneapolis; Philadelphia and Richmond. The following exchanges also commented on the Board proposal: Amex; CBOE; NYSE and Phlx. In addition, comment letters were received from E.F. Hutton & Co., Inc.; Merrill Lynch, Pierce, Fenner & Smith; Inc.; Shearson Lehman/American Express Inc; the Chicago Corporation and the New York Clearing House.

[17] Letters from Bruce J. Simpson, Special Advisor, CBOE, dated March 13, 1985; James F. Schwartz, Jr., Vice President, NYSE, dated March 4, 1985; and Robert B. Gilmore, Senior Vice President, Phlx, dated March 4, 1985; to William W. Wiles, Secretary, FRB.

[18] Letter from James M. McNeil, Assistant Vice President, Amex, to William W. Wiles, Secretary, FRB, dated March 15, 1985. Only one commentator, Chicago Corporation, criticized the proposed margin rules. It endorsed the proposed generic formula for calculating margin on options, but opposed the delegation of margin setting authority to SROs because it argued competing entities with profit motives (*i.e.*, SROs) should not have margin setting authority even with Commission oversight. *See* letter from Andrew Celentano, Vice President, Chicago Corporation, to William Wiles, Secretary, FRB, dated March 15, 1985. The question of whether it is appropriate, in the first instance, to in effect delegate the FRB's margin setting authority to the SROs is not before the Commission in this proceeding. Nevertheless, in the past the Commission has supported such delegation, subject to Commission oversight, in order to better tailor margin requirements to the current trading environment. *See* letter to Donald T. Regan, Secretary of the Treasury, from John S.R. Shad, Chairman, SEC, dated January 3, 1985, ("Margin Study Letter") commenting on FRB staff, *A Review and Evaluation of Federal Margin Regulations* (Dec. 1984).

[19] The Chicago Corporation did argue, however, that reduced margin requirements resulting under the proposed plan might become the deciding factor in trading decisions, and might have an inordinate influence on equity and Treasury debt trading if those options become widely used. *See* note 14, *supra*. While the Commission recognizes that margin levels may be a factor in determining investment decisions (*see* Margin Study Letter, note 14, *supra*) we are satisfied, that the proposed margin rules, were not devised to provide, and do not in fact afford, the securities SROs an unfair competitive advantage over other marketplaces. To the extent that the proposed margins are lower than margins on the underlying security, that difference reflects the fact that options only can affect indirectly volatility in the underlying stock. In addition, as noted by the FRB, under the proposed uniform premium-based margin system, though margin requirements for equity options will generally be lower than under present rules, they should continue to provide for adequate margin deposits to cover broker-dealer losses in the event that a customer is unable to meet his or her obligations.

[20] The formula can be applied to any option product and can be recomputed periodically to insure that the requirements remain appropriate. Margin levels would be established for new options products utilizing the formula prior to the introduction of the new products.

[21] Nevertheless, a recent review of the price volatility of options on over-the-counter ("OTC") stocks indicated that the 15% initial margin requirements failed to cover the respective underlying OTC stock's price volatility over a seven day period, with a 95% confidence level for a few of the stocks. *See* letter from Nathan Most, Vice President, Products Development, Amex, to Brandon Becker, dated August 22, 1985. For this reason, the Commission expects the SROs to scrutinize the price volatility of these stock options in particular, to ensure that the proposed margin requirements as adopted remain appropriate for these OTC options as well as options on the more volatile listed stocks.

[22] The Commission expects that the SROs will submit their periodic reports to the Commission so that the Commission may continue to monitor the percentage levels applicable to particular underlying instruments and be assured of their accuracy. In addition, in the event an SRO intends to change the required margin, any such change would of course have to be filed with the Commission as a proposed rule change under Section 19(b) of the Act.

The SROs agree that the proposed uniform-based margin system will benefit the broker-dealer community by resulting in reduced operational and computer costs while maintaining adequate coverage in the event customers fail to meet their financial obligations. The exchanges and the NASD believe that the proposed margin system provides a more rational basis for establishing margin levels for new option products as well as for monitoring the appropriate level of existing requirements on an on-going basis. The SROs also note that the proposed margin requirements represent minimum standards only; brokerage firms still would be permitted to require higher minimum margin than those prescribed in the SRO rules.

When compared to current margin rules, the margin requirements for short positions in stock options and index options generally will be lower under the proposed system.[23] As noted above, however, the staff of the FRB analyzed the proposed lower margin levels and concluded the proposed requirements would provide ample coverage. Because the proposed uniform premium-based margin system is designed to provide margin requirements that more closely reflect the risks involved in options trading (and thus potentially increase market liquidity), in their respective rule filings the SROs indicate the proposals are consistent with sections 6(b)(5) and 15A(b)(6) of the Act which provide, in pertinent part, that the rules of the SROs be designed to promote just and equitable principles of trade and to protect the investing public. The proposed rule amendments also are consistent with the requirements of section 7(a) of the Act and the rules and regulations prescribed by the FRB pursuant to that section in that they adjust margin requirements to levels which provide a reasonable amount of financial protection to the securities industry and do not permit the excessive use of credit for the purchase or carrying of securities.

The Commission finds that the proposed rule change will enhance efficiency by establishing a single, standardized approach for all options requirements with respect to setting margin requirements, which will reduce greatly operational and computerization costs for the brokerage industry. At the same time, the proposed rule change will result in margin levels adequate to ensure investor protection, avoid unnecessary volatility and properly ensure the financial stability of broker-dealers. Accordingly, for the reasons stated above, the Commission finds that the uniform premium-based margin system proposed by the Amex, CBOE, NYSE, Phlx, PSE and NASD is consistent with the requirements of the Act, and the rules and regulations thereunder applicable to national securities exchanges.

In addition, the Commission is approving those portions of File No. SR-Phlx-85-18 relating to margin requirements on options products as these provisions merely serve to merge all of Phlx's option margin rules into one rule for the convenience of exchange members.

It is therefore ordered, pursuant to section 19(b)(2) of the Act, that the Amex, CBOE, NYSE, Phlx, PSE and NASD proposals be, and hereby are, approved. Because the SROs have requested a delayed effective date to allow for computer program changes to reflect the new margin system, the effective date of the Commission's order approving the proposed rule changes, except for those provisions pertaining to foreign currency options, will be deferred until January 31, 1986.[24] Because the CBOE seeks to begin trading foreign currency options, subject to Commission approval of its proposal to trade such options, on September 27, 1985, the effective date of the Commission's order approving the proposed new margin system as it relates to foreign currency options will be September 27, 1985.[25] Market participants, however, can continue to use existing margin rules for foreign currency options until January 31, 1986 if they so desire.[26]

Dated: September 26, 1985.

By the Commission.

**John Wheeler,**

*Secretary.*

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**[Release No. 22471; File No. SR-CBOE-84-31]**

## Self-Regulatory Organizations; Chicago Board Options Exchange, Inc.; Order Approving Amended Proposed Rule Change

### I. Introduction

Pursuant to section 19(b)(1) of the Securities Exchange Act of 1934 ("Act")[1] and Rule 19b-4 thereunder,[2] the Chicago Board Options Exchange, Incorporated ("CBOE") filed with the Commission a proposed rule change, as amended, to accommodate the listing and trading of standardized, European-style foreign currency options.[3] One comment was received by the Commission concerning the original proposal on foreign currency option permits.[4]

### II. Description of Proposals

The CBOE has proposed to trade options on six foreign currencies: The British pound, Canadian dollar, French franc, Swiss franc, Japanese yen and

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[23] Because the margin levels for foreign currency options have been amended to reflect higher margin requirements than under the original proposals, it is no longer true, as indicated in the SROs' original filings, that margin for foreign currency options generally will be lower than the existing levels under the new system. The proposed amended margin levels for foreign currency options, in many instances, actually will increase margin requirements for these options over existing levels.

[24] As indicated above, comment letters discussing the SROs rule filings were submitted to the FRB in response to its notice of proposed amendments to Regulation T. These comment letters are discussed in Section III, *supra*. The staff of the FRB has been informed of the Commission's decision to defer the effective date of the rule amendments to January 31, 1986, and have stated that they do not object to our action. Conversation on September 17, 1985, between Brandon Becker, Assistant Director, SEC and Susan Meyers, Securities Regulation Analyst, FRB. Thus, except for the provisions pertaining to foreign currency options, the current margin rules on options will remain in effect until January 31.

[25] *See* File No. SR-CBOE-84-31, Securities Exchange Act Release No. 22043, May 15, 1985, 50 FR 21381.

[26] In this regard, while the Commission recognizes the Phlx's concern that foreign currency options market participants may not be able to fully react to the revised margin rules by September 27, the Commission does not believe that those concerns warrant prohibiting those traders who can utilize the new system from doing so, particularly in light of the CBOE's desire to implement the new system when it commences its options program. *Compare* letter from Margaret Wiermanski, Supervisor, Department of Financial Compliance, CBOE, to Brandon Becker, Assistant Director, SEC, dated August 7, 1985, *with* Mann Letter, *supra* note 13, at 2. Accordingly, the Commission believes it is appropriate to allow foreign currency options participants to use either the new or old margin rules for foreign currency options as of September 27, 1985. All firms, however, will have to use the new margin rules for all options products, including foreign currency options, by January 31, 1986.

[1] 15 U.S.C. 78s(b) (1982).

[2] 17 CFR 240.19b-4 (1984).

[3] Notice of the CBOE proposal and Amendment No. 1 to the proposal was published in Securities Exchange Act Release No. 22043 (May 15, 1985), 50 FR 21381. Amendment No. 2 was published in Securities Echange Act No. 22350 (August 23, 1985), 50 FR 35351. Amendments No. 3 and 4 were submitted on September 20, 1985 and September 24, 1985, respectively, and have not been separately noticed for comment in that they primarily contain clarifying and technical amendments to the CBOE rules that are needed to properly accommodate foreign currency options trading.

[4] Letter from J. Stephen Fossett, President, Fossett Corporation, to SEC, dated January 16, 1985. Subsequent to this letter the CBOE submitted amendments to its currency permit plan that address most of the concerns presented. *See* discussion in Section IV, *infra*.

German mark.[5] For the most part, the mechanics of currency options trading will be the same as equity options trading with similar regulatory safeguards. However, there are several significant differences between CBOE's proposed foreign currency options market and its equity options market. First, as a European-style option, options on foreign currencies will be able to be exercised only on the last trading day before expiration and not at any other time during the term of the contract.[6] Second, unlike the equity options market, there will be no Order Book Official ("OBO") or public order book for foreign currency options.[7] Post coordinators will handle trading rotations and will have the duties of an OBO, set forth in CBOE Rule 7.5 and 7.6, regarding obligations to maintain fair and orderly markets and the reporting of any unusual trading activity.

The number of units of the underlying foreign currency covered by the option contract will be as follows: 25,000 British pounds, 100,000 Canadian dollars, 250,000 French francs, 125,000 Swiss francs, 12,500,000 Japanese yen or 125,000 West German marks.[8]

The CBOE proposes that the expiration cycle for European-style foreign currency options will be the two consecutive nearby months and the three further out months from the March quarterly expiration cycle.[9] Initially, however, the CBOE will introduce foreign currency options with expirations of November, December, March, June and September. Under the proposed rules, the exercise price of each series of currency options normally will be fixed at a price per unit which is reasonably close to the range between the spot sales price of the underlying currency and the six month forward prices.

The proposed hours of trading for foreign currency options will be from 7:00 a.m. to 1:30 p.m., Chicago time.[10] Under the rules, opening rotations for foreign currency options will be conducted in the same manner used for Treasury bond options. Accordingly, the rule provides that the Post Coordinator will open those series of a class with respect to which the greatest buying and selling interest has been expressed.[11]

CBOE's proposed rules also provide for position and exercise limits of 25,000 contracts on the same underlying foreign currency on the same side of the market. If a position is 10% of the limit, which would be 2,500 contracts, a report must be files with the exchange.

Margin for foreign currency options positions carried short in an account will be 100% of the current market value of the contract plus 4% of the product of units per foreign currency contract and the closing spot price, with an adjustment for out-the-money options not to be less than the option market value plus ¾% of the product of units per foreign currency contract and the closing spot price.[12] In addition, CBOE is proposing to permit, for a one-year pilot period, the use of letters of credit issued in the customer's behalf, by a bank approved by the exchange, to satisfy these margin requirements.[13]

The existing exchange customer protection rules will apply to foreign currency options. In addition, CBOE has added a provision concerning accounts for institutional customers that sets forth specific information which must be obtained before the account can be approved for foreign currency trading.

Among other things, CBOE's proposed rules set forth maximum bid and/or ask differentials that may be quoted by market makers. CBOE, however, has eliminated the application of the one point rule to foreign currency options that normally requires a market maker to bid no more than $1 lower and/or offering no more than $1 higher than the last preceding transaction price for the particular option contract.

CBOE also has proposed to modify for foreign currency options the existing stock option rules regarding minimum fractional price changes of premiums. Instead of quoting the options in ⅛'s and 1/16's, foreign currency options bids and offers will be quoted in decimals.[14]

## III. Discussion

The CBOE proposal to establish a foreign currency options market does not, for the most part, raise any new or novel questions. The Commission previously has approved of the concept of trading options on foreign currencies in approving Phlx's market. Moreover, Phlx currently trades foreign currency

[5] The Philadelphia Stock Exchange, Inc. ("Phlx") currently trades options on these six foreign currencies.

[6] Phlx's foreign currency options are American-style options. This means that they can be exercised at any time until the expiration date. The Commission notes that currently there are no European-style options trading on any of the national securities exchanges in any options product. The Commission, however, recently approved a CBOE proposal to convert the Standard and Poor's 500 Stock Index option from an American to a European-style option. Trading will not commence on these options until October 1, 1985. *See* File No. SR-CBOE-85-24, Securities Exchange Act Release No. 22309, August 9, 1985, 50 FR 32934. We also note that the Commission recently approved a rule change of the Options Clearing Corporation ("OCC") to accommodate the exercise and settlement of European-style foreign currency options. *See* Securities Exchange Act Release No. 22369 (August 28, 1985), 50 FR 36176.

[7] This portion of CBOE's rule filing is identical to its rules concerning Treasury options. *See* CBOE Rule 21.18. The Commission also notes that Phlx does not maintain a public limit order book for foreign currency options.

[8] These units of trading correspond to the size of the futures contracts on the same currencies traded on the International Monetary Market ("IMM") of the Chicago Mercantile Exchange. The unit of trading for foreign currency options traded on Phlx are currently half this size.

[9] Similar to the expirations on foreign currency options traded on Phlx, the options will be set to expire on the Saturday preceding the third Wednesday of the expiration month.

[10] Phlx's foreign currency options market is also open for trading during these hours.

[11] Specifically, CBOE states that the Post Coordinator will first open within an options class those series with the nearest expirations that are at the-money, first in-the-money, and first out-of the money. Then the Post Coordinator will open any other near term options within the class for which a broker requests a market and next any longer term series within the class for which a market is requested. Series for which there is no buying or selling interest during opening rotations will be opened during the trading day in response to buying or selling interest or forty minutes prior to the close, whichever is sooner. No quotations will be posted for series of currency options until they are opened for trading. Once a series is opened, however, current market quotations must be maintained and disseminated.

[12] The Commission recently approved new margin levels for all options products. The new margin levels, except for those pertaining to options on foreign currencies, will be effective on January 31, 1986. In order to accommodate the start-up of CBOE's foreign curency options market, the Commission's approval order permits market participants to use the new levels, noted above, or the previous margin level (130% of the premium plus $750 reduced by any out-of-money amount but not less than $250 with $2500 maximum plus 100% of the premium), for foreign currency options from September 27, 1985 until January 31, 1986. All member firms must be converted to the new system and margin levels for all options, including foreign currency options, by January 31, 1986. *See* Securities Exchange Act Releases No. 22469, September 26, 1985.

[13] This portion of CBOE's proposal is identical to a foreign currency letters of credit pilot program recently approved by the Commission for Phlx. *See* File No. SR-Phlx-84-33, Securities Exchange Act Release No. 22189 (June 28, 1985), 50 FR 31802. The proposed CBOE letter of credit rules provide for a pilot period of one year from the effective date of Commission approval. Because the Phlx pilot has been in effect for about 4 months its one year pilot will expire prior to the CBOE's pilot, without further Commission action. We note that under the terms of both CBOE's and Phlx's pilot the Commission has the authority to suspend, terminate or otherwise modify the pilot during the one year period. Accordingly, the CBOE understands that if the Commission decides to either terminate or modify the pilot at the conclusion of Phlx's one year pilot period, the same changes would have to be made to CBOE's pilot even though their one year period has not yet expired.

[14] The rule provides for the following minimum fractional changes: (1) .05 per British pound; (2) .01 per Canadian dollar; (3) .005 per French franc; (4) .0001 per Japanese yen; (5) .01 per Swiss franc, and (6) .01 per West German mark. These fractional changes are similar to those utilized in Phlx's foreign currency options market.

options on the same six currencies CBOE is proposing to trade. CBOE's proposed foreign currency options market, however, differs in one significant respect from Phlx's market: CBOE's options only can be exercised on the last trading day prior to the options expiration ("European-style options") rather than any time prior to the expiration ("American-style options") as is the case with all options currently traded on the exchanges.

In reviewing this aspect of CBOE's proposal the Commission, notes that, in recently approving a rule change converting the S&P 500 index option to a European-style option,[15] it recognized that there are advantages and disadvantages to each type of option with purchasers generally benefiting from the American-style exercise and sellers from the European procedures.[16] For European options, the purchaser must rely on the continued existence of a secondary market in the options to be able to close out an options position before expiration. On the other hand, European-style options provide benefits to options writers, because the writers know the options they have written cannot be exercised until expiration. This can facilitate long-range planning and may prove particularly useful for investors in the foreign currency market.

Although the European-style foreign currency options proposed by CBOE may limit the flexibility of options purchasers, the Commission believes that the European-style exercise feature may facilitate certain trading strategies. The Commission, however, continues to believe that appropriate disclosure of such options and the unique risks associated with the use of options with this type of exercise restriction is necessary. In this connection, the Commission notes that CBOE in conjunction with the OCC has made the appropriate risk disclosures pertaining to the trading of European-style options in a newly revised options disclosure document ("ODD").[17]

With respect to matters of contract design and delivery specifications, so long as the Commission has no regulatory concerns, it is not inclined to substitute its judgment for the business judgment of the self-regulatory organization. Rather, in matters such as these, the marketplace generally should be permitted to determine whether a particular contract meets the needs of market participants.[18] After carefully reviewing the contract specifications, the Commission believes that the proposed rules should be approved. As noted above, CBOE has decided to trade a contract double the size of that traded on Phlx. The Commission does not believe this aspect of CBOE's proposal presents any particular regulatory or surveillance concerns and finds the contract terms, including the size, expiration cycles, underlying foreign currencies, maximum bid and/or ask differentials and fractional changes for bids and offers, are appropriate.

The Commission, however, does maintain a regulatory interest in certain other terms of the proposed foreign currency options. The CBOE has proposed position and exercise limits that are designed to prohibit market participants from acquiring a position in foreign currency options, or from acquiring the same underlying foreign currency through the exercise over a period of five consecutive business days, in excess of 25,000 contracts on the same side of the market. Phlx's rules currently provide for position and exercise limits of 25,000 contracts. However, because the CBOE proposed contracts are double the size of those traded on Phlx, a limit of 25,000 contracts for CBOE's foreign currency options is equivalent to a 50,000 contract limit in Phlx's market.

In reviewing position and exercise limits, the Commission has been careful to balance regulatory concerns with the need not to restrict the depth and liquidity in the options markets. While position and exercise limits are necessarily arbitrary, in light of the magnitude of the underlying foreign currency markets and Phlx's generally uneventful experience with the current limits, the Commission believes that the proposed limits generally will be sufficient to protect the options and related markets from disruptions caused either by congestion or manipulation.[19]

As noted above, new margin levels for foreign currency options recently were approved by the Commission.[20] In addition, the rules proposed by CBOE involving the use of letters of credit, for a pilot period, in lieu of margin are identical to those approved for Phlx and present no new issues. CBOE has represented that during the pilot period it will collect certain information and either report directly to the Commission or through Phlx on the pilot.[21]

CBOE's proposal to open trading at 7:00 a.m., Chicago time, conforms the hours of trading to a recent change made in the opening of trading of Phlx's foreign currency options market. Phlx has been opening its market at 7:00 a.m., Chicago time (8:00 a.m. Eastern time) since June 17, 1985.[22] It is the Commission's understanding that no problems or disruptions have occurred in the foreign currency options market as a result of this change. The Commission also notes that the 7:00 a.m. opening appears to be appropriate in the foreign currency options market because of the international nature of such markets. In this regrad, Phlx indicated in its filing that trading in foreign currencies is virtually on a twenty-four hour basis. Accordingly, the Commission has concluded, based on the experience with Phlx's market, that CBOE's proposed rule to trade foreign currency options from 7:00 a.m. to 1:30 p.m., Chicago time, should be approved.

Finally, the Commission believes that CBOE's proposal to conduct opening rotations by opening those series with the greatest buying and selling interest first is appropriate, especially because initially CBOE does not know what kind of interest will exist in each foreign currency options series. Nevertheless, if trading volume does increase over time, the Commission expects that CBOE will coordinate with Phlx the opening of foreign currency options. In this regard, we note that under Phlx rules the near term, mid-term and far term foreign currency options are opened in that order until all series of options are opened for trading.[23]

In general, secondary trading in foreign currency options contracts would be governed by the same or

[15] *See* note 6, supra.

[16] In this regard, particularly so long as adequate disclosure is made of the terms and conditions of these contracts, the Commission would expect that the premiums of each kind of option generally should reflect these differences in benefits for purchasers and writers.

[17] *See* Securities Exchange Act Release No. 22418 (September 17, 1985) approving the amendments to the ODD in the newly revised, Characteristics and Risks of Standardized Options, issued September, 1985.

[18] *See* Securities Exchange Act Release No. 19133 (October 14, 1982), 47 FR 46946, approving Phlx's proposed rules for the trading of foreign currency options, including its rules pertaining to contract design and delivery specifications.

[19] The Commission is also approving a Phlx proposal to increase its position and exercise limits for foreign currency options to 50,000 contracts. As noted above, because the Phlx contract is half the size of CBOE's the limits on the two exchanges will be equivalent. As discussed in the surveillance section, members must report positions equal to 10% of this limit. This should aid in detecting possible manipulations. *See* Section V, *infra*.

[20] *See* note 12, *supra*.

[21] The type of information that will be collected by the CBOE will include identification of the customer utilizing the letter of credit, the issuer of the letter, and the sum of money specified in the letter along with the suitability information taken into account in approving the customer's use of such letters.

[22] *See* Securities Exchange Act Release No. 22066 (May 30, 1985), 50 FR 23569.

[23] *See* Phlx Rule 1047.

comparable floor and upstairs rules and would be subject to the same regulatory controls as options on equity securities. In addition, as noted above, all the existing customer protection rules would apply with certain changes that apply specifically to approval of accounts for foreign currency options. Moreover, under CBOE's proposed rules, Foreign Currency Registered Options Principals will be required to complete a Registered Options Principal ("ROP") exam, along with an examination demonstrating adequate knowledge of currency options and the underlying currency market. The Commission has examined carefully the proposed rules governing trading activities in foreign currency options on the floor of CBOE and has concluded that the proposed rules provide sufficient regulatory safeguards and investor protections to accommodate the CBOE's start-up of a foreign currency options market.

## IV. Foreign Currency Options Permits

Under the proposed rules, CBOE intends to issue up to 75 non-transferable, non-leasable, foreign currency option permits ("FCO Permits") that will provide access to CBOE's foreign currency options market.[24] Non-members will be able to participate in CBOE's market through the purchase of the FCO Permits. Permit holders will be able to effect transactions only in currency options as market makers or floor brokers on the CBOE's trading floor. In addition, a permit holder cannot also be a clerk, a special member, a regular member with a floor function, or a bond permit holder. Regular members also will be able to participate in the foreign currency options market, but not as permit holders. If a regular member desires to operate in the foreign currency options market as a permit holder, the member would be able to do so if he leased out his regular membership seat.[25]

Under the rule, permit holders would be subject to all CBOE rules, policies and procedures that regular members are subject to including customer protection rules, business conduct standards, fees, dues and member death benefits. Permit holders, however, would have no right to vote, petition or serve on any committee except as a non-member of the CBOE. In addition, unlike regular members, permit holders would not acquire any equity interest in exchange property or assets.

Permits will be effective for one year and can be renewed for a maximum duration of three years from the date of issuance. The CBOE has set fees at $10,000 for the first year, $15,000 for the second year and $20,000 for the third year.[26]

As an initial matter, the Commission believes that the cost for FCO permits and the imposition of other fees are consistent with section 6(b)(4) of the Act, which requires that exchange rules provide for an equitable allocation of reasonable dues, fees, and other charges among its members and persons using its facilities.

In addition, the Commission believes that the CBOE has attempted through its plan to facilitate increased participation in its foreign currency options market by permitting non-members, in addition to members, access to its market.[27] The Commission believes that, consistent with sections 6(b)(2), 6(b)(5) and 6(b)(8) of the Act, CBOE is seeking to allow access to qualified persons, to remove impediments to a free and open market and to foster competition among a wide variety of market participants. Accordingly, after carefully reviewing CBOE's proposed FCO Permit plan, the Commission has concluded that the proposal is consistent with the requirements of the Act and the rules and regulations thereunder.

## V. Surveillance

Section 6(b)(5) of the Act requires an exchange to have rules designed to prevent fraudulent and manipulative acts and practices and to promote just and equitable principles of trade Section 6(b)(1) of the Act requires that an exchange be organized and have the capacity to comply, and to enforce compliance by its members and associated persons, with the provisions of the Act, the rules thereunder and the rules of the exchange. Based on its responsibilities under these provisions of the Act, the Commission has reviewed the CBOE's proposed surveillance plan for its foreign currency options market to ensure that it can detect manipulation and other improper trading activities.[28]

First, with respect to intra-market surveillance, the CBOE's techniques for monitoring trading in foreign currency options will be similar to the procedures utilized for options on listed stocks.[29] These procedures appear adequate for the start-up of CBOE's foreign currency options market.

Second, because of the limited availability of timely and independently verifiable transaction, quotation and position information with regard to activities in the related interbank and broker cash market in the underlying currencies, as well as the futures market, the CBOE has indicated that inter-market surveillance techniques for options on foreign currencies will differ somewhat from those currently employed for equity options.[30] The Commission recognizes that the magnitude of the related underlying foreign currency markets indicates that it may be difficult to successfully manipulate the market through inter-market trading activity. Nevertheless, the CBOE has imposed certain reporting and recordkeeping requirements that will assist it in identifying situations potentially susceptible to

[24] The permit plan was approved by a membership vote at a special meeting on June 4, 1985. Under the plan, the Membership Committee may give preference to traders and to firms that have experience in foreign currency trading. The committee may also limit the number of permits purchased by a single firm and will review all nominee changes to ensure nominees are firm employees.

[25] According to the CBOE, a member may prefer to participate in the foreign currency options market as a permit holder, rather than a regular member, because the fees may be less expensive.

[26] In a separate order issued today, the Commission has approved a proposal that provides for rebates on permit holder fees in certain circumstances. *See* Securities Exchange Act Release No. 22470 (September 26, 1985).

[27] As noted above, one comment letter was submitted to the Commission on the original version of the proposed FCO permit plan. *See* note 4, *supra*. The letter indicated that the permit plan should be submitted to a full membership vote, should not restrict permit holders to individuals who are sole proprietors, ad should not prevent permit holders from also being a member clerk, special or regular member with a floor function or a bond or currency permit holder. The Commission has determined that the concerns raised in that letter no longer appear to be applicable under the amended version of the permit plan. In this regard, we note that the plan was subsequently submitted to a membership vote as suggested in the letter. In addition, the amended plan no longer restricts FCO Permits to sole proprietorships. Finally, because regular members will have access to CBOE's foreign currency options market as non-permit holders, the Commission does not believe the plan unduly restricts access to CBOE's foreign currency option market as suggested in the comment letter.

[28] *See* letter from Robert P. Ackermann, Vice President, Market Surveillance, CBOE, to Howard Kramer, Branch Chief, Division of Market Regulation, SEC, dated August 1, 1985 concerning the surveillance plan.

[29] Intra-market surveillance involves monitoring for manipulation and other improper trading activities that occur entirely within options markets, including practices such as marking the close, wash sales, fictitious trading, position and exercise limit violations and trading on inside information. We note that because the foreign currency options only can be exercised on the last trading day prior to expiration, exercises will not be reviewed on a daily basis as they are with other options.

[30] Inter-market surveillance is concerned with iproper trading practices involving the options market and a related market, traditionally including such activities as capping, pegging, frontrunning, and mini-manipulation. CBOE has indicated that because no last sale information is available on the underlying cash market, it will use bid and/or offer quotations in reviewing cases for possible inter-market manipulation.

manipulation.[31] The Commission believes that the data made available by these rules will assist the CBOE in monitoring the market for potentially manipulative activity.

The Commission also believes that the exchange of surveillance information between the CBOE, Phlx and the foreign currency futures markets could be a useful adjunct to an inter-market surveillance program for foreign currency options. It is the Commission's understanding that CBOE intends as soon as possible to coordinate intermarket studies with these other marketplaces and will be negotiating agreements with the other options and futures exchanges to share information.

After carefully reviewing CBOE's surveillance plan for foreign currency options, the Commission has determined that the plan initially should be adequate to detect both intramarket and inter-market manipulation. The Commission bases this determination, in part, on the low level of trading activity expected in CBOE's foreign currency options at the start-up of trading and the difficulty in manipulating the underlying cash market in foreign currencies due to its magnitude: If, however, trading activity increases over time, the Commission reserves the right to review the adequacy of CBOE's surveillance plan in light of the increased activity to determine if any refinements or changes are necessary.

## VI. Conclusion

Under section 19(b)(2), of the Act, the Commission must approve the foregoing rule change if it determines that it is consistent with the requirements of the Act and the rules and regulations thereunder applicable to a national securities exchange. The Commission has reviewed carefully the rules, as amended, proposed by the CBOE to accommodate the listing and trading of options on foreign currencies and has concluded that the rules provide for adequate and proper regulation of the proposed market. According, the Commission finds that the proposed rule change, as amended, is consistent with the requirements of the act and the rules and regulations thereunder and, in particular, the requirements of section 6.

[31] For example, as noted above, CBOE will require that a report be filed when the aggregate options position on the same side of the market in a firm or customer account is 10% or more of the 25,000 contract limit. Market makers also are obligated to make available to the CBOE, upon request, all books, records and other information relating to transactions for their own or an affiliate's account, with respect to transactions in the underlying currencies, futures on the currencies and options on the currencies.

The Commission also finds good cause for accelerating approval of the changes made to the proposed rule in Amendments No. 2, 3, and 4 prior to the thirtieth day after the date of publication of notice of filing. As to Amendment No. 2, the Commission finds good cause for accelerating approval because it has been noticed and published for a full 21 day comment period. No comments were received on these amendments during the comment period. The Commission also finds good cause for accelerating Amendments No. 3 and 4 in that these changes are mostly clarifying and technical in nature and present no new substantive issues in terms of the start-up of a foreign currency options market. In addition, some of the changes submitted in these amendments merely conform CBOE's proposed rules to the existing foreign currency options rules of the Phlx.

It is therefore ordered, pursuant to section 19(b)(2) of the Act, that the proposed rule change, as amended, be and hereby is, approved.

For the Commission, by the Division of Market Regulation, pursuant to delegated authority.

Dated: September 26, 1985.

John Wheeler,

*Secretary.*

[FR Doc. 85-23840 Filed 10-3-85; 8:45 am]

BILLING CODE 8010-01-M

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**[Release No 34-22470; File No. SR-CBOE-95-37]**

## Self-Regulatory Organizations; Chicago Board Options Exchange, Inc.; Filing and Order Granting Immediate Effectiveness to Proposed Rule Change

Pursuant to section 19(b)(1) of the Securities Exchange Act of 1934, 15 U.S.C. 78s(b)(1), notice is hereby given that on August 28, 1985, the Chicago Board Options Exchange, Incorporated ("CBOE" or "Exchange") filed with the Securities and Exchange Commission the proposed rule change as described in Items I, II and III below, which Items have been prepared by the self-regulatory organization. The Commission is publishing this notice to solicit comments on the proposed rule change from interested persons.

### I. Text of the Proposed Rule Change

The Exchange files as a rule change the following proposed foreign currency options fees and charges, which are scheduled to become effective on October 1, 1985.

First, the Exchange will not charge transaction fees on foreign currency option contracts until January 2, 1986.

Second, for regular members and CBT exercisers for six months of foreign currency option trading (with the provision that the specified contract levels may be changed upward or downward at the end of two months)—up to $5,000 per month of Exchange transaction fees on noncurrency Exchange contracts traded will be refunded if a market maker meets the following requirements during the month: (1) Trades more than 5,000 market maker currency contracts and (2) is present at the currency post for the opening and three business hours on 15 business days. In addition, one and one-half percent of the average of the last three regular membership sales prices will be refunded if a market maker meets the following requirements during a monthly period: (1) Trades more than 10,000 market currency contracts and (2) is present at the currency post for the opening and five business hours on 15 business days.

Third, for foreign currency option permit holders for six months of foreign currency option trading—$5,000 of the permit fee will be refunded if a permit holder trades more than 5,000 market maker currency contracts each month and is present at the currency post for the opening and five business hours on 15 days each month.

### II. Self-Regulatory Organization's Statement of the Purpose of, and Statutory Basis for, the Proposed Rule Change

In its filing with the Commission, the self-regulatory organization included statements concerning the purpose of and basis for the proposed rule change and discussed any comments it received on the proposed rule change. The text of these statements may be examined at the places specified in Item IV below and is set forth in sections (A), (B), and (C) below.

*(A) Procedures of the Self-Regulatory Organization*

The purpose of this proposed rule change is to encourage market makers and floor brokers to be present in the foreign currency option trading crowd. It should be noted that all CBOE market maker duties and obligations apply to currency option transactions; trading activity will be reviewed to assure that the activity engaged in by market makers to meet the volume levels associated with the benefits described in this filing is consistent with these duties and obligations.

The statutory basis for this proposed rule change is section 6(b)(5) of the Securities and Exchange Act of 1934 (the Act), in that it is designed to facilitate transactions in foreign currency options.

*(B) Self-Regulatory Organization's Statement on Burden on Competition*

This proposed rule change will not impose a burden on competition.

*(C) Self-Regulatory Organization's Statement on Comments on the Proposed Rule Change Received from Members, Participants or Others*

Comments were neither solicited nor received.

**III. Date of Effectiveness of the Proposed Rule Change and Timing for Commission Action**

The foregoing rule change has become effective pursuant to section 19(b)(3)(A) of the Securities Exchange Act of 1934 and subparagraph (e) of Securities Exchange Act Rule 19b–4 because it establishes or changes a due, fee or other charge. At any time within 60 days of the filing of such proposed rule change, the Commission may summarily abrogate such rule change if it appears to the Commission that such action is necessary or appropriate in the public interest, for the protection of investors, or otherwise in furtherance of the purposes of the Securities Exchange Act of 1934.

**IV. Solicitation of Comments**

Publication of the submision is expected to be made in the **Federal Register** during the week of September 30, 1985. Interested persons are invited to submit written data, views and arguments concerning the foregoing. Persons making written submission should file six copies thereof with the Secretary, Securities and Exchange Commission, 450 Fifth Street, Washington, DC 20549. Copies of the submission, all subsequent amendments, all written statements with respect to the proposed rule change that are filed with the Commission, and all written communications relating to the proposed rule change between the Commission and any person, other than those that may be withheld from the public in accordance with the provisions of 5 U.S.C. 552, will be available for inspection and copying at the Commission's Public Reference Section, 450 Fifth Street, NW., Washington, DC. Copies of such filing will also be available for inspection and copying at the CBOE. All submissions should refer to the file number in the caption above and should be submitted by October 25, 1985.

For the Commission by the Division of Market Regulation, Pursuant to delegated authority.

Dated: September 26, 1985.

**John Wheeler,**

*Secretary.*

[FR Doc. 85–23841 Filed 10–3–85; 8:45 am]

BILING CODE 8010-01-M

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**[Release No. 34–22485; File No. SR–NASD–85–26]**

## Self-Regulatory Organizations; Proposed Rule Change by National Association of Securities Dealers, Inc., Relating to a Proposed Amendment to Section 5(d) of Appendix F to Article III, Section 34 of the NASD Rules of Fair Practice

Pursuant to section 19(b)(1) of the Securities Exchange Act of 1934, 15 U.S.C. 78s(b)(1), notice is hereby given that on September 20, 1985, the National Association of Securities Dealers, Inc. filed with the Securities and Exchange Commission the proposed rule change as described in Items, I, II and III below, which items have been prepared by the self-regulatory organization. The Commission is publishing this notice to solicit comments on the proposed rule change from interested persons.

**I. Self-Regulatory Organization's Statement of the Terms of Substance of the Proposed Rule Change**

The proposed rule change will clarify the criteria for determining whether general partnership fees paid to a member or an affiliate of a member are indeterminate underwriting compensation.

Set forth below is the text of the proposed rule change to Section 5(d) of Appendix F to Article III, Section 34 of the Rule of Fair Practice ("Appendix F") of the National Association of Securities Dealers, Inc. ("Association" or "NASD").

**Appendix F** [1]

Section 5(d)

The determination of whether compensation paid to underwriters, broker/dealers, or affiliates thereof is in connection with or related to a public offering, for purposes of this section, shall be made on the basis of such factors as the timing of the transaction, the consideration rendered, the investment risk, and the role of the members *or affiliates* in the organization, management and direction of the enterprise in which the sponsor is involved.

*(1) An affilliate of a member which acts or proposes to act as a general partner, or other sponsor of a program shall be presumed to bear investment risk for purposes of this subsection if the affiliate:*

*(i) Is subject to potential liability as a general partner to the same extent as any other general partner;*

*(ii) Is not indemnified against potential liability as a general partner to any greater or different extent than any other general partner for it's actions or those of any other general partner;*

*(iii) Has a net worth equal to at least five percent of the net proceeds of the public offering or $1.0 million, whichever is less; provided, however, that the computation of the net worth shall not include an interest in the program offered but may include net worth applied to satisy the requirements of this subsection with respect to other programs; and*

*(iv) Agrees to maintain net worth as required by this subsection under its control until the earlier of the removal or withdrawal of the affiliate as a general partner, associate general partner or other sponsor, or the dissolution of the program.*

*(2)* For the purposes of determining the factors to be utilized in computing compensation derived from securities received in connection with a public offering, the guidelines set forth in the Interpretation of the Board of Governors—Review of Corporate Financing shall govern to the extent applicable.

**II. Self-Regulatory Organization's Statement Regarding the Proposed Rule Change**

In its filing with the Commission, the self-regulatory organization included statements concerning the purpose of, and basis for, the proposed rule change and discussed any comments it received on the proposed rule change. The text of these statements may be examined at the places specified in Item IV below. The self-regulatory organization has prepared summaries, set forth in sections (A), (B) and (C) below of the most significant aspects of such statements.

*A. Self-Regulatory Organization's Statement of the Purpose of, and Statutory Basis for, the Proposed Rule Change*

Appendix F regulates compensation which members, their affiliates and associated persons receive "in connection with" the distribution of public direct participation programs but does not regulate other forms of

[1] New material is italicized.

compensation such as general partner fees for program management.[2] Section 5(d) of Appendix F currently provides four factors which are used to determine whether compensation paid to an underwriter, its associated persons or an affiliate of the underwriter is received in connection with the distribution of a public offering. The four factors are (1) the timing of the transaction, (2) the consideration paid, (3) the investment risk present, and (4) the role of the member in the organization, management and direction of the program enterprise. If a connection is found, the compensation to the underwriter, its associated persons or its affiliate is treated as underwriting compensation and, if indeterminate in nature, is not permitted under section 5(b)(5) of Appendix F.

The above criteria are easily applied to the typical form of direct participation program which is sponsored and managed by organizations with an operating history in the area of program activity, (e.g. real estate, oil and gas), regardless of whether the organization is affiliated with a broker/dealer. However, situations have occurred where the program has been structured with an affiliate of a broker/dealer acting as an associate or co-general partner ("AGP") with the program's operating general partner. Such an associate general partner and its associated persons typically will receive substantial amounts of compensation during the life of the program. Concern has arisen that general partnership fees paid to affiliates of members which act as an associate general partner are actually underwriting compensation of an indeterminate nature.

In order to remedy this situation, the Association has determined to clarify those instances in which an AGP will be presumed to bear sufficient investment risk as to satisfy that factor in determining whether a connection exists between a proposed general partner compensation arrangement and the public offering. The Association believes that the other three tests contained in Section 5(d) are not normally a problem with respect to their application. However, in each instance, the remaining three tests must be met in addition to the investment risk test.

Therefore, the Association proposes to amend Section 5(d) of Appendix F to provide a "safe harbor" for complying with the requirement that AGPs bear investment risk. The proposed amendment, however, does not constitute the sole means by which that requirement can be met.

Under the proposed amendment an AGP and its associated persons would be presumed to be bearing investment risk when it meets four criteria. First, the AGP must bear full general partner liability to the same extent as any other general partner; second, not be indemnified against potential liability as a general partner to any greater or different extent than any other general partner for its actions or those of any other general partner; third, have net worth equal to at least five percent of the net proceeds of the public offering or $1.0 million, whichever is less; and fourth, agree to maintain net worth as required by this subsection until the earlier of the AGP's removal or withdrawal as a general partner or sponsor or the dissolution of the program. The proposed amendment also provides that the computation of the net worth requirement may not include an interest in the program offered, but may include net worth used to satisfy the reqirements of Section 5(d) with respect to other programs.

The Association's proposal is consistent with and in furtherance of Sections 15A(b)(2) and 15A(b)(6) of the Securities Exchange Act of 1934 ("the 1934 Act"), as amended.

*B. Self-Regulatory Organization's Statement on Burden on Competition*

The Association believes that the proposed rule change will not impose an unreasonable burden on competition. The proposed rule change reflects existing Association policy under Appendix F that compensation received by an affiliate of a broker/dealer acting as a general partner of a direct participating program is considered to be underwriting compensation when it is received in connection with the distribution of the offering. The purpose of the proposed restriction is to refine the existing rule by providing additional requirements to ensure that an AGP is providing bonafide services as a general partner and to eliminate those situations where an affiliation is used to provide underwriting compensation.

Several commentators responding to the Association's request for comments on the original form of the proposed rule change, more fully discussed in Item 5, expressed concern that the original proposed requirement that assets be equal to at least five percent of the public offering or $1.0 million would result in unfair discrimination against smaller broker/dealer member firms if the amount was not reduced. Such commentators suggested that a large broker/dealer could easily set aside $1.0 million while such an amount was unrealistic for many small firms. The Association gave careful consideration to these comments and concluded that the financial exposure of an AGP should be sufficiently significant to assure that the partner exercises a meaningful role in any partnership to which the assets were committed. Moreover, in response to the observation of several commentators that under the proposed asset test a receivable as well as any asset with an offsetting liability could be used to qualify in a test that measures only assets, the Association changed the "asset" test to a "net worth" test.

In addition, in response to other comments, the Association modified the language of proposed Subsection (1)(iii) to clarify that the same net worth can be used to satisfy the minimum requirements in each partnership that the affiliate of a broker/dealer acts as an AGP. Thus, the potential impact of the net worth test on smaller broker/dealers is lessened. Moreover, assets may be substituted within the AGP so long as the requisite amount of net worth is retained. However, an interest in the partnership being offered cannot be included as an asset in satisfying net worth requirements for the respective AGP since interests in a given partnership are likely to be of little value if the partnership has performed poorly which is when the protection of AGP assets would be most needed. Finally, as discussed above in Item 3, the proposed amendment is a "safe harbor" and does not constitute the sole means by which AGPs may demonstrate investment risk.

Therefore, based on the foregoing, the Association believes that the proposed rule change does not impose any burden on competition not necessary in the furtherance of the purposes of the Securities Exchange Act of 1934.

*C. Self-Regulatory Organization's Statement on Comments on the Proposed Rule Change Received from Members, Participants or Others*

The Association received twenty-three letters of comment on the proposed rule change. The majority of the comments favored the adoption of the amendment although some commentators raised objections and numerous suggestions for clarification were offered.

Several commentators expressed concern that AGPs could not be indemnified against general partner liability under the terms of the

[2] The Association does regulate compensation paid to members and the general partner for organization and offering expenses from program proceeds in the event that a member affiliated with the sponsor or general partner participates in the distribution. NASD Notice-to-Members 81-51 (October 19, 1982); Section 5(b)(2) of Appendix F.

amendment. The Association has modified the language of Subsection (1)(ii) to clarify that AGPs are permitted to be indemnified to the same extent as operating general partners and language to effect that change has been inserted. The Association believes, however, that associate general partners should not be indemnified against wrongful acts of the operating general partner and that limited partnerships should be entitled to recover against the associate general partner in any instance in which they could recover against the operating general partner. In addition, the language of Subsection (1)(ii) was modified to clarify that the nature of the liability that each associate general partner is intended to bear is liability to the same extent as that borne by the operating general partner.

Numerous comments were received concerning the requirement in proposed Subsection (1)(iii) that assets equal to at least five percent of the public offering or $1.0 million be at risk in the AGP and that the amendment would discriminate against smaller broker/dealers if the net worth amounts were not reduced. These issues were addressed in Item 4 above.

The last criteria of the amendment, as proposed in Notice-to-Members 83-49, requires in Subsection (1)(iv) that the AGP retain the specified net worth under its control until the dissolution of the program. Some commentators recommended that control over net worth should be required only so long as the AGP continued as a general partner or sponsor and the Association has modified Subsection (1)(iv) to so provide.

### III. Date Of Effectiveness Of Proposed Rule Change And Timing For Commission Action

Within 35 days of the date of publication of this notice in the **Federal Register** or within such longer period (i) as the Commission may designate up to 90 days of such date or it finds such longer period to be appropriate and publishes its reasons for so finding or (ii) as to which the self-regulatory organization consents, the Commission will:

A. By order approve such proposed rule change, or

B. Institute proceedings to determine whether the proposed rule change should be disapproved.

### IV. Solicitation Of Comments

Interested persons are invited to submit written data, views, and arguments concerning the foregoing. Persons making written submissions should file six copies thereof with the Secretary, Securities and Exchange Commission, 450 Fifth Street, NW., Washington, DC 20549. Copies of the submissions, all subsequent amendments, all written statements with respect to the proposed rule change that are filed with the Commission, and all written communication relating to the proposed rule change between the Commission and any person, other than those that may be withheld from the public in accordance with the provisions of U.S.C. 522, will be available for inspection and copying in the Commission's Public Reference Section, 450 Fifth Street, NW., Washington, DC 20549. Copies of such filing will also be available for inspection and copying at the principal office of the above-mentioned self-regulatory organization. All submissions should refer to the file number in the caption above and be submitted by October 25, 1985.

For the Commission by the Division of Market Regulation, pursuant to delegated authority, 17 CFR 200.30-3(a)(12).

Dated: September 30, 1985.

**John Wheeler,**

*Secretary.*

[FR Doc. 85-23842 Filed 10-3-85; 8:45 am]

BILLING CODE 8010-01-M

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**[Release No. 34-22452; SR-PSE-85-14]**

## Self-Regulatory Organizations; Pacific Stock Exchange, Inc. Notice of Order Granting Accelerated Approval of Proposed Rule Change

On May 24, 1985, the Pacific Stock Exchange Inc. ("PSE") submitted copies of a proposed rule change pursuant to section 19(b)(1) of the Securities Exchange Act of 1934 [1] and Rule 19b-4 thereunder,[2] which governs the use of automatic execution systems placed on the PSE's floor to permit market makers to facilitate the entry of over-the-counter ("OTC") stock orders for purposes of hedging or covering options positions on OTC stocks.

Under the proposal, PSE will place computer-communication terminals operated by Institutional Networks Corporation ("Instinet") [3] at trading posts on the exchange floor for display of price and quotation information only. The systems are intended to facilitate entry of OTC stock orders for market-makers to hedge or cover options positions in the underlying OTC securities. Instinet terminals with order entry capability will only be placed in member firms booths. Members wishing to use any such system for order entry will continue to communicate, as currently is the case, either personally or via telephone or messengers, to stock execution personnel within the member firm booths.

All Commission and exchange rules prohibiting manipulative and other improper or unethical practices in the trading of securities will apply to stock transactions effected through the automatic execution system.[4] In addition, the PSE will make clear to its members that only OTC securities may be traded through the use of the electronic trading systems and that no listed stocks may be purchased or sold using the system. In either case, members will be prohibited from providing a regular or continuous two-sided market in any underlying securities. PSE will monitor the use of these systems to ensure, among other things, that two-sided markets in OTC and exchange-listed stocks are not being made through the system.

Interested persons are invited to submit written data, views and arguments concerning the proposed rule change within 21 days from the date of publication of the submission in the **Federal Register**. Persons desiring to make written comments should file six copies thereof with the Secretary of the Commission, Securities and Exchange Commission, 450 Fifth Street, NW., Washington, DC 20549. Reference should be made to File No. SR-PSE-85-14.

Copies of the submission, all subsequent amendments, all written statements with respect to the proposed rule change which are filed with the Commission and all written communications relating to the proposed rule change between the Commission and any person, other than those which may be withheld from the public in accordance with the provisions of 5 U.S.C. 552, will be available for inspection and copying at the Commission's Public Reference Room, 450 Fifth Street, NW, Washington, DC.

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[1] 15 U.S.C. 78s(b) (1982).

[2] 17 CFR 240. 19b-4 (1984).

[3] Instinet is, among other things, a vendor of transaction and quotation data and operates, as a broker-dealer, an automated order routing system. Although PSE intends to commence with the Instinet System, the proposed rule change would apply equally to other automatic execution systems that PSE may decide to place on the exchange floor for the same purposes in the future.

[4] PSE will issue an educational memorandum to members emphasizing, among other things, that the use of the systems are subject to all PSE and Commission rules applicable to the stock activity of broker-dealers.

Copies of the filing and of any subsequent amendments also will be available at the principal office of the PSE.

The Commission finds that the proposed rule change is consistent with the requirements of the Act and the rules and regulations thereunder applicable to self-regulatory organizations and in particular, the requirements of Section 6 and the rules and regulations thereunder.

The Commission finds good cause for approving the proposed rule change prior to the thirtieth day after the date of publication of notice of filing thereof, in that the PSE's proposed rule change is substantially similar to rule proposals by the Chicago Board Options Exchange, Inc. ("CBOE") and the American Stock Exchange, Inc. ("Amex") that have been noticed, published for comment, and approved by the Commission.[5]

It is therefore ordered, pursuant to section 19(b)(2) of the Act, that the proposed rule change referenced above be, and hereby is, approved.

For the Commission, by the Division of Market Regulation, pursuant to delegated authority.

Dated: September 24, 1985.

**John Wheeler,**

*Secretary.*

[FR Doc. 85-23843 Filed 10-3-85; 8:45 am]

BILLING CODE 8010-01-M

## SMALL BUSINESS ADMINISTRATION

**[License No. 02/02-0487]**

### Atlantic Capital Corp. Issuance of a Small Business Investment Company License

On June 11, 1985, a notice was published in the **Federal Register** (50 FR 24605) stating that an application has been filed by Atlantic Capital Corporation, with the Small Business Administration (SBA) pursuant to § 107.102 of the Regulations governing small business investment companies (13 CFR 107.102 (1985)) for a license as a small business investment company.

Interested parties were given until close of business July 11, 1985, to submit their comments to SBA. No comments were received.

Notice is hereby given that, pursuant to section (302(c)) of the Small Business Investment Act of 1958, as amended, after having considered the application and all other pertinent information, SBA issued License No. 02/02-0487 on August 29, 1985, to Atlantic Capital Corporation to operate as a small business investent company.

(Catalog of Federal Domestic Assistance Program No. 59.011, Small Business Investment Companies)

Dated: September 24, 1985.

**Robert G. Lineberry,**

*Deputy Associate Administrator for Investment.*

[FR Doc. 85-23831 Filed 10-3-85; 8:45 am]

BILLING CODE 8025-01-M

**[Declaration of Disaster Loan Area #2205; Amdt. #1]**

### Florida; Declaration of Disaster Loan Area

The above-numbered Declaration (50 FR 38937) is hereby amended in accordance with the President's declaration of September 12, 1985, to include Dixie, Hillsborough and Wakulla Counties because of damage from Hurricane Elena and flooding beginning on or about August 29, 1985. All other information remains the same; i.e., the termination date for filing applications for physical damage is the close of business on November 12, 1985, and for economic injury until the close of business on June 12, 1986.

(Catalog of Federal Domestic Assistance Programs Nos. 59002 and 59008)

Dated: September 23, 1985.

**Bernard Kulik,**

*Deputy Associate Administrator for Disaster Assistance.*

[FR Doc. 85-23829 Filed 10-3-85; 8:45 am]

BILLING CODE 8025-01-M

**[Declaration of Disaster Loan Area #2206; Amendment #1]**

### Michigan; Declaration of Disaster Loan Area

The above numbered Declaration (50 FR 38937) is hereby amended in accordance with the President's declaration of September 18, 1985, to include Iosco County as an adjacent county because of damage from Hurricane Elena and flooding beginning on or about September 5, 1985. All other information remains the same; i.e., the termination date for filing applications for physical damage is the close of business on November 18, 1985, and for economic injury until the close of business on June 18, 1986.

(Catalog of Federal Domestic Assistance Programs Nos. 59002 and 59008)

Dated: September 25, 1985.

**Alfred E. Judd,**

*Acting Deputy Associate Administrator for Disaster Assistance.*

[FR Doc. 85-23830 Filed 10-3-85; 8:45 am]

BILLING CODE 8025-01-M

### Computer Security and Education Advisory Council Meeting; Public Meeting

The U.S. Small Business Administration's Computer Security and Education Advisory Council will hold a public meeting at 9:00 a.m. on Thursday, November 14, 1985, in the Jackson Room at the Holiday Inn Central Hotel, 1501 Rhode Island Avenue, NW., Washington, DC 20005, to discuss such matters as may be presented by Members, or others present, concerning the extent of computer security problems in the small business community.

For further information, write or call John J. Sweeney, Deputy Associate Administrator, U.S. Small Business Administration, 1441 L Street, NW., Room 3417, Washington, DC 20416: (202) 653-6330.

**Jean M. Nowak,**

*Director, Office of Advisory Councils.*

[FR Doc. 85-23815 Filed 10-3-85; 8:45 am]

BILLING CODE 8025-01-M

**[License No. 03/03-0179]**

### Enterprise Venture Capital Corp.; Issuance of a Small Business Investment Company License

On July 26, 1985, a notice was published in the **Federal Register** (50 FR 30555) stating that an application has been filed by Enterprise Venture Capital Corporation, with the Small Business Administration (SBA) pursuant to § 107.102 of the Regulations governing small business investment companies (13 CFR 107.102 (1985)) for a license as a small business investment company.

Interested parties were given until close of business August 26, 1985, to submit their comments to SBA. No comments were received.

Notice is hereby given that, pursuant to section 301(c) of the Small Business Investment Act of 1958, as amended, after having considered the application and all other pertinent information, SBA issued License No. 03/03-0179 on September 11, 1985, to Enterprise Venture Capital Corporation to operate as a small business investment company.

[5] *See* CBOE File No. SR-CBOE-84-35, Securities Exchange Act Release No. 21858 (March 18, 1985), 50 FR 11774 and Amex File No. SR-Amex-85-22, Securities Exchange Act Release No. 22110 (June 3, 1985), 50 FR 24334.

(Catalog of Federal Domestic Assistance Program No. 59.011, Small Business Investment Companies)

Dated: September 30, 1985.

Robert G. Lineberry,

*Deputy Associate Administrator for Investment.*

[FR Doc. 85-23816 Filed 10-3-85; 8:45 am]

BILLING CODE 8025-01-M

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[License No. 02/02-0310]

## NIS Capital Corp.; Filing of an Application for Transfer of Ownership and Control

Notice is hereby given that an application has been filed with the Small Business Administration (SBA), pursuant to § 107.601 of the Regulations governing small business investment companies (13 CFR 107.601 (1985)), for transfer of ownership and control of NIS Capital Corp. (NIS), 34 South Broadway, White Plains, New York 10601, a Federal Licensee under the Small Business Investment Act of 1958, as amended (the Act), (15 U.S.C. 661 *et seq.*). The proposed transfer of ownership and control of NIS, which was licensed on January 30, 1975, is subject to the prior written approval of SBA.

Capital Market Services Corp. (formerly National Industrial Services Corp.) presently owns 100 percent of NIS stock. Pittsburgh Annealing Box Co., 801 Kroll Drive, Pittsburgh, Pennsylvania 15233, is purchasing 80 percent of the shares of Capital Market Services Corp. All of the shares of Pittsburgh Annealing Box Co. are owned by Mr. Sam Michaels, 1000 Grandview Avenue, Apt. 1204, Pittsburgh, PA 15211.

As part of the sale and purchase agreement, PIttsburgh Annealing Box Co. has agreed that until June 30, 1990, it will retain the same Board of Directors and Officers of NIS as presently exists. Accordingly, there will be no change in management or operation of NIS for the next five years.

Matters involved in SBA's consideration of the application include the general business reputation and character of the proposed new owner, and the probability of successful operations of the company under this ownership, including adequate profitability and financial soundness in accordance with the Act and Regulations.

Notice is given that any person may, not later than 30 days from the date of publication of this Notice, submit written comments on the proposed transfer of ownership and control to the Deputy Associate Administrator for Investment, Small Business Administration, 1441 "L" Street, NW., Washington, DC 20416.

A copy of this Notice will be published in a newspaper of general circulation in White Plains, New York and Pittsburgh, Pennsylvania.

(Catalog of Federal Domestic Assistance Program No., 59.011, Small Business Investment Companies)

Dated: September 25, 1985.

Robert G. Lineberry,

*Deputy Associate Administrator for Investment.*

[FR Doc. 85-23817 Filed 10-3-85; 8:45 am]

BILLING CODE 8025-01-M

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## Region IV Advisory Council, Miami, FL; Public Meeting

The U.S. Small Business Administration Region IV Advisory Council, located in the geographical area of Miami, Florida, will hold a public meeting at 9:00 a.m., on Friday, October 25, 1985, in Passenger Terminal 2, Port Everglades, Fort Lauderdale, Florida, to discuss such matters as may be presented by members, staff of the U.S. Small Business Administration, or others.

For further information, write or call John L. Carey, District Director, U.S. Small Business Administration, 2222 Ponce de Leon Blvd., 5th Floor, Coral Gables, Florida 33134, telephone (305) 350-5533.

Jean M. Nowak,

*Director, Office of Advisory Councils.*

September 26, 1985.

[FR Doc. 85-23818 Filed 10-3-85; 8:45 am]

BILLING CODE 8025-01-M

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## Region X Advisory Council, Boise, ID; Public Meeting

The Small Business Administration Region X Advisory Council, located in the geographical area of Boise, Idaho, will hold a public meeting at 9:30 a.m., Wednesday, October 16, 1985, at the Owyhee Plaza "Regency Room", 1109 Main Street, Boise, Idaho, to discuss such business as may be presented by members, the staff of the U.S. Small Business Administration, and others attending.

For further information, write or call Joseph G. Kaeppner, District Director, U.S. Small Business Administration, 1020 Main Street, Suite 290, Boise, Idaho (208) 334-1096.

Jean M. Nowak,

*Director, Office of Advisory Councils.*

September 26, 1985.

[FR Doc. 85-23819 Filed 10-3-85; 8:45 am]

BILLING CODE 8025-01-M

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## Region VII Advisory Council, Des Moines, IA; Public Meeting

The U.S. Small Business Administration Region VII Advisory Council, located in the geographical area of Des Moines, will hold a public meeting at 10:00 a.m. on Tuesday, October 15, 1985, at Coopers & Lybrand Conference Room, 17th Floor—Financial Center, 7th & Walnut, Des Moines, Iowa, to discuss such matters as may be presented by members, staff of the Small Business Administration and others attending.

For further information, write or call Conrad Lawlor, District Director, U.S. Small Business Administration, Federal Building, Room 749, 210 Walnut Street, Des Moines, Iowa 50309, (515) 284-4567.

Jean M. Nowak,

*Director, Office of Advisory Councils.*

September 26, 1985.

[FR Doc. 85-23820 Filed 10-3-85; 8:45 am]

BILLING CODE 8025-01-M

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## Region VIII Advisory Council, Helena, MT; Public Meeting

The U.S. Small Business Administration Region VIII Advisory Council, located in the geographical area of Helena, Montana, will hold a public meeting at 9:30 a.m. on Friday, October 11, 1985, at Federal Office Building, 301 South Park, Room 389, Helena, Montana, to discuss such matters as may be presented by members, staff of the Small Business Administration and others attending.

For further information, write or call John R. Cronholm, District Director, U.S. Small Business Administration, Federal Office Building, 301 South Park, Drawer 10054, Helena, Montana 59626—(406) 449-5381.

Jean M. Nowak,

*Director, Office of Advisory Councils.*

September 26, 1985.

[FR Doc. 85-23821 Filed 10-3-85; 8:45 am]

BILLING CODE 8025-01-M

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## Region VIII Advisory Council Meeting, Sioux Falls, SD; Public Meeting

The U.S. Small Business Administration Region VIII Advisory Council, located in the geographical area of Sioux Falls, South Dakota, will hold a public meeting on Friday, October 18, 1985, from 9:00, a.m. to 3:00 p.m., at the Community Room, First National Bank in Sioux Falls, 100 South Phillips, Sioux Falls, South Dakota 57102, to discuss such matters as may be presented by

members, staff of the Small Business Administration and others attending.

For further information, write or call Chester B. Leedom, District Director, U.S. Small Business Administration, Suite 101 Security Building, 101 South Main, Sioux Falls, South Dakota 57102, 605/336-2980, Ext. 231.

Jean M. Nowak,

*Dirctor, Office of Advisory Councils.*

September 26, 1985.

[FR Doc. 85-23822 Filed 10-3-85; 8:45 am]

BILLING CODE 8025-01-M

## Region X Advisory Council Meeting, Spokane, WA; Public Meeting

The U.S. Small Business Administration Region X Advisory Council, located in the geographical area of Spokane, Washington, will hold a public meeting at 9:30 a.m. on Thursday, October 24, 1985, in Room 485, U.S. Courthouse Building, West 920 Riverside Avenue, Spokane, Washington, to discuss such matters as may be presented by members, staff of the Small Business Administration and others attending.

For further information, write or call Valmer W. Cameron, District Director, U.S. Small Business Administration, Room 651, U.S. Courthouse Building, Post Office Box 2167, Spokane, Washington 99210, telephone (509) 456-3781.

Jean M. Nowak,

*Director, Office of Advisory Councils.*

September 26, 1985.

[FR Doc. 85-23828 Filed 10-3-85; 8:45 am]

BILLING CODE 8025-01-M

## DEPARTMENT OF TRANSPORTATION

### Office of the Secretary

### Reports, Forms, and Recordkeeping Requirements; Submittals to OMB August 22, 1985—September 16, 1985

**AGENCY:** Department of Transportation (DOT), Office of the Secretary.

**ACTION:** Notice.

**SUMMARY:** This notice lists those forms, reports, and recordkeeping requirements imposed upon the public which were transmitted by the Department of Transportation, during the period August 22, 1985—September 16, 1985 to the Office of Management and Budget (OMB) for its approval in accordance with the requirements of the Paperwork Reduction Act of 1980 (44 U.S.C. Chapter 35).

**FOR FURTHER INFORMATION CONTACT:** John Chandler of Annette Wilson, Information Requirements Division, M-34, Office of the Secretary of Transportation, 400 7th Street, SW., Washington, DC 20590, telephone (202) 426-1887, or Gary Waxman or Sam Fairchild, Office of Management and Budget, New Executive Office Building, Room 3228, Washington, DC 20503, (202) 395-7340.

**SUPPLEMENTARY INFORMATION:**

### Background

Section 3507 of Title 44 of the United States Code, as adopted by the Paperwork Reduction Act of 1980, requires that agencies prepare a notice for publication in the **Federal Register**, listing those information collection requests submitted to the Office of Management and Budget (OMB) for initial approval or for renewal under that Act. OMB reviews and approves agency submittals in accordance with criteria set forth in that Act. In carrying out its responsibilities, OMB also considers public comments on the proposed forms, reporting and recordkeeping requirements. OMB approval of an information collection requirement must be renewed at least once every three years.

### Information Availability and Comments

Copies of the DOT information collection requests submitted to OMB may be obtained from the DOT officials listed in the "For Further Information Contact" paragraph set forth above. Comments on the requests should be forwarded, as quickly as possible, directly to the OMB officials listed in the "For Further Information Contact" paragraph set forth above. If you anticipate submitting substantive comments, but find that more than 10 days from the date of publication are needed to prepare them, please notify the OMB officials of your intent immediately.

### Items Submitted for Review by OMB

The following information collection requests were submitted to OMB from August 22, 1985—September 16, 1985

DOT No.: 2616
OMB No.: New
By: Federal Aviation Administration
Title: Evidence of Compliance amendment No. 108-3, 14 CFR Part 108
Form: None
Frequency: on Occasion
Respondents: Aircarrier certificate holders
Need/Use: Airplane operator security requires certificate holders to provide ground and inflight security coordinators for international and domestic flight. This security enhancement is designed to further strengthen the concept of security indepth, thereby, further enhancing the program to protect the air traveler.

DOT No.: 2617
OMB No.: 2133-0029
By: Maritime Administration
Title: Shipbuilding Orderbook and Shipyard Employment
Form: MA-832
Frequency: Quarterly
Respondents: Shipbuilders and Shipyards
Need/Use: This information collection is necessary to monitor active U.S. shipbuilding industrial base in order for the Maritime Administration and Congress to formulate national shipbuilding policies.

DOT No.: 2618
OMB No.: New
By: National Highway Traffic Safety Administration
Title: 49 CFR Part 542, Procedures for Selection of Covered Vehicles-Motor Vehicle Theft Law Enforcement Act of 1984
Forms: None
Frequency: One-time only
Respondents: Motor Vehicle Manufacturers
Need/Use: Manufacturers of passenger automobiles must identify new model introductions that are likely to be high theft lines as defined in Title VI of the Motor Vehicle Information and Cost Savings Act.

DOT No.: 2619
OMB No.: 2127-0025
By: National Highway Traffic Safety Administration
Title: 49 CFR Part 512, Confidential Business Information
Forms: None
Frequency: On occasion
Respondents: Businesses
Need/Use: The regulation sets forth the procedures to be followed by vehicle and equipment manufacturers when they are requesting confidential treatment of information they have submitted to the agency.

DOT No.: 2620
OMB No.: 2132-0528
By: Urban Mass Transportation Administration
Title: Rail Transit Safety Information Reporting and Analysis System (SIRAS)
Forms: F 6600.1, F 6600.2, F 6600.3
Frequency: Monthly
Respondents: State and Local Governments
Need/Use: Under SIRAS, safety information on accidents/incidents and passenger casualties by UMTA are voluntarily reported. The

information is analyzed to determine levels of safety, to identify priorities for safety technical assistance and to assess countermeasure effectiveness.

DOT No.: 2621
OMB No.: 2106-0009
By: OST—Aviation
Title: Part 221—Construction, Publication, Filing and Posting of Tariffs of Air Carriers and Foreign Air Carriers
Forms: None
Frequency: As necessary
Respondents: U.S. Air Carriers and Foreign Air Carriers
Need/Use: Tariffs contain international air fares/rules/cargo rates and are required by section 403 of the Federal Aviation Act of 1958, as amended.

DOT No.: 2622
OMB No.: New
By: Federal Highway Administration
Title: Declaration of Safety Fitness
Form(s): MCS-150
Frequency: One time
Respondents: Businesses/Motor carriers
Need/Use: For FHWA to determine the safety fitness of applicants seeking motor carrier operating authority from the Interstate Commerce Commission and to assign a professional safety rating.

DOT No.: 2623
OMB No.: 2127-0003
By: National Highway Traffic Safety Administration
Title: Federal-Aid Agreement and Cost Summary Forms for the Highway Safety Plan
Forms: HS-62, 62A, 217
Frequency: Annually
Respondents: States and local governments
Need/Use: The Highway Safety Plan (HSP) identifies the State's traffic safety problems and describes the programs and projects to address those problems. It serves as the basis for the execution of a Federal-Aid Agreement.

DOT No.: 2624
OMB No.: 2115-0505
By: United States Coast Guard
:Title: Title 46 CFR Subchapter I-A; Plan Approval Records and Operating Manuals for Mobile Offshore Drilling Units (MODUs)
Forms: None
Frequency: On Occasion
Respondents: Owners of MODUs
Need/Use: This information collection is needed/used by the Coast Guard to determine if the MODU's construction arrangement and equipment meet the applicable regulations. The regulations include standards for structural strength, propulsion and auxiliary machinery, construction materials, safety and lifesaving equipment, accommodations arrangement, vessel stability, cargo gear, cranes, and structural fire protection. In addition, certain MODUs must meet the standards of the Safety of Life at Sea (SOLAS) Convention. Plans, specifications, and operating manuals are submitted to determine if the regulations have been met.

DOT No.: 2625
OMB No.: 2115-0050
By: United States Coast Guard
:Title: Application for Individual Bridge Permit
Forms: None
Frequency: On Occasion
Respondents: Prospective Bridge builders of bridges across navigable waters of the U.S.
Need/Use: The Coast Guard uses this information to evaluate the effect the structure will have on the reasonable needs of navigation and the human environment. Noncollection of this information would make the bridge permit program ineffective.

DOT No.: 2626
OMB No.: 2137-0013
By: Research and Special Programs Administration
:Title: Application For Approval Of An IM Portable Tank
Forms: None
Frequency: On Occasion
Respondents: IM Portable Tank, Tank Manufacturers and Owners
Need/Use: IM Portable Tank Manufacturers and owners use this requirement to obtain approval of the design of an IM Portable Tank. Information will be used to determine whether a portable tank design complies with the applicable DOT specifications. Certificate is needed and used as written documentation that any IM Portable Tank covered by the certificate is properly manufactured or modified.

DOT No.: 2627
OMB No.: New
By: Maritime Administration
:Title: Determination of Fair and Reasonable Rates for the Carriage of Bulk Preference Cargoes (46 CFR Part 382)
Forms: N/A
Frequency: Annually
Respondents: Ship Owners, Ship Operators
Need/Use: Information is needed by MARAD to establish fair and reasonable guideline rates for carriage of preference cargoes.

DOT No.: 2628
OMB No.: 2115-0051
By: United States Coast Guard
Title: Offshore Cranes
Form(s): None
Frequency: On Occasion
Respondents: Oil companies, drilling contractors, and construciton companies operating facilities with cranes on the Outer Continental Shelf (OCS).
Need/Use: This recordkeeping requirement serves as a source for verification of plans, maintenance, testing, and operator qualifications for cranes on the OCS, facilities, Mobile Offshore Drilling Units (MODUS), and a few industrial vessels.

DOT No.: 2629
OMB New
By: National Highway Traffic Safety Administration
Title: National Understanding and Acceptance of Occupant Protection Systems
Form(s): None
Frequency: On Occasion
Respondents: Individuals/households
Need/Use: Conduct a nationally representative telephone survey of 1,200 individuals over 17 years of age to assess perceptions, knowledge, and attitudes towards mandatory restraint use laws and occupant protection systems.

Dated: September 25, 1985.

**Jon H. Seymour,**

*Assistant Secretary for Administration.*

[FR Doc. 85-23619 Filed 10-3-85; 8:45 am]

BILLING CODE 4910-62-M

## Federal Railroad Administration

### Petitions for Exemption or Waiver of Compliance

In accordance with 49 CFR 211.9, 211.41 and 211.51, notice is hereby given that the Federal Railroad Administration (FRA) has received requests for an exemption from or waiver of compliance with certain requirements of its safety standards. The individual petitions are described below, including the party seeking relief, the regulatory provisions involved, and the nature of the relief being requested.

Interested parties are invited to participate in these proceedings by submitting written views, data, or comments. FRA does not anticipate scheduling a public hearing in connection with these proceedings since the facts do not appear to warrant a hearing. If any interested party desired an opportunity for oral comment, they should notify FRA, in writing, before the end of the comment period and specify the basis for this request.

All communications concerning these proceedings should identify the appropriate docket number (e.g., Waiver Petition Docket Number RST–84–21) and must be submitted in triplicate to the Docket Clerk, Office of Chief Counsel, Federal Railroad Administration, Nassif Building, 400 Seventh Street, SW., Washington, DC 20590. Communications received before November 18, 1985 will be considered by FRA before final action is taken. Comments received after that date will be considered as far as practicable. All written communications concerning these proceedings are available for examination during regular business hours (9 a.m.–5 p.m.) in Room 8201, Nassif Building, 400 Seventh Street, SW., Washington, DC 20590.

The individual petitions seeking an exemption or waiver of compliance are as follows:

**Cape Cod and Hyannis Railroad, Incorporated**

[Waiver Petition Docket Number RSGM–85–5]

The Cap Cod and Hyannis Railroad, Incorporated (CC&HRR), seeks a permanent waiver of compliance with certain provisions of the Safety Glazing Standards (49 CFR Part 223) for two GP–9 locomotives, #1201 and #1210. The CC&HRR states that the locomotives are used in seasonal passenger service between Braintree and Cape Cod Points, Massachusetts, a distance of approximately 65 miles. The CC&HRR operates mainly in a rural area over track owned by the Commonwealth of Massachusetts.

The CC&HRR further seeks an exemption from the Safety Glazing Standards for 12 passenger coaches operated primarily in excursion service over the same trackage. The CC&HRR states that the majority of the coaches are "vintage" equipment and feels that the installation of FRA certified glazing would be an unnecessary financial burden.

**Missouri Pacific Railroad Company (Union Carbide Corporation)**

[Waiver Petition Docket Number RSGM–85–6]

The Union Carbide Corporation (UCC) seeks a waiver of compliance with certain provisions of the Safety Glazing Standards (49 CFR Part 223) for two locomotives. The Union Carbide Corporation operates over 18.5 miles of track within their plant near North Seadrift, Texas, in the County of Calhoun and 1.5 miles of Missouri Pacific track through the center of UCC property. All trackage is located away from any populated areas. The UCC indicates that the expense of retrofitting equipment to comply with the safety glazing requirements would impose an undue burden on them to protect against situations which they do not encounter.

The Missouri Pacific Railroad Company has no objections to UCC being granted a waiver.

**Black River and Western Railroad**

[Waiver Petition Docket Number RSGM–85–7]

The Black River and Western Railroad seeks permanent waivers of compliance with certain provisions of the Safety Glazing Standards (49 CFR Part 223) and Locomotive Safety Standards for speed indicators (49 CFR 229.117) for one locomotive. The petitioner indicates that the locomotive would be limited to operations within their Ringues, New Jersey, yard at speeds not to exceed 20 mph.

**Madison-North Vernon Transportation Corporation**

[Waiver Petition Docket Number RSGM–85–8]

The Madison-North Vernon Transportation Corporation seeks a permanent waiver of compliance with the provisions of the Safety Glazing Standards (49 CFR Part 223) for one existing passenger coach and all other cars they may obtain. The Madison-North Vernon Transportation Corporation plans to operate tourist trains over 24 miles of track owned by the Madison Railroad. The track from North Vernon to Madison, Indiana, is in a rural area which reportedly has a very low crime and vandalism rate. The Madison-North Vernon Transportation Corporation stated that the only time the cars will be on a main line is when transported from North Vernon to another city, which will be very rarely.

**Crucible Steel (Colt Industries)**

[Waiver Petition Docket Number RSGM–85–9]

Crucible Steel seeks a waiver of compliance with the provisions of the Safety Glazing Standards (49 CFR Part 223) for one locomotive. The locomotive is used to transfer gondola cars laden with scrap metal from the Crucible Steel's scrap yard to their melting facility. This operation requires the locomotive to leave the confines of their Syracuse, New York, plant and operate over 150 feet of track owned by Conrail. Crucible Steel indicates that vandalism has not been a problem on their property and feels that safety would not be adversely affected by the granting of a waiver.

**Champion International Corporation**

[Waiver Petition Docket Number RSGM–85–11]

The Champion International Corporation seeks a waiver of compliance with certain provisions of the Safety Glazing Standards (49 CFR Part 223) for one locomotive. Champion International indicates that the locomotive is operated mainly on company owned or leased tracks located in Herty, Texas, and for short periods of time over a four mile section of the Angelina and Neches River Railroad. The Champion International Corporation states that during the past 45 years of operation there have been no major accidents involving the locomotive and only rare minor problems, none of which have endangered the windshield glass. Based on the accident history and the area of engine operation, a waiver of compliance is requested.

**Everett Railroad Company**

[Waiver Petition Docket Number RSGM–85–12]

The Everett Railroad Company seeks a waiver of compliance with certain provisions of the Safety Glazing Standards (49 CFR Part 223) for three locomotives. The Everett Railroad Company indicates that the locomotives operate on approximately fourteen total miles of track through rural areas between Brook Mills, Pennsylvania, and Sproul, Pennsylvania, as well as from Roaring Spring, Pennsylvania, to Martinsburg and Currybille, Pennsylvania. The company states that there have been no incidents of vandalism and fees that the installation of ERA certified glazing is unnecessary because of the areas in which they operate.

**Steamtown Museum**

[Waiver Petition Docket Number RSGM–85–15]

The Steamtown Museum seeks a permanent waiver of compliance with certain provisions of the Safety Glazing Standards (49 CFR Part 223) for one RS–3 diesel-electric locomotive. Steamtown plans to lease the locomotive from the Delaware and Hudson Railroad for yard switching and as a backup unit for their steam motive power. Steamtown operates a seasonal excursion service five days a week on the Conrail Scranton branch from Scranton to Moscow, Pennsylvania, a distance of 13 miles. Steamtown states that the operation is through mostly rural countryside where vandalism does not seem to be a problem. Steamtown

indicates that their excursion trains operate at 15 mph and foresees no track improvements permitting faster speeds to be authorized.

**Massachusetts Central Railroad Corporation**

[Waiver Petition Docket Number RSGM–85–16]

The Massachusetts Central Railroad Corporation (MCER) seeks a permanent waiver of compliance with certain provisions of the Safety Glazing Standards (49 CFR Part 223) for one locomotive. The MCER operates on 21 miles of track located in a rural area near Ware, Massachusetts. The MCER indicates that they have had no incidents involving broken glazing due to vandalism and feel that the installation of FRA certified glaxing is unnecessary.

**The Batten Kill Railroad**

[Waiver Petition Docket Number RSGM–85–17]

The Batten Kill Railroad (BKRR) seeks a permanent waiver of compliance with certain provisions of the Safety Glazing Standards (49 CFR Part 223) for one passenger coach. The BKRR indicates that the coach is of 1930 vintage and will be operated in excursion service over approximately 36 miles of track. The area of operation is a rural farming region located near Greenwich, New York. The BKRR states that they have had no incidents of vandalism, that the coach operates mostly with the windows open, and that installing FRA certified glazing would be an unnecessary financial burden.

**Jersey Southern Railway**

[Waiver Petition Docket Number RSGM–85–18]

The Jersey Southern Railway (JSR) seeks a permanent waiver of compliance with certain provisions of the Safety Glazing Standards (49 CFR Part 223) for locomotive #16, which operates between Bridgeton, New Jersey, and Seabrook, New Jersey, a distance of approximately three and one-half miles. The JSR states that the area of operation is rural territory and that they have no problems with vandalism. The railway, therefore, feels that the installation of FRA certified glazing would be an unnecessary financial burden.

**Indiana Midland Railway**

[Waiver Petition Docket Number RSGM–85–20]

The Indiana Midland Railway (IMR) seeks a permanent waiver of compliance with certain provision of the Safety Glazing Standards (49 CFR Part 223) for one GP–7 locomotive. The IMR operates over 24 miles of track in mainly farmland area near Shirley, Indiana. The IMR indicates that they have not experienced any acts of vandalism and feel that compliance with FRA safety glazing requirements is unnecessary.

**Hartford and Slocomb Railroad Company**

[Waiver Petition Docket Number RSGM–85–21]

The Hartford and Slocomb Railroad Company (HS) seeks a waiver of compliance with certain provisions of the Safety Glazing Standards (49 CFR Part 223) for four locomotives. The HS operates on 22 miles of track located near Dothan, Alabama, three miles of which is owned and maintained by the Southern Railway Company. The HS states that they observe a maximum speed limit of 10 mph and operate year round with the locomotive cab windows open. The HS indicates they have never experienced any incidents or accidents involving glazing and feel that compliance with FRA glazing requirements is unnecessary.

**Columbia and Silver Creek Railroad and Walking Horse and Eastern Railway Company, Incorporated**

[Waiver Petition Docket Number RSGM–85–22]

The Columbia and Silver Creek Railroad (CLSL) and the Walking Horse and Eastern Railroad Company, Inc. (WHOE), seek a waiver of compliance with certain provisions of the Safety Glazing Standards (49 CFR Part 223) for two locomotives operated on the CLSL and one locomotive operated on the WHOE. The CLSL indicates that they operate trains five days per week on 28 miles of track from Columbia, Mississippi, to Silver Creek, Mississippi, and 10 miles from Soso, Mississippi, to Taylorsville, Mississippi. The WHOE also operates five days per week on 8 miles of track from Wartrace, Tennessee, to Shelbyville, Tennessee. Both the CLSL and the WHOE feel that complying with the Safety Glazing requirements would be an unnecessary financial burden to their operating costs.

**Canadian Pacific Railway Company**

[Waiver Petition Docket Number RSGM–85–23]

The Canadian Pacific Railway Company (CP) seeks a permanent waiver of compliance with certain provisions of the Safety Glazing Standards (49 CFR Part 223) for 567 cabooses. The CP along with The Chesapeake and Ohio Railway Company and The Soo Line Railroad Company have initiated a new train service between Montreal, Quebec, and Chicago, Illinois. The CP states that this new service requires them to operate cabooses between Windsor, Ontario, and Rougemere Yard in Detroit, Michigan. The service route from the U.S. border to Rougemere Yard is 6.3 miles and is operated using Canadian train crews.

The CP indicates that the train service operates utilizing cabooses from several locations, which makes it difficult to have designated units in this service due to the long distances being traversed. The CP contends that the cost of complying with the FRA Safety Glazing requirements would present a significant financial burden.

**Burlington Junction Railway**

[Waiver Petition Docket Numbers RSGM–85–25 and SA–85–4]

The Burlington Junction Railway (BJRY) seeks a permanent waiver of compliance with certain provisions of the Safety Glazing Standards (49 CFR Part 223) for one GE–44 ton locomotive, #44. The BJRY states that the locomotive is used in yard switching service in and around Burlington, Iowa. The BJRY operates at speeds up to 10 mph over one and a half miles of track formerly used by the Chicago Rock Island and Pacific Railroad.

The BJRY also seeks a permanent waiver of compliance with certain provisions of the Railroad Safety Appliance Standards (49 CFR Part 2131) for locomotive #44. The BJRY states that any modification of the locomotive by installation of corner steps would adversely restrict truck swing and, at the same time, destroy the structural integrity of the locomotive frame.

**Canadian National Railway Company**

[Waiver Petition Docket Number RSGM–85–26]

The Canadian National Railway Company (CN) seeks a temporary waiver of compliance with certain provisions of the Safety Glazing Standards (49 CFR Part 223) for 10 cabooses. The CN along with the Grand Trunk Western Railroad Company (GTW) have commenced a new daily train service between Toronto, Ontario, and Chicago, Illinois. The CN states that this new service requires them to currently operate cabooses between Toronto, Ontario, and Port Huron

interchange in Michigan. The service route from the U.S border to the Port Huron interchange point is less than one mile. The CN indicates that the cabooses will be operated with CN train crews. The CN seeks the temporary waiver until December 31, 1988, or until cabooseless service has been approved by the Canadian Transport Commission.

**Bay Colony Railroad Corporation**

[Waiver Petition Docket Number H-82-7]

The Bay Colony Railroad Corporation (BCRC) seeks a waiver of compliance with certain provisions of 49 CFR Parts 229, 231, 223, and 232 as they pertain a to Unimog vehicle to be used as a locomotive in certain switching operations, in order to conduct an FRA approved test program under 49 CFR 211.51. The Unimog vehicle is defined as a locomotive under § 229.5(i) of the FRA Locomotive Safety Standards, but in configuration is more closely related to an over-the-road truck tractor. The Unimog, because of its physical characteristics, does not comply with a number of the regulations of Part 229—Locomotive Safety Standards, Part 231—Safety Appliance Standards, Part 232—Power Brake Regulations and Part 223—Safety Glazing Regulations. The BCRC desires to operate the Unimog because the vehicle is capable of moving several rail cars in switching operations at various customer locations and also of moving rapidly over the highways as a tractor between the locations, features that would, in their opinion, result in maximum efficiency and economy.

**Seaboard System Railroad**

[Waiver Petition Docket Number LI-85-5]

The Seaboard System Railroad (SBD) seeks a waiver of compliance with certain provisions of the Railroad Locomotive Safety Standards (49 CFR Part 229). The SBD seeks a permanent waiver of compliance with § 229.123 of the regulation for 71 specially equipped locomotives that are assigned exclusively to hump-yard service. Section 229.123 requires that the minimum clearance above the rail of the pilot, snowplow, or end plate shall be 3 inches and the maximum clearance shall be 6 inches. The locomotives are used in hump-yard service and regularly pass through the car retarder assemblies, which extend above the rail. There are occasions in which the locomotive pilot strikes the retarder. The SBD is requesting that they be allowed to set the minimum clearance of the pilot above the rail for the 71 locomotives at 6 inches and the maximum clearance at 9 inches, in order to prevent the pilots from striking the retarder assemblies.

**Southern Pacific Transportation Company and California Department of Transportation**

[Waiver Petition Docket Number SA-85-3]

The Southern Pacific Transportation Company and the California Department of Transportation (petitioners) seek a waiver of compliance with certain provisions of the Railroad Safety Appliance Standards (49 CFR Part 231). The petitioners seek a permanent waiver of compliance with § 231.14 of the regulation for 63 passenger cars. Section 231.14(b) requires that "sill steps shall be securely fastened with not less than ½-inch bolts with nuts outside (when possible) and riveted over, or with not less than ½-inch rivets." The petitioners indicate that they seek this waiver because the method and strength of the securement of the sill step are adequate to meet the intent of the safety regulations. The petitioners further seek a permanent waiver of compliance with § 231.14(d), which requires end handholds to be flush with or project not more than 1 inch beyond the face of each sill. The petitioners indicate that they seek this waiver because the mounting arrangement of the jumper cables and receptacles allows compatibility with other passenger cars and is as close as car design allows to permit 2 inches minimum clearance around the handholds with jumper cables in place and receptacle lids open.

Issued in Washington, D.C. on September 27, 1985.

**J.W. Walsh,**

*Associate Administrator for Safety.*

[FR Doc. 85-23712 Filed 10-3-85; 8:45 am]

BILLING CODE 4910-06-M

## DEPARTMENT OF THE TREASURY

### Office of the Secretary

### Debt Management Advisory Committee; Meeting

Notice is hereby given, pursuant to section 10 of Pub. L. 92-463, that a meeting will be held at the U.S. Treasury Department in Washington, DC on October 29 and 30, 1985, of the following debt management advisory committee: Public Securities Association, U.S. Government and Federal Agencies Securities Committee.

The agenda for the Public Securities Association U.S. Government and Federal Agencies Securities Committee meeting provides for a working session on October 29 and the preparation of a written report to the Secretary of the Treasury on October 30, 1985.

Pursuant to the authority placed in Heads of Departments by section 10(d) of Pub. L. 92-463, and vested in me by Treasury Department Order 101-5, I hereby determine that this meeting is concerned with information exempt from disclosure under section 552b(c)(4) and (9)(A) of Title 5 of the United States Code, and that the public interest requires that such meetings be closed to the public.

My reasons for this determination are as follows. The Treasury Department requires frank and full advice from representatives of the financial community prior to making its final decision on major financing operations. Historically, this advice has been offered by debt management advisory committees established by the several major segments of the financial community, which committees have been utilized by the Department at meetings called by representatives of the Secretary. When so utilized, such a committee is recognized to be an advisory committee under Pub. L. 92-463. The advice provided consists of commercial and financial information given and received in confidence. As such debt management advisory committee activities concern matters which fall within the exemption covered by section 552b(c)(4) of Title 5 of the United States Code for matters which are "trade secrets and commercial or financial information obtained from a person and privileged or confidential."

Although the Treasury's final announcement of financing plans may not reflect the recommendations provided in reports of an advisory committee, premature disclosure of these reports would lead to significant financial speculation in the securities market. Thus, these meetings also fall within the exemption covered by section 552b(c)(9)(A) of Title 5 of the United States Code.

The Assistant Secretary (Domestic Finance) shall be responsible for maintaining records of debt management advisory committee meetings and for providing annual reports setting forth a summary of committee activities and such other matters as may be informative to the public consistent with the policy of section 552b of Title 5 of the United States Code.

Dated: September 30, 1985.

**John J. Niehenke,**

*Acting Assistant Secretary (Domestic Finance).*

[FR Doc. 85-23806 Filed 10-3-85; 8:45 am]

BILLING CODE 4810-25-M

## UNITED STATES INFORMATION AGENCY

### Bureau of Eductional and Cultural Affairs; University Affiliations Program: Application Notice for Fiscal Year 1986

Applications for grants from U.S. institutions of higher education are invited under the University Affiliations Program.

Authority for this program is contained in the Mutual Educational and Cultural Exchange Act of 1961, Pub L. 87-256 (Fulbright-Hays Act). The purpose of the Fulbright program is "to enable the government of the United States to increase mutual understanding between the people of the United States and people of other countries."

Information collection involved in this program has been cleared by OMB Approval Number 3116-0179, expiration date 1/31/87.

**SUMMARY:**

The Bureau of Educational and Cultural Affairs of the United States Information Agency announces a program of support for institutional partnerships between U.S. and non-U.S. institutions of higher education. The goal of the Program is to facilitate bilateral institutional relationships which promote mutual understanding through faculty and staff exchanges.

Applications on behalf of the collaborating institutions are to be submitted by the U.S. partner. Participating institutions should be prepared to: Assign U.S. citizen (or national) faculty or staff to the partner institution for teaching, lecturing or research; maintain said person(s) on full salary and benefits; and receive visiting faculty from the partner institution. USIA funds are to be used for participant travel costs and modest supplements for maintenance expenses only. Institutional overhead is not allowable. USIA support may be requested for a minimum of two years and a maximum of three years; the total request to USIA should not exceed the maximum allowable for the locality of request, as listed below, covering eligible expenses of both institutions for the two- or three-year period. Complete program criteria appear below.

In Fiscal Year 1986, approximately 25 grants will be available world-wide through the regular competition for specific countries and themes. Five additional grants will be available for Central American countries. Awards will reflect Agency priorities and academic consideration.

In addition, up to ten grants will be available under special competitions for the following special areas: Bicientennial of the U.S. Constitution (up to five grants) and grants for community and junior colleges (up to five grants).

Proposals will be accepted either for the establishment of new affiliations or for the enhancement of existing affiliations not previously funded by USIA's Affiliations Program. Proposals for funding ad hoc research projects, technical assistance projects and feasibility studies to plan affiliations will not be considered in this program.

All proposals recommended for funding will be subject to Agency review for conformity to relevant OMB and legal considerations. Funding of any proposal is subject to the regular procedures, regulations and requirements for Bureau of Educational and Cultural Affairs grants, including review by the General Counsel's office.

Eligibility: Eligibility has been determined in consultation with appropriate Agency elements. Because one of the program's purposes is to strengthen ties between the U.S. and many areas of the world, country and thematic priorities have also been identified.

#### Africa

Any discipline(s) in the *humanities, social sciences, education and communications.* Applicants should focus on one or two specific topics of interest.

The maximum amount of each grant is *$50,000.* Eligible for 1986 are: Benin, Botswana, Cameroon*, Central African Republic, Congo, Gabon, Ghana, Ivory Coast, Kenya*, Lesotho, Liberia, Madagascar, Malawi, Niger, Nigeria, Senegal, Sierra Leone, South Africa, Tanzania, Zaire and Zambia.

*For Kenya and Cameron, proposals focusing on journalism will be especially welcome.

#### American Republic

Only proposals which focus on the fields of *law, history and/or political science* as broad themes will be accepted.

The maximum amount of each grant is *$50,000.* Eligible for 1986 are: Antigua, Argentina, Aruba, Bahamas, Barbados, Bermuda, Bolivia, Brazil, Chile, Colombia, Curacao, Dominica, Dominican Republic, Ecuador, Grenada, Guyana, Haiti, Jamaica, Mexico, Paraguay, Peru, Suriname, Trinidad and Tobago, Uruguay and Venezuela.

#### Special Competition for Central America

A special pool of up to five additional grants will be available for proposals which focus on the fields of *law, history, political science, English as a foreign language, business and/or communications.*

The maximum amount of each grant is *$50,000.* Eligible for this special competition are: Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama.

#### East Asia/Pacific

*Only proposals for the following countries* and *fields specified* for each country will be considered in 1986. The maximum amount of each grant is *$60,000.*

*Eligibility and Fields*

Australia: Education, educational administration.

Indonesia: Islamic and/or Indonesian studies.

South Korea: Any discipline(s) in the humanities, social sciences, education and communications; applicants should focus on one or two specific topics of interest.

Philippines: Political science, international relations, international economic, strategic studies.

Thailand: American and/or Thai studies.

#### Europe

Any discipline(s) in the *humanities, social sciences, education and communications.* Applicants should focus on one or two specific topics of interest. The maximum amount of each grant is *$50,000.*

Eligible for 1986 are: Austria, Belgium, Malta, The Netherlands and Portugal.

#### Near East/South Asia

Any discipline(s) in the *humanities, social sciences, education and communications.* Applicants should focus on one or two specific topics of interest. Presuming academic excellence, priority will be given for funding of proposals which aim to develop *American Studies in Arab universities.*

Eligible for grants up to *$50,000 maximum* each: Algeria, Nepal and Tunisia.

Eligible for grants up to *$60,000 maximum* each: India, Iran, Jordan, Kuwait, Pakistan, Syria, West Bank and the Yemen Arab Republic.

*Special Competitions:* In addition to the above competitions, there will be special thematic competitions in 1986. These special competitions are open to any country worldwide. Grants in this category may be for the same maximum amount as listed for a given country in the general competitions above. (For

other countries, contact USIA for maximum grant amount.)

Application guidelines, proposal review and grant award will be identical to the general competition. Proposals for a special competition should be so marked.

A. Up to five grants will be available to commemorate the *Bicentennial of the U.S. Constitution.* We invite applications dealing with the international dimensions of the origins and development of constitutional principles, the impact of the U.S. Constitution on other legal and political systems, the influence of other countries' legal and political practices upon the evolution of the U.S. constitutional system, and the cultural and social implications of constitutional arrangements. Further guidance may be obtained by requesting, from the address below, *A Preamble for Programming,* used by USIA for special Bicentennial program planning. Applicants should focus on one or two specific topics of interest.

B. There will be a special competition for up to five additional grants in 1986 for affiliations between *U.S. Junior and Community Colleges* and non-U.S. institutions. The four eligible fields for these exchanges will be the humanities, social sciences, education and communications; proposals will be accepted from departments or academic units in these areas. Applicants should focus on one or two specific topics of interest.

(USIA may also fund in 1986 a pilot project to develop bilateral relationships between one or more school districts, in consortium with U.S. and foreign colleges or schools of education, to promote *exchanges of secondary teachers.* Detailed guidelines would appear at a later date. Interested U.S. institutions should contact USIA at the address below for further details.)

Requirements for Applications (all competitions):

1. *Eligibility:* Applications on behalf of the collaboraing institutions are to be submitted by the U.S. partner. Eligible partner institutions are:

a. Accredited, degree-granting four year undergraduate and/or graduate-level U.S. institutions of higher education for the general and bicentennial competitions; two-year degree-granting institutions for the special competition for community and junior colleges.

b. Recongnized degree-granting institutions of higher education overseas.

2. *Review Process:*

The review process is conducted in three stages—technical, academic and Agency. Proposals that are technically ineligible (eligibility criteria follow) will not be forwarded for further consideration by the academic or Agency review committees. Propsoals must be received by February 18, 1986. As a courtesy, proposals received by January 17, 1986, will be reviewed for technical eligibility upon receipt. Should they be found to be ineligible, notification will be sent to the applicant specifying the reason for ineligibility, so that final proposals may be submitted by the application deadline. All corrected or supplementary materials must be received by February 18, 1986.

Upon completion of the technical review, project directors of ineligible proposals will be informed in writing. Technically eligible proposals will be forwarded for review to an outside committee of academic peers. Proposals that are recommended by the academic peer review committees on substantive grounds will be forwarded for further consideration by the Agency review committees. Agency review committees will then evaluate the proposals by specific criteria addressed to quality and area and program balance.

Program review criteria follow:

*Technical Review Criteria*

Within deadline, original proposal and eleven (11) complete copies, including: abstract, narrative, budget, bio-sketches, require letters of agreement and summary of international linkages; eligible geographic and academic area(s); two-or three-year program (see detailed requirements below).

*Academic Review Criteria*

a. Soundness of proposal, as reflected by focused academic goals and selection of topics and plan;

b. Evidence of mutuality of benefits to the institutions involved in the exchanges;

c. Feasibility of program plan;

d. Academic experience of participants in relation to the goals of the proposed exchange plan (including linguistic proficiency, where required);

e. Evidence of strong mutual institutional commitment;

f. Evidence of participation and intergation of faculty and administration of both institutions (department, college, division or school) in the planning of the proposed activities;

g. Evidence that the proposed individual exchanges are likely to achieve the program's overall goal of institutional academic development;

h. Mutual advancement of cultural and political understanding of the countries represented in the partnership through development of individual and institutional ties;

i. Demonstration that the partnership is likely to continue after the conclusion of the USIA grant.

*Agency Review Criteria*

a. USIS overseas post assessments, in terms of need and feasibility;

b. Advancement of mutual cultural and political understanding between the countries represented in the partnership;

c. Academic quality, reflected in academic review, category and summary notes;

d. Feasibility of program plan;

e. Promise of long-term impact;

f. Cost-effectiveness.

3. *Application Procedures:*

Applicants must submit one original and eleven (11) complete copies of their proposals to: Mr. William Dant (E/AS), University Affiliations Program, United States Information Agency, 301 4th Street, SW., Washington, DC 20547.

In order to be eligible for review the proposal *must* include:

(1) *Summary document:* A typed, double-spaced abstract of approximately two pages.

(2) *Narrative,* total text not to exceed fifteen (15) typed, double-spaced pages, including:

a. A brief (two-page) description of the participating institutions and participating departments;

b. A detailed description of the proposed affiliation program including but not limited to: the name and qualifications of the designated project director; the roster of participants or representative sample of potential participants and their qualifications, including language skills; a statement of need; a detailed, specific description of proposed activities, including when and where they will occur; and the anticipated benefits of the program. First-year exchange participants must be identified. A plan for institutional evaluation of the program must also be included.

(3) A detailed, *three-column budget* outlining specific expenditures and source(s) from which funds are anticipated. The budget should include any in-kind and cash contributions to the program made by the U.S. and non-U.S. universities.

*Required format for budget:* All proposed expenditures should be individually listed, using the following format:

| | USIA | U.S. INST. | FOR. INST. |
|---|---|---|---|
| Year 1 travel | $X | $X | $X |
| Maintenance costs | $X | $X | $X |

| | USIA | U.S. INST. | FOR. INST. |
|---|---|---|---|
| Salary and benefits | n/a | $X | $X |
| Year 2 travel | $X | $X | $X |
| Maintenance costs | $X | $X | $X |
| Salary and benefits | n/a | $X | $X |
| Year 3 travel | $X | $X | $X |
| Maintenance costs | $X | $X | $X |
| Salary and benefits | n/a | $X | $X |
| Totals | $X | $X | $X |

(4) *Appendices,* which should be kept to a minimum but must include:

a. Bio-sketches of professional accomplishments of the potential participants, *not to exceed two pages in length each,* clearly indicating the level of language skills, overseas experience, knowledge of the prospective partner country as demonstrated through courses taught, relevant scholarly and non-scholarly travel, citizenship, publications, and research activities. Bio-sketches for the U.S. participants must be included; those of non-U.S. participants are desirable but not required.

b. Documentation of institutional support for the proposed affiliation, *including a signed letter of endorsement from the U.S. institution's (or consortium members') president, vice-president, chancellor or provost, as well as a signed letter of endorsement from the president (or equivalent) of the non-U.S. institution.* Both letters must specifically refer to the 1986 University Affiliations Program and commit the institution to maintaining exchange participants on full salary and benefits during the exchange. (A general letter of agreement between the two institutions without reference to this specific program will not fulfill this requirement.)

c. A brief summary of ongoing, active international linkages at both partner institutions.

(U.S. institutions are reminded that in certain areas, host government approval must be obtained before any exchange program of this type may be carried out.)

4. *Budget Items:*

*The only eligible budget items are:*

a. International airfare for participants;

b. Compensation (supplements to salary and/or benefits) or modest per diem may be requested for such specific items as housing, food and other maintenance items while in exchange status. Participating universities will be expected to continue full salary and benefits for their own faculty. The maximum amount that may be requested for compensation supplements/per diem may not exceed the rate set by the U.S. Department of State for overseas locations and the General Services Administration (GSA) per diem allowances for U.S. localities. (The USIA officers listed below will supply these rates upon request.)

U.S. institutions are reminded that in certain countries restrictions may be placed on the export of salary in local currency.

*Ineligible Budget Items*

a. Institutional overhead, including telephone or telex expenses.

b. Administrative expenses incurred in connection with the affiliation;

c. Expenses for student exchanges;

d. Cost for dependents;

e. Conference, seminar or publication costs;

f. Any costs for non-U.S. citizens or nationals from the U.S. institution, or non-nationals of the overseas host country.

5. *Deadlines:*

Complete proposal packages must be received by USIA *on or before* February 18, 1986, 5:00 p.m. EST.

As a courtesy, proposals received by USIA by January 17, 1986, will be reviewed for technical eligibility upon receipt. Should they be found to be ineligible, notification will be sent to the applicant specifying the reason for ineligibility, so that final proposals may be resubmitted in accordance with guidelines by the application deadline. All corrected or supplementary materials must be received by 5:00 p.m. EST, February 18, 1986.

Applicants are responsible for the submission of complete applications. *All* required items must be received at USIA by 5:00 p.m. EST, February 18, 1986. Incomplete proposals, or corrected or supplementary materials received after this date, cannot be considered by the technical, academic or Agency review committees.

6. *Notification:*

All applicants will be notified of the results of the review process on or about May 15, 1986. Funded proposals will be subject to periodic reporting and evaluation requirements.

Inquiries: For questions concerning programming and budget, please contact:

**General Inquiries**

Mr. William Dant, Worldwide Coordinator, University Affiliations Program (E/AS), United States Information Agency, 301 4th Street SW., Washington, DC 20547, (202) 485–8489

For country-specific inquiries please contact:

**Africa**

Ms. Winnie Emoungu (E/AEA), Academic Exchanges Division, Africa Branch, (202) 485–7355

**American Republics**

Ms. Paula Durbin (E/AEL), Academic Exchanges Division, American Republic Branch, (202) 485–7365

**East Asia and the Pacific**

Mr. Roger Long (E/AEF), Academic Exchanges Division, East Asia/Pacific Branch, (202) 485–7402

**Europe**

Mr. George Jewsbury Long (E/AEE), Academic Exchanges Division, Europe Branch, (202) 485–7420

**Near East/South Asia**

Mr. Victor Ayoub (E/AEN), Academic Exchanges Division, Near East/South Asia Branch, (202) 485–6862.

Dated: September 27, 1985.

**Ronald L. Trowbridge,**

*Associate Director, Bureau of Educational and Cultural Affairs.*

[FR Doc. 85–23752 Filed 10–3–85; 8:45 am]

BILLING CODE 8230–01–M

# Sunshine Act Meetings

Federal Register
Vol. 50, No. 193
Friday, October 4, 1985

This section of the FEDERAL REGISTER contains notices of meetings published under the "Government in the Sunshine Act" (Pub. L. 94-409) 5 U.S.C. 552b(e)(3).

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1

**FEDERAL DEPOSIT INSURANCE CORPORATION**

Changes in Time of Agency Meetings

Pursuant to the provisions of the "Government in the Sunshine Act" (5 U.S.C. 552b), notice is hereby given that the previously announced meetings of the Board of Directors of the Federal Deposit Insurance Corporation scheduled for 2:00 p.m. (open session) and 2:30 p.m. (closed session) on Monday, October 7, 1985, have been rescheduled for 11:00 a.m. and 11:30 a.m., respectively, that same day.

No earlier notice of the changes in the time of the meetings was practicable.

Dated: October 1, 1985.

Federal Deposit Insurance Corporation.

**Hoyle L. Robinson,**

*Executive Secretary.*

[FR Doc. 85-23789 Filed 10-2-85; 1:13 pm]

BILLING CODE 6714-01-M

2

**FEDERAL DEPOSIT INSURANCE CORPORATION**

Change in Subject Matter of Agency Meeting

Pursuant to the provisions of subsection (e)(2) of the "Government in the Sunshine Act" (5 U.S.C. 552b(e)(2)), notice is hereby given that at its open meeting held at 2:00 p.m. on Monday, September 30, 1985, the Corporation's Board of Directors determined, on motion of Chairman William M. Isaac, seconded by Director Irvine H. Sprague (Appointive), concurred in by Director H. Joe Selby (Acting Comptroller of the Currency), that Corporation business required the withdrawal from the agenda for consideration at the meeting, on less than seven days' notice to the public, of the following matter:

Application of Heritage Bank and Trust Company, Crest Hill, Illinois, an insured State nonmember bank, for consent to transfer certain assets to Joliet Federal Savings and Loan Association, Joliet, Illinois, a non-FDIC-insured institution, in consideration of the assumption of the liability to pay deposits made in Heritage Bank and Trust Company.

By the same majority vote, the Board further determined that no earlier notice of the change in the subject matter of the meeting was practicable.

Dated: October 1, 1985.

Federal Deposit Insurance Corporation.

**Hoyle L. Robinson,**

*Executive Secretary.*

[FR Doc. 85-23880 Filed 10-2-85; 1:13 pm]

BILLING CODE 6714-01-M

3

**FEDERAL DEPOSIT INSURANCE CORPORATION**

Changes in Subject Matter of Agency Meeting

Pursuant to the provisions of subsection (e)(2) of the "Government in the Sunshine Act" (5 U.S.C. 552b(e)(2)), notice is herby given that at its closed meeting held at 2:30 p.m. on Monday, September 30, 1985, the Corporation's Board of Directors determined, on motion of Chairman William M. Isaac, seconded by Director Irvine H. Sprague (Appointive), concurred in by Director H. Joe Selby (Acting Comptroller of the Currency), that Corporation business required the addition to the agenda for consideration at the meeting, on less than seven days' notice to the public, of the following matters:

Requests for financial assistance pursuant to section 13(c) of the Federal Deposit Insurance Act.

Resolution making funds available for the payment of insured deposits made in The First National Bank in Terral, Terral, Oklahoma, which was closed by the Acting Comptroller of the Currency on Friday, September 27, 1985.

The Board further determined, by the same majority vote, that no earlier notice of these changes in the subject matter of the meeting was practicable; that the public interest did not require consideration of the matters in a meeting open to public observation; and that the matters could be considered in a closed meeting by authority of subsection (c)(4), (c)(6), (c)(8), (c)(9)(A)(ii), and (c)(9)(B) of the "Government in the Sunshine Act" (5 U.S.C. 552b(c)(4), (c)(6), (c)(8), (c)(9)(A)(ii), and (c)(9)(B)).

Dated: October 1, 1985.

Federal Deposit Insurance Corporation.

**Hoyle L. Robinson,**

*Executive Secretary.*

[FR Doc. 85-23881 Filed 10-2-85; 1:13 pm]

BILLING CODE 6714-01-M

4

**FEDERAL DEPOSIT INSURANCE CORPORATION**

Agency Meeting

Pursuant to the provisions of the "Government in the Sunshine Act" (5 U.S.C. 552b), notice is hereby given that at 4:50 p.m. on Friday, September 27, 1985, the Board of Directors of the Federal Deposit Insurance Corporation met in closed session, by telephone conference call, to: (1) Receive bids for the purchase of certain assets of and the assumption of the liability to pay deposits made in Western State Bank, Denton, Texas, which was closed by the Banking Commissioner for the State of Texas on Friday, September 27, 1985; (2) accept the bid for the transaction submitted by Texas Bank of Denton, Denton, Texas, a newly-chartered State nonmember bank; (3) approve the applications of Texas Bank of Denton, Denton, Texas, for Federal deposit insurance and for consent to purchase certain assets of and assume the liability to pay deposits made in Western State Bank, Denton, Texas; and (4) provide such financial assistance, pursuant to section 13(c)(2) of the Federal Deposit Insurance Act (12 U.S.C. 1823(c)(2)), as was necessary to facilitate the purchase and assumption transaction.

In calling the meeting, the Board determined, on motion of Chairman William M. Isaac, seconded by Director Irvine H. Sprague (Appointive), concurred in by Mr. Michael A. Mancusi, acting in the place and stead of Director H. Joe Selby (Acting Comptroller of the Currency), that Corporation business required its consideration of the matters on less than seven days' notice to the public; that no earlier notice of the meeting was

practicable; that the public interest did not require consideration of the matters in a meeting open to public observation; and that the matters could be considered in a closed meeting pursuant to subsections (c)(6), (c)(8), (c)(9)(A)(ii), and (c)(9)(B) of the "Government in the Sunshine Act" [5 U.S.C. 552b(c)(6), (c)(8), (c)(9)(A)(ii), and (c)(9)(B)].

Dated: October 1, 1985.

Federal Deposit Insurance Corporation.

**Hoyle L. Robinson,**

*Executive Secretary.*

[FR Doc. 85–23882 Filed 10–2–85; 1:13 pm]

BILLING CODE 6714-01-M

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5

**FEDERAL RESERVE SYSTEM BOARD OF GOVERNORS**

**TIME AND DATE:** 10:00 a.m., Wednesday, October 9, 1985.

**PLACE:** Marriner S. Eccles Federal Reserve Board Building, C Street entrance between 20th and 21st Streets, NW., Washington, DC 20551.

**STATUS:** Closed.

**MATTERS TO BE CONSIDERED:**

1. Personnel actions (appointments, promotions, assignments, reassignments, and salary actions) involving individual Federal Reserve System employees.
2. Any items carried forward from a previously announced meeting.

**CONTACT PERSON FOR MORE INFORMATION:** Mr. Joseph R. Coyne, Assistant to the Board; (202) 452–3204. You may call (202) 452–3207, beginning at approximately 5 p.m. two business days before this meeting, for a recorded announcement of bank and bank holding company applications scheduled for the meeting.

Dated: October 1, 1985.

**James McAfee,**

*Associate Secretary of the Board.*

[FR Doc. 85–23802 Filed 10–1–85; 4:07 pm]

BILLING CODE 6210-01-M

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6

**FEDERAL RESERVE SYSTEM BOARD OF GOVERNORS**

**FEDERAL REGISTER CITATION OF PREVIOUS ANNOUNCEMENT:** 50 FR 38943, September 25, 1985.

**PREVIOUSLY ANNOUNCED TIME AND DATE OF THE MEETING:** 12:00 Noon, Monday, September 30, 1985.

**CHANGES IN THE MEETING:** Addition of the following closed item(s) to the meeting: Legislative proposals regarding delayed availability of funds.

**CONTACT PERSON FOR MORE INFORMATION:** Mr. Joseph R. Coyne, Assistant to the Board; (202) 452–3204.

Dated: September 30, 1985.

**James McAfee,**

*Associate Secretary of the Board.*

[FR Doc. 85–23803 Filed 10–1–85; 4:07 pm]

BILLING CODE 6210-01-M

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7

**NATIONAL LABOR RELATIONS BOARD**

**TIME AND DATE:** 10:30 a.m., Wednesday, October 2, 1985.

**PLACE:** Board Conference Room, Sixth Floor, 1717 Pennsylvania Avenue, NW.

**STATUS:** Closed to public observation pursuant to 5 U.S.C. 552b(c)(10) §102.139(a) of the Board's Rules and Regulations, Series 8, as amended)—deliberation on adjudicatory matters.

**MATTERS TO BE CONSIDERED:** Case adjudicatory matters.

**CONTACT PERSON FOR MORE INFORMATION:** John C. Truesdale, Executive Secretary, Washington, D.C. 20570, Telephone: (202) 254–9430.

Dated: Washington, DC, October 1, 1985.

By direction of the Board.

**John C. Truesdale,**

*Executive Secretary, National Labor Relations Board.*

[FR Doc. 85–23870 Filed 10–2–85; 11:13 am]

BILLING CODE 7545-01-M

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8

**NATIONAL TRANSPORTATION SAFETY BOARD**

**TIME AND DATE:** 9 a.m., Wednesday, October 16, 1985.

**PLACE:** NTSB Board Room, Eighth Floor, 800 Independence Avenue, SW., Washington, DC 20594.

**STATUS:** Open.

**MATTERS TO BE CONSIDERED:**

1. *Hazardous Materials Accident Report:* Hydrogen Fluoride Release from NATX 9408, Train No. BENL3Y at Conrail's Receiving Yard, Elkhart, IN, February 4, 1985.
2. *Railroad Accident Report:* Derailment of Seaboard System Railroad Train No. F–690 with Hazardous Materials Release at Jackson, SC, February 23, 1985, and Collision of Seaboard System Railroad Train No. F–481 with standing cars at Robbins, SC on February 25, 1985.
3. *Proposed Letters of Recommendation* Concerning Daytime Running Lights
4. *Letters of Recommendation* for Improved Reporting of Alcohol in Highway Crashes
5. *Recommendation:* to FAA Regarding Improper Installation of Airplane Hourmeter Oil Pressure Switches.

**CONTACT PERSON FOR MORE INFORMATION:** Catherine T. Kaputa, (202) 382–6525.

**Catherine T. Kaputa,**

*Federal Register Liaison Officer.*

October 2, 1985.

[FR Doc. 85–23897 Filed 10–2–85; 2:21 pm]

BILLING CODE 7533-01-M

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9

**OCCUPATIONAL SAFETY AND HEALTH REVIEW COMMISSION**

**TIME AND DATE:** 10:00 a.m., Thursday, October 10, 1985.

**PLACE:** Suite 410, 1825 K Street, NW., Washington, DC.

**STATUS:** Because of the subject matter, it is likely that this meeting will be closed.

**MATTERS TO BE CONSIDERED:** Discussion of specific cases in the Commission adjudicative process.

**CONTACT PERSON FOR MORE INFORMATION:** Mrs. Mary Ann Miller (202) 634–4015.

Dated: October 2, 1985.

**Earl R. Ohman, Jr.,**

*General Counsel.*

[FR Doc. 85–23894 Filed 10–2–85; 2:21 pm]

BILLING CODE 7600-01-M

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10

**PACIFIC NORTHWEST ELECTRIC POWER AND CONSERVATION PLANNING COUNCIL**

**STATUS:** Open.

**TIME AND DATE:** 10:00 a.m., October 7 and 16, 1985.

**PLACE:** Council Offices, 850 SW., Broadway, Suite 1100, Portland, Oregon.

**MATTERS TO BE CONSIDERED:** Consultations regarding proposed amendments to portions of the Council's Northwest Conservation and Electric Power Plan that relate to Model Conservation Standards (MCS). These MCS consultations will consist of information presentations describing the Council's current deliberations regarding the proposed MCS amendments, with the opportunity for discussion, questions and answers.

**FOR FURTHER INFORMATION CONTACT:** Ms. Bess Atkins, (503) 222–5161.

**Edward Sheets,**

*Executive Director.*

[FR Doc. 85–23859 Filed 10–2–85; 10:03 am]

BILLING CODE 0000-00-M

federal register

Friday
October 4, 1985

Part II

# Environmental Protection Agency

40 CFR Part 455

Pesticide Chemicals Category; Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards; Final Regulation

**ENVIRONMENTAL PROTECTION AGENCY**

**40 CFR Part 455**

**[OW-FRL-2877-6]**

## Pesticide Chemicals Category Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Final regulation.

**SUMMARY:** This regulation limits the discharge of pollutants into navigable waters of the United States and into publicly owned treatment works by existing and new facilities that manufacture and/or formulate pesticides. The Clean Water Act and a consent decree require EPA to issue this regulation.

This regulation establishes effluent limitations guidelines based on "best available technology", new source performance standards based on "best demonstrated technology" and pretreatment standards for new and existing indirect dischargers. EPA is also promulgating new test procedures for the analysis of nonconventional pesticide pollutants in the Pesticide Chemicals Category.

**DATES:** In accordance with 40 CFR Part 23 (50 FR 7268, February 21, 1985), these regulations shall be considered issued for purposes of judicial review at 1:00 p.m. Eastern time October 18, 1985. These regulations shall become effective November 18, 1985.

The compliance date for Pretreatment Standards for Existing Sources (PSES) is as soon as possible but in no case more than three years from the effective date of this regulation. The compliance date for New Source Performance Standards (NSPS) and Pretreatment Standards for New Sources (PSNS) is at commencement of discharge.

Under section 509(b)(1) of the Clean Water Act judicial review of this regulation can be made only by filing a petition for review in the United States Court of Appeals within 90 days after the regulation is considered issued for purposes of judicial review. Under section 509(b)(2) of the Clean Water Act, the requirements in this regulation may not be challenged later in civil or criminal proceedings brought by EPA to enforce these regulations.

The Record for this rulemaking will be available for public review not later than January 2, 1986.

**ADDRESSES:** The basis for this regulation is detailed in two major documents, a technical document and an economic document. See Supplementary Information Overview for a description of each document. Copies of the technical and economic documents may be obtained from the National Technical Information Service, Springfield, Virginia 22161 (703) 487–4600. For additional technical information contact Mr. George Jett, Industrial Technology Division (WH–552), EPA, 401 M Street, SW., Washington, DC 20460, (202) 382–7180. For additional economic information contact Mr. Mitch Dubensky, Economic Analysis Branch (WH–586), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460 (202) 382–5388. The Record for this rulemaking will be available for public review January 2, 1986 in EPA's Public Information Reference Unit, Room 2404 (Rear) (EPA Library), 401 M Street, SW., Washington, DC. The EPA information regulation (40 CFR Part 2) provides that a reasonable fee may be charged for copying.

**FOR FURTHER INFORMATION CONTACT:** Mr. George M. Jett, Industrial Technology Division (WH–552), Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460, (202) 382–7180.

**SUPPLEMENTARY INFORMATION:**

### Overview

The preamble describes the scope, purpose, legal authority and background of this rule, the technical and economic bases and the methodology used by the Agency to develop these effluent limitations guidelines and standards. It also presents a summary of public comments on the November 30, 1982 proposed regulations (47 FR 53994) and the notices of new information, dated June 13, 1984 (49 FR 24492) and January 24, 1985 (50 FR 3366).

These regulations are supported by EPA's technical conclusions which are detailed in the "Development Document for Best Available Technology, Pretreatment Technology, and New Source Performance Technology in the Pesticide Chemicals Industry" (EPA 440/8–85–079). The Agency's economic analysis is presented in the "Economic Impact Analysis of Effluent Limitations Guidelines and Standards for the Pesticide Chemicals Industry." (EPA 440/2–85–027) Abbreviations, acronyms, and other terms used in the Supplementary Information section are defined in Appendix A to this notice.

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### I. Legal Authority

This regulation is being promulgated under authority of sections 301, 304, 306, 307, 308, and 501 of the Clean Water Act (the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1251 et seq., as amended by the Clean Water Act of 1977, Pub. L. 95–217 (the "Act")). It is also being promulgated in response to the Settlement Agreement in *Natural Resources Defense Council, Inc.* v. *Train*, 8 ERC 2120 (D.D.C. 1976), *modified* 12 ERC 1833 (D.D.C. 1979), *modified* by orders dated October 26,

1982, August 2, 1983, January 6, 1984, July 5, 1984 and January 7, 1985.

## II. Scope of This Rulemaking

This final rule is applicable to the Pesticide Chemicals Category, referred to in this notice as the pesticide industry. These rules establish effluent limitations guidelines based on the application of the best available technology (BAT), new source performance standards (NSPS), and pretreatment standards for existing and new sources (PSES and PSNS).

### *A. Subcategorization*

This regulation covers the following segments of this industry:

1. Manufacturers of organic pesticide products, Standard Industrial Classification ("SIC") code 2869.
2. Manufacturers of metallo-organic pesticide products, SIC code 2869.
3. Formulators and packagers of pesticide products, SIC code 2879.

Each of these three segments is placed in a separate subcategory. Thus, the three subcategories are: (1) Organic Pesticide Chemicals Manufacturing, (2) Metallo-Organic Pesticide Chemicals Manufacturing and (3) Pesticide Chemical Formulating and Packaging.

As discussed below, the Agency believes that this subcategorization approach adequately characterizes the pesticide chemicals industry and facilitates the implementation of the regulations.

### *B. Regulated Pollutants*

The most important pollutants or pollutant parameters found in the wastewater of these subcategories are:

- 34 toxic pollutant.
- 89 nonconventional active ingredient pesticide pollutants.
- BOD, pH and TSS.
- A class of nonconventional pollutants designated as metallo-organics (organic pesticide active ingredients that incorporate one or more atoms of mercury, copper, cadmium, or arsenic within their molecular structure).

### *C. Regulatory Coverage*

EPA promulgated BPT for the pesticide industry in 1978. EPA is today promulgating BAT, PSES, PSNS, and NSPS for the Organic Pesticide Chemicals Manufacturing subcategory. EPA is also promulgating PSES for the Metallo-Organic Pesticide Chemicals Manufacturing subcategory and NSPS, PSES and PSNS for the Pesticide Chemicals Formulating and Packaging subcategory. We are not promulgating BAT for the latter two subcategories because the currently effective BPT for those two subcategories requires no discharge of process wastewater pollutants, and there is no more stringent BAT for those two subcategories. Permit writers will establish BAT effluent limitations equal to the BPT effluent limitations guidelines. We are not promulgating NSPS and PSNS for the Metallo-Organic Pesticide Chemicals Manufacturing subcategory because of the small number of sources and EPA's determination that further analysis is necessary to determine the appropriate technology basis for new source standards. The Agency will be reviewing the appropriate technologies for the treatment of metallo-organic wastewaters for new sources. BCT effluent limitations guidelines are deferred pending promulgation of a revised BCT cost test methodology.

## III. Background

### *A. The Clean Water Act*

The Federal Water Pollution Control Act Amendments of 1972 established a comprehensive program to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters," (Section 101(a)). To implement this Act, EPA was to issue effluent limitations guidelines, pretreatment standards and new source performance standards for industrial dischargers.

The Act included a timetable for issuing these standards. However, EPA was unable to promulgate many of these regulations by these timetables. As a result, in 1976, EPA was sued by several environmental groups and in settlement of this lawsuit EPA and the plaintiffs executed a "Settlement Agreement", which was approved by the court. This Agreement required EPA to develop a program and adhere to a schedule for promulgating BAT effluent limitations guidelines, pretreatment standards, and NSPS for 65 "priority" pollutants and classes of pollutants for 21 major industries. See *Natural Resources Defense Council, Inc.* v. *Train*, 8 ERC 2120 (D.D.C. 1976), *modified*, 12 ERC 1833 (D.D.C. 1979), *modified* by orders dated October 26, 1982, August 2, 1983, January 6, 1984, July 5, 1984 and January 7, 1985.

Many of the basic elements of the Settlement Agreement were incorporated into the Clean Water Act of 1977. Like the Agreement, the Act stressed control of toxic pollutants, including the 65 "priority pollutants." In addition, to strengthen the toxic control program, section 304(c) of the Act authorizes the Administrator to prescribe "best management practices" (BMPs) to prevent the release of toxic and hazardous pollutants from plant site runoff, spillage, and leaks, sludge and waste disposal, and drainage from raw material storage associated with, or ancillary to, the manufacturing or treatment process.

Under the Act, the EPA is to set a number of different kinds of effluent limitations. These are discussed in detail in the preamble to the proposed regulation and in the development document. They are summarized briefly below:

#### BPT Effluent Limitations

In general, the BPT technology level represents the average of the best existing performances of plants of various ages, sizes, processes, or other common characteristics. The factors considered in defining best practicable control technology currently available (BPT) include the total cost of applying such technology in relation to the effluent reductions derived from such application, the age of equipment and facilities involved, the process employed, nonwater quality environmental impacts (including energy requirements) and other factors the Administrator considers appropriate (section 304(b)(1)(B)). Where existing performance is uniformly inadequate, BPT may be transferred from a different subcategory or category.

#### BAT Effluent Limitations

In general, the BAT technology level represents the best existing economically achievable performance of plants in the industrial subcategory or category. The Act establishes BAT as the principal national means of controlling the direct discharge of toxic ("priority pollutants") and nonconventional pollutants to navigable waters. The factors considered in assessing best available technology economically achievable (BAT) include the age of equipment and facilities involved, the process employed, process changes, and nonwater quality environmental impacts (including energy requirements), (section 304(b)(2)(B)). The Agency retains considerable discretion in assigning the weight to be accorded these factors. As with BPT, uniformly inadequate performance may require transfer of BAT from a different subcategory or category. BAT may include process changes or internal controls, even when these technologies are not common industry practice.

#### BCT Effluent Limitations

The 1977 Amendments added section 301(b)(2)(E) to the Act establishing "best conventional pollutant control technology" (BCT) for discharge of

conventional pollutants from existing industrial point sources. Conventional pollutants are those defined in Section 304(a)(4) (biological oxygen demanding pollutants (BOD5), total suspended solids (TSS), fecal coliform, and pH), and any additional pollutants defined by the Administrator as "conventional" (oil and grease, 44 FR 44501, July 30, 1979).

BCT is not an additional limitation but replaces BAT for the control of conventional pollutants. In addition to other factors specified in section 304(b)(4)(B), the Act requires that BCT limitations be assessed in light of a two part "cost-reasonableness" test. *American Paper Institute* v. *EPA*, 660 F.2d 954 (4th Cir. 1981). The first test compares the cost for private industry to reduce its conventional pollutants with the costs to publicly-owned treatment works for similar levels of reduction in their discharge of these pollutants. The second test examines the cost-effectiveness of additional industrial treatment beyond BPT. EPA must find that limitations are "reasonable" under both tests before establishing them as BCT. In no case may BCT be less stringent than BPT.

EPA published its methodology for carrying out the BCT analysis on August 29, 1979 (44 FR 50732). In the case mentioned above, the Court of Appeals ordered EPA to correct data errors underlying EPA's calculation of the first test and to apply the second cost test. (EPA had argued that a second cost test was not required).

On October 29, 1982, EPA proposed a revised BCT methodology. EPA is accordingly deferring promulgation of BCT effluent limitations guidelines for the pesticide chemicals industry pending promulgation of a revised BCT cost test methodology.

NSPS

New Source Performance Standards (NSPS) are based on the best available demonstrated technology. New plants have the opportunity to install the best and most efficient production processes and wastewater treatment technologies, and, therefore, Congress directed EPA to consider the best demonstrated process changes, in-plant controls, and end-of-pipe treatment technologies to reduce pollution to the maximum extent feasible.

PSES

Pretreatment Standards for Existing Sources (PSES) are designed to prevent the discharge of pollutants that pass through, interfere with, or are otherwise incompatible with the operation of publicly owned treatment works (POTW). They must be achieved within three years of promulgation.

The Act requires pretreatment for pollutants that pass through the POTW in amounts that would violate direct discharger effluent limitations or interfere with the POTW's treatment process or chosen sludge disposal method. The legislative history of the 1977 Act indicates that pretreatment standards are to be technology-based, analogous to the best available technology for removal of pollutants. EPA has generally determined that there is pass through of pollutants if the average percent removal of pollutants removed by a well-operated POTW achieving secondary treatment is less than the average percent removal of those pollutants by the BAT model treatment system. The general pretreatment regulations, which serve as the framework for the categorical pretreatment regulations, are found at 40 CFR Part 403. 43 FR 27736 (June 26, 1978); 46 FR 9462 (January 28, 1981).

PSNS

Like PSES, Pretreatment Standards for New Sources (PSNS) are to prevent the discharge of pollutants which pass through, interfere with, or are otherwise incompatible with the operation of the POTW. PSNS are to be issued at the same time as NSPS. New indirect dischargers, like new direct dischargers, have the opportunity to incorporate the best available demonstrated technologies. The Agency considers the same factors in promulgating PSNS as it considers in promulgating PSES.

*B. Prior Pesticides Regulations*

EPA promulgated BPT for the Pesticides Chemicals Manufacturing Category on April 25, 1978 (43 FR 17776; 40 CFR Part 455), and September 29, 1978 (43 FR 44846; 40 CFR Part 455, Subpart A). Wastewater discharges from the manufacture of 25 organic pesticide active ingredients and classes of pesticides were specifically excluded from coverage for any parameter due to lack of adequate data and/or analytical methodology.

Several industry members challenged the BPT regulation on April 26, 1978 and the Court of Appeals remanded them on two minor issues. *BASF Wyandotte Corp.* v. *Costle*, 596 F. 2d 637 (1st Cir. 1979), *cert. denied, Eli Lilly* v. *Costle*, 444 U.S. 1096 (1980). The Agency subsequently addressed the two issues on remand and the Court upheld the regulations in their entirety. *BASF Wyandotte Corp.* v. *Costle*, 614 F. 2d 21 (1st Cir. 1980).

On November 30, 1982, EPA proposed additional regulations to control the discharge of wastewater pollutants from pesticide chemical operations to navigable waters and to publicly owned treatment works (POTWs) (47 FR 53994). The proposed regulations included effluent limitations guidelines based upon the best practicable control technology (BPT) for 21 pesticides and pesticide classes, the best available technology economically achievable (BAT), best conventional pollutant control technology (BCT), new source performance standards (NSPS), pretreatment standards for existing sources (PSES), and pretreatment standards for new sources (PSNS). The proposed effluent limitations guidelines and standards covered the organic pesticide chemicals manufacturing segment, the metallo-organic chemicals manufacturing segment and the formulating/packaging segment of the pesticide chemical industry. The comment period for these proposed regulations originally closed on January 31, 1983, but was extended until March 2, 1983 to allow industry more time to submit additional data.

In addition to the proposed manufacturing, metallo-organic and formulator/packager regulations, guidelines for test procedures to analyze the nonconventional pesticide pollutants covered by these regulations were proposed on February 10, 1983 (48 FR 8250). The comment period for these regulations closed on April 11, 1983.

On June 13, 1984, EPA published a Notice of Availability ("NOA") of new information (49 FR 24492). In this NOA, the Agency indicated it was considering changing its approach to developing regulations for this industry. The changes which were presented and discussed in the NOA were based on the new information collected in response to the comments on the November 30, 1982 proposal. EPA requested comments on the data made available in the June 13, 1984 notice.

On January 24, 1985, EPA published a second NOA of new information, which primarily made available for public review technical and economic data which had previously been claimed confidential by industry.

These final rules are based upon the data presented in the proposed regulations, the notices of new information, and the comments the Agency has received in this rulemaking.

*C. Overview of the Industry*

The pesticide industry is composed of facilities where pesticide chemical active ingredients are produced and/or formulated and packaged. This regulation covers 119 plants

manufacturing 280 pesticides, one known indirect discharging metallo-organic pesticide manufacturer, and approximately 1264 formulator/packagers. Many pesticides are of a specialized nature and are produced in small quantities (less than 10,000 lb/yr). Approximately 84 percent of all patented pesticides are produced by single plants.

The principal groups of pollutants detected or likely to be present in untreated pesticide industry process wastewaters are: phenol, volatile organic compounds (aromatics, halomethanes, and chlorinated ethanes and ethylenes), nitrosamines, dienes, cyanide, copper, zinc, BOD, TSS, pH, ammonia, COD, and pesticides. These pollutants are of concern because of their concentration, quantity, treatability, toxicity and/or other environmental and health effects.

The major treatment units currently employed by manufacturers in the industry are: biological oxidation, activated carbon, incineration, chemical oxidation, hydrolysis, steam stripping, multimedia filtration, resin adsorption, and metals separation. At least one-half of the manufacturing plants discharge less than 10,000 gallons per day (GPD), although flows for large plants may exceed 1 million GPD.

The predominant types of wastewater discharge currently employed by manufacturers in the industry include direct discharge to navigable waters and indirect discharge to publicly owned treatment works (POTWs). Other types of wastewater disposal include deep well injection, incineration, contract hauling, evaporation ponds, and land application. Some manufacturing plants generate and/or discharge or dispose of no wastewater.

In developing this regulation, it was necessary to determine whether different effluent limitations guidelines and standards were appropriate for different segments (subcategories) of the industry. The major factors considered in assessing the need for subcategorization and in identifying subcategories included: waste characteristics, raw materials, manufacturing processes, products manufactured, water use, water pollution control technology, treatment costs, solid waste generation, size of plant, age of plant, number of employees, total energy requirements, nonwater quality characteristics, and unique plant characteristics.

Prior to proposal of this regulation, the Agency conducted process chemistry evaluations of pesticides by examining proprietary process chemistry diagrams supplied by manufacturers, by reviewing supplemental literature on each process and by analyzing process conditions and raw material specifications where available. In the proposed regulations, the Agency relied on process chemistry evaluations and actual data to determine which priority pollutants were present or were likely to be present in each pesticide process. Under the proposed regulation, manufacturers of specific pesticides would have been required to meet the effluent limitations guidelines and standards for the priority pollutants listed for that pesticide. Pesticides that produced similar classes of priority pollutants were placed in the same subcategory.

Thirteen subcategories were identified in the proposed regulation. Discharges from the manufacture of organic pesticides were placed in 1 of 11 subcategories depending upon the differences in the types of priority pollutants regulated and the treatment technologies. Indirect discharges from the manufacture of metallo-organic pesticides (mercury, copper, cadmium and arsenic-based products), were placed in Subcategory 12 and indirect discharges from Formulator/Packagers were placed in Subcategory 13. Further discussion of the subcategorization scheme and the process chemistry evaluation used at proposal is presented in Sections V and VII of the technical development document (EPA 440/1-82/079-b).

The Agency received many comments criticizing the proposed subcategorization scheme. In response to these comments, the Agency in the June 13, 1984 NOA noted that it was considering reducing the number of subcategories to three: (1) Organic pesticide chemicals manufacturers, (2) metallo-organic pesticide chemicals manufacturers and (3) pesticide chemicals formulating/packaging. The organic pesticide chemicals manufacturing subcategory would be comprised of proposed subcategories 1-11. The metallo-organic and pesticide chemicals formulating/packaging subcategories would be identical to their proposed subcategories 12 and 13.

The Agency is today promulgating effluent limitations guidelines and standards based on these three subcategories in order to simplify the proposed subcategorization scheme. The organic pesticide chemicals manufacturing subcategory sets forth effluent limitations guidelines and standards for all of the regulated priority pollutants and nonconventional pesticides. This subcategory reflects the inherent differences in the waste characteristics of the regulated pollutants and the appropriate treatment technologies because as discussed below in more detail the promulgated effluent limitation guidelines and standards for each pollutant are based on these factors. The specific effluent limitations guidelines and standards for the pollutants in this subcategory are found in Appendices B (for priority pollutants) and C (for nonconventional pollutants) of the regulation. In order to determine which priority pollutants are regulated for a specific facility subject to this subcategory, a manufacturer would consult Appendix A of the regulation. Appendix A reflects process chemistry evaluations and actual data. Under today's regulation, manufacturers of specific pesticides would be required to meet effluent limitations guidelines and standards for the priority pollutants specified for his pesticide in Appendix A and the nonconventional pesticide that he manufacturers if listed under Appendix C.

The pretreatment standards for the metallo-organic subcategory are specified in subcategory 2. Facilities subject to the formulating and packaging subcategory must meet the new source performance and pretreatment standards specified in subcategory 3. The new source and pretreatment standards for subcategory 3 apply to facilities that formulate or package the pesticide active ingredients identified in Appendix D of the regulation. A promulgated analytical method is available to determine the presence and amount of each pesticide listed in Appendix D. Formulators and packagers subject to Subcategory 3, would be required to meet pretreatment standards which require no discharge of any pesticide active ingredient listed in Appendix D or any priority pollutant. New direct dischargers subject to Subcategory 3 would be required to meet a no discharge standard for any pesticide active ingredient listed in Appendix D, any priority pollutant or BOD and TSS.

## IV. Methodology and Data Gathering Efforts

The data gathering efforts and methodology used in developing the proposed regulation were summarized in the "Preamble to the Proposed Pesticide Chemicals Category Effluent Limitations Guidelines, Pretreatment Standards and New Source Performance Standards" (47 FR 53994, November 30, 1982). On February 10, 1983, the Agency proposed analytical methods for active ingredient pesticide pollutants. The data gathering efforts and methodology used in developing the proposed analytical regulation were summarized in the

Preamble to the Proposed Guidelines Establishing Test Procedures for the Analysis of Nonconventional Pesticide Pollutants in the Pesticide Industry (48 FR 6250). The development document for the proposed regulation expanded and detailed that summary. Data gathering efforts after proposal through June 1984 were summarized in the June 13, 1984 NOA. These data include a survey of the pesticide formulator/packager ("PFP") industry conducted under the authority of Section 308 of the Clean Water Act, public comments on the proposed development document and the proposed rule and data gathered in the Organic Chemicals, Plastics and Synthetic Fibers (OCPSF) and the Pharmaceuticals industries. The *Development Document for Effluent Limitations Guidelines and Standards for the Pesticide Chemicals Category* which accompanies this regulation discusses this data gathering and includes the new data acquired by the Agency subsequent to the June 13, 1984 NOA. This new data includes the public comments on both the June 1984 NOA and the January 1985 NOA and their supporting documents in the record, public comments on the analytical methods presented in the June 13, 1984 NOA and confirmation data from the OCPSF industry.

*A. The PFP Survey*

Formulators and packagers of pesticides must register with the Agency under the Federal Insecticide, Fungicide, and Rodenticide Act ("FIFRA"). In conducting the PFP survey, the Agency randomly selected 1263 plants from the FIFRA list of 3980 PFP for initial contact through a phone survey. Followup questionnaires (under section 308 of the Clean Water Act) were sent to potential indirect dischargers and nonrespondents. PFP's producing sanitizers, disinfectants, inorganics or surface active agents were excluded from the survey because these products are either regulated under another guideline (*e.g.*, Inorganic Chemicals) or have been excluded from regulation under paragraph 8 of the NRDC Consent Decree. Plants which only formulate and package pesticide active ingredients for which EPA has no approved analytical methods were subsequently excluded from these national regulations, because there is no readily available way to confirm compliance with the regulation.

The results of the sample were extrapolated to the total universe of 3980 plants on the FIFRA list. Through this procedure we determined that there are approximately 1,264 PFP plants packaging one or more of the 147 pesticides for which we have a promulgated analytical method, vancide 51Z, vancide 51Z dispersion, or metallo-organic pesticides containing arsenic, cadmium, copper, mercury or tin. An estimated 169 of these PFP plants discharge indirectly and an estimated 1,095 do not discharge pollutants.

*B. Public Comments*

Public comments in response to the November 1982 proposal, the proposed development document, and the two NOAs also provided new production process and wastewater treatment data. In order to clarify data received during the comment period, the Agency held several meetings with industry representatives, visited one plant, sent letters and made numerous telephone calls. These data gathering efforts are discussed in detail in the Record. Public comments on the proposed analytical methods provided information on the applicability of the analytical methods and also provided new potential methods or modifications for the Agency to consider.

*C. Data From the OCPSF and Pharmaceuticals Industries*

Data from the OCPSF and pharmaceuticals industries were used in developing the effluent limitations and standards as set forth in the June 1984 NOA (49 FR 24496). The Agency's rationale for utilizing this information was discussed in the NOA and elsewhere in today's regulation. In addition, the Agency has relied upon OCPSF data acquired since the NOA to confirm the Agency's engineering analysis that appropriately designed physical/chemical treatment systems are capable of achieving the necessary removal efficiencies to meet the pretreatment standards.

**V. Basis for the Regulations**

*A. Control and Treatment Technologies*

Organic Pesticide Chemical Manufacturers Subcategory

The major treatment technologies currently employed by organic pesticide manufacturers in the industry are:

1. Biological oxidation followed by clarification.
2. Chemical oxidation.
3. Activated carbon adsorption.
4. Incineration.
5. Hydrolysis.
6. Steam stripping.
7. Multimedia filtration.
8. Resin adsorption.
9. Metals separation.
10. Evaporation.

Treatment units 2 through 9 are referred to as physical/chemical treatment in this preamble. At two of the 42 direct discharging plants, no treatment is provided. At another 14 only physical/chemical treatment is provided. At the remaining 26 direct discharging plants, biological or equivalent secondary treatment is provided. Biologically treated effluents are further treated at three plants using dual media filtration and/or activated carbon.

At seven of the 37 indirect discharging plants surveyed, no treatment is provided. At 25 of the indirect discharging plants surveyed, physical/chemical treatment is employed. At five of the indirect dischargers surveyed, biological treatment (aerated lagoon or activated sludge) is employed. Even though treatment systems are in place at many plants, the industry's wastewater treatment systems are generally inadequate. Few systems are designed specifically to remove priority pollutants or nonconventional pollutants to the BAT level, but are performing at a BPT treatment technology level necessary to comply with their NPDES permits. Therefore, the Agency recommended specific treatment technologies as a basis for the proposed effluent limitations guidelines and standards. These treatment technologies are discussed in detail below.

Metallo-Organics Manufacturers Subcategory

The major treatment technologies employed by both direct and indirect metallo-organics manufacturers are: contract hauling, flow reduction (including water recycling) and end-of-pipe physical chemical treatment.

The direct discharging metallo-organic plants are currently meeting zero discharge based upon contract hauling and incineration. The Agency is only aware of one indirect discharging metallo-organic manufacturer. That plant is partially treating its wastewater using zinc precipitation.

Formulator Packager Subcategory

The major treatment technologies employed are: contract hauling, incineration, recycle/reuse, evaporation, ocean disposal, deep well injection and end-of-pipe physical chemical treatment.

The direct discharging formulator/packagers are currently meeting the BPT effluent limitations guidelines which require no discharge of process wastewater pollutants based upon deep well injection, incineration, contract hauling, evaporation ponds and ocean disposal. The Agency estimates that there are 1264 PFP facilities of which an estimated 169 are discharging into

POTWs. These 169 facilities are discharging wastewaters containing potentially high concentrations of pollutants which are likely to interfere with, pass through or upset POTWs. Most of these facilities are not treating their wastewaters prior to discharge.

Selection of Treatment Effectiveness Data

All of the treatment technologies upon which today's effluent limitations guidelines and standards are based are demonstrated within the pesticide industry. The treatment effectiveness of these technologies has been evaluated by observing the performance of these technologies on pesticide wastewaters and wastewaters in the organic chemicals, plastics, and synthetic fibers ("OCPSF"), and pharmaceuticals industries. The Agency believes that performance data from technologies in the OCPSF and pharmaceuticals industries are indicative of performance in the pesticide industry. The treatment systems in use in these industries are the same as those used as the basis for the pesticides effluent limitations guidelines and standards and the pollutants removed are the same or very similar. In addition, many pesticide production facilities are co-located with OCPSF facilities and these wastes are often treated in the same treatment systems. Engineering assessment of the similarities among these industries suggested that combining the available data was reasonable and appropriate for the purpose of determining limitations. The Agency therefore combined the data to obtain a basis for the limitations comprised of a greater quantity of actual treatment data than was available from the pesticides industry alone. To support the decision to combine the data, the Agency performed a statistical comparison of the data. The Wilcoxson Rank Sum test was used to compare the pollutant concentrations observed in influent to biological treatment at OCPSF and pesticide plants. Data on a total of 18 pollutants were compared. Comparable influent levels would suggest that comparable effluent levels could be achieved in the two industries. The results of the tests did not provide evidence to reject the hypothesis of similar influent levels in the two industries. The Agency did not similarly compare the pharmaceutical industry data with pesticide data because only data for methylene chloride was used and there was not enough data to make a statistical comparison. However, the Agency believes that the influent concentrations and the chemical constitutents from this industry are also similar to those in the pesticides industry and that it is reasonable to transfer this data as well. The Agency believes that the transfer of data from these industries to the pesticide industry satisfies the criteria set forth in *Tanners' Counsel of America* v. *Train*, 540 F.2d. 1188 (4th Cir. 1976).

For the June 1984, NOA the Agency assembled the pesticides, pharmaceutical and appropriate organic chemicals treatment technology data into one data base. The Agency edited the revised data base to remove data for the following reasons:

1. The Agency edited the data base to remove all data for nonregulated pollutants.

2. Data for which adequate analytical methods did not exist (*i.e.*, those which did not meet minimal quality assurance/quality control specifications) were deleted.

3. The Agency deleted effluent data for which we had no corresponding influent data and we also deleted effluent data where the corresponding influent data was less than 85 ppb. These data were eliminated because the Agency was unable to assure that the effluent values reflected actual treatment of pollutants as opposed to low levels of raw waste concentrations. Use of this editing rule results in larger (less stringent) effluent limitations than would be obtained if the data were retained.

4. The Agency eliminated three data pairs because the effluent level was higher than the corresponding influent level.

5. The Agency eliminated two data points for nonconventional pollutants because the Agency determined that the data points were ourliers.

After editing the data base, the Agency evaluated the remaining data base to identify "best performance" treatment systems.

As discussed in the June 1984 NOA, each individual treatment system at each plant was examined in terms of its design and performance to select well operated treatment systems. A treatment system was defined as "best performance" if the system met the treatment performance criteria for any regulated pollutant for which the treatment system was designed.

The applicable performance criteria were based on engineering evaluations of detention time, loading rate and other design criteria that were identified in Section VI of the 1982 proposed Pesticide Development Document. Most of the systems that met the previously specified editing criteria also met the best performance criteria. Only one treatment system for priority pollutants was eliminated solely for failure to meet the best performance criteria. Only four out of the 24 treatment systems for nonconventional pollutants were eliminated for failure to meet the best performance criteria. Treatment systems which met performance criteria for one pollutant were used as best performance systems for the other pollutants which were present and for which the treatment systems were designed.

Several commenters stated that the Agency's criteria for selecting best performance treatment systems were arbitrary and asserted that data from all treatment systems should be used in developing the limitations and standards. As a result of these comments, the Agency reanalyzed all treatment systems in the data base with respect to the best performance criteria.

For those treatment systems which did not meet the performance criteria, we have identified specific reasons why the performance of these systems is inadequate to be considered BAT treatment. Typical examples are that the system is too small for the flows which are being treated, the carbon usage rate is too low, or that a different type of treatment system is more appropriate for a given pollutant.

The Agency believes that this analysis confirms the Agency's selection of best performance treatment used to develop the effluent limitations guidelines and standards in the June 1984 NOA. Consequently, the Agency used the same treatment systems to develop the final effluent limitations guidelines and standards as it used in the June 1984 NOA.

In order to derive effluent limitations guidelines and standards for specific pollutants, the Agency evaluated the performance of these treatment systems for specific pollutants.

If best performance data was unavailable for a specific pollutant, the Agency transferred best performance data from a structurally similar compound. As discussed in section C.2. below, in response to comments the Agency refined certain aspects of its data transfer methodology. Accordingly, the actual effluent limitations guidelines and standards promulgated in today's rulemaking as well as the number of nonconventional pesticides differ from those published in the June 1984 NOA.

*B. Technology Basis for Final Regulations*

The treatment technology upon which the proposed effluent limitations guidelines and standards were based has generally been selected as the basis

for today's rulemaking. Exceptions to this general rule are discussed in detail below.

*1. Best Available Technology (BAT) Effluent Limitations*

Organic Pesticide Chemical Manufacturers Subcategory

The promulgated BPT regulations for this subcategory are based on pesticide removal by hydrolysis or adsorption followed by biological treatment. For a complete discussion of this technology see Section VI of the development document, EPA 440/1–82/079 b. The BPT effluent limitations guidelines are not affected by this rulemaking.

EPA proposed BAT regulations based on biological treatment with the addition of steam stripping, carbon adsorption, resin adsorption chemical oxidation and/or metals separation as required. EPA also proposed no discharge BAT limitations for pesticide pollutants where the manufacturers were currently achieving zero discharge based on evaporation, deep well injection and no generation of process wastewater. These techniques are currently used by these plants to achieve no discharge for these pollutants.

Steam stripping is the model technology to remove volatile and semi-volatile pollutants, chemical oxidation is the model technology to remove cyanide, metals separation is used for copper and zinc, activated carbon and resin adsorption for the base-neutral priority pollutants, some priority pollutant pesticides, and some nonconventional pesticides, and hydrolysis for the remaining nonconventional pesticides. Since the BPT technologies are not designed to remove all of these priority pollutants, the Agency has based its BAT limitations for these pollutants on these technologies.

The Agency believes that physical chemical treatment (steam stripping, pesticide removal by hydrolysis, resin or carbon adsorption, chemical oxidation and/or metals separation) is a necessary component of the treatment technology train in order to protect biological systems from these pesticides. Physical/chemical systems are also more effective than biological treatment alone in removing pollutants for which they are designed. Indeed, many plants in the industry have already installed physical/chemical treatment prior to biological for that purpose. Also, the additional physical/chemical treatment is necessary for the removal of certain priority pollutant groups of concern (volatile aromatics, halomethanes, chlorinated ethanes, cyanide and metals). The Agency believes that biological treatment is a necessary component of the treatment technology train because pollutant data establishes that biological treatment effectively removes both priority pollutants and NCP's under the proper conditions and is designed to remove the conventional parameters and COD.

The Agency is establishing BAT limitations for 89 nonconventional pesticide pollutants and 25 priority pollutants. The technology basis for today's final BAT regulation varies depending upon the pollutants of concern. For 23 priority pollutants and 50 nonconventional pesticide pollutants the model technology is physical chemical followed by biological treatment. For 33 nonconventional pesticide pollutants the model technology is physical/chemical treatment only. For two priority pollutants and six nonconventional pesticide pollutants, the Agency is establishing a no discharge BAT limitation based on evaporation, deep well injection and no generation of process wastewater. These techniques are currently used by these plants to achieve no discharge of these pollutants.

The Agency has not changed the proposed technology basis for those pollutants covered by the no discharge limitation and those for which the model treatment technology is based on physical/chemical treatment followed by biological treatment (25 priority pollutants and 56 nonconventional pesticide pollutants). The Agency is, however, changing the model treatment technology for 33 nonconventional pesticides for which todays BAT limitations are based on physical/chemical treatment only. In the November 1982 proposal, the Agency based the BAT effluent limitations guidelines for these pollutants on physical/chemical and biological treatment. Physical/chemical and biological treatment was also the basis for the BAT limitations set forth in the June 1984 NOA. As discussed in Section C.2. below, in response to commenters criticisms concerning the validity of the Agency's data transfers, the Agency has modified its model treatment technology by deleting biological treatment for these pollutants.

The BAT technology is demonstrated, technically feasible, and economically achievable. The selected BAT model technology is estimated to remove 0.74 million kg/yr (1.63 million lb/yr) of pollutants from current discharge, including 0.42 million kg/yr (0.92 million lb/yr) of priority pollutants. The installation of the model BAT technology is estimated to cost $107.7 million in capital investment and $35.1 million annually above equipment in place (1985 dollars).

Metallo-Organic Pesticide Manufacturers Subcategory

The BPT effluent limitation guideline for manufacturers in this subcategory is zero discharge of process wastewater pollutants. The BPT effluent limitation guidelines are not affected by today's rule.

The Agency proposed BAT effluent limitation guidelines for this subcategory which required zero discharge of process wastewater pollutants based on the technology of total recycle and reuse, evaporation or contract hauling. However, because BPT for this subcategory already requires zero discharge of process wastewater pollutants, we are not promulgating BAT for this subcategory; instead we are excluding this subcategory from further national regulations under the provisions of paragraph 8(a)(i) of the Settlement Agreement.

Pesticide Formulator/Packager Subcategory

The BPT effluent limitation guidelines for existing formulators and packagers in this subcategory is zero discharge of process wastewater pollutants. The BPT effluent limitation guidelines are not affected by today's rulemaking.

The Agency proposed BAT effluent limitation guidelines for this subcategory which required zero discharge of process wastewater pollutants based on the technology of total evaporation or contract hauling. However, because BPT for this subcategory already requires zero discharge of process wastewater pollutants, we are not promulgating BAT for this subcategory; instead we are excluding the subcategory from further national regulations under the provisions of paragraph 8(a)(i) of the Settlement Agreement.

*2. New Source Performance Standards (NSPS)*

Organic Pesticide Chemical Manufacturers Subcategory

The Agency proposed NSPS for the organic pesticide chemical manufacturers subcategory based on the proposed BAT technology of steam stripping, activated carbon, resin adsorption, metals separation, chemical oxidation, evaporation, and/or hydrolysis followed by biological treatment. The proposed NSPS covered nonconventional pesticide pollutants, priority pollutants, COD, BOD, TSS and

pH. The Agency is promulgating NSPS for this subcategory based on the proposed technology except for 33 nonconventional pollutant pesticides and 9 priority pollutants. For these pollutants, the NSPS technology basis is physical/chemical treatment only. Accordingly, the model technology basis for these new sources is pesticide removal by steam stripping, hydrolysis, carbon adsorption, resin adsorption, chemical oxidation and/or metals separation, as required. The basis for selecting these model technologies is explained under BAT, above. The technology basis for today's rule for BOD, pH and TSS is the same as the basis in the proposed regulation, biological treatment. The Agency is not promulgating COD for new sources because it believes that COD is adequately controlled through the regulation of BOD and priority pollutants. EPA has identified no more stringent technologies that would be appropriate for new sources.

Since NSPS for this subcategory is equivalent to the BAT requirements, the Agency has concluded that there will be no barrier to entry for new sources in this subcategory based on the economic impact analysis for existing sources under BAT. The average plant costs for new sources is expected to be the same as the costs for existing sources. However, new sources can design for efficient process water use and maximize wastewater reduction, thereby reducing the size (and in turn the cost) of pollution control equipment. Therefore, such equipment may actually be less costly for new plants to install and operate in comparison to the cost to retrofit such equipment at existing plants.

Metallo-Organic Pesticide Manufacturing Subcategory

In the November 30, 1982 proposal, EPA selected the BPT technology of total recycle and reuse, evaporation or contract hauling as the basis for the proposed NSPS for new metallo-organic pesticide manufacturers. The Agency is not today promulgating NSPS for this subcategory. NSPS is excluded from further national regulations under paragraph 8 of the Settlement Agreement because of the potential small number of sources. The Agency intends to review the appropriate technologies for new sources in this subcategory.

Pesticide Formulator/Packager Subcategory

The proposed NSPS for this subcategory was based on total evaporation or contract hauling and required zero discharge of all process wastewater pollutants from the formulation and packaging of all pesticide active ingredients. The Agency is promulgating NSPS for this subcategory based on contract hauling and incineration in conformance with RCRA hazardous waste regulations for low flow plants and based on treatment with water recycle/reuse for high flow plants. The promulgated NSPS covers those facilities formulating or packaging the pesticide active ingredients listed in Appendix D of the regulation.

Since the NSPS technology basis is identical to PSES for existing sources, there will be no barriers to entry by new sources based on the economic impact analysis. The average plant costs for new sources are expected to be the same as the plant costs for existing sources.

*3. Pretreatment Standards for Existing Sources*

Organic Pesticide Manufacturers Subcategory

In the proposed regulation the PSES were based on physical/chemical treatment and were less stringent than the BAT limitations. The Agency did not include biological treatment as part of the PSES treatment technology because the Agency believed that including it might not be economically achievable. The proposed PSES regulated all pollutants regulated for BAT but at less stringent levels.

In the June 13, 1984 NOA the Agency retained the technology basis for PSES and stated that the PSES technologies were capable of achieving the BAT limitations for priority pollutants and for nonconventional pesticides. The Agency also adjusted its costing methodology for these technologies and performed a pass through analysis for priority pollutants to determine which pollutants pass through POTW's.

In the June 13, 1984 NOA the Agency stated that it did not perform a pass through analysis for non-conventional pesticides because the Agency did not have POTW data on removal of non-conventional pesticides. The 50 plant POTW study did not address POTW removal of non-conventional pesticides. However, as explained more fully in section C.4. below the Agency determined that there was a likelihood of pass through and interference at the POTW and set PSES for non-conventional pollutants based on physical/chemical treatment alone.

Also in the June 1984 NOA to identify the priority pollutants which passed through a POTW, the Agency compared the average percent removal of each pollutant by the BAT treatment system for direct dischargers to the average percent removal for the pollutant obtained by well operated POTWs achieving secondary treatment. See II.B.1, page 401564 of the public record. All but six of the priority pollutants pass through, and therefore, we are regulating these priority pollutants. These six pollutants are the volatile organic pollutants 1,2-dichloroethane, tetrachlorethylene, benzene, toluene, and chlorobenzene, and the non-volatile pollutant phenol. For a complete discussion of this issue see section C.4. below.

For those pollutants which passed through the POTW, the Agency's model treatment technology was based on physical/chemical treatment. The Agency believed that physical chemical treatment would meet the BAT limitations where BAT was based on physical/chemical treatment followed by biological treatment and did not, therefore, use biological treatment as part of the PSES technology.

In today's final rule, the Agency is promulgating pretreatment standards standards for 89 nonconventional pesticide pollutants and 28 priority pollutants. The technology upon which the PSES are based is physical/chemical for 24 priority pollutants and 33 nonconventional pesticide pollutants. The PSES technology is physical/chemical followed by biological treatment for two priority pollutants and 50 nonconventional pesticides. Pretreatment standards of no discharge are established for two priority pollutants and six nonconventional pesticide pollutants based on deep well injection, no generation of process wastewater and evaporation. Existing plans are currently using these techniques to achieve zero discharge.

Commenters criticized the recommended treatment technology basis for PSES, alleging that physical/chemical treatment could not meet PSES in those cases where BAT limitations were based on physical/chemical treatment plus biological treatment. In response to these comments, the Agency has re-evaluated the data base and expanded the data base with additional data on physical/chemical treatment from the OCPSF industry. The Agency believes that for 15 priority pollutants this information confirms the Agency's assessment in the June 1984 NOA that physical/chemical treatment can achieve the BAT limitations. See section C(4) below for a further discussion of this issue.

However, for two priority pollutants and 50 nonconventional pollutants, the

Agency was unable to demonstrate that physical/chemical treatment alone could achieve PSES. Consequently, for these pollutants, the PSES treatment technology basis for today's regulation is physical/chemical followed by biological treatment. As recommended by commenters, the Agency has included the cost of biological treatment for those pollutants. Section C.4. gives a more detail explanation of the basis for these pretreatment standards.

Implementation of PSES will remove annually an estimated 150,000 kg/yr (330,000 lb/yr) of pollutants including 93,200 kg/yr (205,000 lb/yr) of priority pollutants at a capital cost above equipment in place of $39 million and annual cost of $18.7 million in 1985 dollars. The Agency has concluded that PSES is economically achievable.

The Agency has considered the time necessary to achieve compliance for PSES. Few of the indirect discharge pesticides plants have installed and are properly operating the treatment technology for PSES. Many plants in this industry will be installing the treatment equipment suggested as model technologies for this regulation and this may result in delays in engineering, ordering, installing and operating the equipment. For these reasons, the Agency has decided to establish the PSES compliance date for facilities in this subcategory at three years after promulgation of this regulation.

Metallo-Organic Pesticide Manufacturers Subcategory

The Agency proposed PSES which would require zero discharge of process wastewater pollutants for the metallo-organic pesticide manufacturers which incorporate arsenic, cadmium, copper, and mercury. The treatment technologies upon which zero discharge were based were:

1. Contract hauling.
2. Evaporation and/or.
3. Recycle/reuse.

These technologies are the basis for the promulgated BPT effluent limitations guidelines and have been demonstrated by existing metallo-organic pesticide manufacturers subject to the BPT regulation.

The Agency believes that the pollutants discharged by metallo-organic facilities pass through the POTW because the BPT treatment technology achieves no discharge of process wastewater pollutants which is complete pollutant removal. Since a POTW cannot achieve this removal for these pollutants, the Agency is establishing PSES for these pollutants based on pass through.

In the proposal the Agency solicited comments on the achievability of the zero discharge standard by metallo-organic pesticide manufacturers. There is only one indirect discharging metallo-organic facility. That facility alleged that this plant could not achieve zero discharge and recommended that the Agency base PSES for mercury organic pesticides on zinc precipitation. In response to this comment, the Agency, in the June 13, 1984 NOA, announced that it was considering zinc precipitation treatment technology or other similar treatment technology for control of mercury followed by discharge of the treated wastewater as an alternative to the previously proposed zero discharge standards. The Agency requested specific information and data on the wastewater treatment technologies used by this segment of the industry.

The Agency received additional comments from this plant alleging that a zero discharge standard for mercury was neither environmentally sound nor economically achievable. In response to this comment, the Agency sought additional treatment technology and wastewater data from this plant. As a result of its evaluation of this additional data, the Agency is today promulgating a numerical limit for mercury of 0.45 mg/l (daily maximum) and 0.27 mg/l (monthly average) for indirect discharging metallo-organic plants discharging mercury. This pretreatment standard for mercury is based upon zinc precipitation treatment technology. The Agency believes that it is more environmentally sound to require zinc precipitation followed by discharge of the treated wastewater because zero discharge based on incineration or evaporation could produce air pollution associated with the volatilization of mercury. The Clean Water Act requires EPA to consider the non-water quality environmental impacts of the effluent limitations guidelines and standards. Volatilization of mercury in an incinerator could cause violations of the hazardous air pollutant emission standards established under the Clean Air Act for mercury and as such, could create serious non-water quality environmental impacts. Zero discharge based on recycle/reuse is not technologically achievable. Therefore, the Agency believes that zinc precipitation is an appropriate technology for this process and is preferable to other available treatment methods. The Agency is establishing no discharge of process wastewater pollutants based on the model technology of contract hauling and incineration for metallo-organic pesticide manufacturers of arsenic, cadmium and copper.

Implementation of PSES for this subcategory would remove 5700 kg/yr (12,500 lb/yr) of mercury at annualized cost of $130,000 and capital cost of $47,000. The Agency has concluded that PSES is economically achievable for plants manufacturing mercury pesticide products.

Since the Agency is unaware of any existing metallo-organic pesticide manufacturers discharging arsenic, cadmium or copper to POTW, the Agency has not developed plant-by-plant costs for these indirect dischargers. However, PSES are promulgated for these pollutants to prevent direct discharging facilities who currently subject to the BPT regulations from indirectly discharging these pollutants without regulation. Since the Agency costed treatment for these facilities under BPT, it has previously considered the costs of installing the recommended treatment technology. PSES for metallo-organic pesticide manufacturers discharging arsenic, cadmium or copper is economically achievable.

The compliance deadline with the PSES for this subcategory is three years after promulgation of this regulation because the indirect discharger subject to the PSES needs to design, order, install, and commence full operation of the treatment system after identifying and correcting any mechanical or treatment problems identified during installation, start-up, and initial operation of the treatment system. These activities often take up to three years.

The Agency recognizes that PSES for metallo-organic plants discharging mercury is less stringent than the BPT limitations for metallo-organic plants discharging mercury. Since there are no direct discharging mercury metallo-organic plants, the Agency believes that this difference is inconsequential. The Agency does, however, intend to review the previously promulgated BPT regulations for this subcategory.

Pesticide Formulating/Packaging Subcategory

The Agency proposed PSES which would require zero discharge of process wastewater pollutants. The treatment technology bases for the pesticide formulating/packaging subcategory were:

1. Contract hauling.
2. Spray evaporation.

The Agency believes that the pollutants discharged by formulating/packaging facilities pass through the

POTW because the BPT treatment technology achieves no discharge of process wastewater pollutants which is complete removal. Since a POTW cannot achieve this removal for the priority and nonconventional pollutants, the Agency is establishing PSES for these pollutants based on pass through (see discussion in section C.4.b for pass through analysis for nonconventional pollutants).

Commenters pointed out that evaporation, particularly spray evaporation, can lead to air-pollution and other non-water quality environmental impacts. Commenters also pointed out that contract hauling must be combined with incineration, not land-filling, to be effective in disposing of the pollutants rather than possibly creating future environmental problems. Commenters additionally suggested that treatment technology, such as the physical/chemical treatment technology used by pesticide manufacturers, could achieve low levels of priority pollutants and pesticides in the treated water.

In response to these comments, the Agency has revised the technology basis for the promulgated PSES for this subcategory, to combine contract hauling with incineration, to eliminate evaporation, and to add physical/chemical treatment followed by water recycle/reuse. Hence, the technology bases for the promulgated pretreatment standards are:

1. Contract hauling and incineration.
2. Physical/chemical treatment with water recycle/reuse and contract hauling followed by incineration for treatment system waste concentrates and any wastewater that cannot be treated and recycled.

The pretreatment standards for this subcategory would require no discharge of priority pollutants and the pesticide active ingredients listed in Appendix D resulting from the formulation or packaging of the pesticides listed in Appendix D.

The cost of these two technologies is related to the flow at a particular facility with high flow plants incurring greater costs. However, there are economies of scale for technology 2 that are not available for technology 1, that is, the cost per gallon of wastewater decreases for technology 2 as flow increases, while the cost per gallon of wastewater contract hauled remains about the same as flow increases. While contract hauling and incineration is less expensive than treatment for most low flow plants, treatment and recycle/reuse will be less expensive for high flow plants. In estimating costs for compliance with PSES, the Agency assumed plants would contract haul and incinerate unless a plant stated it could recycle/reuse the treated wastewater. Based on these statements, the Agency costed contract hauling and incineration for 96 percent of the discharging PFP plants. For the remaining 4 percent of discharging PFP plants with larger flows, the Agency assumed that physical/chemical treatment followed by recycle/reuse would be the technology chosen, while any wastewater at these plants which could not be recycled after physical/chemical treatment would be contract hauled and incinerated. Implementation of PSES for this subcategory would cost $16.96 million (annual costs) and $22.56 million (capital costs). The Agency has concluded that PSES is economically achievable for this subcategory.

*4. Pretreatment Standards for New Sources (PSNS)*

Organic Pesticide Chemicals Manufacturers Subcategory

The Agency proposed PSNS based on the proposed PSES treatment technologies. The technologies which the Agency has selected as the basis for PSNS are identical to the technologies which are the basis for the PSES being promulgated today. Accordly, there will be no barriers to entry for new sources. We know of no economically and technically feasible demonstrated technology that removes significantly more pollutants than the technology selected.

The pollutants regulated for PSNS are the same as those for PSES. As discussed under PSES, pass through of the regulated pollutants will occur without adequate pretreatment and, therefore, pretreatment standards are required.

Metallo-Organic Pesticide Manufacturers Subcategory

The Agency proposed PSNS based on the proposed PSES treatment technology. The Agency is not today promulgating PSNS for this subcategory. PSNS is excluded from further regulation under paragraph 8 of the Settlement Agreement because of the potential small number of sources uniquely related to these sources. The Agency intends to review the appropriate technologies for new sources in this subcategory.

Pesticide Formulators/Packagers Subcategory

The Agency proposed PSNS based on the PSES treatment technology. The technologies which the Agency has selected as the basis for PSNS are identical to the technologies which are the basis for the PSES promulgated today. Accordingly, there will be no barriers to entry for new sources. We know of no economically and technically feasible demonstrated technology that removes significantly more pollutants than the technology selected.

The pollutants regulated for PSNS are the same as these for PSES. As discussed under PSES, pass through of the regulated pollutants will occur without adequate pretreatment and, therefore, pretreatment standards are required.

*C. Technical Analysis Supporting the Final Regulation*

In the June 13, 1984 NOA, the Agency announced that it was considering certain methodological changes in the basis for the proposed regulations and requested comments on how the Agency's preliminary analysis might influence final rulemaking. For a more complete discussion of the methodology underlying the NOA see Section IV of the NOA. By and large commenters supported the Agency's methodology changes as outlined in the NOA. The Agency is today promulgating regulations based on this methodology although the Agency refined some of its analysis in response to comments. These refinements are discussed below:

1. *Process Chemistry:* The Agency conducted process chemistry evaluations of pesticides by examining proprietary process chemistry diagrams supplied by manufacturers, by reviewing supplemental literature on each process, and by analyzing process conditions such as pH, temperature and reaction time, and raw material specifications where available. In the proposed regulation the Agency used the results of this process chemistry evaluation and actual data to determine which priority pollutants are present or likely to be present in wastewater from each of the pesticides processes covered by the regulation. Having determined which of the 34 priority pollutants were associated with each pesticide, subpart O of the proposed regulation then required that these pollutants be limited and that subsequent monitoring would be required for these pollutants.

Many commenters claimed that some priority pollutants listed in Subpart O are either not found or should not be found in pesticide wastestreams. In response to these comments, the Agency re-examined and modified some of the process chemistry evaluations. The modified process chemistry evaluations were discussed in the June 13, 1984 NOA. The Agency solicited comments

on these modified process chemistry evaluations. The Agency received additional comments criticizing the process chemistry evaluations set forth in the June 1984 NOA. In response to these comments, the Agency once again reviewed applicable plant data and confirmed information previously submitted by telephoning pesticide manufacturers. Where appropriate, the Agency incorporated the commenter's data and the confirmed data by revising the process chemistry evaluations. A discussion of the basis for the revised process chemistry evaluation can be found in chapter V of the Development Document. The majority of the changes made by the Agency involved deletions of priority pollutants which were previously identified with specific pesticide processes because the data indicated that the priority pollutants were not associated with the specific pesticide processes. (See chapter V of the Development Document and supporting documents in the record). The results of the revised process chemistry evaluations are presented in Appendix A of todays rulemaking.

2. *Data Transfer:* The proposed pesticide rulemaking set forth effluent limitations guidelines and standards for 137 nonconventional pesticides by utilizing the "least treatable" concept. Under that concept, the nonconventional pesticide that was treated to the least stringent level within a specific subcategory determined the long-term average concentration for all the nonconventional pesticides in the subcategory. As discussed in the June 13, 1984 NOA, the Agency intended to abandon the least treatable concept and publish individual effluent limitations guidelines and standards for the 137 nonconventional pesticides. The Agency believed that this approach would more accurately reflect the achievable removals of the specified treatment technologies.

The Agency lacked best performance data for treatment of many nonconventional pesticides. In the June 13, 1984 NOA the Agency also stated that it lacked performance data for treatment of several priority pollutants. For those nonconventional and priority pollutant pesticides lacking best performance data, the Agency transferred technology from within the industry and the performance of that technology from structurally similar compounds with best performance data.

Ninety-five of the 137 limitations and standards for NCPs as set forth in the June 13, 1984 NOA were based in part or entirely on technology transfer. Six of the limitations and standards for priority pollutants pesticides were based in part or entirely on technology transfer.

When the Agency had no treatment technology performance data for a pesticide, data on removal by the technology for a chemically similar pesticide was substituted. This use of data for a chemically similar pesticide to establish limitations is referred to as technology transfer. The Agency transferred performance data from two different treatment technologies in establishing effluent limitations guidelines and standards for the NCPs and priority pollutants in the June 1984 NOA.

The first technology from which the Agency transferred treatment performance data was physical/chemical treatment. The achievable effluent level from a treatment system for a pollutant for which we had data was transferred to a chemically similar pollutant where we did not have any or adequate data. As discussed in the June 13, 1984 NOA, in order to achieve this transfer of data, the Agency placed the individual pesticides in one of 27 groups based on similarities in chemical structure and physical/chemical properties. The Agency transferred full-scale best performance data for pesticides within the same structural group to a pesticide without data in that group (intra-group transfer). In the June 13, 1984 NOA, the Agency transferred full scale data from a similar structural group (inter-group transfer) if no full-scale best performance data were found for any pollutant within that group.

The second technology transfer involved transferring the removal (i.e., percent reduction) of a pesticide by biological treatment. The BAT limitations set forth in the June 13, 1984 NOA were based on the effect of biological treatment (BPT) on each pesticide. In cases where we did not have data on the removal of a specific pesticide by biological treatment, we transferred the biological removal data from pesticides within the same structural group and for cases lacking best performance biological removal data for an entire group of pesticides we transferred the industry wide average biological removal for the entire industry (69.2%) in determining biological removal for the pesticide group.

Commenters criticized our methodology for technology transfer suggesting that some of the data was inappropriately transferred. Specifically, many commenters criticized the validity of our physical/chemical transfers alleging that our methodology was inadequate for establishing limitations and standards.

In response to commenters' criticisms, we have reevaluated our methodology. In light of this reevaluation, the Agency has retained 27 structural groupings which formed the basis of the technology transfer in the NOA. These groupings were based on the physical and structural similarities which affect the treatability of these compounds by the recommended treatment technologies. The Agency believes that these groupings are sound. We have, however limited data transfers to intra-group pesticides to better account for the chemical similarities among these pesticides.

As part of our methodological reevaluation, we have broadened our analysis, as suggested by the Science Advisory Board (SAB) in its report on technology transfer (See the Record at II B20), to include physical chemical properties such as molecular weight, water solubility, and volatility as indicators of the appropriateness of physical/chemical technology transfers within each structural grouping. These properties are strong indicators of the treatability of these compounds for the technologies which were used as the basis for the proposed regulations. In today's final rulemaking, the Agency transferred performance of physical/chemical treatment systems within each of these 27 groups only if it could be shown that a transfer, based on the appropriate physical/chemical properties, could be made from a less treatable compound to a more treatable one.

In the NOA, the Agency transferred biological removal data from pesticides within a structural group. If removal data for a specific group was unavailable the Agency used an industry wide biological removal factor. Commenters criticized our biological treatment transfers particularly those in which the Agency transferred the industry wide biological removal rate.

In response to commenters' criticisms, the Agency determined that effluent limitations guidelines and standards based on the transfer of an industry wide biological removal rate are not supportable. Today's rulemaking does not include such an industry wide transfer nor does it include inter group transfers of biological removal data. The Agency has also made an additional refinement to our biological transfer methodology. We established 3 levels of biodegradation for each of the 27 structural groups. Transfers within each group were only made in cases where a transfer occurred between a compound

of lower degradation to a compound of higher degradation (i.e., a conservative transfer).

As a result of the above discussed refinement to our transfer technology, the Agency has separated 95 NCPs into three classes. The first class includes 50 pesticides where the transfers involve strong similarities among physical/chemical properties. In most cases these transfers are also from a less treatable compound to a more treatable one and are, therefore, conservative transfers. Conservative design parameters were also used in costing treatment for these compounds. Accordingly, the Agency believes that regulating these compounds is both reasonable and appropriate.

The second class of compounds includes 33 pesticides where the Agency has adequate information for physical/chemical transfers but does not have adequate data on percent reduction across biological treatment. Several attempts to transfer biological data from other compounds were made; however, none of the approaches was determined to be supportable. Because biological performance could not be demonstrated, the Agency is today promulgating effluent limitations guidelines and standards for these pesticides which assume no reduction by biological treatment. Therefore, the effluent limitations guidelines and standards for these pollutants are different than those proposed by the Agency in the June 1984 NOA. Since the physical/chemical data are based on structurally similar pollutants, the Agency believes that it is reasonable and appropriate to regulate these chemicals based on physical/chemical treatment.

The third class of compounds includes the remaining 28 compounds. EPA has determined that it cannot support the proposed technology transfers for these compounds as a result of an analysis of the chemical structures or physical properties of these compounds. The Agency, accordingly, is not regulating these pollutants in this regulation. Additional data and information will be needed before effluent limitation guidelines and standards can be established for these pollutants.

Todays final rule regulates 89 nonconventional pesticides. Limits and standards for 67 of these NCPs involved physical/chemical and/or biological transfers. Limitations and standards for 22 NCPs do not involve any data transfers.

3. *Pretreatment Standards:* a. Six Priority Pollutants: Pretreatment standards are designed for pollutants that pass through, interfere with, or are otherwise incompatible with the operation of well-operated publicly owned treatment works ("POTW"). In the November 1982 proposal, the Agency set PSES standards for all pollutants regulated for BAT. Commenters recommended we perform a pass-through analysis, alleging that at least some of the priority pollutants would not pass through a well-operated POTW with secondary treatment installed.

In the June 1984 NOA, the Agency discussed the results of a pass-through analysis which it performed and concluded that six of the priority pollutants regulated for BAT (1,2-dichloroethane, tetrachloroethylene, benzene, toluene, chlorobenzene, and phenol) do not pass through the POTW. The Agency, therefore, did not propose setting PSES limitations for these six pollutants in the NOA.

One commenter strongly objected to not regulating volatile organics (only phenol of the six priority pollutants identified above is not a volatile organic pollutant), based upon the increasing evidence that many of these compounds become airborne in the sewers and/or by aeration processes at POTWs. This commenter stated that at least one fatality occurred among sewer workers after being exposed to toxic fumes in a city sewer. This issue has also been raised in public comments on the pharmaceutical and organic chemicals regulations.

In light of this comment and as a result of analyses done to support the Notice of Availability of New Information for the Organic Chemicals, Plastics and Synthetic Fibers Point Source Category (50 FR 29068, July 17, 1985), the Agency believes that volatile pollutants may interfere with the POTW or may pass through the POTW biological system by volatilizing into the atmosphere rather than being treated. For this reason EPA's standard pass through analysis may be inappropriate. The Agency does not have the necessary data on hand to propose PSES for these pollutants in todays rulemaking. However, the Agency intends to gather the relevant data and to propose PSES for the five volatile organic pollutants in the pesticide industry. Until such promulgation, the Agency is excluding these pollutants from regulation under Paragraph 8 of the NRCD consent decree because 95% of the point sources subject to PSES do not introduce pollutants which interfere with, pass through or are otherwise incompatible with the POTW. The Agency has not received any data to indicate that phenol is an incompatible pollutant and, therefore is not regulating phenol for this industry and does not have any plans to do so in the future.

b. *Pretreatment Technology.* In conducting its pass through analysis for priority pollutants, the Agency relied upon the 50 plant POTW study. (*Fate of Priority Pollutants in Publicly Owned Treatment Works*, Final Report EPA 440/1–82/303, September 1982). However, as discussed in the June 1984 NOA, that pass through analysis did not include POTW removal data of nonconventional pesticides because these individual pesticides were not included in the nation-wide 50 plant POTW study. However, the Agency has concluded that nonconventional pesticides are incompatible pollutants that interfere with or pass through POTWs. This conclusion is based in part on actual POTW data showing that pesticides have interfered with or passed-through at least two POTWs. See Section II.B.1 of the Record. The Agency also has concluded that nonconventional pesticides pass through the POTWs. The Agency has data that shows some of those pollutants are not amenable to biological treatment. For other compounds, the Agency does not have biological removal data but believes that, based on their structure and physical/chemical properties, they are unlikely to be effectively treated in POTW biological systems. Additionally, POTWs are designed differently from direct discharge pesticide industry biological systems (POTW retention time is shorter, mixed liquor suspended solids concentration is smaller and micro-organisms are not acclimated to pesticide pollutants to the same degree as industrial systems). Therefore, POTWs are expected to achieve less removal than industrial biological systems. (See the Development Document and supporting documentation in the record). Since these pollutants pass through the POTW, PSES standards have been developed for these pollutants.

In the June 1984 NOA, the Agency requested comment on pretreatment standards for non-conventional pesticide and priority pollutants equal to the BAT effluent limitations guidelines. The BAT effluent limitations guidelines for 17 priority pollutants and 50 nonconventional pesticides were based on physical/chemical treatment followed by biological treatment and the PSES standards were based on physical/chemical treatment alone. In the record to the NOA, the Agency had revised its costing methodology for the physical/chemical treatment systems. As discussed in the NOA, the Agency did a plant by plant analysis of the costs a facility would incur to meet PSES using the model treatment technology.

Commenters criticized the use of physical/chemical treatment alone for PSES to achieve the effluent quality achieved by direct dischargers using biological treatment after physical/chemical treatment. In response to comments, the Agency reevaluated its technology basis for PSES. As part of this reevaluation, the Agency re-examined all available data, including data from the OCPSF industry, to determine if the available information supported our pretreatment technology basis.

Of the 28 priority pollutants regulated for PSES, there are 17 priority pollutants where PSES equals BAT and BAT is based on physical/chemical plus biological treatment. The Agency believed that physical/chemical treatment processes if designed properly are capable of achieving the PSES. Examples and a mathematical model supporting the achievability of these standards by using physical/chemical treatment alone were cited in the proposed Development Document. In the case of two of the 17 priority pollutants, data in the pesticide industry data base confirms that physical/chemical treatment alone is sufficient to achieve the PSES. For an additional 13 of these 17 priority pollutants, the date from the organic chemicals industry confirms that physical/chemical treatment alone is sufficient treatment to achieve the PSES standards. Accordingly, the PSES model technology for these 15 priority pollutants is physical/chemical treatment.

One of the remaining two priority pollutants, 2,4-dinitrophenol, is found at only one indirect discharging plant. This plant has physical/chemical plus biological treatment in place and is currently achieving the promulgated PSES for this pollutant. This is the model PSES treatment technology for this pollutant.

The remaining priority pollutant is cyanide. The Agency does not have data from the organic chemicals or pesticides industries which confirms the Agency's assumption that physical/chemical treatment alone is sufficient to achieve PSES. All of the plants in the pesticides industry (and the organic chemicals industry) for which we have treatability data for cyanide use physical/chemical plus biological treatment to achieve PSES for cyanide. Therefore, the Agency has changed the model treatment technology basis for cyanide removal to physical/chemical treatment plus biological treatment.

The change in treatment technology basis for cyanide removal affects the Agency's estimated costs for compliance for three of four indirect discharging plants with cyanide (because of the flow, the fourth plant was costed for contract hauling and incineration of its wastewater). The addition of biological treatment for these three plants represents an additional capital cost of $0.73 million and an additional annualized cost of $0.26 million compared to the cost of physical/chemical treatment alone. These additional costs have no significant economic impact on the three affected plants.

The Agency also established pretreatment standards equal to the BAT effluent limitations guidelines for the nonconventional pesticides. Fifty of the 89 NCPs have PSES equal to BAT where BAT is based on physical/chemical plus biological treatment (six of the 89 have BAT requiring no discharge of process wastewater pollutants, and 33 of the 89 have BAT based on physical/chemical treatment only). The PSES model treatment technology for these 50 pollutants in the June 1984 NOA was based on physical/chemical treatment only. Although the Agency believes that physical/chemical treatment alone can be used to meet the PSES, the Agency has been unable to confirm that process engineering judgment with pollutant specific data. Therefore, the Agency has added biological treatment to the model treatment technology recommended for these pollutants. Of the 50 NCP's only six pollutants are discharged indirectly from 4 plants. The Agency costed biological treatment for these 4 plants and 6 non-conventional pesticides. Of the four plants indirectly discharging these NCPs, one already has biological treatment installed and since the Agency originally costed physical/chemical treatment for that plant, the estimated cost for compliance for that plant is not affected by the change in model treatment technology basis. For the other three plants, the Agency has included the cost of biological treatment after physical/chemical treatment.

The Agency did not cost biological treatment for the remaining 44 nonconventional pollutants because they are not currently discharged to POTWs by indirect discharging facilities. However, PSES are promulgated for these 43 pollutants to prevent direct discharging facilities who currently discharge these pesticides from switching to indirectly discharging these pollutants. Since the Agency costed biological and physical chemical treatment for these direct facilities under BAT, the costs of installing the recommended treatment technology have been calculated by the Agency. The additional treatment at the three existing indirect dischargers requires $3.63 million capital costs and additional annualized costs of $1.36 million. No significant additional economic impacts are expected from these additional costs.

4. *Statistical Methodology:* The Agency used the delta lognormal distribution as the basis for developing effluent limitations guidelines and standards for the pesticide industry. The delta lognormal distribution is described in Chapter 9 of the "The Lognormal Distribution" by J. Aitchison and J.A.C. Brown, Cambridge University Press, 1963, and Section II.B.4. of the Record. The delta lognormal distribution is a more general form of the usual lognormal distribution and provides a satisfactory model for the distribution of pesticide effluent concentration data. The delta lognormal also has the advantage of not requiring as much data as the nonparametric method used at proposal and therefore allows the use of more data sets for variability analysis than the nonparametric approach. (See the Statistical Support Document in the Record at II.B.4.) Furthermore, the delta lognormal distribution provides a consistent statistical model for including below analytical detection limit values in the statistical analysis. The use of the delta lognormal distribution for such data sets is supported by the paper of W.J. Owen and T.A. DeRouen, "Estimation of the Mean for the Lognormal Data Containing Zeroes and Left Censored Values, with Applications to the Measurement of Work Exposure to Air Contaminants." Biometrics *36*, 707–719, December 1980. The delta lognormal distribution was used as the basis for estimating the long term average values and daily and monthly (based on four observations) variability factors for each pollutant-treatment unit combination. In cases where data were not available or not sufficient for the necessary calculations, transfers of data from pollutants with similar chemical properties were used as the basis for determining regulatory values. The details of the analysis and data transfers are contained in the Statistical Support Document.

5. *Mass-Based Effluent Limitations Guidelines and Standards:* In the June 1984 NOA the Agency solicited comments on requiring permit writers and control authorities to set mass-based limitations and standards by multiplying the concentration-based limitations and standards by the appropriate process wastewater flow. This requirement would help ensure that the concentration based limitations and standards in the regulation are applied

to flows which do not include non-process wastewater thereby limiting dilution.

Today's regulations require NPDES permit authorities to multiply the concentrations by the actual process wastewater flow. (See the regulation at Part 455.24.) However, for indirect dischargers 40 CFR 403.6(e) (the combined wastestream formula) already controls dilution of process wastewater with non-process wastewater. Consequently, today's regulation does not require POTW's to convert the concentrations in this regulation to mass-based PSES standards.

6. *Formulator/Packagers:* a. Coverage of the Regulation. The final PSES (PSNS and NSPS) apply to formulators and/or packagers of insecticides, herbicides, rodenticides and fungicides listed in Appendix D. The PSES do not cover formulators and packagers of sanitizers, disinfectants, inorganics, and surface active agents even though those substances are registered as pesticides with EPA under the Federal Insecticide, Fungicide, and Rodenticide Act ("FIFRA"). The Agency excluded these substances because many are regulated under other effluent guidelines and standards (such as inorganic chemical manufacturing) or were excluded from regulation under paragraph 8 of the Consent Decree. Coverage of the PSES is also limited to those pollutants for which analytical test methods are available. The Agency has promulgated analytical test methods for 147 organic pesticides (some of which are priority pollutants). Metallo-organic pesticides containing arsenic, cadmium, copper, mercury, and tin as well as vancide 51Z and vancide 51Z dispersion (which contain zinc) may be determined by chemical analysis for these metals using the promugated 304(h) analytical test methods.

Therefore, the PSES for the PFP subcategory is applicable to wastewaters from the formulating and packaging of the 147 organic pesticides with promulgated analytical methods, vancide 51Z, vancide 51Z dispersion, and metallo-organic pesticides containing arsenic, cadmium, copper, mercury, and tin. PFPs subject to this PSES must achieve no discharge of all 126 priority pollutants and all the non-conventional pesticide pollutants listed in Appendix D.

b. *Zero Discharge.* Process wastewater is generated primarily by equipment cleaning and floor washing; some plants also generate process wastewater because of air pollution control scrubber water and laboratory test water. The Agency estimates that only 169 of the estimated 1264 PFP plants discharge process wastewater. Most of the 169 dischargers currently have no treatment in place.

On November 30, 1982, the Agency proposed zero discharge PSES for PFP's. In the June 13, 1984 NOA, the Agency reaffirmed its conclusion that a zero discharge standard was appropriate for PFP's. Several commenters in response to these notices criticized the zero discharge standard, recommending instead that the Agency set pretreatment standards for indirect discharging PFP's equal to the pretreatment standards for the manufacturing segment of the industry. The commenters did not, however, submit any data indicating why the manufacturer's standards would be appropriate for PFPs or any data on flows and treatment processes which indicated that PFPs could achieve the proposed BAT effluent limitations for the organic pesticide chemicals manufacturing subcategory.

In the January 24, 1985 NOA, the Agency gave commenters a third opportunity to provide data to support establishing a PSES for PFP's other than zero discharge. The NOA detailed the types of data which should be submitted. The commenters failed to submit the data requested by the Agency or any other data supporting a PSES other than zero discharge. The treated effluent data that was submitted demonstrated that compliance with the zero discharge standard could be achieved. One commenter with physical chemical treatment and extensive recycle of the treated effluent stated that the additional physical/chemical treatment necessary to achieve the BAT limitations for subcategory 1 would allow its plant to achieve a treated effluent with no detectable levels of the Appendix D pollutants.

The Agency has concluded that no discharge is technologically feasible and economically achievable for the indirect discharging segment of the pesticide formulator-packager subcategory. Of the 169 discharging PFP plants, the Agency costed contract hauling with incineration for 96 percent of the plants. These plants have low flows. For the remaining 4 percent of indirect discharging plants, the Agency costed physical/chemical treatment plus recycle/reuse. We believe that this technololgy is less expensive than contract hauling because the plants have relatively high flows. The plants with the relatively high flows which provided data in their responses to the PFP survey also stated that their preferred means for achieving zero discharge was recycle and reuse of the process wastewater, and they also stated that treatment with recycle/reuse was possible at their plants. The model treatment technology produces very clean water which can be reused, thereby reducing costs for water and eliminating the cost of monitoring. Reuse, however requires additional pumps and piping to return the water to the process. The savings approximately balance the additional costs.

The promulgated PSES applies to discharges associated with the formulating and packaging of the pesticide active ingredients listed in Appendix D. It requires no discharge of priority pollutants and the pesticide active ingredients listed in Appendix D in process wastewater from the formulting and packaging of these pesticides. Process wastewaters are defined at 40 CFR 401.11. The proposed PSES required no discharge of process wastewaters pollutants, however, the comments received by the Agency indicated that many commenters interpreted the standard to preclude the discharge of any process wastewaters. The standard does not preclude the discharge of process wastewaters to impose a "no flow" requirement. This misunderstanding may have resulted from the Agency's use of the term "zero discharge" when describing the PSES requirement for PFPs. Plants that demonstrate through chemical analysis that their wastewater contains no detectable amounts of the pesticide active ingredients listed in Appendix D or priority pollutants are not prohibited by today's regulation from discharging that water to POTWs if they wish, since we have no basis to believe this discharge would interfere with or pass through the POTW.

As stated above (Section V.C. 7 (a)), analytical methods are available for all priority pollutants, for 147 organic pesticides (some of which are priority pollutants) and for the metals associated with vancide 51Z and dispersion (which contain zinc) and metallo-organic pesticides containing arsenic, cadmium, copper, mercury and tin. The simplest way for a facility to demonstrate compliance with the PSES is to not discharge any process wastewater from formulating or packaging operations. For facilities with discharges, analysis of samples would be necessary to demonstrate compliance as required by 40 CFR Part 403. Samples of discharges from treatment systems or of final effluent, whichever would best discribe the compliance status of the facility, should be analyzed for the presence of priority pollutants and pesticide active ingredients. Compliance may be assumed if analyses of samples show no priority pollutants nor any pesticide

active ingredients listed in Appendix D above the method detection limit for the appropriate analytical method. The method detection limit ("MDL") for typical wastewaters are given as part of most of the promulgated analytical test methods. These MDL's may be used to determine compliance. Alternatively, the discharger may determine the MDL in the plants wastewater using the procedure established at 40 CFR Part 136, 49 FR 43234, October 26, 1984.

c. *Spray Evaporation.* One of the technology bases for the proposed zero-discharge regulation was spray evaporation, in which the polluted wastewater was evaporated by spraying the wastewater into the air. Commenters criticized this technology basis, stating, first, that the evaporation left a pesticide residue which must be disposed, second, that the Agency had not included costs for disposal of the residue; and third, that spray evaporation may generate an air-borne mist containing highly concentrated pesticides.

The Agency agrees with these criticisms. Accordingly, the NSPS, PSES and PSNS regulation for Subcategory 3 promulgated today are not based on spray evaporation technology but instead are based on contract hauling and incineration or treatment and water recycle/reuse with contract hauling and incineration of any treatment system wastes.

d. *Contract Hauling Costs.* In the June 13, 1984 NOA, the Agency estimated costs for compliance with the zero discharge PSES. In estimating compliance costs, the Agency included costs for contract hauling based on disposal of wastes in sanitary landfills if the wastes were not specifically designated as hazardous under regulations implementing the Resources Conservation and Recovery Act ("RCRA"), and disposal in chemical waste landfills or incineration for wastes which were designated as hazardous under the RCRA regulations. Commenters criticized the costs used by the Agency in estimating compliance, asserting that most, if not all, the wastes should be considered hazardous, and also stating that the Agency seriously underestimated the costs for disposal of hazardous wastes.

In response to these comments, the Agency assumed all PFP wastewater disposed by contract hauling would be disposed of as hazardous wastes at an incinerator designed, constructed, and operated to incinerate hazardous wastes. Data from one PFP plant which operates such an incinerator demonstrates that typical organic pesticide active ingredients are destroyed by the incinerator and no detectable amounts of the pesticides are discharged in the incinerator scrubber wastewater. The Agency also believes, based on available data, that process wastewater from formulating and packaging metallo-organic pesticides can be destroyed by the incinerator with no adverse impact on air quality because the incinerators would have scrubbers or similar devices to remove the metal in any fly ash. Wastewater from mercury organic pesticide formulating and packaging operations is much less concentrated than process wastewater from mercury organic pesticide manufacturing and the Agency believes it can be safely incinerated. In addition, the Agency revised its estimated costs for disposal of hazardous wastes from the $0.99 per gallon assumed in June 1984 to $2.50 per gallon. The $2.50 per gallon cost includes transportation and incineration and is in the upper range of the $1.50 to $3.00 per gallon cost reported by commenters. In estimating the annual costs for compliance, the Agency added annualized costs for constructing and maintaining a storage area for temporary storage of wastes prior to transporting the wastes to the incinerator.

7. *Basis for Monthly Average:* In the November 1982 proposal, the Agency specified monthly limitations for all pollutants based on thirty observations per month. In the June 1984 NOA, the Agency solicited comment on changing the monthly limits to the average of four consecutive daily monitoring measurements. Specifying the limitations in this way allows for varying monitoring frequencies which are required in different permits and is based on an average monitoring frequency which is consistent with monitoring frequencies which are being required for BAT permits. Commenters supported this change in basis for the monthly average.

In today's regulation, the Agency is promulgating a monthly average based on the average of four samples instead of the average of four consecutive daily monitoring measurements. This change does not affect the actual effluent limitations guidelines and standards but was done to conform to the Agency's permitting regulations which require monthly limitations. In accordance with this change the Agency has included monitoring costs in this regulation for four samples per month for priority pollutants and for nonconventional pesticides.

8. *Expanded BPT for the Organic Pesticide Chemical Manufacturers Subcategory:* The BPT effluent limitations guidelines promulgated April 25, 1978 were based on demonstrated wastewater treatment at pesticide manufacturing plants, which consisted of hydrolysis or adsorption onto activated carbon or resin followed by biological treatment. In some cases, wastewater streams with low concentrations of pesticide active ingredients were subjected to biological treatment only. BPT regulated discharges of BOD, COD, TSS, pH and 49 pesticide pollutants. Twenty-five pesticides and classes of pesticides were specifically excluded from coverage for any parameter under the BPT effluent limitations guidelines due to lack of adequate information. We proposed to expand the promulgated BPT limitations for BOD, COD, TSS and pH for 21 of those 25 pesticides. Because the discharges of pollutants from plants manufacturing these 21 pesticides have BPT limitations which were established by permit writers and because additional controls on these plants will be required as a result of today's BAT limitations, EPA has determined that at this time there is no need to promulgate BPT effluent limitation guidelines for these facilities. Accordingly, the Agency is not amending BPT.

## VI. Economic Considerations

### A. Analysis and Reports

EPA's economic impact assessment is set forth in *Economic Impact Analysis of Effluent Limitations and Standards for the Pesticide Chemicals Industry (EPA 440/2-85-027).* This report presents the required investment and annual compliance costs for the industry as a whole and for each subcategory covered by the regulation unless confidential. The report also assesses the probable economic impact of these compliance costs in terms of price changes, production changes, profitability changes, plant closures, employment effects, local community impacts, balance of trade effects, and industry structure changes.

EPA has also conducted an analysis of the incremental removal cost per pound-equivalent for the technology-based option for each subcategory. Pound-equivalents are calculated by multiplying the number of pounds of pollutants removed by a weighting factor for that pollutant. The weighting factor is equal to the water quality criterion for a standard pollutant (copper), divided by the water quality criterion for the pollutant being evaluated. The use of pound-equivalents gives relatively more weight to removal of more toxic pollutants. Thus, for a given expenditure, the cost per pound-

equivalent removed would be lower when a highly toxic pollutant is removed. This analysis is included in the record of this rulemaking, and is entitled *Cost-Effective Analysis of Effluent Limitations and Standards for the Pesticide Chemicals Industry.*

*B. Projected Costs*

EPA estimated the potential capital costs and annual costs of compliance with the final effluent limitations guidelines and standards for each of the three subcategories. Total investment costs for the three subcategories are estimated to be $130.71 million with total annual costs of $70.89 million. The compliance costs are based on engineering estimates of the capital and operating costs for the effluent control systems described earlier in this preamble. Compliance costs include the cost of monitoring four times per month for NCP's and for priority pollutants. Compliance costs are determined incrementally above the cost for pollution control already installed and operating at the plant.

1. Organic Pesticide Chemicals Manufacturing

EPA has identified approximately 119 plants that manufacture the organic pesticide chemicals covered by this regulation. Of these 119 plants, approximately 42 manufacturing facilities will incur costs to comply with this regulation: 21 are direct discharges and 21 are indirect dischargers. Total costs to comply with BAT and PSES is estimated to be $107.71 million in capital costs and $53.8 million in annual costs.

2. Metallo-Organic Pesticide Chemicals Manufacturing

The metallo-organic segment (Subcategory 2) of the industry includes only one indirect discharging plant. Direct discharge metallo-organic plants have already been required to achieve zero discharge of process wastewater pollutants under BPT. Total costs to comply with PSES is estimated to be $47 thousand in capital costs and $129.8 thousand in annual costs.

3. Formulating and Packaging

The formulator/packager segment (Subcategory 3) of the industry covered by this regulation includes an estimated 1,264 plants of which about 1,095 are zero dischargers and about 169 are indirect dischargers which are expected to incur costs to comply with PSES. Total capital investment costs for the 169 existing indirect dischargers to achieve the PSES requirement of no discharge of process wastewater pollutants are estimated to be $22.56 million, with annual costs of $16.96 million including depreciation and interest.

In the June 1984 NOA, the Agency estimated that 210 pesticide formulator/packager plants would incur costs. The Agency stated in the NOA that this estimate was based on the PFP survey which the Agency stated showed that 49 of the plants surveyed were indirect dischargers. The number of indirect dischargers in the survey was extrapolated to the universe of PFP plants. Subsequently, the Agency determined that the number of indirect dischargers was overestimated because the survey included some plants which formulated and packaged only sanitizers, disinfectants, inorganics, surface active agents or pesticides for which there are no available analytical methods. The survey also identified some plants as indirect dischargers which subsequent information revealed to be zero dischargers. In addition, some of the 49 plants had voluntarily provided data rather than being randomly selected in the PFP survey. Since the volunteers were not randomly selected, their data should not be projected to the universe of plants. The information from the volunteer plants was considered separately and not used to extrapolate to the universe of plants.

The Agency identified 28 indirect dischargers in the PFP survey of randomly selected plants from the FIFRA list. An additional 12 indirect dischargers voluntarily provided data. The 28 indirect dischargers when extrapolated on a single percentage basis to the total PFP universe give an estimated 169 indirect dischargers. The Agency determined compliance costs for the 28 indirect discharger plants in its random survey. Costs and impacts were then extrapolated to cover 157 plants based on the 28 randomly sampled plants. Compliance costs and impacts were also determined for the 12 indirect dischargers that voluntarily provided data. These 12 plants were costed separately because the plants were not randomly selected. The costs and impacts for these 12 plants were added to the 157 plants to determine costs for the universe of plants affected by the regulation.

*C. Projected Economic Impacts*

The economic analysis performed in support of the June 1984 NOA used a net present value analysis for all subcategories in this rulemaking. The Agency had plant specific financial data for the pesticide chemicals formulating/packaging subcategory and was able to perform a detailed economical analysis for the 28 randomly selected plants and for the 12 other plants, or a total of 40 plants incurring costs. These results were then used to estimate costs for the total universe of 169 indirect discharging pesticide formulator/packager plants as described above. For the manufacturing segment, plant specific financial information was not available and so the Agency used Federal Trade Commission pesticide line of business data for seven firms. The use of the seven firms data representing the industry is based upon pesticide operations at these firms. They represent pesticide production and not total production from these companies, which includes other nonpesticide products, and therefore, they are considered representative of the industry and appropriate for estimating financial ratios at specific plants. The Agency had plant specific sales and compliance cost information and the Agency has concluded that the regulation is economically achievable.

Given the plant-specific compliance cost estimates, the subcategory-specific financial ratios for organic pesticide chemical manufacturers and plant-specific financial ratios for formulator/packagers, and other factors, the potential impact on industrial plants in terms of closures was projected.

The Agency projects one line closure and an employment loss of one person for active ingredient organic pesticide chemical manufacturers (Subcategory 1). The potential price increase, production loss and profit loss associated with the manufacturing of organic pesticide chemical active ingredients is estimated to be 1.3 percent, 0.62 percent and 0.73 percent, respectively.

Extrapolating the impacts for the pesticide formulator/packager industry, we estimate 24 plants, or about two percent of the 1,264 PFP plants in the industry world suffer line closures. These plants are projected to cease formulating and packaging pesticides with a potential loss of about 11 full-time jobs. Of the approximately 1,264 plants that formulate/package agricultural and/or household pesticides only 13 percent are indirect dischargers. Because there are relatively few indirect dischargers, the economic analysis assumed that these plants would absorb their treatment costs and would not be able to increase prices. Treatment costs would cause a profit reduction for indirect dischargers of about 2.0 percent for all formulated and packaged pesticide products. This is a conservative assumption and, to the extent pesticide formulators/packagers can pass on their costs to their

customers, plant impacts for this subcategory would be reduced.

The Agency considered subcategorizing plants with projected line closures but did not identify any differences between these PFP's and other PFP's that would warrant subcategorization. Their production levels and products do not make them unique among the other PFP's. In fact the Agency has data from other PFP's with the same or smaller production levels indicating those PFP plants can economically achieve the zero discharge option. Community, industry structure, and balance of trade effects would be insignificant.

*D. Small Business Analysis*

Commenters argued that in the organic pesticide chemical manufacturing segment, Subcategory 1, EPA failed to distinguish between large and small businesses when applying industry level pesticide line-of-business data. In order to determine if an increase in the cost of capital would affect small plant's ability to afford this regulation, EPA increased the real cost of capital from 7.5 to 9.5 percent for small plants to allow for a premium cost of captial. This is done because small businesses might not have as much collateral as large firms and could not compete in the same financial markets to obtain comparable finance rates. Therefore small businesses could be considered risker borrowers and subject to higher finance charges. In further employing a conservative strategy of estimating small business impacts, a sensitivity analysis was performed reducing operating income of small manufacturing plants up to 25 percent. Because the average operating income to sales ratio was derived from seven large publicly held firms, the Agency, in response to comments, performed this sensitivity analysis to represent potential small business financial performance. As a result of these additional analyses, there were no additional plant or line closures projected in the small business manufacturing sector.

*E. Regulatory Flexibility Analysis*

Pub. L. 96-354 requires that EPA prepare a Regulatory Flexibility Analysis for regulations that have a significant impact on a substantial number of small entities. A small business analysis is included in the economic impact analysis for this regulation. After consultation with the Small Business Administration, EPA has determined that manufacturing plants with less than $10 million in sales and pesticide formulator/packager plants with less than $7.0 million in sales would be considered a small business for purposes of the economic impact analysis. Therefore, using these definitions, two percent of pesticide active ingredient manufacturers were treated as small plants and 57 percent of the formulator/packager plants were treated as small.

We evaluated potential impacts on small businesses from the standpoint of projected closures, annualized costs compared to revenues, and increases in costs of production. We performed a sensitivity analysis on small manufacturing plants by adjusting the cost of capital and operating income. In all cases, we found this regulation will not result in a significant adverse impact on small businesses. While this conclusion obviates the need for a formal Regulatory Flexibility Analysis, the small business analysis included in the report supports the conclusion that the regulation is economically achievable.

*F. Executive Order 12291*

Executive Order 12291 requires EPA and other agencies to perform regulatory impact analyses of major regulations. Major regulations are regulations which impose an annual cost to the economy of $100 million or more or meet the other economic impact criteria. EPA does not consider these rules for the Pesticide Chemicals Category to be a major regulation because its annualized cost is $70.89 million and it meets none of the other criteria specified in paragraph (b) of the Executive Order. Therefore, the final regulation does not require a formal regulatory impact analysis. This rulemaking satisfies the requirements of the Executive Order for a non-major rule.

*G. Small Business Loans*

The Agency is continuing to encourage small plants to use Small Business Administration (SBA) financing as needed for pollution control equipment. The three basic programs are: (1) The Pollution Control Bond Program, (2) the Section 503 Program, and (3) the Regular Business Loan Program. Eligibility for SBA program varies by industry. Generally, a company must be independently owned, not dominant in its field, the employee size ranges from 250 to 1,500 employees (dependent upon industry), and annual sales revenue ranges from $275,000 to $22 million (varies by industry).

For further information and specifics on the Pollution Control Bond Program, contact U.S. Small Business Administration, Office of Pollution Control Financing, 4040 North Fairfax Drive, Rosslyn, Virginia 22203, (703) 235-2902.

The Section 503 Program, as amended in July 1980, allows long-term loans to small and medium sized businesses. These loans are made by SBA approved local development companies. These companies are authorized to issue Government-backed debentures that are bought by the Federal Financing Bank, an arm of the U.S. Treasury.

Through SBA's Regular Business Loan Program, loans are made available by commercial banks and are guaranteed by SBA. This program has interest rates equivalent to market rates.

For additional information on the Regular Business Loan and section 503 Program contact your district or local SBA office. The coordinator at EPA headquarters is Ms. Frances Desselle, who may be reached at (202) 382-5373.

## VII. Analytical Methods

Section 304(h) of the Clean Water Act directs the Agency to approve analytical methods for the analysis of pollutants. These methods are used for compliance monitoring and for filing applications for the NPDES program under 40 CFR 122.41(j)(4) and 122.21(g)(7), and for the pretreatment program under 40 CFR 403.7(d). Without these methods, there would be no universally applicable procedure for determining the presence and concentration of these pollutants in wastewater. To date, EPA has promulgated analytical methods under 304(h) for some but not all of the nonconventional pollutants regulated by the pesticide effluent limitations guidelines and standards. Promulgated Agency approved 304(h) analytical methods exist for all of the conventional pollutants and toxic pollutants regulated by these guidelines and standards.

However, numerous nonconventional pesticide pollutants are still lacking promulgated Agency approved test procedures. To partially fill this gap, on February 10, 1983 (48 FR 6250), the Agency proposed 69 separate analytical methods for the analysis of 66 NCPs. The 69 separate methods included all methods used by industry, EPA, or the EPA contractor in generating any analytical data for the 66 NCPs. In most cases, one EPA method and one or two industry methods were proposed for each pollutant. The Agency stated in its proposal that it intended to select the best method or methods for promulgation and solicited comment on which of the proposed methods should be selected. We also invited commenters to provide any data for our consideration.

Commenters provided the Agency with 16 additional methods. In the June 13, 1984 NOA, the Agency proposed 13 of these 16 additional methods for several pesticide pollutants, and solicited comments on these additional methods. Three methods were not proposed because the methods failed the evaluation procedure. That evaluation procedure, and the results of the Agency's evaluation of all 82 methods is in the record for the June 1984 NOA. (See the Record at II.B.)

The 82 proposed methods included 58 methods submitted by industry, 9 methods developed by our contractor, and 15 methods developed by EPA (two of those 15 methods, Numbers 604 and 625, were promulgated as amendments to 40 CFR Part 136 on October 26, 1984, 49 FR 43234).

The Agency is today promulgating 14 of the 80 proposed, but not yet promulgated analytical methods. These 14 methods cover 61 nonconventional pesticides. The Agency had previously proposed each of these analytical methods for the NCPs for which the method is being promulgated today.

Six of the 66 methods not being promulgated today were withdrawn or substantially modified by commenters. Sixteen of the 66 methods are not being promulgated today because the pollutants associated with these analytical methods already had promulgated 304(h) methods. The Agency had inadvertently proposed analytical methods for these 16 pollutants; we did not intend to propose analytical methods for NCPs where 304(h) methods existed.

The other 44 proposed analytical methods are being withdrawn today because they are not capable of being applied to indirect discharging facilities' wastewaters because they are incomplete and/or because their detection limits are insensitive for pollutant detection.

Today's promulgated analytical methods will be used by pesticide manufacturers, regulatory agencies, including POTWs and pesticide formulators and packagers to determine compliance with the promulgated effluent limitations guidelines and standards. Because many facilities and regulatory agencies, including POTWs, will encounter considerably more variety in wastewaters than specific manufacturing plants encounter in their own wastewater, the promulgated methods must contain details describing likely interferences, clean up and separation steps to reduce or eliminate those interferences, the exact steps to be followed in the analysis, the materials and equipment necessary, calibration and quality assurance procedures, calculation procedures, and typical results found at typical laboratories so the analyst can determine if he is applying the method properly.

Thirty-eight of the 44 methods which are being withdrawn were incomplete, most commonly because information on interferences and clean-up and separation procedures was lacking. Several commenters noted that specific methods were incomplete and recommended those methods be withdrawn, while one commenter recommended that all incomplete methods be withdrawn. Furthermore, six of the proposed methods were inappropriate because they were insensitive in terms of quantifying pollutants at the levels necessary for wastewater.

The Agency believes that the promulgated methods should be applicable for analysis of pollutants in indirect discharging facilities' effluent, raw and treated manufacturing process wastewater, and in effluent from pesticide formulating and packaging plants. Many of the industry and contractor analytical methods were developed for plant-specific process wastewater discharges. They were not demonstrated to be applicable to other types of wastewater since they were used only at one manufacturing plant. Many of these methods lack performance data, and information on interferences which might be encountered in wastewater. Such information would not be needed if the analytical method were for use in only one wastewater, that emanating from the plant that developed the analytical method. However, such information is necessary for the more general applicability intended for the promulgated analytical test methods. The additional information to demonstrate the wider applicability of the industry submitted methods was not generally available for many of the analytical methods. The Agency is not promulgating analytical methods that lack this data.

The Agency is today promulgating the 14 methods we believe best fit the needs of the regulated community and the permitting authorities. Ten of these fourteen methods were developed by EPA's Office of Research and Development, Environmental Monitoring and Support Laboratory at Cincinnati, Ohio and provide the analyst with the flexibility to modify the method so long as such modification meets the specified performance requirements. Four of the 14 methods are industry developed. Dischargers who wish to use different analytical methods may apply for approval for alternate methods under the procedures established at 40 CFR 136.4 and 136.5. The analytical test methods being promulgated today are being published at 40 CFR 455 because they are specifically for use in the pesticides industry only, and the pollutants are unlikely to be encountered in effluent from most plants in other industries. However, the Agency is continuing to review the situation, and may decide to publish these methods at 40 CFR 136 at a later date.

## VIII. Non-Water Quality Environmental Impacts

The elimination or reduction of one form of pollution may create or aggravate other envirnmental problems. Therefore, sections 304(b) and 306 of the Act require EPA to consider the non-water quality environmental impacts (including energy requirements) of certain regulations. In compliance with these provisions, EPA has considered the effect of these regulations on air pollution, solid waste generation, and energy consumption. While it is difficult to balance pollution problems against each other and against energy use, EPA is promulgating regulations which it believes best serve often competing national goals.

The following are the nonwater quality environmental impacts associated with the proposed regulations:

### *A. Air Pollution*

Implementation of BAT, NSPS, PSES, and PSNS are not anticipated to result in any incremental increases in air pollution from the pesticide industry. Information on which this estimate is based is contained in Section VIII of the Technical Development Document. That information demonstrates that incineration of process wastewater from the manufacture and formulating/packaging of organic pesticide chemicals and metallo-organic pesticide chemicals is effective and has no adverse air quality impact except for the volatilization of mercury in process wastewater from manufacturing mercury organic pesticides where the concentration of mercury is very high. Because of these high mercury concentrations the Agency is not promulgating a zero discharge of process wastewater pollutants standard in order to avoid creating hazardous air pollution problems. Instead a mercury pretreatment standard is being promulgated based on metals precipitation/separation. The wastes from this treatment system would be

solidified and disposed of in a hazardous waste landfill.

One of the model technologies for the proposed zero-discharge regulation for pesticides formulators/packagers (Subcategory 3) was spray evaporation, in which the wastewater was evaporated by spraying the wastewater into the air. Commenters criticized this technology basis, stating, first, that the evaporation left a pesticide residue which must be disposed; second, that the Agency had not included costs for disposal of the residue; and third, that spray evaporation may generate an airborne mist containing highly concentrated pesticides.

The Agency agrees with these criticisms. Accordingly, the NSPS, PSES and PSNS regulations for Subcategory 3 promulgated today are not based on spray evaporation technology but instead are based on contract hauling and incineration or treatment and water recycle/reuse with contract hauling and incineration of any treatment system wastes. The Agency assumed all PFP wastewater disposed by contract hauling would be disposed of as hazardous wastes at an incinerator designed, constructed, and operated to incinerate hazardous wastes in compliance with RCRA requirements. Data from one PFP plant which operates such an incinerator demonstrates that typical organic pesticide active ingredients are destroyed by the incinerator and since no detectable amounts of the pesticides are discharged in the incinerator scrubber wastewater, it is reasonable to assume that none are being released to the atmosphere. The Agency also believes, based on available data, that process wastewater from formulating and packaging metallo-organic pesticides can be destroyed by an incinerator with no adverse impact on air quality because the incinerators would have scrubbers or similar devices to remove the metal in any fly ash. The Agency believes that wastewater from mercury organic pesticide formulating and packaging operations is much less concentrated than process wastewater from mercury organic pesticide manufacturing and believes that it can be safely incinerated. In addition, the Agency revised its estimated costs for disposal of hazardous wastes by incineration from the $0.99 per gallon assumed in June 1984 to $2.50 per gallon. The $2.50 per gallon cost includes transportation to the incinerator and is in the upper range of the $1.50 to $3.00 per gallon cost reported by commenters for the incineration of hazardous waste. In estimating the annual costs for compliance, the Agency added annualized costs for constructing and maintaining a storage area for temporary storage of hazardous wastes in compliance with 40 CFR Part 264 prior to transporting the wastes to the incinerator.

As noted earlier in this preamble the Agency is concerned about volatilization at POTWs of organic pollutants and will be developing regulations for volatile organic pollutants in the near future.

*B. Solid Waste*

The biological treatment system portion of the technology basis of the BAT regulation is already in place at all direct discharging subcategory manufacturing plants because of the BPT regulation promulgated in 1978. Therefore, there will be no additional biological treatment system sludge generated as a result of this BAT regulation. However, the PSES regulation will require biological treatment to be installed at seven indirect discharging Subcategory 1 manufacturing plants which will generate an estimated 1,150 metric tons of biological treatment sludge. This will be dewatered and landfilled as a nonhazardous waste. There will be no biological treatment system required at either Subcategory 2 manufacturing or Subcategory 3 formulating/packaging plants.

EPA's Office of Solid Waste has analyzed the solid waste management and disposal costs required by the industry's compliance with the RCRA requirements and has published results in 45 FR 33066 (May 19, 1980 and amended January 14, 1985). Twenty solid waste streams at pesticide plants have been listed as hazardous in regulations promulgated by the Agency under Subtitle C of the RCRA (see 40 CFR 261.31 and 261.32, as amended January 14, 1985). Three of the 20 solid waste streams are from the manufacturing of pesticides no longer in production (toxaphene and 2,4,5-T) and six of the 20 are associated with two pesticides (chlordane and disulfoton) manufactured at plants which do not discharge wastewater (use deep well injection) and therefore these plants are not affected by this regulation.

Of the 42 Subcategory 1 plants which will experience a cost to comply with these regulations, nine are defined as hazardous waste generators by these RCRA regulations. Six of these plants will regenerate carbon on site, handled as a hazardous waste using a furnace which will destroy (incinerate) the hazardous organic compound(s) leaving no ash. Air pollution scrubber blow down water will be returned to the wastewater treatment system. An estimated 13,947 metric tons per year of carbon will be processed at these six plants with the incremental costs attributed to complying with RCRA hazardous waste handling requirements estimated at $447,000 per year. The other three plants will generate an estimated 76 metric tons per year of metals bearing sludge classified as hazardous. This is dewatered sludge which will be solidified in drums and disposed of in a hazardous waste landfill. This is the general practice within the industry. The incremental cost attributable to complying with RCRA requirements in disposing of this hazardous waste is estimated at $6,000 per year. These RCRA costs for the nine plants generating hazardous waste have been included in the overall cost estimates for achieving compliance with this regulation.

There is one indirect discharging metallo-organic manufacturing plant which will treat its mercury laden wastewater by metals precipitation/separation. This will generate an additional 30 metric tons of hazardous waste per year. The solids handling portion of the treatment system was costed for solidification of the mercury bearing sludge and disposal in a hazardous waste landfill in compliance with RCRA requirements at a total cost of $15,700 per year.

In estimating the annual cost of compliance with PSES for Subcategory 3, the Agency assumes that 96 percent of the PFP plants currently discharging process wastewater to a POTW (162 plants) would achieve compliance by contract hauling and incineration. The Agency assumes that the remaining four percent of PFP plants would treat and recycle/reuse the process wastewater, contract hauling and incinerating only those process wastewaters that could not be treated and reused and any wastewater treatment plant sludges. The Agency estimates the contract hauling and incineration costs, including costs to comply with RCRA requirements, for Subcategory 3 plants would be approximately $9.4 million annually, or $58,000 per year for each affected PFP plant.

*C. Energy Requirements*

EPA estimates that the attainment of BAT and PSES will increase energy consumption for wastewater treatment system operation by about 120 percent at affected plants. Information on which this estimate is based is contained in Section VIII of the Technical Development Document. A similar increase would be expected by NSPS/

PSNS, since the technologies are the same as BAT and PSES.

## IX. Pollutants and Subcategories not Regulated

The Settlement Agreement contains provisions authorizing the exclusion from regulation, in certain circumstances, of toxic pollutants and industry categories and subcategories. These provisions appear in an amendment to the Consent Decree which was approved by the District Court for the District of Columbia on March 9, 1979, 12 ERC 1833.

### *A. Exclusion of Pollutants*

Paragraph 8(a)(iii) of the Settlement Agreement authorizes the Administrator to exclude the following toxic pollutants from regulation: (a) Those not detectable by section 304(h) analytical methods or other state-of-the-art methods; (b) those present in amounts too small to be effectively reduced by available technologies; (c) those present only in trace amounts and neither causing nor likely to cause toxic effects; (d) those detected in the effluent from only a small number of sources within a subcategory and uniquely related to those sources; and (e) those that will be effectively controlled by the technologies on which other effluent limitations and standards are based. The toxic pollutants excluded from regulation under paragraph 8(a)(iii) of the Settlement Agreement are listed in Appendix E of this Notice.

Paragraph 8(b) of the Settlement Agreement authorizes the Administrator to exclude from pretreatment standards all point sources within a subcategory if: (i) 95 percent or more of all point sources in the subcategory introduce into POTWs only pollutants which are susceptible to treatment by the POTW and which do not interfere with, do not pass through, or are not otherwise incompatible with such treatment works, or (ii) the toxicity and amount of the incompatible pollutants introduced by such point sources into POTWs is so insignificant that developing a pretreatment regulation is not justified. The toxic pollutants excluded from regulation under paragraph 8(b) of the Settlement Agreement are listed in Appendix E of this Notice.

### *B. Exclusion of Subcategories*

Paragraph 8(a)(i) of the Settlement Agreement authorized the Administrator to exclude from regulation industry categories or subcategories for which equal or more stringent limitations are already provided by existing effluent limitations and standards. Also, paragraph 8(a)(iv) of the Settlement Agreement authorizes the exclusion of subcategories in which the amount and toxicity of each pollutant in the discharge does not justify developing national regulations.

We are excluding the metallo-organic pesticide manufacturing subcategory and the pesticide formulating and packaging subcategory from further national BAT regulation development under the provisions of paragraph 8(a)(i) because equal or more stringent limitations are provided by existing BPT effluent limitations. The currently effective BPT effluent limitations require no discharge of process wastewater pollutants. We are also excluding the metallo-organic pesticide manufacturing subcategory from further national NSPS and PSNS regulations under paragraphs 8(a)(iv) and 8(b)(i), respectively, because of the small potential number of new sources.

## X. Regulatory Implementation

### *A. Upset and Bypass Provisions*

A recurring issue is whether industry limitations and standards should include provisions authorizing noncompliance with effluent limitations during periods of "upset" or "bypass." An upset, sometimes called an "excursion", is unintentional noncompliance occurring for reasons beyond the reasonable control of the permittee. EPA believes that upset provisions are necessary because such upsets will inevitably occur due to limitations in control technology. Because technology-based limitations can require only what technology can achieve, it is claimed that liability for such situations is improper. When confronted with this issue, courts have been divided on the question of whether an explicit upset or excursion exemption is necessary, or whether upset or excursion incidents may be handled through EPA's exercise of enforcement discretion. Compare *Marathon Oil Co.* v. *EPA*, 564 F.2d 1253 (9th Cir. 1977) with *Weyerhaeuser* v. *Costle*, 590 F.2d 1011 (D.C. Cir. 1978). See also *American Petroleum Institute* v. *EPA*, 540 F.2d 1023 (10th Cir. 1976); *CPC International, Inc.* v. *Train*, 540 F.2d 973 (4th Cir. 1976); *FMC Corp.* v. *Train*, 539 F.2d 973 (4th Cir. 1976).

While an upset is an unintentional episode during which effluent limits are exceeded, a bypass is an act of intentional noncompliance during which waste treatment facilities are circumvented in emergency situations.

EPA has both upset and bypass provisions in NPDES permits, and has promulgated NPDES regulations which include upset and bypass permit provisions (see 40 CFR 122.41 (m) and (n)). The upset provision establishes an upset as an affirmative defense to prosecution for violation of technology-based effluent limitations. The bypass provision authorizes bypass to prevent loss of life, personal injury, or severe property damage. Since permittees in the pesticide industry will be entitled to upset and bypass provisions in NPDES permits, these regulations do not specifically repeat these provisions.

### *B. Variances and Modifications*

Upon the promulgation of these regulations, the numerical effluent limitations for the appropriate subcategory must be applied in all Federal and State NPDES permits issued to pesticide direct dischargers unless a variance or other modification is provided. In a similar fashion the pretreatment standards are directly applicable to indirect dischargers.

Discharges subject to the BAT limitations proposed in these regulations are subject to EPA's "fundamentally different factors" variance. This variance recognizes factors concerning a particular discharger which are fundamentally different from the factors considered in this rulemaking. Although this variance clause was set forth in EPA's 1973–1976 industry regulations, it is now included in the NPDES regulations. (See the NPDES regulations at 40 CFR Part 125 Subpart D; 44 FR 32893, (June 7, 1979) for the text and explanation of the "fundamentally different factors" variance.)

In addition, BAT limitations for nonconventional pollutants may be modified under sections 301(c) and 301(g) of the Act. Under section 301(l) of the Act, these statutory modifications are not applicable to "toxic" or conventional pollutants. According to section 301(j)(i)(B), applications for these modifications must be filed within 270 days after promulgation of final effluent guidelines.

The economic modification section (301(c)) gives the Administrator authority to modify BAT requirements for nonconventional pollutants for dischargers who file a permit application after July 1, 1977, upon a showing that such modified requirements will (1) represent the maximum use of technology within the economic capability of the owner or operator, and (2) result in reasonable further progress toward the elimination of the discharge of pollutants. The environmental modification section (301(g)) allows the Administrator with the concurrence of the State to modify BAT limitations for nonconventional pollutants from any point source upon a

showing by the owner or operator of such point source satisfactory to the Administrator that:

(a) Such modified requirements will result at a minimum in compliance with BPT limitations or any more stringent limitations necessary to meet water quality standards;

(b) Such modified requirements will not result in any additional requirements on any other point or nonpoint source; and

(c) Such modification will not interfere with the attainment or maintenance of that water quality which shall assure protection of public water supplies, and the protection and propagation of a balanced population of shellfish, fish, and wildlife, and allow recreational activities, in and on the water and such modification will not result in the discharge of pollutants in quantities which may reasonably be anticipated to pose an unacceptable risk to human health or the environment because of bioaccumulation, persistency in the environment, acute toxicity, chronic toxicity (including carcinogencity, mutagenicity or teratogenicity), or synergistic propensities.

Initial applications must be filed with the Regional Administrator and, in those States that participate in the NPDES program, a copy must be sent to the Director of the State program. Initial applications must include the name of the permittee, the permit and outfall number, the applicable effluent guideline, and whether the permittee is applying for the 301(c) or 301(g) modification or both. Applicants interested in applying for both must do so in their initial application (for further details, see 43 FR 40859, September 13, 1978).

Discharges subject to pretreatment standards for existing sources are subject to the "fundamentally different factors" variance and credits for pollutants removed by POTWs (See 40 CFR 403.7 and 403.13; 46 FR 9439 January 28, 1981 as amended at 48 FR 2776, and January 21, 1983 and 49 FR 31212, August 3, 1984. Discharges subject to pretreatment standards for new sources are subject only to the credit provision in 40 CFR 403.7. NSPS are not eligible for EPA's "fundamentally different factors" variance or any statutory or regulatory modifications. (See *DuPont* v. *Train, supra*).

*C. Relationship to NPDES Permits*

The BAT limitations and NSPS in this regulation will be applied to individual pesticide plants through NPDES permits issued by EPA or approved State agencies under section 402 of the Act. The preceding section of this preamble discussed the binding effect of this regulation on NPDES permits, except when variances and modifications are expressly authorized. This section adds more detail on the relation between this regulation and NPDES permits.

An issue is how the regulation affects the powers of NPDES permit-issuing authorities. EPA has developed the limitations and standards in this regulation to cover the typical facility for this point source category. In specific cases, the NPDES permitting authority may have to establish permit limits on toxic pollutants that are not covered by this regulation. This regulation does not restrict the power of any permitting authority to act in any manner consistent with law or these or any other EPA regulations, guideline, or policy. For example, if this regulation does not control a particular pollutant, the permit issuer may still limit such pollutants on a case-by-case basis, when such action conforms with the purposes of the Act. In today's rulemaking the Agency is not promulgating BAT limitations for the 49 pesticide active ingredients covered under BPT (except for barban for which the Agency is establishing a BAT no discharge limitation). Permit writers who establish BAT limitations for these pollutants must establish those limitations on a case-by-case basis at least as stringent as the BPT effluent limitations guidelines. 40 CFR 125.3(c)(3). Permit writers may also establish BAT limitations more stringent than BPT. In addition, if State water quality standards or other provisions of State or Federal Law require limits on pollutants not covered by this regulation (or require more stringent limits on covered pollutants), the permit-issuing authority must apply those limitations.

A final topic of concern is the operation of EPA's NPDES enforcement program, which was an important consideration in developing this regulation. The Agency emphasizes that although the Clean Water Act is a strict liability statute, EPA can initiate enforcement proceedings at its discretion. EPA has exercised and intends to exercise that discretion in a manner that recognizes and promotes good faith compliance.

*D. Best Management Practices*

Section 304(e) of the Clean Water Act gives the Administrator authority to prescribe "best management practices" (BMPs).

Although EPA is not establishing them at this time, development of BMPs specific to the Pesticides Industry is being considered. The industry has numerous problem areas including leaks, spills, and stormwater runoff from storage areas and onsite solid waste disposal. The Development Document describes possible BMPs for each regulated subcategory. This information can guide the permitting agency in developing case-by-case BMPs for NPDES permits. Future BMPs may require dikes, curbs, or other measures to contain leaks and spills.

**XI. Summary of Public Participation**

Industry, government and environmental groups have participated during the development of these effluent limitations guidelines and standards. Following the publication of the proposed rule on November 30, 1982 in the **Federal Register**, we provided the development document and the economic impact analysis supporting the proposed rule to industry, government agencies and the public.

The public record supporting this proposed regulation was available for public use on November 30, 1982. The comment period ended on March 2, 1983. A permit writers workshop open to the public was held on the pesticides rulemaking in Atlanta on January 20, 1983. On January 17, 1983 a pretreatment public hearing was held on the rulemaking at which people presented testimony. In addition the Agency held numerous informal meetings with commenters concerning the pesticides rulemaking. A notice of availability and request for comment on data obtained after proposal was published in the **Federal Register** on June 13, 1984. The comment period which originally closed on July 30, 1984 was extended to September 13, 1984. Technical documents supporting the NOA were available for public review on June 13, 1984. Once again the agency held several informal meetings with commenters to discuss the rulemaking. A second NOA and a request for comment on data which had been previously claimed confidential was published on January 24, 1985. The comment period for that NOA ended on February 24, 1985.

Since proposal, the Agency received approximately 3,000 pages of comments from 72 commenters on the pesticides regulation. All the comments have been carefully considered and our responses to those comments are addressed in the comment response document ("Responses to Public Comments, Proposed Pesticide Chemicals Manufacturing Effluent Limitations Guidelines and Standards"). A summary of the major comments and our responses is presented below, Appendix G to this preamble.

This regulation was submitted to the Office of Management and Budget for review as required by Executive Order 12291. This final rule does not contain any information collection requirements subject to OMB review under the Paperwork Reduction Act of 1980. 44 U.S.C. 3501 *et seq.*

## XII. List of Subjects in 40 CFR Part 455

Pesticides and pesticides chemicals, Waste treatment and disposal, Water pollution control.

Dated: September 11, 1985.

**Lee M. Thomas,**

*Administrator.*

## XIII. Appendices

### *Appendix A.—Abbreviations, Acronyms and Other Terms Used in This Notice*

Act—The Clean Water Act.

Agency—The U.S. Environmental Protection Agency.

BAT—The best available technology economically achievable, under section 301(b)(2)(A) of the Act.

BCT—The best conventional pollutant control technology, under section 301(b)(2)(E) of the Act.

BMP—Best management practices, under section 304(e) of the Act.

BPJ—Best Professional Judgment.

BPT—The best practicable control technology currently available, under section 301(b)(1)(A) of the Act.

Clean Water Act—(CWA) The Federal Water Pollution Control Act Amendments of 1972 (33 U.S.C. 1251 et seq.), as amended by the Clean Water Act of 1977 (Pub. L. 95–217).

Concentration-Based Limitations—Effluent limitations stated in terms of the concentration of a particular pollutant in milligrams per liter (mg/1).

Conventional Pollutants—For the pesticide industry conventional pollutants are defined as BOD, TSS and pH.

Direct Discharge—A facility which discharges or may discharge pollutants into waters of the United States excluding oceans.

Formulating/Packaging of Pesticides—The physical mixing of technical grade pesticide ingredients into liquids, dusts and powders, or granules, and their subsequent packaging in a marketable container.

Indirect Discharger—A facility which discharges or may discharge pollutants into a publicly owned treatment works.

Mass-Based Limitations—Effluent limitations stated in terms of the mass of a particular pollutant in kilograms (or pounds) per day.

Nonconventional Pollutants—For the pesticide industry nonconventional pollutants are defined as nonpriority pollutant pesticides, and COD.

NPDES Permit—A National Pollutant Discharge Elimination System permit issued under section 402 of the Act.

NSPS—New source performance standards under section 306 of the Act.

Pesticide—Any technical grade ingredient used for controlling, preventing, destroying, repelling, or mitigating any pest.

Pesticide Active Ingredient—The ingredient of a pesticide which is intended to prevent, destroy, repel, or mitigate any pest. The active ingredients may make up only a small percentage of the final product which also consists of binders, fillers, diluents, etc.

PSES—Pretreatment standards for existing sources of indirect discharges, under section 307(b) of the Act.

POTWs—Publicly owned treatment works.

Priority Pollutants—See Toxic Pollutants.

PSNS—Pretreatment standards for new sources of indirect discharges, under section 307(c) of the Act.

RCRA—Resource Conservation and Recovery Act (PL 94–580) of 1976, Amendments to Solid Waste Disposal Act.

Toxic Pollutants—Those 65 pollutants and classes of pollutants specified as an outgrowth of the 1976 Settlement Agreement and declared by Congress to be "toxic" under section 307(a) of the Clean Water Act of 1977.

### *Appendix B.—Nonconventional Pollutants Regulated by BAT, PSES, NSPS, and PSNS*

| Category | Pollutant |
|---|---|
| 1 | Alachlor. |
| 1 | Atrazine. |
| 1 | Azinphos Methyl. |
| 1 | Benfluralin. |
| 1 | Benomyl. |
| 1 | Bolstar. |
| 1 | Bromacil. |
| 1 | Butachlor. |
| 1 | Carbendazim. |
| 1 | Carbofuran. |
| 1 | Demeton. |
| 1 | Demeton-O. |
| 1 | Demeton-S. |
| 1 | Diazinon. |
| 1 | Dichlofenthion. |
| 1 | Dichlorvos. |
| 1 | Dinoseb. |
| 1 | Disulfoton. |
| 1 | Diuron. |
| 1 | Ethalfluralin. |
| 1 | Ethion. |
| 1 | Fensulfothion. |
| 1 | Fenthion. |
| 1 | Fluometuron. |
| 1 | Glyphosate. |
| 1 | Isopropalin. |
| 1 | Linuron. |
| 1 | Malathion. |
| 1 | Methomyl. |
| 1 | Metribuzin. |
| 1 | Mevinphos. |
| 1 | Neburon. |
| 1 | Oxamyl. |
| 1 | Parathion Ethyl. |
| 1 | Parathion Methyl. |
| 1 | Phorate. |
| 1 | Profluralin. |
| 1 | Profluralin. |
| 1 | Prometon. |
| 1 | Prometryn. |
| 1 | Propachlor. |
| 1 | Propazine. |
| 1 | Propham. |
| 1 | Propoxur. |
| 1 | Simazine. |
| 1 | Simetryn. |
| 1 | Terbacil. |
| 1 | Terbufos. |
| 1 | Terbuthylazine. |
| 1 | Terbuthylazine. |
| 1 | Terbutryn. |
| 1 | Trifluralin. |
| 1 | Ziram. |
| 2 | BUSAN 40. |
| 2 | BUSAN 85. |
| 2 | Carbam-S. |
| 2 | Carbophenthion. |
| 2 | Chlorpropham. |
| 2 | Chloropyrifos. |
| 2 | Chloropyrifos Methyl. |
| 2 | Coumaphos. |
| 2 | 2,4-D. |
| 2 | 2,4-DB. |
| 2 | DBCP. |
| 2 | 2,4-DB IBE. |
| 2 | 2,4-DB IOE. |
| 2 | 2,4-D IBE. |
| 2 | 2,4-D IOE. |
| 2 | Dioxathion. |
| 2 | Ferbam. |
| 2 | KN Methyl. |
| 2 | Mancozeb. |
| 2 | Maneb. |
| 2 | Metham. |
| 2 | Naled. |
| 2 | Niacide. |
| 2 | PCNB. |
| 2 | PCP Salt. |
| 2 | Ronnel. |
| 2 | Silvex. |
| 2 | Stirofos. |
| 2 | SWEP. |
| 2 | 2,4,5-T. |
| 2 | Trichloronate. |
| 2 | ZAC. |
| 2 | ZINEB. |

Category 1—BAT is based on physical/chemical treatment followed by biological treatment.

Category 2—BAT is based on physical/chemical treatment only.

### *Appendix C.—Priority Pollutants Regulated in Subcategory 1*

Volatile Aromatics
- Benzene
- Chlorobenzene
- Toluene
- 1,2-Dichlorobenzene
- 1,4-Dichlorobenzene
- 1,2,4-Trichlorobenzene

Haloethers
- Bis(2-chloroethyl) ether

Halomethanes
- Methyl bromide
- Carbon tetrachloride
- Chloroform
- Methyl chloride
- Methylene chloride

Cyanide
- Cyanide

Phenols
- 2,4-Dichlorophenol
- 2,4-Dinitrophenol
- 4-Nitrophenol
- Pentachlorophenol
- Phenol

Metals
Copper
Zinc
Chlorinated Ethanes
1,2-Dichloroethane
Tetrachloroethylene
Nitrosamines
N-nitrosodi-n-propylamine
Dichloropropane and Dichloropropene
1,3-Dichloropropene
Dienes
Hexachlorocyclopentadiene
Pesticides
a-BHC-Alpha
b-BHC-Beta
d-BHC-Delta
g-BHC-Gamma (lindane)
a-Endosulfan-Alpha
b-Endosulfan-Beta
Endrin
Heptachlor
Toxaphene

*Appendix D.—Pesticides Regulated by PSES, NSPS, and PSNS When Formulated and Packaged.*

1. Alachlor
2. Aldrin
3. Ametryn
4. Aminocarb
5. AOP
6. Atraton
7. Atrazine
8. Azinphos methyl
9. Barban
10. Benfluralin
11. Benomyl
12. Bentazon
13. a-BHC-Alpha
14. b-BHC-Beta
15. c-BHC-Delta
16. g-BHC Gamma (Lindane)
17. Bis(2-chloroethyl)ether
18. Bolstar
19. Bromacil
20. Busan 40
21. Busan 85
22. Butachlor
23. Captan
24. Carbam-S
25. Carbaryl
26. Carbendazim
27. Carbofuran
28. Carbophenothion
29. Chlordane
30. Chlorobenzene
31. Chlorobenzilate
32. Chloropropham
33. Chloropyrifos
34. Chloropyrifos methyl
35. Coumaphos
36. Cyanazine
37. 2,4-D and its salts and esters
38. 2,4-DB
39. 2,4-DB isobutyl ester
40. 2,4-DB isooctyl ester
41. DBCP
42. 4,4'-DDD
43. 4,4'-DDE
44. 4,4'-DDT
45. Deet
46. Demeton-O
47. Demeton-S
48. Demeton
49. Diazinon
50. Dicamba
51. Dichlofenthion
52. Dichloran
53. 1,2-Dichlorobenzene
54. 1,4-Dichlorobenzene
55. 1,2-Dichloropropane
56. Cis—1,3-Dichloropiopene
57. trans—1,3-Dichloropropene
58. 1,3-Dichloropropene
59. Dichlorvos
60. Dicofol
61. Dieldrin
62. Dimethyl phthalate
63. Dinoseb
64. Dioxathion
65. Disulfoton
66. Diuron
67. Endosulfan I
68. Endosulfan II
69. Endosulfan sulfate
70. Endrin
71. Endrin aldehyde
72. Ethalfluralin
73. Ethion
74. Etridiazole
75. Fensulfothion
76. Fenthion
77. Fenuron
78. Fenuron—TCA
79. Ferbam
80. Fluometuron
81. Glyphosate
82. Heptachlor
83. Heptachlor epoxide
84. Hexachlorobenzene
85. Hexazinone
86. Isodrin
87. Isopropalin
88. KN Methyl
89. Linuron
90. Malathion
91. Mancozeb
92. Maneb
93. Mephosfolan
94. Metham
95. Methiocarb
96. Methomyl
97. Methoxychlor
98. Methylbromide
99. Metribuzin
100. Mevinphos
101. Mexacarbate
102. Mirex
103. Monuron
104. Monuron—TCA
105. Nabam
106. Naled
107. Naphthalene
108. Neburon
109. Niacide
110. Oxamyl
111. Parathion methyl
112. Parathion ethyl
113. PCNB
114. Pentachlorophenol ("PCP")
115. PCP Salt
116. Perthane
117. Phorate
118. Profluraline
119. Prometon
120. Prometryn
121. Propachlor
122. Propazine
123. Propham
124. Propoxur
125. Ronnel
126. Secbumeton
127. Siduron
128. Simazine
129. Simetryne
130. Stirofos
131. Strobane
132. Swep
133. 2,4,5-T
134. 2,4,5-TP (Silvex)
135. Terbacil
136. Terbufos
137. Terbuthylazine
138. Terbutryn
139. Toxaphene
140. Triadimefon
141. Trichlorobenzene
142. Trichloronate
143. Tricyclazole
144. Trifluralin
145. ZAC
146. Zineb
147. Ziram

In addition, metallo-organic active ingredients containing mercury, cadmium, arsenic, copper, or tin.

*Appendix E.—Priority Pollutants and Subcategories Excluded*

1. Priority Pollutants Excluded

I. Subcategory 1—Organic Pesticide Chemicals Manufacturing

Under Paragraphs 8(a)(iii) and 8(b)(i) of the Settlement Agreement, EPA is excluding certain toxic pollutants from regulation in the Organic Pesticide Chemicals Manufacturing Subcategory, for one or all of the following reasons:

(a) The pollutant is not detectable in the effluent with the use of analytical methods approved pursuant to 304(h) of the Act or other state of the art methods.

(b) The pollutant is present only in trace amounts and is neither causing nor likely to cause toxic effects.

(c) The pollutant is present in amounts too small to be effectively reduced by technologies known to the Administrator.

(d) The pollutant will be effectively controlled by the technologies upon which are based other effluent limitations and guidelines, standards of performance, or pretreatment standards.

(e) The pollutant is detectable in the effluent from only a small number of sources within the subcategory and the pollutant is uniquely related to only those sources.

(f) Ninety-five percent or more of all point sources in the subcategory introduce into POTWs only pollutants which use susceptible to treatment by the POTW and which do not interfere with, do not pass through or are not otherwise impatable with such treatment works.

A. Excluded from the BAT, NSPS, PSES, and PSNS regulations with the reason(s) for each of the exclusions keyed to the above list:

Volatile Aromatics
- 1,3-Dichlorobenzene (d)
- Ethylbenzene (d)
- Hexachlorobenzene (d)

Haloethers
- Bis(2-chloroethoxy)methane (b)
- Bis(2-chloroisopropyl)ether (b)
- 4-Bromophenyl phenyl ether (b)
- 2-Chloroethyl vinyl ether (b)
- 4-Chlorophenyl phenyl ether (b)

Halomethanes
- Chlorodibromomethane (a)
- Dichlorobromomethane (a)
- Tribromomethane (d)

Phenols
- 2-Chlorophenol (d)
- 2,4-Dimethylphenol (d)
- 4,6-Dinitro-o-cresol (a)
- 2-Nitrophenol (d)
- Parachlorometacresol (d)
- 2,4,6-Trichlorophenol (d)

Nitrosubstituted Aromatics
- 2,4-Dinitrotoluene (a)
- 2,6-Dinitrotoluene (a)
- Nitrobenzene (a)

Polynuclear Aromatic Hydrocarbons
- Acenaphtylene (b)
- Acenaphthene (b)
- Anthracene (b)
- Benzo(a)anthracene (a)
- Benzo(a)pyrene (a)
- 3,4-Benzofluoranthene (a)
- Benzo(ghi)perylene (a)
- Benzo(k)fluoranthene (a)
- 2-Chloronaphthalene (e)
- Chrysene (a)
- Dibenzo(a,h)anthracene (a)
- Fluoranthene (b)
- Fluorene (b)
- Indeno(1,2,3-cd)pyrene (a)
- Napthalene (e)
- Phenathrene (b)
- Pyrene (a)

Metals
- Arsenic (c)
- Antimony (c)
- Beryllium (c)
- Cadmium (c)
- Chromium (c)
- Lead (c)
- Mercury (c)
- Nickel (c)
- Selenium (c)
- Silver (c)
- Thallium (c)

Chlorinated Ethanes and Ethylenes
- Chloroethane (d)
- 1,1-Dichloroethane (d)
- 1,1-Dichloroethylene (d)
- Hexachloroethane (d)
- 1,1,2,2-Tetrachloroethane (d)
- 1,2-trans-Dichloroethylene (d)
- 1,1,1-Trichloroethane (d)
- 1,1,2-Trichloroethane (d)
- Trichlorolthylene (d)
- Vinyl chloride (d)

Nitrosamines
- N-nitrosodimethylamine (d)
- N-nitrosodiphenylamine (a)

Phthalate Esters
- Bis(2-ethylhexyl)phthalate (a)
- Butyl benzyl phthalate (b)
- Diethyl phthalate (b)
- Dimethyl phthalate (e)
- Di-n-butyl phthalate (b)
- Di-n-oclyl phthalate (a)

Pesticides
- Aldrin (a)
- Chlordane (e)
- Dieldrin (a)
- 4,4'-DDD (a)
- 4,4'-DDE (a)
- 4,4'-DDT (a)
- Endosulfan sulfate (a)
- Endrin aldehyde (d)
- Heptachlor epoxide (d)

Dichloropropane and Dichloropropene
- 1,2-Dichloropropane (b)

TCDD
- TCDD (a)

Dienes
- Hexachlorobutadiene (d)

Miscellaneous
- Acrolein (a)
- Acrylonitrile (e)
- Asbestos (a)
- 1,2-Diphenylhydrazine (a)
- Isophorone (a)

Polychlorinated Biphenyls
- PCB—1242 (a)
- PCB—1254 (a)
- PCB—1221 (a)
- PCB—1232 (a)
- PCB—1248 (a)
- PCB—1260 (a)
- PCB—1016 (a)

Benzidines
- Benzidine (a)
- 3,3'-Dichlorobenzidine (a)

B. Excluded from the BAT regulation for reason (d) above:
- a-BHC-Alpha
- b-BHC-Beta
- d-BHC-Delta
- g-BHC-Gamma (Lindane)
- a-Endosulfan-Alpha
- b-Endosulfan-Beta
- Endrin
- Heptachlor
- Toxaphene

C. Excluded from PSES regulation for reason (f) above:
- 1,2-dichloroethane
- chlorobenzene
- tetrachloroethylene
- toluene
- benzene
- phenol

II. Subcategory 2—Metallo-Organic Pesticide Chemicals Manufacturing

In the metallo-organic pesticide chemicals subcategory, in the mercury-organic pesticide segment, the Agency is excluding zinc from the PSES regulation under paragraph 8(a)(iii) because the pollutant is present in the effluent from only one source and is uniquely related to only that source. (reason (e) in I. above).

2. Subcategories Excluded

The Agency is excluding the metallo-organic pesticide chemicals manufacturing and the pesticide chemicals formulating and packaging subcategories from national BAT regulation development under Paragraph 8(a)(i) of the Settlement Agreement because the existing BPT effluent limitations guidelines provide equal or more stringent protection. BPT requires no discharge of process wastewater pollutants for those two subcategories.

The Agency is excluding the metallo-organic pesticide chemicals manufacturing subcategory from further national NSPS and PSNS regulation development under Paragraph 8(a)(iv) and 8(b)(i) because of the small potential number of sources.

*Appendix F.—Analytical Methods Approved Under Part 455*

1. Alachlor
2. AOP
3. Benfluralin
4. Benomyl
5. Bentazon
6. Bolstar
7. Bromacil
8. Busan 40
9. Busan 85
10. Butachlor
11. Carbam-S
12. Carbendazim
13. Carbofuran
14. Chlorobenzilate
15. Chloropyrifos
16. Chloropyrifos methyl
17. Coumaphos
18. Cyanazine
19. 2,4-DB
20. 2,4-DB isobutyl ester
21. 2,4-DB isooctyl ester
22. DBCP
23. Deet
24. Dichlorvos

25. Dinoseb
26. Ethalfluralin
27. Etridiazole
28. Fensulfothion
29. Fenthion
30. Ferbam
31. Fluometuron
32. Glyphosate
33. Hexazinone
34. Isopropalin
35. KN Methyl
36. Mancozeb
37. Maneb
38. Mephosfolan
39. Metham
40. Methomyl
41. Metribuzin
42. Mevinphos
43. Nabam
44. Naled
45. Niacide
46. Oxamyl
47. Phorate
48. Profluralin
49. Propachlor
50. Ronnel
51. Simetryne
52. Stirofos
53. Terbacil
54. Terbufos
55. Terbutryn
56. Triadimefon
57. Tricyclazole
58. ZAC
59. Zineb
60. Ziram

*Appendix G.—Summary of Response to Public Comment*

A. The following comments pertain to the scope of the industry, the types of products which are and are not covered in these regulations, the status of pesticide intermediates, the definition of wastewaters covered, and the formulator/packager processes. For additional information on these subjects, please refer to Section III of the report entitled "Development Document for Best Available Technology, Pretreatment Technology and New Source Performance Technology in the Pesticide Chemicals Industry," and to the document entitled "Responses to Public Comments, Effluent Limitations Guidelines and Standards for the Pesticide Chemicals Manufacturing Point Source Category."

1. *Comment:* The Agency needs to clarify how best performance treatment systems were selected and the criteria on which they were based.

*Response:* The Agency's data base for the pesticides industry contains data which were obtained from a variety of sources and for differing reasons. Data submitted by industry utilized differing analytical methods, varied in its' degree of completeness and coverage of pollutants, and were from plants whose treatment systems ranged from poor to excellent. Data collected by the Agency was intended to characterize the products and processes manufactured by industry as well as to document the performance of well-operated treatment systems. The Agency must determine which of these data sets and treatment systems are appropriate to use in establishing effluent limitations and standards which are the average of the best. In the November 30, 1982 proposed regulation, the Agency based the regulation on selected treatment systems and data sets which were identified in the proposed development document. Commenters criticized the Agency for its selection of these treatment systems and for failure to use all relevant data for the model treatment systems.

As a consequence of these and other criticisms, the Agency re-evaluated its entire data base and approach as reflected in the June 13, 1985 NOA (49 FDR 24492). In it, the Agency identified best performance criteria which were used to identify the treatment systems and data which were used to establish the limitations and standards.

In the June 13, 1984 NOA, the Agency established a two step process for establishing which data sets and treatment systems would be used in establishing limitations and standards. The first step consisted of editing the data base to remove data on nonregulated pollutants and data not conforming with miminum quality assurance standards. The specific steps and criteria for these edits were described in the record to the June 13, 1984 NOA and are described in the comment response document.

The second step involved best performance criteria which were also identified in the June 13, 1984 NOA. These criteria were based on engineering evaluations of treatment system design factors such as pollutant loading rate, detention time, operating temperature, pH and other design and operating criteria that were identified in Section VI of the 1982 Pesticide Development Document. These design factors strongly influence the performance of wastewater treatment systems. Much of the Agency's specific analysis of these design factors contained confidential information and as such were included in the confidential segment of the public record.

The Agency arrayed the data base to confirm the validity of these best performance criteria. As a result of this data arrayal the Agency confirmed that systems which had been adequately designed with reference to these design factors achieved high levels of pollutant removal where as in systems where one or more of these factors were inadequate, the pollutant removals were significantly lower.

Most of the treatment systems and data sets which passed the editing criteria also passed the best performance criteria.

Twenty of the twenty-four treatment systems which passed the editing criteria were identified as best performance treatment systems. For the four treatment systems which were not used in establishing limitations and standards for nonconventional pesticides, specific reasons for these systems' poor performance were identified in the confidential segment of the public record for the June 13, 1984 NOA. For priority pollutants, only one treatment system was eliminated solely because it did not meet the best performance criteria. For this system, the plant in its' cover letter submitting the data to the Agency stated that the plant was experiencing start up problems and that the data reflected this. A subsequent visit by the Agency's project officer also noted operating problems and design deficiencies at that plant.

Because commenters criticized the criteria used in the June 13, 1984 NOA, the Agency did a plant by plant analysis of all treatment systems in the data base to confirm its selection of best performance data. Based upon this analysis the Agency has concluded that its selection of best performance systems and its rejection of systems which did not meet the criteria was justified.

2. *Comment:* How does the Agency intend to regulate those manufacturers who incorporate formulating/packaging and manufacturing activities at the same site?

*Response:* Costs for segregating PFP process wastewaters streams from other manufacturing wastewater streams at a facility were included in determining the costs to comply with the no discharge requirement of the PFP subcategory in the Pesticide regulation. If a facility which both manufactures and formulates and/or packages pesticides wishes, because of a cost savings, to instead treat the combined process wastewater pollutant flows from both segments of the plant, this may be done. However, the effluent limits specified in the plant's NPDES discharge permit would not include an allowance for the PFP process wastewater flows sent to the combined treatment system because the limits for PFPs require no discharge

of process wastewater pollutants and to include an allowance would permit additional quantities of pollutants to be discharged. Consequently, a plant's wastewater treatment system would need greater capability than the model treatment technology for the manufacturing subcategory in order to comply when treating the combined waste stream.

3. *Comment:* The commenter is not satisfied with the answer that the combined waste stream formula of 40 CFR 403.6(e) can be used to calculate an equitable alternative discharge limit when non-process flows are combined with flows subject to the pesticide regulation. The commenter states that the formula incorrectly presumes that boiler blowdown streams, noncontact cooling streams, sanitary waste streams, and certain nonregulated streams certain no regulated pollutants.

*Response:* The 40 CFR 403.6(e) combined wastestream formula applies where process wastewater effluent is mixed prior to treatment with wastewater other than those generated by the regulated process. This regulation was amended on May 17, 1984 to provide the Control Authority the discretion upon application by the Industrial User to change the designation of boiler blowdown streams and non-contact cooling water streams from dilution to non-regulated where such streams contain a significant concentration of a pollutant and treatment will reduce the quantity of the pollutant discharged. This allows the inclusion of the flow and pollutant loads from these two streams in the formula in a manner which will usually result in derivation of a less stringent alternate limitation than would be the case if these same streams remained defined as dilution streams. The formula was upheld as valid in *NAMF* vs *EPA*, 719 F.2d 624 (3rd Cir. 1983).

The technology basis of the Pesticides PSES regulation includes physical chemical treatment such as carbon columns. Sanitary waste streams should not be put through such a treatment system. The appropriate type of treatment system for sanitary waste is biological which is provided by the POTW, not generally the plant's pretreatment system. The alternate limit derived using the 403.6(e) formula applies at the effluent of the pretreatment system. If a sanitary waste stream is mixed with the pretreatment system effluent prior to sampling, the sanitary waste stream flow must be treated as dilution in the derivation of the alternate limit using the 403(e) formula. If the sanitary waste stream contains significant concentrations of regulated pollutants, the discharger needs to determine the source of the regulated pollutants in the sanitary waste stream and eliminate the cross connection between the process wastewater and sanitary waste sewer systems.

The Permitting Authority follows a similar procedure in developing effluent limitations for an NPDES discharge permit to be issued to a facility with a discharge which contains wastewater flows or pollutants not limited by a promulgated effluent guideline regulation. The procedures and methodology to be followed by a permit writer in such a situation are provided in 40 CFR 122.45 and 40 CFR 125.3.

4. *Comment:* With respect to the pretreatment standards for formulator packagers, the preamble to the November 1982 proposal states that the PSES is no discharge of process wastewater flow. It is clear from section 301(a) of the Clean Water Act that the Agency must regulate the discharge of pollutants and not flow.

*Response:* The November 1982 proposal defined zero discharge as both "no discharge of process wastewater flow" and "no discharge of process wastewater pollutants." In developing the proposal, we felt these definitions were equivalent. In response to commenters, the Agency has reconsidered this definition. We recognize that it is possible to remove all pollutants from water to a level which is not detectable by referenced analytical methods. Hence, we have revised the PSES regulations for formulator/packagers to define zero discharge as no detectable levels of the specified nonconventional pesticides or of the priority pollutants.

5. *Comment:* The Agency is regulating pesticide pollutants under BAT which were previously regulated under BPT. The November 30, 1982 proposal did not propose to regulate most of these pollutants. Therefore it is inappropriate to regulate these pollutants again under BAT in today's rulemaking.

*Response:* The BPT regulation limited the discharge of 49 nonconventional pesticide pollutants. In the November 30, 1982 proposal the Agency proposed PSES, PSNS, and NSPS for 44 of these 49 pollutants. [Five of these NCPs were not regulated in the proposal due to the unavailability of data.] However, there were no proposed BAT pesticide pollutant limitations for 48 of the 49 pollutants because the existing BPT regulation adequately controlled their discharge. For the 49th pollutant, barban, the Agency proposed a no discharge standard because the plant was currently achieving no discharge of process wastewater pollutants which was more stringent than the BPT limitation.

In Appendix A and B of the June 13, 1984 NOA, concentration limitations for 43 pesticide pollutants were developed using the methodology presented in the NOA. In this NOA the Agency mistakenly presented BAT concentrations for these pollutants in addition to PSES, NSPS, and PSNS.

The BAT regulation promulgated today for Subcategory 1—Organic Pesticide Chemical Manufacturers, does not include BAT limitations for 48 of the 49 pesticides controlled by the BPT regulation. The BPT regulation was determined to adequately control the discharge of these pesticide pollutants. The promulgated Subcategory 1 BAT regulation does, however, control the discharge of the priority pollutants associated with the production of these pesticides as does the PSES, NSPS and PSNS regulations for this subcategory. Today's regulation also establishes a BAT no discharge limitation for barban, based upon the technology the plant used to achieve no discharge, i.e., evaporation.

The final regulation does limit 29 of the original 49 pesticides for PSES, PSNS, and NSPS. The 49 pesticides were reduced to 29 because of the elimination of pesticides from production for various reasons or, the lack of indirect discharging facilities or because of data unavailability due to technology transfer concerns.

6. *Comment:* The Agency should clarify the pyrethrin category and consider separating natural pyrethrins from synthetic pyrethroids.

*Response:* There are no promulgated analytical methods for pyrethrum or pyrethrins (both natural and synthetic), piperonyyl butoxide, resmethrin, and allethrin. Because there are no promulgated methods for these pesticides, the Agency is not able to establish effluent limitations guidelines and standards in this regulation. Once the appropriate analytical methods are developed and promulgated, the Agency intends to collect additional data and reconsider national regulation of these pesticides. The priority pollutants associated with manufacturing of pyrethrins are covered by this regulation due to the availability of analytical methods.

7. *Comment:* The scope of coverage for the proposed effluent guidelines should not include all FIFRA products.

*Response:* This regulation does not cover the manufacture of all FIFRA

products. The scope of this study is focused on the manufacturing processes for 290 pesticide active ingredients which are the commercially important pesticides products which are listed in Appendix A of the regulation. Many other FIFRA registered products are manufactured as chemicals and are covered by the Inorganics or Organic chemicals regulations because only a portion of the total production of the product is used as a registered pesticide.

With respect to the manufacturing segment of the industry, priority pollutants are controlled if they result from the manufacture of all active ingredients listed in Appendix A of the regulation. The active ingredients themselves are controlled only if the compounds manufactured by a plant which are listed in Appendix A and they have currently available Agency approved methods.

The pretreatment and new source standards for the Pesticide formulating/packaging subcategory apply to the formulating or packaging of all pesticides listed in Appendix D of the regulation. These pesticides are the pesticides for which we have promulgated analytical methods. Appendix D does not include disinfectants (hypochlorite-based products), sanitizers, surface active agents, or microbial products because they are covered under Soaps and Detergents which was excluded from further regulation under Paragraph 8 of the Consent Decree.

8. *Comment:* The commenter disagrees with the abandonment of the "least treatable" approach to guidelines development for nonconventional pesticides.

*Response:* The November 1982 proposed effluent limitations guidelines and standards for the 137 nonconventional pesticides were derived by utilizing the "least treatable" concept. Individual pesticides were grouped into subcategories based on the presence or absence of priority pollutants in their discharge and on the technologies required to treat these priority pollutants. The Agency evaluated each nonconventional pesticide in a subcategory to determine the long-term average concentration which could be achieved for that specific pesticide by using the recommended treatment technology. The nonconventional pesticide that was least treatable within a specific subcategory (treated to the least stringent level) determined the long-term average concentration for all the nonconventional pesticides with no data in a subcategory Thus all nonconventional pesticides in a subcategory had the same proposed effluent limitations guidelines and standards.

A commenter criticized this methodology for deriving effluent limitations guidelines and standards for nonconventional pollutants. This commenter suggested that each nonconventional pesticide should be given its own value rather than the value derived for the least treatable pesticide in the subcategory. In response to this comment, the Agency revised its methodology by establishing individual effluent limitations guidelines and standards for each nonconventional pesticide based on technology transfer. The Agency believes that this approach more accurately reflects the achievable removals of the treatment technologies for nonconventional pollutants and results in greater levels of nonconventional pollutants removal than would the previously used "least treatable" methodology.

In developing the limitations and standards for nonconventional pesticides in today's final rule, the Agency relied upon technology transfer to transfer full scale data from a pesticide to other similar pesticides within the same group. The technology transfer evaluations are based upon chemical properties and levels of treatability. Technology transfers are only made from the least to the most treatable compound and not the reverse. Transfer evaluation methodology for physical/chemical treatment is based upon structural similarity, chemical properties, and documented treatability. Transfer evaluation methodology for biological treatment is based upon structural similarity, biodegradability, and documented treatability. The Agency believes that the transfers used in this rule are appropriate and supportable. A detailed description of the Agency's use of technology transfer to establish effluent standards and limits for the pesticide chemical industry can be found in the report, "Technical Documentation of Technology Transfer for Nonconventional Pesticides," May 1985.

9. *Comment:* Contract hauling will not result in zero discharge of pollutants to the environment. The Agency should not recommend contract hauling for formulator/packagers.

*Response:* In the June 13, 1984, NOA the Agency stated that zero discharge for formulator/packagers, as proposed was still appropriate and that the recommended technology was contract hauling and spray evaporation. Commenters pointed out that evaporation, particularly spray evaporation, is not practical in some areas of the country and can lead to other environmental impacts. Commenters also noted that contract hauling is impractical due the ban on liquids in landfills in RCRA.

The Agency in response, has revised the model technology for indirect discharging formulator/packagers to combine contract hauling with incineration to eliminate spray evaporation, and to add physical/chemical treatment followed by recycle reuse as the recommended technology for high flow plants.

The cost for the recommended technologies is related to flow. While contract hauling and incineration is less expensive than treatment for most low flow plants, treatment and recycle/reuse will be less expensive for high flow plants. The Agency estimates 96 percent of discharging PFP plants have flows small enough so that the Agency has costed contract hauling and incineration as the chosen technology while four percent of the PFP plants with larger flows would choose the technology of treatment and recycle.

The Agency believes that incineration will be the disposal technology practiced by contract haulers. The report, "Evaluation of Regulatory Options and the Development of PSES and NSPS compliance costs for the Pesticide Formulating and Packaging Industry," dated March 12, 1985, found that incineration is the favored waste disposal method among pesticide manufacturers. Incineration, under proper operating conditions, can destroy virtually all of the active ingredients of organic pesticides. Therefore, incineration under ideal conditions will result in no solid or liquid discharges. Additionally, for all pollutants (except mercury) incineration will not create harmful discharges to the air. The report concludes that no adverse environmental hazards will be developed by the implementation of incineration technology.

The Agency believes that the benefits derived from eliminating the highly toxic wastewater generated will far outweigh any possible risks caused during the contract hauling of pesticide-bearing wastewater. Also, waste must be transported and disposed of under RCRA requirements. Any potential impact associated with the handling of pesticide-bearing wastewaters is believed to be significantly less than that associated with the handling of pesticide raw material and products.

10. *Comment:* The commenter does not believe that the available data support the Agency's claim that more than 90 percent of the formulator/

packagers do not discharge process wastewater. It is believed that many of the large formulator/packagers were not taken into consideration.

*Response:* In response to comments on the proposed PSES in the November 30, 1982 notice, the Agency decided to conduct an extensive survey of the PFP industry to confirm whether the proposed zero discharge PSES was appropriate for this industry.

The survey was developed to elicit information on the number and type of PFPs that would be covered by the proposed PSES and the percentage of such PFPs that currently discharge process wastewaters to a POTW.

In selecting the universe for this survey, the Agency began with the listing of all pesticide formulators and packagers (as well as manufacturers) in the United States. The Agency's Office of Pesticide Programs maintains this listing pursuant to the requirement of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) that all PFPs and manufacturers register with the Agency. The FIFRA registration listing includes 3980 PFP plants. The Agency randomly selected 1263 plants from the FIFRA listing for the universe of the survey.

The Agency made the initial contact by telephone. The Agency developed a questionnaire designed to identify which of 1263 randomly selected PFPs were packaging or formulating pesticide products covered by the PSES and how many of those plants currently discharge process wastewaters to POTWs. The Agency developed the questionnaire with the cooperation and assistance of the Chemical Specialties Manufacturers Association (CSMA). CSMA by letter dated August 12, 1985, acknowledged that EPA modified the survey "to the satisfaction of all parties."

The Agency determined prior to commencement of the telephone calls that it would send detailed written follow up surveys to an estimated 250 plants. EPA placed a limitation on the number of written follow up questionnaires in order to minimize the paperwork burden on the industry. The written surveys were to be sent to every plant which stated, in response to the telephone survey, that it formulated or packaged agricultural or household pest control chemicals, such as insecticides, fungicides and herbicides from the technical grade chemicals or concentrates and which also stated that water or any other liquid associated with plant operations were discharged to a POTW. Written surveys also were sent to all plants which could not be reached by telephone and all plants which refused to answer questions over the phone but instead requested a written questionnaire. The written questionnaires also were developed by the Agency in cooperation with CSMA.

After calling approximately 870 of the randomly selected plants, the Agency had over 250 plants which fell into one of the above categories for receipt of a written questionnaire. To ensure against the possibility that the callers misunderstood the telephone questions, the Agency recontacted over 100 of the 870 plants initially called in the survey. The plants recontacted were asked to answer a series of detailed questions originally developed by CSMA which were designed to determine what wastewater was generated and where it was discharged. The callback responses resulted in the classification of only one plant being changed from a nondischarger to a discharge classification.

The approximately 200 written questionnaires were sent out by the Agency under the authority of section 308 of the Clean Water Act. Upon receipt of responses to the written questionnaires, the Agency calculated the total number of PFPs subject to the proposed PSES and the percentage of that number currently discharging process wastewaters to a POTW. A substantial number of plants that were identified as dischargers in the telephone survey were confirmed to be nondischargers by the written questionnaire. This correction is explained in large part by the fact that the telephone survey asked whether the plant discharged any water or other liquid associated with plant operations while the written questionnaire specifically asked the respondents to categorize their wastewaters into one of 14 different categories, thereby allowing the Agency to identify only those plants discharging process wastewater associated with their pesticide operations. Also a substantial number of plants sent questionnaires because no information was acquired by the telephone survey were also confirmed to be nondischargers by their responses to the questionnaire. The Agency extrapolated the results of the telephone survey responses and written questionnaire responses to the total universe of 3980 plants on the FIFRA list. The Agency estimated that there were 1264 PFP plants subject to the PSES of which 210 were indirect dischargers and 1054 nondischargers. The Agency subsequently modified these numbers to be 169 indirect dischargers and 1095 nondischargers. The modifications were necessitated by receipt of additional data and the fact that some of the original 49 indirect dischargers which were extrapolated to 210 had voluntarily provided their information to the Agency. These plants were not part of the randomly selected 1263 plants and therefore, extrapolation of their data was not appropriate.

The Agency then published the June 13, 1984 Notice of Availability to publicize the results of the survey, make all the information available to the public, and request comment. The Agency stated that its review of the survey data confirmed its position that zero discharge was the appropriate PSES for PFPs. Comments on the EPA survey data have raised two primary issues. First, commenters have asserted that the survey is biased toward PFPs that formulate and package agricultural pesticides, and therefore does not accurately represent PFPs that formulate and package nonagricultural pesticides. Second, commenters have asserted that the survey underestimates the number of PFPs currently discharging wastewaters to POTWs.

The Agency believes that its PFP survey accurately captured a representative number of PFPs that formulate and package nonagricultural well as agricultural as pesticides covered by the PSES. The random selection of the plants for the survey ensured that a representative sample of all plants would be included. The FIFRA list includes all nonagricultural PFPs as well as agricultural PFPs, thereby ensuring that EPA's random selection of 1263 plants for its survey would include a representative number of nonagricultural PFPs. This methodological assumption was in fact confirmed by two independent surveys conducted by CSMA.

In one survey, CSMA, in response to EPA's June 13, 1984 NOA sent its membership an "Urgent Memorandum" requesting "Immediate Action" in completing an attached questionnaire if the company formulated or packaged "home, lawn, or garden pesticides." CSMA sent questionnaires to approximately 400 members companies. After receiving responses from less than 50 companies, CSMA selected those member companies that it believed were nonagricultural PFPs for contact by telephone. The total number counted by CSMA as nonagricultural PFP's was 104 plants. In comparing CSMA's 104 nonagricultural plants with the list of 870 plants contacted in EPA's random survey, there were 25 plants common to both surveys. [See CSMA letter dated August 12, 1985, page 9]. Therefore, EPA's random survey had contacted approximately 25 percent of CSMA's self-identified nonagricultural PFPs.

EPA's random survey of 870 plants also represented approximately 25 percent of the FIFRA universe of PFPs of 3980 plants. Therefore, EPA's random survey of 25 percent of the industry correctly included 25 percent of CSMA's nonagricultural PFP membership.

In the second CSMA survey, CSMA randomly selected 100 plants from among EPA's list of 1263 randomly surveyed plants. CSMA categorized the plants as formulating packaging either (1) agricultural, (2) agricultural; home, lawn and garden; and institutional/industrial; or (3) only home, lawn, and garden and institutional and industrial pesticides. CSMA's contention was that EPA's telephone survey questions missed a segment of the PFP industry which formulates and packages pesticides for industrial and institutional use because the survey question only asked about "agricultural or household" pesticides. CSMA's criticism of the survey questionnaire ignores the fact that CSMA participated in developing the questionnaire and also used only the terms "home, lawn or garden" pesticides in CSMA's June 1984 survey. Despite the questionable seriousness of CSMA's criticism of the wording of the EPA telephone survey, the results refute CSMA's allegation that EPA's survey, which actually involved calling only 15 of the 100 selected plants and categorizing the remaining 85 plants by "best professional judgment," listed 17 plants in the home, lawn, and garden and institutional/industrial category. In order to evaluate CSMA's contention that EPA missed this category of plants, EPA rechecked its data base. The Agency in fact had contacted 13 of the 17 plants in its telephone survey of 870 plants. Ten of those plants were categorized as PFP plants. The remaining three plants had informed the Agency in the telephone survey that they were not PFPs covered by the regulation. On January 9, 1985, the Agency again called these three plants and they verified their original responses. Therefore, they were properly not included as PFPs subject to the regulation. CSMA's allegation that EPA missed this segment of the industry in its survey is incorrect.

EPA identified 28 randomly selected plants that indicated in response to the telephone survey and 308 questionnaire that they were indirect dischargers of process wastewaters. EPA extrapolated this number to 163 as the number of indirect discharging PFPs subject to the PSES.

Several commenters have challenged this number as being too low, asserting that the number of indirect dischargers is at least three times greater, with 700 being a more accurate estimate. Most commenters rely on the CSMA survey of 104 of its nonagricultural PFP membership to support their challenge to the Agency's estimate.

EPA's data base included 33 plants also included in the CSMA survey of 104 nonagricultural PFPs. Eight of the plants submitted voluntary information while 25 of the plants were from EPA's random survey. Seven of the CSMA plants which CSMA classifies as nonagricultural PFP plants were included within EPA's listing of 28 discharging plants on which EPA extrapolated the total of 163. CSMA has asserted that these survey demonstrates errors in EPA's survey data thereby resulting in substantial underestimation of the number of indirect discharging PFPs.

Among the 24 plants common to both the EPA data base of randomly selected plants and the CSMA survey, CSMA identified eight companies for which it had received an answer different from an answer received by EPA. Therefore, for 16 of the 24 common plants (69 percent) both EPA and CSMA had information that was in agreement.

On August 16, 1985, CSMA submitted copies of their survey forms (which EPA had first requested in November, 1984) to substantiate the eight plants with discrepancies in the answers given to EPA and CSMA. EPA has carefully reviewed its telephone and written survey data and the one-page CSMA survey forms. In three cases, the Agency had written data from the plants; that written data is reliable, and supports EPA's classification for those three plants. In a fourth case, EPA had previously contacted the plant as part of its random recheck of "zero discharge" responses and confirmed that the plant did not discharge wastewater because the facility recycled/reused its wastewater. In the other four cases, the Agency recontacted the plants. Based on these telephone contacts, the Agency has changed the classification of the four plants to agree with CSMA classifications. Two of the four plants formulate and package only pesticide active ingredients not regulated by the promulgated rule, and in the case of a third plant, the change in classification was from non PFP to PFP, no discharge. Only one plant changed from a classification of PFP no discharge to PFP discharger. That change resulted in the extrapolated universe of PFP dischargers changing from 163 to 169.

B. The following comments pertain to the costs and economic impacts associated with achieving compliance with this regulation. For additional information and this subject, please refer the report entitled "Economic Impact Analysis" and to the document entitled "Responses to Public Comments, Proposed Effluent Limitations Guidelines and Standards for the Pesticide Chemicals Manufacturing Point Source Category."

1. *Comment:* The cost of compliance for BAT for pesticide manufacturers has been underestimated.

*Response:* The Agency reevaluated the treatment technology design criteria and cost curves used to derive the capital and annual costs for BAT as presented in the June 1984 NOA. The agency repeated the reevaluation in response to comments to the NOA. The review of design criteria required an examination of individual treatment systems at each plant to select well operated systems. A treatment system was defined as "best performance" if the system met the treatment performance criteria for any regulated pollutant for which the treatment system was designed. The principal treatment system unit operations that were revaluated included carbon adsorption, steam stripping, carbon regeneration, hydrolysis, chemical precipitation, and resin adsorption for removal of priority pollutants and nonconventional pesticides. Other technologies were costed, however, these cost are a small part of the total industry costs.

The Agency established new design curves, criteria, and capital costs for steam stripping, activated carbon regeneration and contract hauling. Steam stripping costs had been previously overestimated for flows over 1.0 MGD, since costs for a 0.1 MGD system were extrapolated to 1.0 MGD system and economies of scale were not considered. Carbon regeneration costs had been overestimated for plants that use low volumes of carbon. These low-use plants can more economically contact-out their carbon regeneration needs to as offsite facility. Contract hauling costs were underestimated by the Agency and new costs are based on a survey of RCRA approved contract haulers. Also, in response to comments, the Agency corrected the data base to include higher effluent flows for plants that previously stated lower flows.

The Agency has identified approximately 119 plants that manufacture the organic pesticide chemicals covered by this regulation. Of these 119 plants approximately 41 manufacturing facilities will incur costs to comply with this regulation: 21 are direct dischargers and 20 are indirect dischargers. The remaining facilities

currently achieve the design criteria. The total investment costs for these 41 facilities are estimated as $105,176,000 capital and $50,216,000 annual (1983 dollars). These costs may be compared to the capital and annual costs reported in the June 1984 NOA, of $97,700,000 and $106,900,000 (1983 dollars). Differences between the costs include revised steams stripping carbon regeneration, and contract hauling costs as well as revised flows.

2. *Comment:* Several comments were received on the applicability of large firm data to small businesses. Commenters recommended EPA perform a sensitivity analysis and incorporate different cost of capital requirements for small businesses. They further recommended the use of Finstat data for analysis of small businesses.

*Response:* The economic analysis performed by the Agency used industry level financial data for the manufacturing segment of the pesticides industry. The economic analysis applied financial ratios based upon line of business data for seven publicly held firms. Sales and operating income data were available by pesticide lines of business and the analysis used this information to characterize and profile the manufacturing pesticide industry. The ratios developed from the seven firms represent large public firms.

The Agency believes commenters argument that small plants often face a higher cost of capital than do large plants is valid. Therefore, for small businesses, the cost of capital was increased from 7.5 to 9.5 percent to allow for a premium cost of capital. The economic analysis used $10 million in sales as the cut-off between large and small businesses. This represents 49 percent of the active ingredient manufacturers. In further employing a conservative strategy of estimating small business impacts, the economic analysis reduced operating income of small plants by almost 25 percent. As a result of these changes, there were no additional incremental plant closures in the small business sector.

The Agency did not use the Finstat data as there were no pesticide plants represented in the data base. However, the economic analysis did incorporate all other concerns raised by the commenters and the Agency believes that the regulations are economically achievable for both large and small plants.

For the reasons set out in the preamble, EPA is amending Part 455 of Chapter 1 of Title 40 of the Code of Federal Regulations as set forth below:

## PART 455—PESTICIDE CHEMICALS

1. The authority for Part 455 is revised to read as follows:

**Authority:** Sections 301, 304, 306, 307, and 501, Pub. L. 92–500, 86 Stat. 816, Pub. L. 95–217, 91 Stat. 156 (33 U.S.C. 1311, 1314, 1316, 1317, and 1361).

2. The table of contents is revised to read as follows:

## PART 455—PESTICIDE CHEMICALS

Sec.
455.10 General definitions.
455.11 Compliance date for Pretreatment Standards for Existing Sources (PSES).

**Subpart A—Organic Pesticide Chemicals Manufacturing Subcategory**

455.20 Applicability; description of the organic pesticide chemicals manufacturing subcategory.
455.21 Specialized definitions.
455.22 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
455.23 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT). [Reserved]
455.24 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available control technology economically achievable (BAT).
455.25 New source performance standards (NSPS).
455.26 Pretreatment standards for existing sources (PSES).
455.27 Pretreatment standards for new sources (PSNS).

**Subpart B—Metallo-Organic Pesticide Chemicals Manufacturing Subcategory**

455.30 Applicability; description of the metallo-organic pesticide chemicals manufacturing subcategory.
455.31 Specialized definitions.
455.32 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
455.33 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT). [Reserved]
455.34 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available control technology economically achievable (BAT). [Reserved]
455.35 New source performance standards (NSPS). [Reserved]
455.36 Pretreatment standards for existing sources (PSES).
455.37 Pretreatement standards for new sources (PSNS). [Reserved]

**Subpart C—Pesticide Chemicals Formulating and Packaging Subcategory**

455.40 Applicability; description of the pesticide chemicals formulating and packaging subcategory.
455.41 Specialized definitions.
455.42 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
455.43 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT). [Reserved]
455.44 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available control technology economically achievable (BAT). [Reserved]
455.45 New source performance standards (NSPS).
455.46 Pretreatment standards for existing sources (PSES).
455.47 Pretreatment standards for new sources (PSNS).

**Subpart D—Test Methods for Nonconventional Pesticide Pollutants**

455.50 Applicability.
455.51 Identification of test procedures.

Appendix A—Priority Pollutants Regulated in Pesticide Active Ingredient Manufacturing Wastewaters.
Appendix B—Priority Pollutant Effluent Limitations and Standards for BAT, NSPS, PSES, And PSNS.
Appendix C—Nonconventional Pesticide Pollutant Effluent Limitations and Standards for BAT, NSPS, PSES, and PSNS.
Appendix D—Pesticides Regulated by PSES When Formulated and Packaged.
Appendix E—Test Procedures for Analysis of Nonconventional Pesticide Pollutants.

3. Section 455.10 is amended by adding paragraphs (f) and (g), to read as follows:

### § 455.10 General definitions.

* * * * *

(f) "Priority Pollutants" means the toxic pollutants listed in 40 CFR 401.15.

(g) "Nonconventional pesticide pollutants" means all pesticide active ingredients that are not toxic pollutants under 401.15 or conventional pollutants under 401.16 and for which BAT and effluent limitations guidelines, NSPS and pretreatment standards are established in this part.

4. A new § 455.11 is added to read as follows:

**§ 455.11 Compliance date for Pretreatment Standards for Existing Sources (PSES).**

All discharges subject to pretreatment standards for existing sources (PSES) in this part must comply with the standards no later than (three years after the effective date of this regulation).

5. Section 455.20 is amended by revising paragraphs (b) and (c) and adding paragraph (d) to read as follows:

**§ 455.20 Applicability; description of the organic pesticide chemicals manufacturing subcategory.**

* * * * *

(b) For the purpose of calculating BPT effluent limitations for organic Pesticide chemicals, the provisions of this subpart are applicable to discharges resulting from the manufacture of the following organic active ingredients: Aldrin, BHC, Captan, Chlordane, DDD, DDE, DDT, Dichloran, Dieldrin, Endosulfan, Endrin, Heptachlor, Lindane, Methoxychlor, Mirex, PCNB, Toxaphene, Trifluralin, Azinphos Methyl, Demeton-O, Demeton-S, Diazinon, Disulfoton, Malathion, Parathion Methyl, Parathion Ethyl, Aminocarb, Carbaryl, Methiocarb, Mexacarbate, Propoxur, Barban, Chlorpropham, Diuron, Fenuron, Fenuron-TCA, Linuron, Monuron, Monuron-TCA, Neubron, Propham, Swep, 2,4-D, Dicamba, Silvex, 2,4,5-T, Siduron, Perthane, and Dicofol.

(c) The intermediates used to manufacture the active ingredients and active ingredients used solely in experimental pesticides are excluded from coverage in this subpart. Insecticidal pathogenic organisms such as Bacillus thuringiensis, insect growth hormones, plant extracts such as pyrethrins; sex attractants and botanicals such as Rotenone are also excluded from BPT coverage in this subpart.

(d) A plant that manufactures a pesticide active ingredient listed in column A of Appendix A must comply with the BAT effluent limitations guidelines and new source performance and pretreatment standards for that pesticide active ingredient specified in Appendix C. A plant that manufactures a pesticide active ingredient listed in Column A of Appendix A must also comply with the BAT effluent limitations guidelines and new source performance and pretreatment standards specified in Appendix B for the priority pollutants listed in column B of Appendix A as being associated with the manufacture of that pesticide.

6. New §§ 455.23, 455.24, 455.25, 455.26, and 455.27 are added to read as follows:

**§ 455.23 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT). [Reserved]**

**§ 455.24 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available control technology economically achievable (BAT).**

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable as specified in 40 CFR 455.20(d). The permit writer must set mass-based limitations by multiplying the plant's process wastewater flow subject to the pesticide regulation by the concentration-based effluent limitations guidelines.

**§ 455.25 New source performance standards (NSPS).**

Any new source subject to this subpart which discharges process wastewater pollutants must achieve the new source performance standards as specified in 40 CFR 455.20(d), and the following standards for BOD, TSS and pH:

| Effluent characteristics | Effluent limitations | |
|---|---|---|
| | Maximum for any 1 day (mg/L) | Average of daily values for 30 consecutive days shall not exceed (mg/L) |
| BOD | 197 | 43 |
| TSS | 163 | 48 |
| pH | (1) | (1) |

[1] Within the range of 6.0 to 9.0.

The permit writer must set mass-based limitations by multiplying the plant's process wastewater flow subject to the pesticide regulation by the concentration-based effluent limitations guidelines.

**§ 455.26 Pretreatment standards for existing sources (PSES).**

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the pretreatment standards for existing sources (PSES) as specified in 40 CFR 455.20(d).

**§ 455.27 Pretreatment standards for new sources (PSNS).**

Except as provided in 40 CFR 403.7 any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the pretreatment standards for new source (PSNS) as specified in 40 CFR 455.20(d).

7. New §§ 455.33, 455.34, 455.35, 455.36, and 455.37 are added to read as follows:

* * * * *

**§ 455.33 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT). [Reserved]**

**§ 455.34 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available control technology economically achievable (BAT). [Reserved]**

**§ 455.35 New source performance standards (NSPS). [Reserved]**

**§ 455.36 Pretreatment standards for existing sources (PSES).**

(a) Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart that manufactures metallo-organic pesticides containing arsenic, cadmium, or copper that introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources (PSES): That shall be no discharge of process wastewater pollutants. The limitations apply to all wastewaters from the manufacture of pesticide active ingredients containing arsenic, cadmium or copper.

(b) Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart that manufactures metallo-organic pesticides containing mercury that introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve that following pretreatment standards for existing sources:

SUBPART B.—METALLO-ORGANIC PESTICIDES

| Pollutant or pollutant property | PSES effluent limitations | |
|---|---|---|
| | Maximum for any 1 day (mg/L) | Monthly average not to exceed (mg/L) |
| Mercury | 0.45 | 0.27 |

**§ 455.37 Pretreatment standards for new sources (PSNS). [Reserved]**

8. Section 455.40 is revised to read as follows:

**§ 455.40 Applicability; description of the pesticide chemicals formulating and packaging subcategory.**

The provisions of this subpart are applicable to discharges resulting from all pesticide formulating and packaging operations, except as provided in §§ 455.45, 455.46, and 455.47.

9. Section 455.41 is amended by adding text to read as follows:

**§ 455.41 Specialized definitions.**

"Formulating and packaging" means the physical mixing of technical grade pesticide ingredients into liquids, dusts and powders, or granules and their subsequent packaging into marketable containers.

10. New §§ 455.43 455.44, 455.45, 455.46 and 455.47 are added to read as follows:

**§ 455.43 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT). [Reserved]**

**§ 455.44 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available control technology economically achievable (BAT). [Reserved]**

**§ 455.45 New source performance standards (NSPS).**

Any new source subject to this subpart must achieve the following new source performance standards (NSPS): There shall be no discharge of BODS, TSS, priority pollutants or pesticide active ingredients listed in Appendix D in process wastewater resulting from the formulating and packaging of any pesticide listed in Appendix D.

**§ 455.46 Pretreatment standards for existing source (PSES).**

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart that introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources (PSES): There shall be no discharge of priority pollutants or pesticide active ingredients listed in Appendix D in process wastewater resulting from the formulation and packaging of any pesticide listed in Appendix D.

**§ 455.47 Pretreatment standards for new sources (PSNS).**

Except as provided in 40 CFR 403.7, any new source subject to this subpart that introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources (PSNS): There shall be no discharge of priority pollutants or pesticide active ingredients listed in Appendix D in process wastewater resulting from the formulation and packaging of any pesticide listed in Appendix D.

11. A new Subpart D is added as follows:

## Subpart D—Test Methods for Nonconventional Pesticide Pollutants

**§ 455.50 Applicability.**

The procedures prescribed in Appendix E shall supplement the guidelines establishing test procedures for the analysis of pollutants contained in Part 136 of this chapter and, except as provided in Part 136, shall be used to perform the measurements indicated whenever the waste constituent specified is required to be measured under the Clean Water Act.

**§ 455.51 Identification of test procedures.**

The 61 nonconventional pesticide pollutants to which this regulation applies and for which effluent limitations guidelines and standands are now specified are named, together with CAS number and analytical method designation, in Table 1. The discharge parameter values for any reports required under the Clean Water Act must be determined by one of the standard analytical methods cited and described in Table 1 except as provided in 40 CFR Part 136.

TABLE 1.—LIST OF APPROVED TEST PROCEDURES FOR NONCONVENTIONAL PESTICIDE POLLUTANTS

| Parameter (1) | CAS No. | EPA Method No. (2) | Other |
|---|---|---|---|
| 1. Alachlor | 15972-60-8 | | 102 |
| 2. AOP | (NA) | 630 | |
| 3. Benfluralin | 1861-40-1 | 627 | |
| 4. Benomyl | 17804-35-2 | 631 | |
| 5. Bentazon | 25057-89-0 | | 107A |
| 6. Bolstar | 35400-43-2 | 622 | |
| 7. Bromacil | 314-40-9 | 633 | |
| 8. Busan 40 | 51026-28-9 | 630 | |
| 9. Busan 85 | 128-03-0 | 630 | |
| 10. Butachlor | 23184-66-9 | | 102 |
| 11. Carbam-S | 128-04-1 | 630 | |
| 12. Carbendazim | 10605-21-7 | 631 | |
| 13. Carbofuran | 1563-66-2 | 632 | |
| 14. Chlorobenzilate | 510-15-6 | 608.1 | |
| 15. Chloropyrifos | 2921-88-2 | 622 | |
| 16. Chloropyrifos Methyl | 5598-13-0 | 622 | |
| 17. Coumaphos | 56-72-4 | 622 | |
| 18. Cyanazine | 21725-46-2 | 629 | |
| 19. 2,4-DB | 94-82-6 | 615 | |
| 20. 2,4-DB isobutyl ester | 533-74-4 | 615 | |
| 21. 2,4-DB isooctyl ester | 1320-15-6 | 615 | |
| 22. DBCP | 96-12-8 | 608.1 | |
| 23. DEET | 134-62-3 | 633 | |
| 24. Dichlorvos | 62-73-7 | 622 | |
| 25. Dinoseb | 88-85-7 | 615 | |
| 26. Ethalfluralin | 55283-68-6 | 627 | |
| 27. Etridiazole | 2593-15-9 | 608.1 | |
| 28. Fensulfothion | 115-90-2 | 622 | |
| 29. Fenthion | 55-38-9 | 622 | |
| 30. Ferbam | 14484-64-1 | 630 | |
| 31. Fluometuron | 2164-17-2 | 632 | |
| 32. Glyphosate | 1071-83-6 | | 140A |
| 33. Hexazinone | 51235-04-2 | 633 | |
| 34. Isopropalin | 33820-53-0 | 627 | |
| 35. KN Methyl | (NA) | 630 | |
| 36. Mancozeb | 8018-01-7 | 630 | |
| 37. Maneb | 12427-38-2 | 630 | |
| 38. Mephosfolan | 950-10-7 | | 130 |
| 39. Metham | 137-42-8 | 630 | |
| 40. Methomyl | 16752-77-5 | 632 | |
| 41. Metribuzin | 21087-64-9 | 633 | |
| 42. Mevinphos | 7786-34-7 | 622 | |
| 43. Nabam | 142-59-6 | 630 | |
| 44. Naled | 300-76-5 | 622 | |
| 45. Niacide | 15339-36-3 | 630 | |
| 46. Oxamyl | 23135-22-0 | 632 | |
| 47. Phorate | 298-02-2 | 622 | |
| 48. Profluralin | 26399-36-0 | 627 | |
| 49. Propachlor | 1918-16-7 | 608.1 | 102 |
| 50. Ronnel | 299-84-3 | 622 | |
| 51. Simetryne | 1014-70-6 | 619 | |
| 52. Strofos | 961-11-5 | 622 | |
| 53. Terbacil | 5902-51-2 | 633 | |
| 54. Terbufos | 13073-79-9 | | 130 |
| 55. Terbutryn | 886-50-0 | 619 | |
| 56. Triadimefon | 43121-43-3 | 633 | |
| 57. Trichloronate | 327-98-0 | 622 | |
| 58. Tricyclazole | 41814-78-2 | 633 | |
| 59. ZAC | (NA) | 630 | |
| 60. Zineb | 12122-67-7 | 630 | |
| 61. Ziram | 137-30-4 | 630 | |

(NA) = Not Available.

(1) All parameters are expressed in micrograms per liter (mg/L).

(2) The full text of methods 102, 107A, 130, 140A, 608.1, 615, 619, 622, 627, 629, 630, 631, 632, and 633 are given at Appendix E, "Test Procedures for Analysis of Nonconventional Pesticide Pollutants" of this Part 455. The standardized test procedure to be used to determine the method detection limit (MDL) for these test procedures is given at Appendix B, "Definition and Procedure for the Determination of the Method Detection Limit" or 40 CFR Part 136.

Table 2.—List of Common Names and Chemical Names of Nonconventional Pesticide Pollutants

| Common name | Chemical name |
|---|---|
| 1. Alachlor (Lasso) | 2-Chloro-2',6'-diethyl-N-(methoxymethyl) acetanilide. |
| 2. Alkylamine hydrochloride | Alkylamine hydrochloride. |
| 3. Ametryn (Evik) | 2-Ethylamino-4 isoprophylamino-6-methylthio, 1,3,5-triazine. |
| 4. Aminocarb | 4-Dimethylamino-3-methylphenyl-methyl-carbamate. |
| 5. Amobam | Diammonium ethylenebisdithiocarbamate. |
| 6. [AOP] (Ambam oxidation product) | Ethylene bis (dithiocarbamic acid) bimolecular and trimolecular cyclic anhydrosulfides and disulfides. |
| 7. Atrazine (Aatrex) | 2-Chloro-4-ethylamino-6-isopropylamino-1,3,5-triazine. |
| 8. Azinphos methyl (Guthion) | O,O-Diethyl S-[4-oxo-1,2,3-benzotriazin-3(4H)-ylmethyl] phosphorodithioate. |

Table 2.—List of Common Names and Chemical Names of Nonconventional Pesticide Pollutants—Continued

| Common name | Chemical name |
|---|---|
| 9. Barban (Carbyne) | 4-Chlorobut-2-butynyl-m-chlorocarbanilate. |
| 10. 1,1'-(2-butenylene)bis (3,5,7-triaza-1-azo (niaadiamantane Chloride) [BBTAC]. | 1,1'-(2-Butenylene) bis(3,5,7-triaza-1-azo niaadamantane chloride). |
| 11. Benfluralin Benefin) | N-Butyl-N-ethyl-2,6-dinitro-4-trifluoro-methylaniline. |
| 12. Benomyl (Benlate) | Methyl 1-(butylcarbamoyl)-2-benzimidazolecarbamate. |
| 13. Bentazon (Basagran) | 3-Isopropyl-1H-2, 1,3-Benzothiadiazion-(4) 3H-one 2, 2-dioxide. |
| 14. Biphenyl (Diphenyl) | Diphenyl. |
| 15. Bolstar (Sulprofos) | O-Ethyl O-[4(methylthio)phenyl]-s-propyl phosphorodithoate. |
| 16. Bromacil (Hyvar) | 5-Bromo-3-sec-butyl-6-methyl-uracil. |
| 17. (Busan 40) | Potassium N-hydroxymethyl-N-methyldithio carbamate. |
| 18. (Busan 85) | Potassium dimethyldithio carbamate. |
| 19. Butachlor (Machete) | N-(Butoxymethyl)-2-chloro-2'6'-diethylacetanilide. |
| 20. Captan (Orthocide 406) | N-[(Trichloromethyl)thio]-4-cyclohexene-1,2-dicarboximide. |
| 21. (Carbam-S) (Sodam) | Sodium dimethyldithiocarbamate. |
| 22. Carbaryl (Sevin) | 1-Naphthyl N-methylcarbamate. |
| 23. Carbendazim | 2-(Methoxycarbonylamino) benzimidazol. |
| 24. Carbofuran (Furadsn) | 2,3-Dihydro-2,2-dimethyl-7-benzofuranyl methylcarbamate. |
| 25. Carbophenothion (Tnth-ion) | S-[(p-Chlorophenylthio])-methyl O,O,-diethyl phosphorodithioate. |
| 26. Chlorobenzilate (Acara-ben) | Ethyl 4,4'-dichlorobenzilate. |
| 27. Chloropicrin (Larvacide, Nemax) | Trichloronitromethane. |
| 28. Chloropropham | Isopropyl-3-chlorophenyl carbamate. |
| 29. Chlorpyrifos (Dursban) | O,O-Diethyl O-(3,5,6-trichloro-2-pyridyl) phosphorothioate. |
| 30. Chlorpyrifos methyl | O,O-Dimethyl O-(3,5,6-trichloro-2-pyridyl) phosphorothioate. |
| 31. Coumaphos (Co-Ral) | O-(3-Chloro-4-methyl-2-oxo-2H-1-bothzopyran-7-71)O,O-diethyl phosphorothioate. |
| 32. Cyanazine (Bladex) | 2-[4-Chloro-6-(ethylamino)-S-traizine-2-yl)amino]-2-Methylpropionitrite. |
| 33. 2,4-D | 2,4-Dichlorophenoxyacetic acid. |
| 34. 2,4-D isobutyl ester | 2,4-Dichlorophenoxyacetic acid, technical mixture. Isobutyl ester, 60%, N-butyl ester, 40%. |
| 35. 2,4-D isooctyl ester | 2,4-Dichlorophenoxyacetic acid isooctyl ester, 3,4-Dimethylhexanol, 20%, 3,5-Demethylhexanol, 30%, 4,5-Dimethylhexanol, 30%, 3-Methylheptanol 15%, 5-Methylheptanol, 5%. |
| 36. 2,4-D salt | 2,4-Dichlorophenoxyacetic acid dimethylamine salt. |
| 37. 2,4-DB | 4-(2,4-Dichlorophenoxy)-butyricacid. |
| 38. 2,4-DB isobutyl ester | 4-(2,4-Dichlorophenoxy)-butyricacid isobutyl ester. |
| 39. 2,4-DB isooctyl ester | 4-(2,4-Dichlorophenoxy)-butyricacid isobutyl ester. |
| 40. DBCP (Dibromochloro-pro-pane, Nemagon) | 1,2-Dibromo-3-chloropropane and related halogenated C3 hydrocarbons. |
| 41. DCNA (Dichloran, Botran) | 2,6 Dichloro-4, nitroaniline). |
| 42. D-D (Dichloropropane-dichloropropene mixture) | (60–66%) 1,3-dichloropropene and (30–35%) 1,2-Dichloropropane and other constituents. |
| 43. Deet | NH-Diethyl-m-toluamide. |
| 44. Demeton (Systox) | Mixture of O,O-diethyl-S-and O)-[2-(ethylthio)ethyl] phosphorothioats. |
| 45. Demeton-O | O,O-Diethyl O-[2-(ethylthio) ethyl] phosphorothioates. |
| 46. Demoton-S | O,O-Diethyl S-[2-(ethylthio)ethyl] phosphorothioate. |
| 47. Diazinon (Spectracide) | O,O-Diethyl O-(2-isopropyl-b-methyl-4-pyrimidinyl) phosphorothioate. |
| 48. Dicamba (Banvel D) | 2-Methoxy-3,b-dichloroztbenzoic acid. |
| 49. Dichlofenthion (Nemacide) | O-2,4-Dichlorophenyl O,O-diethyl phosphorothioate. |
| 50. Dichlorophen salt | Sodium salt of 2,2'-mehtylene bis(4-chlorophenol). |
| 51. Dichlorvos (DDVP) | 2,2-Dichlorovinyl dimethyl phosphate. |
| 52. Dicofol | 1,1-Bis(p-chlorophony)-2,2,2-trichloroethanol. |
| 53. Dinoseb (DNBP) | 2-(sec-Butyl)-4,6-dinitrophenol. |
| 54. Dioxathion (Delnav) | S,S'-p-Dioxane-2,3-diyl O,O-diethyl-phosphorothioate (cis and trans isomers). |
| 55. Disulfoton (Di-Syston) | O,O-Diethyl S-[2-(ethylthio)-ethyl] phosphorothioate. |
| 56. Diuron (DCMU) | 3-(3,4-Dichlorophenyl)-1-dimethylureau. |
| 57. (Dowicil 75) | 1-(3-Chlorallyl)-3,5,7-triaza-1-azonia-admentane. |
| 58. Ethalfluralin (Sonalan) | N-Ethyl-N-(2-methyl-2-propenyl)-2,6-dinitro-4 (trifluoromethyl) aniline. |
| 59. Ethion | O,O,O'O-Tetraethyl S,S'-methylene bisphosphorodithoate. |
| 60. Ethoprop (Mocap) | O-Ethyl S,S'dipropyl phosphorothioate. |
| 61. Etridiazole (Terrozole) | 5-Ethoxy-3-trichloromethyl-1,2,4-thiadiazole. |
| 62. Fensulfothion (Danasit) | O,O-Diethyl O-[p(methylsulfinyl) phenyl] phosphorothioate. |
| 63. Fenthion (Bayfex) | O,O-Dimethyl O-[4-(methyl-thio)-m-tolyl] phosphorothioate. |
| 64. Fenuron | 1,1-Dimethyl-3-phenylurea. |
| 65. Fenuron-TCA | 3-Phenyl-1, 1-dimethylurea trichloroacetate. |
| 66. Ferbam (Fermate) | Ferric dimethyldithiocarbamate. |
| 67. Fluometuron (Cotoran) | 1,1-Dimethyl-3-(3-trifluoromethyl-phenyl) urea. |
| 68. Fluoroacetamide | Fluoroacetamide. |
| 69. Glyodin | 2-Heptadecyl-2-imidazoline acetate. |
| 70. Glyphosate (Roundup) | N-(Phosphonomethyl)glycine. |
| 71. Hexazinone | 3-Cyclohexyl-6-(dimethylamino)-1-methyl-1-3,5-triazine-2,4(1H, 3H)-dione. |
| 72. HPTMS | S-(2-Hydroxy propyl) thiomethane Sulfonate. |
| 73. Isopropalin (Paarlan) | 2,6-Dinitro-N, N-dipropylcumidine. |
| 74. (KN methyl) | Potassium N-methyl dithiocarbamate. |
| 75. Linuron (Afolan, Lorox) | 3-(3,4-Dichlorophenyl)-1-methoxy-1-methylurea. |
| 76. Malathion (Mercaptothion, Cythion) | Diethyl mercaptosuccinate S-ester with O,O-dimethyl phosphorodithioate. |
| 77. Mancozeb (Dithene M-45) | Coordination product of maneb containing 16 to 20% Mn and 2.0 to 2.5% ZN (zinc) (manebmanganous ethylene-1,2-bis-dithiocarbamate. |
| 78. Maneb (Manzate) | Manganous ethylene-1,2-bis-dithiocarbamate. |
| 79. Mephosfolan (Cytrolane) | P,P-Diethyl cyclic propylene ester of phosphonodithioimido-carbonic acid. |
| 80. (Merphos) (Folex) | Tributyl phosphorotrithioite. |
| 81. (Metasol J-26) | N(1Nitroethyl benzyl) ethylene diamine 25%. |
| 82. Metham (Vapam, SMDC) | Sodium N-methyldithio carbamate. |
| 83. Methiocarb | 4-Methylthio-3,5-xylyl methyl-carbamate. |
| 84. Methomyl (Lannate) | S-Methyl N-[(methylcarbomoyl)-oxy]thioacetimidate. |
| 85. Methoxychlor (Marlate) | 2,2-Bis(p-methoxyphenyl)1,1,1-trichloroethane. |
| 86. Metribuzin (Sencor) | 4-Amino-6-tert-butyl-3-(methyl-thio)1,2,4,triazine-5-one. |
| 87. Mevinphos (Phosdrin) | Methyl 3-hydroxy-alpha-crotonate, dimethyl phosphate. |
| 88. Mexacarbate | 4-(Dimethylamine) 3,5-xylyl methyl carbamate. |
| 89. Mirex | Dodecachloro-octahydro-1,3,4-metheno-2h-cyclobutal[c,d]pentalene. |
| 90. Monuron | 3-(p-chlorophenyl)-1,1-dimethylurea. |
| 91. Monuron-TCA | 3-(p-chlorophenyl)-1,1-dimethylurea trichlorocacetate. |
| 92. Nabam (Dithane D-14) | Disodium ethylene bis(dithiocarbamate). |
| 93. Naled (Dibrom) | 1,2-Dibromo-2,2-dichloro-ethyl dimethyl phosphate. |
| 94. Neburon | 1-n-Butyl-3-(3,4-dichlorophenyl)-1-methylurea. |
| 95. (Niacide) | Manganeous dimethyldithio-carbamate. |
| 96. Oxamyl (Vydate) | Methyl n',n'-diomethyl-N-[methyl-carbomoyl)oxy]-1 thio oxamimidate. |
| 97. Parathion ethyl | O,O-Diethyl-O-p-nitrophenyl phosphorothioate. |

Table 2.—List of Common Names and Chemical Names of Nonconventional Pesticide Pollutants—Continued

| Common name | Chemical name |
|---|---|
| 98. Parathion methyl | O,O-Dimethyl O-p-nitro-phenyl phosphorothioate. |
| 99. PCNB (Quintozene) | Pentachloronitrobenzene. |
| 100. PCP salt | 2,3,4,5,6-Potassium-pentachlorophenate. |
| 101. Perthane | 1,1-Dichloro-2,2-bis(p-ethylphenyl) ethane. |
| 102. Phorate (Thimet) | O,O-Diethyl S-[(ethylthio)-methyl] phosphorodithioate. |
| 103. Profluralin (Tolban) | N-Cyclopropylmethyl-2,6-dinitro-N-Propyl-4-trifluoromethyl-aniline. |
| 104. Prometon (Pramitol) | 2,4-Bis(isopropylamino)-6-methoxy-s-triazine. |
| 105. Prometryn (Caparol) | 2,4-Bis(isopropylamino)-6-(methylthio)-S-triazine. |
| 106. Propachlor (Ramrod) | 2-Chloro-N-isopropylacentanilide. |
| 107. Propazine (Milogard) | 2-Chloro-4,6-bis(isopropylamino)-s-triazine. |
| 108. Propham | Isopropyl carbanilate. |
| 109. Propoxur | O-Isopropoxyphenyl methylcarbamate. |
| 110. Pyrethrins | Standardized mixture of pyrethrins I and II (mixed esters of pyrethrolone. |
| 111. Ronnel (Fenchlorphos) | O,O-Dimethyl O-(2,4,5-trichlorophenyl) phosphorothioate. |
| 112. Siduron (Tupersan) | 1-(2-Methylcyclohexyl)-3-phenylurea. |
| 113. Silvex (Fenasprop) | 2-(2,4,5-Trichlorophenoxy) propionic acid. |
| 114. Silvex isooctyl ester | Isooctyl ester of 2-(2,4,5-trichlorophenoxy) propionic acid. |
| 115. Silvex salt | Dimethyl amine salt of 2-4,5-trichlorophenoxy) propionic acid. |
| 116. Simazine (Princep) | 2-Chloro-4,5,6-bis(ethyl-amino)-s-triazine. |
| 117. Simetryn (Gyloon) | 2-Methylthio-4,6-bis(ethyl-amino)-s-triazine. |
| 118. Sodium monofluoroacetate | Sodium monofluoroacetate. |
| 119. Stirofos (Tetrachlorvinphos) | 2-Chloro-1-(2,4,5-trichlorophenyl) vinyl dimethyl phosphate. |
| 120. Swep | Methyl N-(3,4-dichlorophenyl) carbamate. |
| 121. 2,4,5-T | 2,4,5-Trichlorophenoxyacetic acid. |
| 122. Terbacil (Sinbar) | 3(tert-Butyl)-5-chlor-6-methyl uracil. |
| 123. Terbufos (Counter) | 5-tert-Butylthiomethyl O,O-dimethyl phosphorodithioate. |
| 124. Terbuthylazine (GS 13529) | 2-tert-Butylamino-4-chloro-6-ethylamino-1,3,5-triazine. |
| 125. Terbutryn (Igran) | 2-(tert-Butylamino)-4-(ethylamino)-6-(methylthio)-s-triazine. |
| 126. Triadimefon (Bayleton) | 1-(4-Chlorophenoxy)-3,3-dimethyl-1-(1,2,4-triazol-1-yl) butan-2-one. |
| 127. Tributylin benzoate | Tributyltin benzoate. |
| 128. Tributyltin oxide | Bis(tri-n-butyltin) oxide. |
| 129. Trichloronate | O-ethyl O-(2,4,5-trichlorophenyl) ethylphosphorothioate. |
| 130. Tricyclazole | 5-Methyl-1,2,4-triazolo [3A-b] Benzothiazole. |
| 131. Trifluralin (Treflan) | a,a,a-Trifluoro-2,6-dinitro-N,N-Dipropyl-p-toluidine. |
| 132. (Vancide TH) | Hexahydro-1,3,5-triethyl-s-triazine. |
| 133. (Vancide 51Z) | Zinc dimethyldithiocarbamate and Zinc 2-mercaptobenzo-thiazole. |
| 134. (Vancide 51Z dispersion) | 50% Zinc dimethyldithiocarbamate and Zinc 2-mercaptobenzothiazole 50% water. |
| 135. [ZAC] (zinc ammonium carbonate) | Ammoniates [ethlenebis (dithiocarbamate)]-zinc. |
| 136. Zineb | Zinc ethylenebisdithiocarbamate. |
| 137. Ziram (Vancide MZ-96) | Zinc dimethyldithiocarbamate. |

12. New Appendices A, B, C, D, and E are added to read as follows:

## Appendix A.—Priority Pollutants Regulated in Pesticide Active Ingredient Manufacturing Wastewaters.

The following requirements are applicable to pesticides in Part 455. Whenever a discharger manufactures a pesticide active ingredient listed in Column A that discharger must meet the effluent limitations and standards for the priority pollutants specified in Column B.

| Column A | Column B |
|---|---|
| Pesticide active ingredient | Priority pollutant regulated |
| Acephate | Methylene chloride. |
| | Toluene. |
| Alachlor | 1,2-Dichloroethane. |
| | Chlorobenzene. |
| Aldicarb | |
| Alkylamine hydrochloride | |
| Allethrin | |
| Ametryne | Cyanide. |
| | Toluene. |
| Aminocarb | |
| Amobam | |
| Anilazine | 1,2-Dichloroethane. |
| | Cyanide. |
| AOP | |
| Aquatreat DNM 30 | |
| Aspon | Toluene. |
| Atrazine | Cyanide. |
| | Carbon tetrachloride. |
| | Toluene. |
| Azinphos methyl | 1,2-Dichloroethane. |
| Barban | Toluene. |
| | 1,2-Dichloroethane. |
| BBTAC | |
| Bendiocarb | |
| Benfluralin | |
| Benomyl | |
| Bensulide | Benzene. |
| | Toluene. |
| Bentazon | Carbon tetrachloride. |
| | Chlorobenzene. |
| Benzethonium chloride | Toluene. |
| Benzyl benzoate | |
| Benzyl bromoacetate | Benzene. |
| | Toluene. |
| BHC | a-BHC–Alpha. |
| | b-BHC–Beta. |
| | d-BHC–Delta. |
| | g-BHC–Gamma. |
| | Benzene. |
| | Chlorobenzene. |
| Bifenox | Methyl chloride. |
| | 2,4-Dichlorophenol. |
| | Phenol. |
| Biphenyl | Benzene. |
| Bolstar | Toluene. |
| | 2,4-Dichlorophenol. |
| | Phenol. |
| Bromacil | Methylene chloride. |
| Bromoxynil | Benzene. |
| | Toluene. |
| Bromoxynil octanoate | Benzene. |
| | Toluene. |
| Busan 40 | |
| Busan 85 | |
| Busan 90 | 1,2-Dichloroethane. |
| | Methylene chloride. |
| | Phenol. |
| Butachlor | 1,2-Dichloroethane. |
| Butylate | Methylene chloride. |
| Captafol | Toluene. |
| | Trichloroethylene. |
| Captan | |
| Carbam-S | |
| Carbaryl | Toluene. |
| Carbendazim | |
| Carbofuran | Methylene chloride. |
| Carbophenothion | Benzene. |
| | Chlorobenzene. |
| Chloramben | |
| Chlordane | Hexachlorocyclopentadiene. |
| | Heptachlor. |
| Chlorobenzene | Benzene. |
| | Chlorobenzene. |
| Chlorobenzilate | Cyanide. |
| Chlorophacinone | |
| Chloropicrin | |
| Chlorothalonil | Tetrachloroethylene. |
| | Cyanide. |
| | Carbon tetrachloride. |
| Chlorpropham | 1,2-Dichloroethane. |
| | TEtrachloroethylene. |
| Chlorpyrifos | Methylene chloride. |
| Chlorpyrifos methyl | Methylene chloride. |
| Coumachlor | |
| Coumafuryl | |
| Coumaphos | |
| Coumatetralyl | |
| Cyanazine | Cyanide. |
| Cycloate | Methylene chloride. |
| Cycloheximide | Methylene chloride. |
| Cycloprate | Toluene. |
| Cyhexatin | Benezene. |
| | Toluene. |
| Cythioate | Benzene. |
| | Toluene. |
| 2,4-D | 2,4-Dichlorophenol. |
| | Phenol. |
| | Toluene (plants 4 and 5 only). |
| 2,4-D isobutyl ester | 1,4-Dichlorophenol. |
| 2,4-D isooctyl ester | 2,4-Dichlorophenol (plant 6 only). |
| 2,4-D salt | |
| Dalapon | |
| Dazomet | |
| 2,4-DB | Methylene chloride. |
| | 2,4-Dichlorophenol. |
| | Phenol. |
| 2,4-DB isobutyl ester | |
| 2,4-DB isooctyl ester | |

| Column A | Column B |
|---|---|
| Pesticide active ingredient | Priority pollutant regulated |
| DBCP | |
| DCNA | |
| DCPA | Carbon tetrachloride. |
| | Benzene. |
| | Toluene. |
| D-D | |
| DDD | Chlorobenzene. |
| DDE | Chlorobenzene. |
| | Chlorobenzene. |
| DDT | Benzene. |
| Deet | Benzene. |
| | Toluene. |
| Demeton | Toluene. |
| Demeton-o | Toluene. |
| | Cooper. |
| Demeton-s | Copper. |
| | Toluene. |
| Diazinon | Toluene. |
| Dicamba | Methyl chloride. |
| | 2,4-Dichlorophenol. |
| | Benzene. |
| | Toluene. |
| Dichlofenthion | 2,4-Dichlorophenol. |
| | Phenol. |
| Dichlorobenzene, ortho | Chlorobenzene. |
| | 1,2-Dichlorobenzene. |
| Dichlorobenzene, para | Chlorobenzene. |
| | 1,4-Dichlorobenzene. |
| Dichloroethyl ether | Bis(2-chloroethyl) ether.* |
| Dichlorophen | Phenol. |
| | Toluene. |
| Dichlorophen salt | |
| Dichloropropene | 1,3-Dichloropropene.* |
| Dichlorprop | Phenol. |
| | 1,4-Dichlorophenol. |
| Dichlorvos | Methyl chloride. |
| Dicofol | 1,2-Dichloroethane. |
| | Chlorobenzene. |
| | Toluene. |
| | Cyanide. |
| Dienochlor | Hexachlorocyclopentadiene. |
| | Copper. |
| | Toluene. |
| Dimethoxane | |
| Dinocap | 2,4-Dinitrophenol. |
| | 4-Nitrophenol. |
| | Phenol. |
| Dinoseb | Phenol. |
| | 2,4-Dinitrophenol. |
| Dioxathion | Benzene. |
| Diphacinone | |
| Diphenamid | Benzene. |
| Diphenylamine | |
| Disulfoton | Toluene. |
| Diuron | Chlorobenzene. |
| | Carbon tetrachloride. |
| Dodine | Cyanide. |
| Dowicil 75 | |
| Endosulfan | Hexachlorocyclopentadiene. |
| | a-Endosulfan-Alpha. |
| | b-Endosulfan-beta. |
| | Benzene. |
| | Toluene. |
| Endothall | |
| Endrin | Hexachlorocyclopentadiene. |
| | Endrin. |
| EPN | 4-Nitrophenol. |
| | Phenol. |
| | Toluene. |
| EPTC | Methylene chloride. |
| Ethalfluralin | |
| Ethion | Methylene chloride. |
| | Methyl bromide. |
| | Toluene. |
| Ethoprop | |
| Ethoxyquin 66% | |
| Ethoxyquin 86% | |
| Ethylene dibromide | |
| Etridazole | Chloroform. |
| EXD | |
| Famphur | Benzene. |
| | Toluene. |
| Fenarimol | Chlorobenzene. |
| | Toluene. |
| Fenitrothion | Copper (plant 8 only). |
| | Toluene. |
| Fensulfothion | Copper. |
| | Toluene. |
| Fenthion | Toluene. |
| Fentin hydroxide | Chlorobenzene. |
| | Phenol. |
| Fenuron | |
| Fenuron-TCA | Benzene. |
| | Toluene. |
| Ferbam | |
| Fluchloralin | |
| Fluoridone | Chloroform. |
| | Toluene. |
| Fluometuron | Cyanide. |
| Fluoroacetamide | |
| Folpet | |
| Fonofos | Toluene. |
| | Phenol. |
| Giv-gard | Toluene. |
| Glyodin | |
| Glyphosate | |
| HAE | |
| HAMP | |
| Heptachlor | Hexachlorocyclopentadiene. |
| | Carbon tetrachloride. |
| | Heptachlor. |
| Hexachlorophene | 1,2-Dichloroethane. |
| | Phenol. |
| | 2,4-Dichlorophenol. |
| Hexazinone | Toluene. |
| HPTMS | |
| Hyamine 2389 | Toluene. |
| Hyamine 3500 | |
| Isopropalin | |
| Kathon 886 | Toluene. |
| Kinoprene | |
| KN methyl | |
| Lethane 384 | Cyanide. |
| Lindane | a-BHC-Alpha. |
| | b-BHC-Beta. |
| | d-BHC-Delta. |
| | g-BHC-Gamma. |
| | Benzene. |
| | Chlorobenzene. |
| Linuron | Chlorobenzene. |
| | Carbon tetrachloride. |
| | Toluene. |
| Malathion | |
| Maleic hydrazide | |
| Mancozeb | Zinc. |
| Maneb | Zinc (plant 9 only). |
| MCPA | Phenol. |
| | Toluene. |
| MCPA isooctyl ester | |
| MCPP (Mecoprop) | Phenol. |
| | Toluene. |
| Mephosfolan | Toluene. |
| Merphos | |
| Metasol DGH | Cyanide. |
| Metasol J-26 | |
| Metham | |
| Methamidophos | 1,2-Dichloroethane. |
| Methiocarb | |
| Methomyl | Methylene chloride. |
| Methoprene | |
| Methoxychlor | Phenol. |
| Methylbenzethonium chloride | Toluene. |
| Methyl bromide | Methyl bromide. |
| Methylene bisthiocyanate | Cyanide. |
| | Methyl bromide. |
| | Methylene chloride. |
| Metribuzin | Methyl bromide. |
| Mevinphos | Methyl chloride. |
| Mexacarbate | |
| MGK 264 | Toluene. |
| MGK 326 | Benzene. |
| Mirex | Hexachlorocylopentadiene. |
| Molinate | Methylene chloride. |
| Monocrotophos | Chloroform. |
| | Copper. |
| Mon | |
| Monuron-TCA | Benzene. |
| | Toluene. |
| Nabam | |
| Nabonate | Cyanide. |
| Naled | Carbon tetrachloride. |
| 1,8-Napthalic anhydride | |
| Napropamide | Toluene. |
| | Chlorobenzene. |
| Naptalam | Benzene. |
| | Toluene. |
| Neburon | Carbon tetrachloride. |
| | Chlorobenzene. |
| Niacide | |
| Nitrofen | 2,4-Dichlorophenol. |
| | 4-Nitrophenol. |
| | Benzene. |
| | Toluene. |
| NMI | |
| Norflurazon | |
| Octhilinone | |
| Oryzalin | Toluene. |
| Oxamyl | |
| Oxydemeton | Toluene. |
| | Copper. |
| Oxyfluorfen | Tetrachloroethylene. |
| Paraquat | Methyl chloride. |
| Parathion ethyl | 4-Nitrophenol. |
| | Benzene. |
| | Toluene. |
| Parathion methyl | 4-Nitrophenol. |
| | Benzene. |
| | Toluene. |
| PBED | 1,2-dichloroethane. |
| PCNB | Pentachlorophenol. |
| | 1,2,4-trichlorobenzene. |
| PCP | Pentachlorophenol. |
| | Phenol. |
| PCP salt | Phenol. |
| | Pentachlorophenol. |
| Pebulate | Methylene chloride. |
| | Zinc. |
| Pendimethalin | Benzene. |
| | Toluene. |
| Perfluidone | |
| Permethrin | |
| Perthane | |
| Phenylphenol | Phenol. |
| | Benzene. |
| | Chlorobenzene. |
| Phenylphenol sodium salt | Phenol. |
| | Benzene. |
| | Chlorobenzene. |
| Phorate | |
| Phostolan | Toluene. |
| Phosmet | Benzene. |
| Picloram | Cyanide. |
| | Carbon tetrachloride. |
| Pindone | Benzene (plant 12 only). |
| Piperaline | Chlorobenzene. |
| | Toluene. |
| Piperonyl butoxide | |
| Polyphase antimildew | |
| Profluralin | Benzene. |
| | Toluene. |
| Prometon | Cyanide. |
| | Toluene. |
| Prometryn | Cyanide. |
| | Toluene. |
| Pronamide | Toluene. |
| Propachlor | 1,2-Dichloroethane. |
| Propanil | Toluene (plants 14 and 15 only). |
| Propargite | |
| Propazine | Cyanide. |
| | Carbon tetrachloride (plant 16 only). |
| Propham | |
| Propionic acid | |
| Propoxur | |
| Pyrethrins | |
| 8 Quinolinol citrate | |
| 8 Quinolinol sulfate | |
| Quinomethionate | |
| Resmethrin | Toluene. |
| RH-787 | |
| Ronnel | 2,4-Dichlorophenol. |
| | Phenol. |
| Rotenone | Toluene. |
| Siduron | |
| Silvex | 2,4-Dichlorophenol. |
| | Phenol. |
| | Toluene (plant 17 only). |
| Silvex isooctyl ester | |
| Silvex salt | |
| Simazine | Cyanide. |
| | Carbon tetrachloride (plant 18 only). |
| | Toluene (plant 18 only). |
| Simetryne | Cyanide. |
| | Toluene. |
| Sodium monofluoroacetate | |
| Stirofos | Methyl chloride. |
| Sufallate | 2,4-Dichlorophenol. |
| Sulfoxide | |
| SWEP | Benzene. |
| 2,4,5-T | Phenol. |
| | 2,4-Dichlorophenol. |
| | Toluene (plant 19 only). |
| TCMTB | Cyanide. |
| | Methylene chloride. |
| Tebuthiuron | Toluene. |

| Column A | Column B |
|---|---|
| Pesticide active ingredient | Priority pollutant regulated |
| Temephos | 1,2-Dichloroethane (plant 20 only). |
| | Toluene (plant 21 only). |
| Terbacil | Methylene chloride. |
| | Toluene. |
| Terbufos | |
| Terbuthylazine | Cyanide. |
| Terbutryn | Cyanide. |
| | Toluene. |
| Thiabendazole | Cyanide. |
| Thiofanox | |
| Thionazin | 1,2-Dichloroethane. |
| Tokuthion | Phenol. |
| | 2,4-Dichlorophenol. |
| | Toluene. |
| Toxaphene | Carbon tetrachloride. |
| | Toxaphene. |
| | Benzene (plant 22 only). |
| | Toluene (plant 22 only). |
| Triadimefon | Phenol. |
| Tributyltin benzoate | |
| Tributyltin fluoride | |
| Tributyltin oxide | |
| Trichlorobenzene | Benzene. |
| | Chlorobenzene. |
| | 1,2,4-Trichlorobenzene. |
| Trichloronate | 2,4-Dichlorophenol. |
| | Phenol. |
| | Toluene. |
| Tricyclazole | Benzene. |
| | Toluene. |
| Trifluralin | N-nitrosodi-n-propylamine. |
| Vancide TH | |
| Vancide 51Z | |
| Vancide 51Z dispersion | |
| Vancide PA | |
| Vernolate | Methylene chloride. |
| Warfarin | |
| ZAC | Zinc. |
| Zineb | Zinc. |
| Ziram | Zinc (plants 23 and 24 only). |

* = Regulated as a priority pollutant only in those processes in which it is a manufactured product

## Appendix B.—Priority Pollutant Effluent Limitations and Standards For BAT, NSPS, PSES and PSNS

| Priority pollutants | Maximum for any 1 day (mg/L) | Monthly average shall not exceed (mg/L) |
|---|---|---|
| Benzene (1) | 0.057 | 0.021 |
| Chlorobenzene (1) | 0.045 | 0.023 |
| Toluene (1) | 0.035 | 0.018 |
| 1,2-Dichlorobenzene (2) | 0.11 | 0.040 |
| 1,4-Dichlorobenzene (2) | 0.045 | 0.018 |
| 1,2,4-Trichlorobenzene (2) | 0.13 | 0.055 |
| Methyl bromide | 0.15 | 0.042 |
| Carbon tetrachloride | 0.13 | 0.038 |
| Chloroform | 0.075 | 0.031 |
| Methyl chloride | 0.11 | 0.032 |
| Methylene chloride | 0.56 | 0.16 |
| Cyanide | 0.64 | 0.22 |
| Bis(2-chloroethyl) ether (2) | zero | zero |
| 2,4-Dichlorophenol | 0.050 | 0.023 |
| 2,4-Dinitrophenol | 0.12 | 0.034 |
| 4-Nitrophenol | 0.050 | 0.019 |
| Pentachlorophenol | 0.25 | 0.15 |
| Phenol (1) | 0.040 | 0.017 |
| Copper | 0.27 | 0.13 |
| Zinc | 0.26 | 0.16 |
| 1,2-Dichloroethane (1) | 1.0 | 0.41 |
| Tetrachloroethylene (1) | 0.085 | 0.034 |
| N-nitrosodi-n-propylamine | 0.090 | 0.028 |
| 1,3-Dichloropropene (2) | zero | zero |
| Hexachlorocyclopentadiene | 0.13 | 0.037 |
| a-BHC-Alpha (2) | 0.090 | 0.032 |
| b-BHC-Beta (2) | 0.090 | 0.032 |
| d-BHC-Delta (2) | 0.090 | 0.032 |
| g-BHC-Gamma (2) | 0.090 | 0.032 |
| a-Endosulfan-Alpha (2) | 0.090 | 0.032 |
| b-Endosulfan-Beta (2) | 0.090 | 0.032 |
| Endrin (2) | 0.18 | 0.057 |
| Heptachlor (2) | 0.090 | 0.032 |
| Toxaphene (2) | 0.005 | 0.002 |

[1] BAT/NSPS only.

[2] Regulated only in those processes in which it is the manufactured product.

[3] Limits apply only for PSES, NSPS, and PSNS. BPT limits are established by 455.20(b).

## Appendix C.—Nonconventional Pesticide Pollutant Effluent Limitations and Standards for BAT, NSPS, PSES and PSNS

| Pesticide active ingredient | Maximum for any 1 day (mg/L) | Monthly average shall not exceed (mg/L) |
|---|---|---|
| Alachlor | 0.17 | 0.041 |
| Atrazine | 19.3 | 7.2 |
| Azinphos methyl (1) | 1.4 | 0.37 |
| Barban | zero | zero |
| Benfluralin | 0.20 | 0.11 |
| Benomyl | 13.3 | 4.1 |
| Bolstar | 0.002 | 0.0008 |
| Bromacil | 0.31 | 0.095 |
| Busan 40 | 0.44 | 0.22 |
| Busan 85 | 0.44 | 0.22 |
| Butachlor | 0.006 | 0.003 |
| Carbam-s | 0.44 | 0.22 |
| Carbendazim | 13.3 | 4.1 |
| Carbofuran | 8.5 | 2.6 |
| Carbophenothion | 0.16 | 0.076 |
| Chlorpropham (1) | 12.2 | 5.1 |
| Chlorpyrifos | 0.16 | 0.076 |
| Chlorpyrifos methyl | 0.16 | 0.076 |
| Coumaphos | 0.16 | 0.076 |
| 2,4-D (1) | 3.3 | 1.5 |
| 2,4-D isobutyl ester | 3.9 | 1.7 |
| 2,4-D isooctyl ester | 3.9 | 1.7 |
| 2,4-DB | 0.025 | 0.014 |
| 2,4-DB isobutyl ester | 0.041 | 0.019 |
| 2,4-DB isooctyl ester | 0.041 | 0.019 |
| DBCP | 1.6 | 0.78 |
| Demeton | 0.17 | 0.061 |
| Demeton-o (1) | 0.14 | 0.046 |
| Demeton-s (1) | 0.14 | 0.046 |
| Diazinon (1) | 0.15 | 0.069 |
| Dichlofenthion | 0.15 | 0.071 |
| Dichlorvos | 0.021 | 0.007 |
| Dinoseb | 0.79 | 0.42 |
| Dioxathion | 0.16 | 0.076 |
| Disulfoton (1) | 0.82 | 0.25 |
| Diuron (1) | 0.090 | 0.050 |
| Ethalfluralin | 0.40 | 0.21 |
| Ethion | 0.15 | 0.071 |
| Fensulfothion | 2.6 | 0.85 |
| Fenthion | 0.91 | 0.38 |
| Ferbam | 1.2 | 0.39 |
| Fluometuron | 0.054 | 0.030 |
| Glyphosate | 130. | 32. |
| Isopropalin | 0.20 | 0.11 |
| KN methyl | 0.44 | 0.22 |
| Linuron (1) | 0.056 | 0.031 |
| Malathion (1) | 0.15 | 0.071 |
| Mancozeb | 1.2 | 0.39 |
| Maneb | 1.2 | 0.39 |
| Metham | 0.44 | 0.22 |
| Methomyl | 30.0 | 9.7 |
| Metribuzin | 1.6 | 0.48 |
| Mevinphos | 0.22 | 0.074 |
| Naled | 0.31 | 0.16 |
| Neburon (1) | 0.090 | 0.050 |
| Niacide | 1.2 | 0.39 |
| Oxamyl | 25.7 | 9.3 |
| Parathion Ethyl (1) | 0.014 | 0.004 |
| Parathion Methyl (1) | 0.014 | 0.004 |
| PCNB (1) | 0.21 | 0.064 |
| PCP salt | 4.7 | 1.0 |
| Phorate | 0.15 | 0.071 |
| Profluralin | 0.005 | 0.003 |
| Prometon | 3.7 | 1.4 |
| Prometryn | 19.3 | 7.2 |
| Propachlor | 0.030 | 0.012 |
| Propazine | 19.3 | 7.2 |
| Propham (1) | 12.5 | 3.8 |
| Propoxur (1) | 8.5 | 2.6 |
| Ronnel | 0.16 | 0.076 |
| Silvex (1) | 1.9 | 0.79 |
| Silvex isooctylester | zero | zero |
| Silvex salt | zero | zero |
| Simazine | 19.3 | 7.2 |
| Simetryne | 3.7 | 1.4 |
| Strobos | 0.031 | 0.015 |
| Swep (1) | 12.2 | 5.1 |
| 2,4,5-T (1) | 1.9 | 0.79 |
| Terbacil | 30.3 | 9.6 |
| Terbufos | 0.15 | 0.071 |
| Terbuthylazine | 19.3 | 7.2 |
| Terbutryn | 19.3 | 7.2 |
| Tributyltin benzoate | zero | zero |
| Trichloronate | 0.16 | 0.076 |
| Trifluralin (1) | 0.043 | 0.023 |
| Vancide 51Z | zero | zero |
| Vancide 51Z dispersion | zero | zero |
| ZAC | 1.2 | 0.39 |
| Zineb | 1.2 | 0.39 |

[1] Limits apply only for PSES, NSPS, and PSNS. BPT limitations are established by 455.20(b).

## Appendix D.—Pesticides Regulated by PSES When Formulated and Packaged

Direct (NSPS) and Indirect Discharges (PSES/PSNS) of process wastewater resulting from the formulating and packaging of the following pesticides are regulated under Subpart C of this part:

1. Alachlor
2. Aldrin
3. Ametryn
4. Aminocarb
5. AOP
6. Atraton
7. Atrazine
8. Azinphos methyl
9. Barban
10. Benfluralin
11. Benomyl
12. Bentazon
13. a-BHC-Alpha
14. b-BHC-Beta
15. c-BHC-Delta
16. y-BHC Gamma (Lindane)
17. Bis[2-chloroethyl]ether
18. Bolstar
19. Bromacil
20. Busan 40
21. Busan 85
22. Butachlor
23. Captan
24. Carbam-S
25. Carbaryl
26. Carbendazim
27. Carbofuran
28. Carbophenothion
29. Chlordane
30. Chlorobenzene
31. Chlorobenzilate
32. Chloropropham
33. Chloropyrifos
34. Chloropyrifos methyl
35. Coumaphos
36. Cyanazine
37. 2,4-D and its salts and esters
38. 2,4-DB
39. 2,4-DB isobutyl ester
40. 2,4-DB isobutyl ester
41. DBCP
42. 4,4≠-DDD
43. 4,4≠-DDE
44. 4,4≠-DDT
45. Deet
46. Demeton-O

47. Demeton-S
48. Demeton
49. Diazinon
50. Dicamba
51. Dichlofenthion
52. Dichloran
53. 1,2-Dichlorobenzene
54. 1,4-Dichlorobenzene
55. 1,2-Dichloropropane
56. Cis-1,3-Dichloropropene
57. trans-1,3-Dichloropropene
58. 1,3-Dichloropropene
59. Dichlorvos
60. Dicofol
61. Dieldrin
62. Dimethyl phthalate
63. Dinoseb
64. Dioxathion
65. Disulfoton
66. Diuron
67. Endosulfan I
68. Endosulfan II
69. Endosulfan sulfate
70. Endrin
71. Endrin aldehyde
72. Ethalfluralin
73. Ethion
74. Etridiazole
75. Fensulfothion
76. Fenthion
77. Fenuron
78. Fenuron-TCA
79. Ferbam
80. Fluometuron
81. Glyphosate
82. Heptachlor
83. Heptachlor epoxide
84. Hexachlorobenzene
85. Hexazinone
86. Isodrin
87. Isopropalin
88. KN Methyl
89. Linuron
90. Malathion
91. Mancozeb
92. Maneb
93. Mephosfolan
94. Metham
95. Methiocarb
96. Methomyl
97. Methoxychlor
98. Methylbromide
99. Metribuzin
100. Mevinphos
101. Mexacarbate
102. Mirex
103. Monuron
104. Monuron-TCA
105. NABAM
106. Naled
107. Napthalene
108. Neburon
109. Niacide
110. Oxamyl
111. Parathion methyl
112. Parathion ethyl
113. PCNB
114. Pentachlorophenol ("PCP")
115. PCP Salt
116. Perthane
117. Phorate
118. Profluraline
119. Prometon
120. Prometryn
121. Propachlor
122. Propazine
123. Propham
124. Propoxur
125. Ronnel
126. Secbumeton
127. Siduron
128. Simazine
129. Simetryne
130. Stirofos
131. Strobane
132. Swep
133. 2,4,5-T
134. 2,4,5-TP (Silvex) and its salts and esters
135. Terbacil
136. Terbufos
137. Terbuthylazine
138. Terbutryn
139. Toxaphene
140. Triadimefon
141. Trichlorobenzene
142. Trichloronate
143. Tricyclazole
144. Trifluralin
145. ZAC
146. Zineb
147. Ziram

In addition Vancide 51Z, Vancide 51Z dispersion, and metallo-organic active ingredients containing mercury, cadmium, arsenic, copper, or tin.

**Appendix E.—Test Procedures for Analysis of Nonconventional Pesticide Pollutants**

**Method 102—Alachlor, Butachlor, Propachlor**

*1. Scope and Application*

1.1 This method covers the determination of certain acetanilides. The following parameters can be determined by this method:

| Parameter | Storet No. | CAS No. |
|---|---|---|
| Alachlor | 77825 | 15972-60-8 |
| Butachlor | 77860 | 23184-66-9 |
| Propachlor | 77729 | 1918-16-7 |

1.2 This is a gas chromatographic (GC) method applicable to the determination of the compounds listed above in waters and treated aqueous effluents at acetanilide herbicide manufacturing facilities.

1.3 The method detection limit (MDL) for each parameter is 0.2 μg/L when using a 1-liter sample.

1.4 The allowable quantities of acetanilides in aqueous waste from herbicide manufacturing sites are limited by both State and Federal environmental protection agencies. In order to monitor acetanilides at anticipated levels of interest, a parts-per-billion (μg/L) method for their quantitation is necessary.

*2. Summary of Method*

2.1 A volume of water sample (1000 mL) is spiked with an internal standard and then extracted with methylene chloride. The extracts are combined and concentrated to 5 mL. The methylene chloride solvent is exchanged for a toluene/methanol mixture. Analysis for the acetanilides is by packed column chromatography using a nitrogen selective detector routinely and an electron capture detector as necessary to deal with interferences.

2.2 When this method is used to analyze unfamiliar samples for any analyte above, compound identification should be confirmed by at least one additional qualitative technique. Techniques which have been useful for confirmation are gas chromatography on a column of differing polarity from the column specified (see e.g., Method 608), liquid chromatography with a selective detector (see e.g., Method 610), and gas chromatography combined with mass spectrometry (GS/MS) (see e.g., Method 625). These techniques have not been demonstrated to work on actual wastewater samples with this method but have worked well in confirming other analytes (see e.g., Methods 608 and 625).

2.3 If the sample NPD chromatograph contains peaks interfering with alachlor, butachlor, propachlor, or the internal standard, the sample should also be analyzed similarly using an electron capture detector. This change is detector specificity may allow better quantitation.

*3. Interferences*

3.1 Accurate analyses for parts-per-billion (μg/L) concentrations require rigorous controls to prevent external contamination from the laboratory environment, glassware, reagents, or cross-contamination between samples.

3.2 The laboratory should be maintained at a positive pressure relative to its surroundings, and a suitable air intake filtration system should be used. In addition, to protect the laboratory from contamination carried on the clothing and shoes of manufacturing, formulation, and other laboratory personnel, access to the laboratory where this and other trace analyses are performed should be strictly limited.

3.3 Laboratory Glassware: To avoid contamination from greater than parts-per-billion (μg/L) concentrations of acetanilides, the glassware used for specific parts of the method should be dedicated to just those parts. For example, the equipment for concentrated stock solutions and those for more dilute calibration solutions should not be interchanged.

3.3.1 Glassware cleaning: A rigorous procedure was allowed during the development of this method. That procedure was successful since no cross-contamination was detected. Since copious volumes of acetone are involved, gloves should be used.

3.3.1.1 Initially glassware is washed with acetone and water until all visible contaminants are removed. Soap is not employed since it too may be a source of interference. The visibly cleaned glassware

then is rinsed 10 times with acetone and 30 times by distilled water. Following each 10 water rinses are 5 acetone rinses and finally an extra 5 acetone rinses before the glassware is drained to dryness. Clean glassware is stored in a closed cabinet.

3.3.1.2 Hypodermic syringes are rinsed with acetone *immediately* after being used. Then, under vacuum, 40 "beads" of water are sucked through the syringe; after 10 water rinses, 5 acetone rinses are done. Clean syringes are stored in glass test tubes.

3.4 Gas Chromatography: To avoid contamination, the gas chromatograph and analytical columns are dedicated to this analysis.

3.5 Reagents: The best available pesticide grade reagents are employed to assure minimum interferences from this source. It is recommended that solvents from each newly opened reagent container be tested by the analytical procedure to assure that interferences are absent.

3.6 Acetanilide adsorption on glassware: At parts-per-billion (ug/L) levels, tests indicate that certain acetanilides are adsorbed on the surfaces of glassware. A significantly improved recovery can be attained when solutions contain about 20 percent methanol. Similar results were reported for polycyclic aromatics by Ogan, Katz, and Slavin (15.2).

*4. Safety*

4.1 The toxicity or carcinogenicity of each reagent used in this method has not been precisely defined; however, each chemical compound must be treated as a potential health hazard. From this viewpoint, exposure to these chemicals must be reduced to the lowest possible level by whatever means available. The laboratory is responsible for maintaining a current awareness file of OSHA regulations regarding the safe handling of the chemcials specified in this method. A reference file of material data handling sheets should also be made available to all personnel involved in the chemical analysis.

*5. Apparatus and Materials*

5.1 Sampling Equipment

5.1.1 Samples are taken in 1-gallon, amber, glass bottles having a Teflon disk cap insert. Plastic containers cannot be used since components from the container may be dissolved into the sample or sample constituents may be absorbed into the container walls.

5.2 Glassware and Other Equipment

5.2.1 Graduated cylinders, 500 mL and 25 mL.

5.2.2 Separatory funnel, 1000 mL, with Teflon stopcock and stopper.

5.2.3 Evaporative concentrator (modified Kuderna-Danish—Figure 1).

5.2.4 Disposable glass pipets.

5.2.5 Hypodermic syringe, 10 microliter.

5.2.6 Centrifuge tubes, 5 mL, graduated to 0.1 mL (Fisher Scientific Co., 5–538–35A).

5.2.7 Volumetric flasks, 500 and 1000 mL.

5.2.8 Pipets, 5 and 25 mL.

5.3 Steam Bath

5.4 Boiling Chips

5.5 Gas Chromatograph: A modern gas chromatograph should be used. It should be equipped for glass columns and on-column injection. In the development of this method, a Hewlett Packard model 5840A gas chromatograph was used.

5.5.1 Analytical column: A glass, 6-ft, ¼-in O.D., 2 mm-I.D. column packed with 10% OV–11 Chromosorb W–HP, 100–120 mesh was used.

5.5.2 Gas chromatographic detector: An alkali nitrogen sensitive detector is employed to maximize the sensitivity and selectivity for acetanilides. In the development of this method the Hewlett Packard NPD detector with associated electronics and pneumatics was used.

*6. Reagents*

6.1 High Grade Distilled in Glass Solvents—Burdick and Jackson, distilled in glass, pesticide grade

6.1.1 Toluene

6.1.2 Methylene chloride

6.1.3 Methanol

6.2 Acetone—Fisher Scientific Co., certified ACS grade, A–18

6.3 Analytical Standards

6.3.1 Alachlor

6.3.2 Butachlor

6.3.3 Propachlor

*7. Calibration*

7.1 GC Conditions

The GC analysis performed isothermally at 200 °C for 2 min., followed by programming at 8 °C/min to 250 °C and holding for 10 min. The operating parameters shown in Table 1 used on the HP 5840A provide satisfactory sensitivity, resolution, and quantitation.

7.2 Calibration Procedure

7.2.1 Internal Standard

"Hexoxy Alachlor," analytical standard grade [2-chloro-2'6'-diethyl-N-(hexoxymethyl)-acetanilide], is used.

7.2.2 Calibration and Standardization

The text below describes the preparation of two ranges of standard solutions for use in the two general concentration ranges (0.2–10 ug/L and 20–300 ug/L) for which the method has been validated. The composition of standard solutions used for calibration is as follows for analysis of water and effluents at low levels (0.2 to 10 ug/L):

Solution A: Components: Accurately weight into a 1000-mL volumetric flask 0.02 g of each of the three components to be analyzed for and add methanol to volume. This solution contains 20 ug/mL of each of the materials.

Solution B: Components: Pipet 5 mL of Solution A into a 1000-mL volumetric flask and add methanol to volume. This solution contains 0.1 ug/mL of each of the materials.

Solution C: Internal Standard: Accurately weigh into a 500-ml volumetric flask 0.2 g of "hexoxy alachlor"; add methanol to volume. This solution contains 0.4 mg/mL of the internal standard.

Solution D: Internal Standard: Pipet 5 mL of Solution C into a 1000-mL volumetric flask and add methanol to volume. This solution contains 2 μg/mL of the internal standard.

For waters and effluents where higher levels (20–300 μg/L) of the acetanilide herbicides may be detected and quantitated, standard solutions are prepared such that levels in the calibration samples approximate those occurring in the actual samples. The composition of those standard solutions is as follows:

Solution E: Components: Accurately weigh into a 100-mL volumetric flask 0.02 g of propachlor, 0.20 g of alachlor, and 0.10 g of butachlor. Add methanol to volume. This solution contains 200, 2000, and 1000 μg/mL, respectively, of the three acetanilides.

Solution F: Components: Pipet 5-mL of Solution E into a 100 mL volumetric flask; add methanol to volume. This solution contains 10, 100, and 50 μg/mL, respectively, of the three acetanilides.

Solution G: Internal Standard: Accurately weigh into a 100-mL volumetric flask 0.14 g of hexoxy alachlor; add methanol to volume. This solution contains 1400 μg/mL of this internal standard.

Solution H: Internal Standard: Pipet 5 mL of Solution G into a 100-mL volumetric flask; add methanol to volume. This solution contains 70 μg/mL of the internal standard.

7.2.3 Instrument and Method Calibration Samples—To compensate for possible interferences and variable extraction efficiencies, an instrument calibration sample is carried through the same extractive and concentration steps used for a test sample.

7.2.3.1 Measure 500 mL of deionized water into a 1000-mL separatory funnel.

7.2.3.2 To the above, add by pipet 25 mL of Solution B (for low level calibration). If calibration at a higher level is necessary, add the appropriate level of standard solution. The spiking level of the calibration sample should approximate as closely as possible the levels to be measured in the actual sample.

7.2.3.3 To the above, add by pipet 5 mL of Solution D. (Note that for the higher level range, Solution H would be used.)

7.2.3.4 Add to the above an additional 470 mL of deionized water.

7.2.3.5 Stopper the separatory funnel and mix the contents. This aqueous calibration sample solution contains 2.5 μg/L of each of the components and 10 μg/L of the internal standard. This solution is recommended for use in the analysis of samples of varying composition. During continued analysis of samples of fairly constant composition a calibration solution more closely reflecting sample composition may produce the best results.

7.2.3.6 Extract the solution prepared in Step 7.2.3.5 with 20 mL of methylene chloride by shaking viogorously for one minute.

7.2.3.7 After the phases separate, draw off the lower methylene chloride layer into the evaporative concentrator.

7.2.3.8 Repeat Steps 7.2.3.6 and 7.2.3.7 three additional times; however, use 7 mL of methylene chloride for each of these extractions.

7.2.3.9 Add a boiling chip (previously extracted in methylene chloride) to the evaporative concentrator; under a stream of nitrogen and with heating by a steam bath, concentrate the volume to approximately 3 mL. This solution must not go dry if accuracy is to be maintained.

7.2.3.10 When the volume is reduced to approximately 3 mL, rinse down the upper flask with approximately 2 mL of toluene and continue heating this solution. The majority

of the solvent exchange is indicated by a dramatic decrease in the size of the bubbles. Continue heating approximately 5 minutes to decrease the methylene chloride concentration to a negligible amount. (Solvent exchange is necessary since halogenated solvents cause a marked decrease in the sensitivity of an NPD detector.)

7.2.3.11 Rinse down the walls of the upper flask with approximately 1 mL of methanol.

7.2.3.12 Dry the outside of the ground glass joint, and with a new disposable pipet transfer the concentrate to a 5-mL centrifuge tube.

7.2.3.13 Using no more than 2 mL of toluene, rinse the interior of the lower part of the evaporative concentrator; add these rinses to the 5-mL centrifuge tube.

7.2.3.14 Under a stream of nitrogen, evaporate the solution in the 5-mL centrifuge tube to approximately 0.2 mL.

7.2.3.15 Rinse down the walls of the 5-mL centrifuge tube with 0.1 mL of methanol. Stopper the tube and mix its contents.

7.2.3.16 Inject 4 uL of this solution into the gas chromatograph. Calibrate the instrument; triplicate calibration runs are recommended.

7.2.3.17 The solution from Step 7.2.3.15 is stable for about 5 days. New calibration samples should be prepared weekly. Instrument calibration should be done daily.

*8. Quality Control*

8.1 The Agency requires that each laboratory operate a formal quality control program. The minimum requirements of this program consist of an initial demonstration of laboratory capability and the analysis of spiked samples as a continuing check on performance. The laboratory is required to maintain performance records to define the quality of data generated.

(a) Before performing any analyses, the analyst must demonstrate the ability to generate acceptable accuracy and precision. This ability is established as described below.

(b) In recognition of the rapid advances occurring in chromatography, the analyst is permitted certain options to improve the separations or lower the cost of measurements. Each time such modifications to the methods are made, the analyst is required to repeat the accuracy and precision procedure.

(c) The laboratory must spike and analyze a minimum of 10 percent of all samples to monitor continuing laboratory performance.

8.2 To establish the ability to generate acceptable accuracy and precision, the analyst must perform the following operations.

(a) Select a representative spike concentration for each compound to be measured.

(b) Add the known amount of standard to each of a minimum of four 1,000-mL aliquots of reagent water. A representative wastewater may be used in place of the reagent water, but one or more additional aliquots must be analyzed to determine background levels, and the spike level must exceed twice the background level for the test to be valid.

(c) Calculate the average percent recovery (R) and the coefficient of variation of the percent recovery ($C_v$) for the results. Wastewater background corrections must be made before R and $C_v$ calculations are performed.

(d) Using average recovery and standard deviation expected for each method parameter, compare these values to R and C in Table 3. If the data are not comparable, review potential problem areas and repeat the test.

8.3 The analyst must calculate method performance criteria and define the performance of the laboratory for each spike concentration and parameter being measured.

(a) Calculate upper and lower control limits for method performance as follows:

Upper Control Limit (UCL) = $R + 3C_v$

Lower Control Limit (LCL) = $R - 3C_v$

where R and $C_v$ are calculated as noted above. The UCL and LCL can be used to construct control charts that are useful in observing trends in performance.

(b) The laboratory must develop and maintain separate accuracy statements of laboratory performance for wastewater samples. An accuracy statement for the method is defined as $R \pm 2C_v$. The accuracy statement should be developed by the analysis of four aliquots of wastewater, followed by the calculation of R and $C_v$. Alternatively, the analyst may use four wastewater data points gathered through the requirement for continuing quality control. The accuracy statements should be updated regularly.

8.4 The laboratory is required to collect in duplicate a portion of its samples to monitor spike recoveries. The frequency of spiked sample analysis must be at least 10 percent of all samples or one spike sample per month, whichever is greater. One aliquot of the sample must be spiked and analyzed. If the recovery for a particular parameter does not fall within the control limits for method performance, the results reported for that parameter in all samples processed as part of the same set must be qualified. The laboratory should monitor the frequency of data qualified to ensure that it remains at or below 5 percent.

8.5 Before processing any samples, the analyst must demonstrate through the analysis of a 1-liter aliquot of reagent water that all glassware and reagents interferences are under control. Each time a set of samples is extracted or there is a change in reagents, a laboratory reagent blank must be processed as a safeguard against laboratory contamination.

8.6 It is recommended that the laboratory adopt additional quality assurance practices for use with these method. The specific practices that are most productive depend upon the needs of the laboratory and the nature of the samples. Field duplicates may be analyzed to monitor the precision of the sampling technique. When in doubt exists over the identification of a peak on a chromatogram, confirmatory techniques such as gas chromatography with a dissimilar column, specific element detector, or mass spectrometer must be used. Whenever possible, the laboratory should perform analysis of quality control materials and participate in relevant performance evaluation studies.

*9. Sample Collection, Preservation, and Handling*

9.1 Samples are taken in 1-gallon, amber, glass bottles having a Teflon disk cap insert. Plastic containers cannot be used since components from the container may be dissolved into the sample or sample constituents may be adsorbed into the container walls.

9.2 Grab samples must be collected in glass containers. Conventional sampling practices should be followed; however, the bottle must not be prerinsed with the sample before collection. Composite samples should be collected in refrigerated glass containers in accordance with program requirements. Automatic sampling equipment must be as free as possible of plastic tubing and other potential sources of contamination.

9.3 All samples must be adjusted to pH between 5 and 9. When analysis of chlorinated pesticides is to be made it should be preserved with 0.008 percent $Na_2S_2O_3$.

9.4 The samples must be iced or refrigerated at 4°C from the time of collection until extraction.

9.5 All samples must be extracted within 7 days and completely analyzed within 40 days of extraction.

*10. Sample Extraction*

10.1 Measure 1000 mL of aqueous sample into a 1000-mL separatory funnel.

10.2 To the above, add by pipet 5 mL of Solution D. (Note that for the higher level range, Solution H would be used).

10.3 Stopper the separatory funnel and mix the contents. This aqueous solution contains the sample acentanilides and 10 $\mu g/L$ of internal standard.

10.4 Extract the acetanilides from the solution prepared in Step 10.3 using methylene chloride. Add 20 mL of methylene chloride and extract by shaking vigorously for one minute.

10.5 After the phases separate, draw off the lower layer into the evaporative concentrator. Do not draw off any emulsion layer that may be at the solvent interface.

10.6 Repeat Steps 10.5 and 10.6 three additional times; however, use 7 mL of methylene chloride for each of these extractions.

10.7 Add a boiling chip (previously extracted in methylene chloride) to the evaporative concentrator; under a stream of nitrogen and with heating by a steam bath, concentrate the volume to approximately 3 mL. This solution must not go dry if accuracy is to be attained.

10.8 When the volume is reduced to approximately 3 mL, rinse down the upper flask with approximately 2 mL of toluene and continue heating this solution. The majority of the solvent exchange is indicated by a dramatic decrease in the size of the bubbles. Continue heating approximately 5 minutes to decrease the methylene chloride concentration to a negligible amount. (Solvent exchange is necessary since halogenated solvents cause a marked decrease in the sensitivity of an NPD detector.)

10.9 Rinse down the walls of the upper flask with approximately 1 mL of methanol

10.10 Dry the outside of the ground glass joint, and with a new disposable pipet transfer the concentrate to a 5-mL centrifuge tube.

10.11 Using no more than 2 mL of toluene, rinse the interior of the lower part of the evaporator concentrator; add these rinses to the 5-mL centrifuge tube.

10.12 Under a stream of nitrogen, evaporate the solution in the 5-mL centrifuge tube to approximately 0.2 mL.

10.13 Rinse down the walls of the 5-mL centrifuge tube with 0.1 mL of methanol. Stopper the tube and mix its contents. The sample is now ready for gas chromatographic analysis.

*11. Gas Chromatography*

11.1 Inject 3 uL of the solution from Step 10.13 into the gas chromatograph and determine the amount of each acetanilide present. Table 1 summarizes the recommended operating conditions for the GC.

11.2 If the sample NPD chromatogram contains peaks interfering with propachlor, alachlor, butachlor, or the internal standard, the sample also should be analyzed similarly using an electron capture detector. This change in detector specificity may allow better quantitation.

11.3 Interfering compounds coextracted from a sample with the analyte(s) of interest (matrix interferences) may preclude analysis of a specific wastewater sample without a sample extract cleanup step. Cleanup procedures can be pH exchange of the wastewater (provided the analyte is not harmed by the pH chosen) or column chromatography of the extract (see e.g., Method 608). These cleanup steps have not been demonstrated to work with wastewater samples containing the analyte(s) in this Method; however, they have worked for other analytes (see e.g., Method 608). Prior to applying the cleanup step(s) to determination of the analytes in wastewater, the analyst should test the cleanup step(s) to assure recovery of the analyte(s) and to determine in which fraction the analyte(s) will elute when column chromatography procedures are employed.

*12. Calculations*

12.1 With the Hewlett Packard Model 5840A, if the amount of acetanilide in the calibration sample is incorporated in units of µg/L, sample results calculated by the microprocessor are reported in µg/L. Other recording/integrating systems may be similarly calibrated for data output.

*13. Method Performance*

13.1 The methodology has been validated over a range of 0.2–300 µg/L.

Sensitivity

The minimum level of detection is 0.2 µg/L when using a 1-liter sample.

Accuracy

In the 0.2–300 µg/L concentration range, recoveries (accuracies of about 90-110% may be expected. Recoveries are summarized in Table 3.

Precision

In the concentration range of 0.2 to 10.0 µg/L, the methodology generally may be expected to give precision of ±20% or better (95% confidence level). In the range of 20 to 300 µg/L, the methodology gives a precision of ±12% or better (95% confidence level). Table 3 summarizes the coefficients of variation.

*14. References*

14.1 J.W. Worley, M.L. Rueppel, and F.L. Rupel, "Determination of alpha-Chloroacetanilides in Water by Gas Chromatography and Infrared Spectrometry," *Anal. Chem. 52.* 1845 (1980).

14.2 K. Ogan, E. Katz, and W. Slavin, "Concentration and Determination of Trace Amounts of Several Polycyclic Aromatic Hydrocarbons in Aquious Samples, " *J. Chrom. Sci., 16.* 517 (1978).

14.3 F.L. Rupel, J.W. Worley, and R.K. Beasley, "Analytical Method for the Determination of Propachlor, Alachlor, and Butachlor in Waters and Effluents at the Parts Per Billion Level" Standard Test Method, Validation Date 3–16–79, Monsanto Agricultural Products Co., St. Louis, Mo.

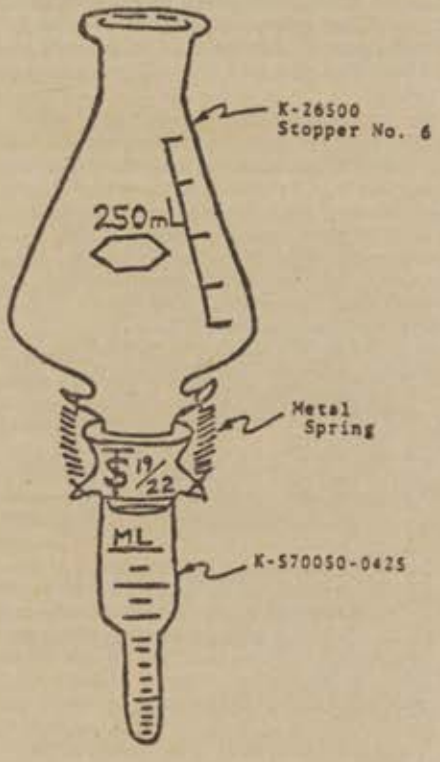


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Figure 1.—Evaporative Concentrator (Modified Kuderna-Danish)

TABLE 1.—CHROMATOGRAPHIC CONDITIONS

| | |
|---|---|
| Injector temperature | 250 °C. |
| NPD detector temperature | 300 °C. |
| Chart speed | 1.00 in/min. |
| Recorder zero | 10.0. |
| Attenuation | 2(7). |
| Slope sensitivity | 0.03. |
| Area reject | 1000. |
| Helium carrier flow | 25.0 mL/min. |
| Column temperature | 200 °C hold 2 min., then 8 °C/min to 250 °C, hold 10 min. |

TABLE 2.—RETENTION TIMES

| Compound | Retention times (minutes) |
|---|---|
| Propachlor | 3.9 |
| Alachlor | 7.7 |
| Butachlor | 10.6 |
| Hexoxy Alachlor | 13.9 |

TABLE 3.—ACCURACY AND PRECISION

| Component | Range, ug/L | $C_v$ coefficient variation | R recovery, percent |
|---|---|---|---|
| Propachlor | 0.2-10 | 0.09 | 93 |
| | 20-30 | 0.05 | 96 |
| Alachlor | 0.2-10 | 0.09 | 94 |
| | 200-300 | 0.06 | 100 |
| Butachlor | 0.2-10 | 0.10 | 112 |
| | 100-150 | 0.3 | 100 |

Coefficient of Variation = (standard deviation)/(mean).

**Method 107—Revision A, Bentazon**

*1. Scope and Application*

1.1 This method covers the determination of bentazon (BAS-351-H).

| Parameter | Storet No. | CAS No. |
|---|---|---|
| Bentazon (BAS 351-H) | | 25057-89-0 |

1.2 This is a gas chromatographic (GC) method applicable to the determination of the compound listed above in wastewater.

1.3 The method detection limit (MDL) is 10 ug/L.

*2. Summary of Method*

2.1 An aliquot of sample (100g) is acidified and extracted with ethyl acetate. The extract is dried, concentrated to 1-2 mL, and methylated with diazomethane. The methylated extracts are analyzed by gas chromatography with flame photometric detection.

*3. Interferences*

3.1 Solvents, reagents, glassware, and other sample processing hardware may yield discrete artifacts and/or elevated baselines causing misinterpretation of gas chromatograms. All of these materials must be demonstrated to be free from interferences under the conditions of the analysis by running method blanks. Specific selection of reagents and purification of solvents by distillation in all-glass systems may be required.

3.2 Interferences coextracted from the samples will vary considerably from source to source, depending upon the diversity of the industrial complex or municipality being sampled. While a general cleanup technique is incorporated into this method, unique samples may require additional cleanup approaches to achieve the limits of detection listed in Table 1.

3.3 When this method is used to analyze unfamiliar samples for any analyte above, compound identification should be confirmed by at least one additional qualitative technique. Techniques which have been useful for confirmation are gas chromatography on a column of differing polarity from the column specified (see e.g., Method 608), liquid chromatograph with a selective detector (see e.g., Method 610), and gas chromatography combined with mass spectrometry (GS/MS) (see e.g., Method 625). These techniques have not been demonstrated to work on actual wastewater samples with this method but have worked well in confirming other analytes (see e.g., Methods 608 and 625).

3.4 Glassware must be scrupulously clean and acid-rinsed. Clean as soon as possible after use by rinsing with the last solvent used. This should be followed by detergent washing in hot water. Rinse with tap water, dilute hydrochloric acid, distilled water, acetone and finally pesticide quality hexane. Heavily contaminated glassware may require treatment in a muffle furnace at 400 °C for 15 to 30 minutes. Volumetric ware should not be heated in a muffle furnace. Glassware should be stored immediately after drying or cooling to prevent any accumulation of dust or other contaminants. Store inverted or capped with aluminum foil.

*4. Safety*

4.1 The toxicity or carcinogenicity of each reagent used in this method has not been precisely defined; however, each chemical compound must be treated as a potential health hazard. From this viewpoint, exposure to these chemicals must be reduced to the lowest possible level by whatever means available. The laboratory is responsible for maintaining a current awareness file of OSHA regulations regarding the safe handling of the chemicals specified in this method. A reference file of material data handling sheets should also be made available to all personnel involved in the chemical analysis.

4.2 Primary standards of toxic compounds should be prepared in a hood, especially when classified or tentatively classified as known or suspected human or mammalian carcinogens.

4.3 For those compounds classified as potential explosives the following precautions must be followed:

(a) Use only a well ventilated hood—do not breathe vapors.

(b) Use a safety screen.

(c) Use mechanical pipetting aides.

(d) Do not heat above 90 °C—EXPLOSION may result.

(e) Avoid grinding surfaces, ground glass joints, sleeve bearings, glass stirrers—EXPLOSION may result.

(f) Store away from alkali metals—EXPLOSION may result.

(g) Solutions may decompose rapidly in the presence of solid materials such as copper powder, calcium chloride, and boiling chips.

4.4 *Diazomethane* is very volatile, exceedingly toxic and has been known to explode quite unaccountably. *All work with this reagent should be carried out behind safety shields in an efficient hood.* All glassware to be used for diazomethane service should be carefully inspected prior to use; any with cracks or flaws should be discarded; all rough edges *must* be fire polished. *Ground glass joints must be used!*

4.5 *Diethyl Ether* is extremely flammable and can form explosive peroxides upon standing in contact with air for prolonged periods. All reagent containers should be dated when first opened and discarded after several (three to six) months, if not already consumed. Diethyl ether is an anesthetic; breathing of vapors should be avoided.

4.6 *Methanol* and *Ethyl Acetate* are toxic flammable liquids. Inhalation of the vapors and/or prolonged or repeated contact of liquids or vapors with the skin is harmful.

4.7 *Glacial Acetic Acid, Hydrochloric Acid* and *Sodium Hydroxide* all can cause burns if contacted with the skin. Wash affected areas immediately with soap and water. If splashed into the eyes, flush for 15 minutes with water and report to the Medical Dispensary.

4.8 *Bentazon* and *N-Methylbentazon* are relatively nonvolatile organic compounds, for which the health effects have not been completely studied. Use good hygiene practices and avoid skin contact. Sample should be disposed in containers destined for either recycle or incineration.

*5. Apparatus and Materials*

5.1 *Sampling Equipment*

5.1.1 Sampling equipment, for discrete or composite sampling. Discrete samples—Amber glass bottles, (1-liter or 1-quart volume) fitted with metal caps lined with Teflon.

Foil may be substituted for Teflon if the sample is not corrosive. French or Boston Round bottle design is recommended. The container must be washed and solvent rinsed before use to minimize interferences. Compositing equipment—Automatic or manual compositing system. Must incorporate glass sample containers for the collection of a minimum increment of 250 ml. Sample containers must be kept refrigerated during sampling. No Tygon or rubber tubing or fittings may be used in the system.

5.2 Glassware and Other Equipment

5.2.1 Separatory funnels, 500 mL, Kimax or equivalent, with Teflon stopcocks

5.2.2 Kuderna-Danish apparatus (Kontes #K-57000-0500)

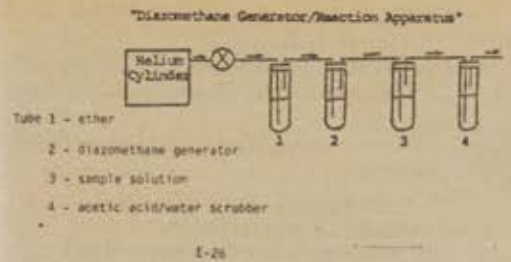
5.2.3 Chromaflex colums (Knotes #K-420540-234)

5.2.4 500 ml. Separatory funnels with teflon stopcocks

5.2.5 Hot water/steam bath.

5.3 Diazomethane generation apparatus, such as shown below or commercially available units such as Aldrich DIAZALD Kit, #Z10,025-2 for larger scale preparation of diazomethane.

Diazomethane Generator/Reaction Apparatus

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5.4 Gas Chromatograph equipped with a flame ionization detector; Tracor Model 565 equivalent.

5.5 Electronic Integrator with a recorder or printer plotter; Spectra Physics SP4000 or equivalent.

5.6 Six feet by 2mm I.D. glass gas chromatographic columns in configuration compatible with gas chromatograph of choice.

*6. Reagents*

6.1 Bentazon, BASF Standard Material

6.2 N-Methylbentazon, BASF Standard Material

6.3 Ethyl Acetate; Burdick and Jackson distilled in glass quality or equivalent

6.4 Methanol; Burdick and Jackson distilled in glass quality or equivalent.

6.5 Glacial Acetic Acid, Reagent Grade

6.6 Hydrochloric Acid; Reagent Grade

6.7 Sodium Sulfate; J. T. Baker anhydrous reagent

6.8 Diethyl Ether; Reagent Grade

6.9 Sodium Chloride; J. T. Baker reagent

6.10 2-(2-ethoxyethoxy)ethanol; Aldrich

6.11 N-methyl-N-nitroso-p-toluenesulfonamide (DIAZALD), Aldrich

6.12 Sodium Hydroxide; J. T. Baker reagent

6.13 3% OV-17 on Gas Chrom.Q. 100/120 mesh; Supelco

*7. Claibration*

7.1 Sample residues are dissolved in acetone or benzene and injected into a gas chromatograph equipped with a Flame photometric detector operating in the sulfur-specific mode (394-nm filter), operating at the conditions given in Table 1 for methylated Bentazon (BAS 351-H). Gas chromatographic separations are made using a 10% SE-30 or 3% Carbowax 20M column on Gas Chrom Q or Chromosorb G packing.

7.2 Calibration Procedure

7.2.1 Prepare a stock standard solution by weighing 100.0 mg of Bentazon (BAS 351-H) analytical standard, and quantitatively transfer to a 100-mL volumetric flask. Dilute the material to 100 mL with acetone. This solution contains 1 μg/uL (stock solution A).

7.2.2 Transfer 10.0 mL of this stock solution A to a 35-mL graduated concentrator tube and evaporate the acetone to dryness.

7.2.3 Dissolve the Bentazon (BAS 351-H) residue in 10-mL ethyl ether and add 20 mL diazomethane solution. Allow the solutions to react for 10 minutes.

7.2.4 Concentrate the solvent to approximately 2 mL on an N-EVAP.

7.2.5 Quantitatively transfer the methylated Bentazon (BAS 351-H) solution to a 10-mL volumetric flask. Wash the 35-mL concentrator tube with acetone and add this to the 10-mL volumetric flask. Adjust the volume to 10 mL with acetone. This is stock solution B containing 1 μg/uL of methylated Bentazon (BAS 351-H) standard.

7.2.6 Stock solution B may be used for preparing injection standards by serial dilutions of microliter quantities.

7.2.7 A series of dilutions of methylated Bentazon (BAS 351-H) (stock solution B) containing 0.5, 1, and 2 ng/uL are made. Inject 2-10 uL of each diluted standard solution to obtain a standard curve for 1.0 to 10.0 ng standards. Higher ranges may be used if so desired.

7.2.8 Determine the peak height or area of each standard injection.

7.2.9 Construct a standard curve by plotting detector response (peak height or area) versus concentration (ng or ug) of standard methylated Bentazon (BAS 351-H) injected. A typical standard curve for the flame photometric detector is shown in Figure 1. Note: Since the response of the flame photometric detector is not linear, standard curves may be plotted on log-log paper to obtain a straight line curve.

7.2.10 Bracket every 3-5 samples analyzed with known amounts of standard to maintain a continual check for any shifts in sensitivity.

*8. Quality Control*

8.1 The Agency requires that each laboratory operate a formal quality control program. The minimum requirements of this program consist of an initial demonstration of laboratory capability and the analysis of spiked samples as a continuing check on performance. The laboratory is required to maintain performance records to define the quality of data generated.

(a) Before performing any analyses, the analyst must demonstrate the ability to generate acceptable accuracy and precision. This ability is established as described below.

(b) In recognition of the rapid advances occurring in chromatography, the analyst is permitted certain options to improve the separations or lower the cost of measurements. Each time such modifications to the method are made, the analyst is required to repeat the accuracy and precision procedure.

(c) The laboratory must spike and analyze a minimum of 10 percent of all samples to monitor continuing laboratory performance.

8.2 To establish the ability to generate acceptable accuracy and precision, the analyst must perform the following operations.

(a) Select a representation spike concentration for each compound to be measured.

(b) Add the known amount of standard to each of a minimum of four 1,000-ml aliquots of reagent water. A representative wastewater may be used in place of the reagent water, but one or more additional aliquots must be analyzed to determine background levels, and the spike level must exceed twice the background level for the test to be valid.

(c) Calculate the average percent recovery (R) and the standard deviation of the percent recovery(s) for the results. Wastewater background corrections must be made before R and s calculations are performed.

(d) Using average recovery and standard deviation expected for each method parameter, compare these values to R and s in Table 2. If the data are not comparable, review potential problem areas and repeat the test.

8.3 The analyst must calculate method performance criteria and define the performance of the laboratory for each spike concentration and parameter being measured.

(a) Calculate upper and lower control limits for method performance as follows:

Upper Control Limit (UCL) = R + 3s

Lower Control Limit (LCL) = R − 3s

where R and s are calculated as noted above. The UCL and LCL can be used to construct control charts that are useful in observing trends in performance.

(b) The laboratory must develop and maintain separate accuracy statements of laboratory performance for wastewater samples. An accuracy statement for the method is defined as R ± 2s. The accuracy statement should be developed by the analysis of four aliquots of wastewater, followed by the calcuation of R and s. Alternatively, the analyst may use four wastewater data points gathered through the requirement for continuing quality control. The accuracy statements should be updated regularly.

8.4 The laboratory is required to collect in duplicate a portion of its samples to monitor spike recoveries. The frequency of spiked sample analysis must be at least 10 percent of all samples or one spiked sample per month, whichever is greater. One aliquot of the sample must be spiked and analyzed. If the recovery for a particular parameter does not fall within the control limits for methods performance, the results reported for that parameter in all samples processed as part of the same set must be qualified. The laboratory should monitor the frequency of data qualified to ensure that it remains at or below 5 percent.

8.5 Before processing any samples, the analyst must demonstrate through the analysis of a 1-liter aliquot of reagent water that all glassware and reagents interferences are under control. Each time a set of samples is extracted or there is a change in reagents, a laboratory reagent blank must be processed as a safeguard against laboratory contamination.

8.6 It is recommended that the laboratory adopt additional quality assurance practices for use with these methods. The specfic practices that are most productive depend upon the needs of the laboratory and the nature of the samples. Field duplicates may be analyzed to monitor the precision of the

sampling technique. When doubt exists over the identification of a peak on a chromatogram, confirmatory techniques such as gas chromatography with a dissimilar column, specific element detector, or mass spectrometer must be used. Whenever possible, the laboratory should perform analysis of quality control materials and participate in relevant performance evaluation studies.

*9. Sample Collection, Preservation, and Handling*

9.1 Grab samples must be collected in glass containers. Conventional sampling practices should be followed; however, the bottle must not be prerinsed with the sample before collection. Composite samples should be collected in refrigerated glass containers in accordance with program requirements. Automatic sampling equipment must be as free as possible of plastic tubing and other potential sources of contamination.

9.2 All samples must be adjusted to pH between 5 and 9. When analysis of chlorinated pesticides is to be made, it should be preserved with 0.008 percent $Na_2S_2O_3$.

9.3 The samples must be iced or refrigerated at 4 °C from the time of collection until extraction.

9.4 All samples must be extracted within 7 days and completely analyzed within 40 days of extraction for GC, HPLC, and TLC procedures.

9.5 All samples must be analyzed within 7 days of collection for colorimetric and titrametric procedures.

*10. Sample Extraction*

10.1 If samples contain no sediment, go to Step 10.2; however, if sediment is present, shake the samples well to get a homogenous sample aliquot.

10.2 Measure out 100 mL equivalent to 100 g of sample into a 500-mL separatory funnel.

10.3 Dilute the sample to 250 mL by adding sodium chloride solution (150 g in 2 L distilled water).

10.4 Adjust the pH of the contents of the separatory funnel to <1 by adding concentrated hydrochloric acid dropwise.

10.5 Extract the aqueous contents of the separatory funnel three times with 50 mL aliquots of ethyl acetate.

10.6 Drain the combined ethyl acetate extracts through a sodium sulfate drying column, collecting the eluent in a 500 mL Kuderna-Danish apparatus fitted with a 20 mL concentrator tube and 3-ball Vigreux column.

10.7 Evaporate the solution to near dryness on a hot water/steam bath.

10.8 Conduct a "solvent exchange" on the concentrated extract by washing the sides of the Kuderna-Danish apparatus with 5–10 mL methanol and reconcentrating on the hot water/steam bath.

10.9 Quantitatively transfer the methanol solution of the extract to Tube 3 of the Diazomethane Generator/Reaction Apparatus and dilute with diethyl ether until approximately half the volume of the tube is filled.

10.10 Prepare the other tubes of the Diazomethane Generator/Reaction Apparatus as follows:

Tube 1—diethyl ether

Tube 2—1.0 mL 2-(2/ethoxyethoxy)ethanol 0.75 g DIAZALD, 5.0 mL diethyl ether

Tube 4—50% acetic acid in water

10.11 When the entire Diazomethane Generation/Reaction Apparatus is ready, rapidly add 1.0 mL of 10M sodium Hydroxide to Tube 2 and immediately begin a gentle helium purge on the system (effectively sweeping the "*in situ*" generated diazomethane from Tube 2 to Tube 3).

10.12 When a canary yellow color appears in the sample tube (Tube 3), signaling an excess of diazomethane, momentarily interrupt the reaction by pouring the entire contents of the generation tube (Tube 2) into a beaker of 50% aqueous acetic acid. Replace the now empty Tube 2 and continue the helium sparge until the canary yellow color in the sample tube disappears, signaling no free diazomethane.

10.13 Strip the diethyl ether from the derivatized sample using a Kuderna-Danish Apparatus and dilute the concentrate to a known volume with methanol.

*11. Gas Chromatography*

11.1 Set up the gas chromatograph as per the following instrument conditions.

| | |
|---|---|
| a. 6 ft. x 2 mm I.D. glass column packed with 3% OV–17 on 100/120 mesh Gas Chrom Q. | |
| b. Helium Carrier Flow-rate | 30 cc/min. |
| c. Injector Temperature | 290 °C. |
| d. Column Temperature | 175 °C. |
| e. Detector Temperature | 300 °C. |
| f. Hydrogen and Air Flow-rates | Optimize sensitivity. |

11.2 Inject the derivatized sample methanol solution into the GC (Chromatogram attached; Figure 3) and quantitate against an external standard of N-methylbentazon in methanol.

*12. Cleanup*

12.1 Interfering compounds coextracted from a sample with the analyte(s) of interest (matrix interferences) may preclude analysis of a specific wastewater sample without a sample extract cleanup step. Cleanup procedures can be pH exchange of the wastewater (provided the analyte is not harmed by the pH chosen) or column chromatography of the extract (see e.g. Method 608). These cleanup steps have not been demonstrated to work with wastewater samples containing the analyte(s) in this Method; however, they have worked for other analytes (see e.g. Method 608). Prior to applying the cleanup step(s) to determination of the analytes in wastewater, the analyst should test the cleanup step(s) to assure recovery of the analyte(s) and to determine in which fraction the analyte(s) will elute when column chromatography procedures are employed.

*13. Calculations*

13.1 Calculate the concentration of bentazon in the original sample, as follows:

$$\text{(Concentration Bentazon in Sample)} = \frac{A_{NMB\text{-}SAMP}}{A_{NMB\text{-}STD}} \times C_{NMB\text{-}STD} \times D \times F$$

Where

$A_{NMB\text{-}SAMP}$ = Area N-Methylbentazon peak in sample

$A_{NMB\text{-}STD}$ = Area N-Methylbentazon peak in standard

$C_{NMB\text{-}STD}$ = Concentration N-Methylbentazon in standard

$$D = \text{concentration factor} = \frac{\text{Sample volume (STEP 13)}}{\text{Sample volume (STEP 2)}}$$

$$F = \frac{\text{Mol. Wtg. bentazon}}{\text{Mol. Wtg. N-methylbentazon}} = \frac{240}{254} = 0.945$$

13.2 Directly compare the peak heights or areas of unknown samples injected with the appropriate standard curve and extrapolate the concentration of methylated Bentazon (BAS 351–H) in the injected sample aliquot.

13.3 Determine the residue in terms of ppm methylated BAS 351–H in the sample by the following:

$$ppm = \frac{\text{ng Found}^a}{\text{mg sample injected}^b} \text{ divided by (R), where}$$

a = concentration extrapolated from standard curve

c5,L1(0,0,0),b1,tp0,p8,8/1,g1,t1,4,24,2,26,r50

$$b = \text{mg aliquot for analysis} \times \frac{\text{microliters injected}}{\text{microliters final volume}}$$

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R = Recovery factor based on fortified controls carried through the procedure. R is expressed as a decimal (i.e., 100% = 1.00, 90% = 0.90, etc).

*14. Method Performance*

14.1 Recoveries for water are tabulated in Table 2. They range from 84 to 116% in samples from Texas and Mississippi, involving four field experiments.

*15. References*

15.1 LOTEL Report No. 133, October 2, 1973, "Determination of BAS 351–H Residues in Soil and Runoff Water," James Devine, Lake Ontario Environmental Laboratory, Oswego, New York.

15.2 Lab Report dated April 1972, "Method of Analysis for the Determination of Bentazon in Drinking and Leaching Water," BASF Analytical Laboratories, Limburgerhof, Germany.

15.3 "Determination of BAS 351–H [3-isopropyl-1H-2.1.3-benzothiadiazin-4(3H)-one-2,2-dioxide] Residues in Water by Gas Chromatography," Analytical Method No. 8, January 23, 1974, BASF Wyandotte Corporation, Geismar, LA.

TABLE 1.—GAS CHROMATOGRAPHIC CONDITIONS FOR FLAME PHOTOMETRIC DETECTION OF METHYLATED BENTAZON (BAS 351-H) RESIDUES IN WATER

| | |
|---|---|
| Gas Chromatograph | Tracor-Microtek MT 220 equipped with a Flame Photometric detector operating in the sulfur specific mode (394-nm filter). |
| Column | a. 3% Carbowax 20M on Gas Chrom Q, 60/80 mesh, 5-ft × ¼-in I.D.<br>b. 10% SE-30 on Chromosorb G, H.P. or Gas Chrom Q, 80/100 mesh, 4-ft × ¼-in I.D. |
| Temperatures: | |
| Glass Inlet | 225 °C. |
| Detector | 200 °C. |
| Column | 200 °C. |
| Gas Flows: | |
| Carrier | Nitrogen 80 mL/min. |
| Hydrogen | 60 mL/min. |
| Oxygen | 20 mL/min. |
| Air | 15 mL/min. |
| Electrometer: | |
| Sensitivity | – X (10⁻⁹). |
| Attenuation | $10^3 \times 64$. |

TABLE 1.—GAS CHROMATOGRAPHIC CONDITIONS FOR FLAME PHOTOMETRIC DETECTION OF METHYLATED BENTAZON (BAS 351-H) RESIDUES IN WATER—Continued

| | |
|---|---|
| Recorder: | |
| Range | 1 mV. |
| Chart Speed | 0.25 inches/minute. |
| Minimum Detection Limit. | 1 ng Methylated Bentazon (BAS 351-H)-. |
| Retention Time (Approx). | 3.0–3.5 min. |

TABLE 2.—TYPICAL RECOVERIES OF METHYLATED BENTAZON (BAS 351-H) RESIDUES IN WATER

| Sample matrix | Fortification level (µg/L) bentazon (BAS 351-H) added | Percent recovery | R | S |
|---|---|---|---|---|
| Water | 500 | 95 | | |
| | 100 | 105 | | |
| | 100 | 94 | | |
| | 100 | 90 | | |
| | 100 | 104 | 98 | 7.4 |
| | 50 | 84 | | |
| | 10 | 94 | | |
| | 10 | 94 | | |
| | 10 | 116 | | |
| | 10 | 103 | | |
| | 10 | 108 | 103 | 9.4 |
| Average | | 98.8 | | |

BILLING CODE 6560-50-M

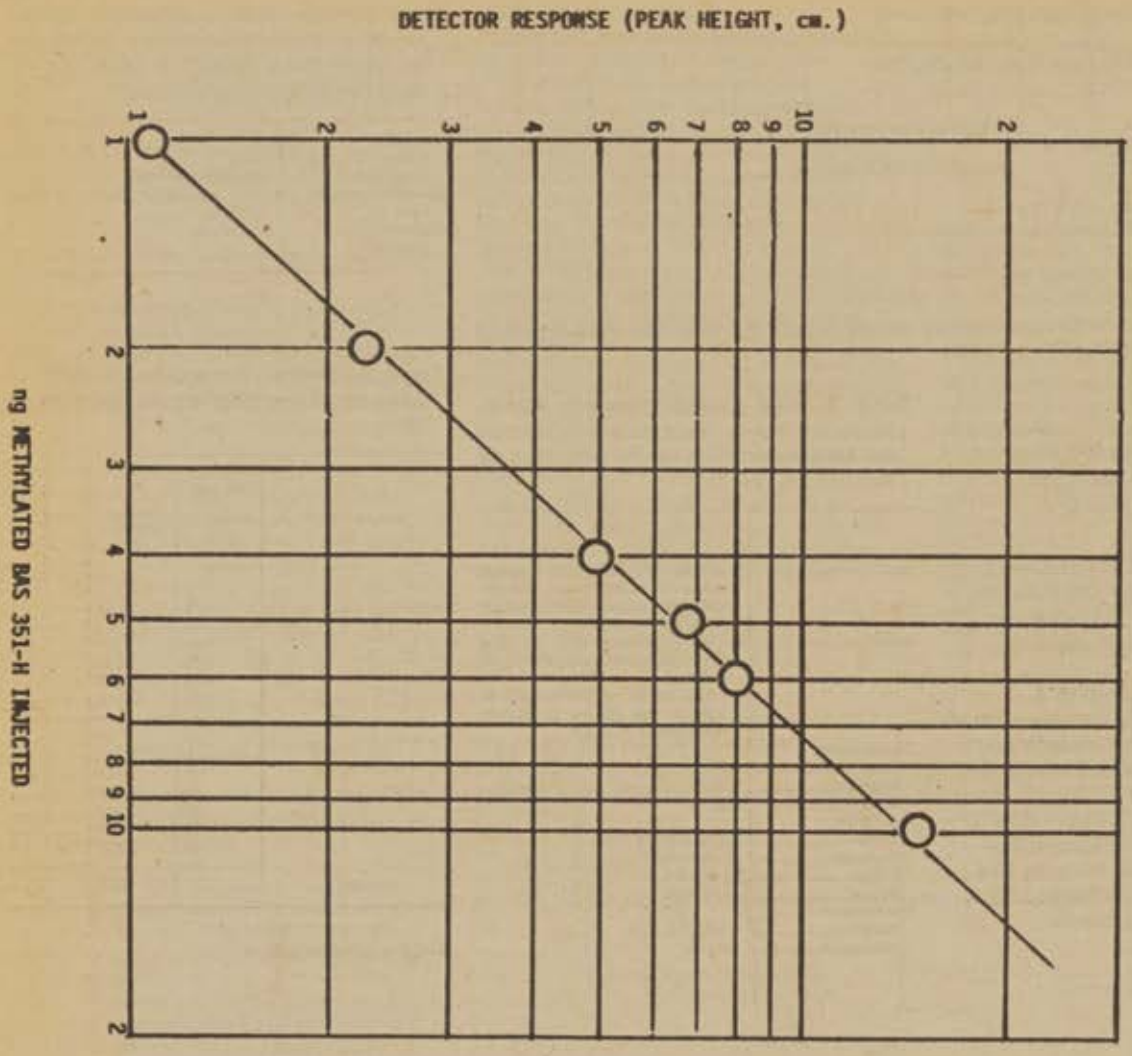
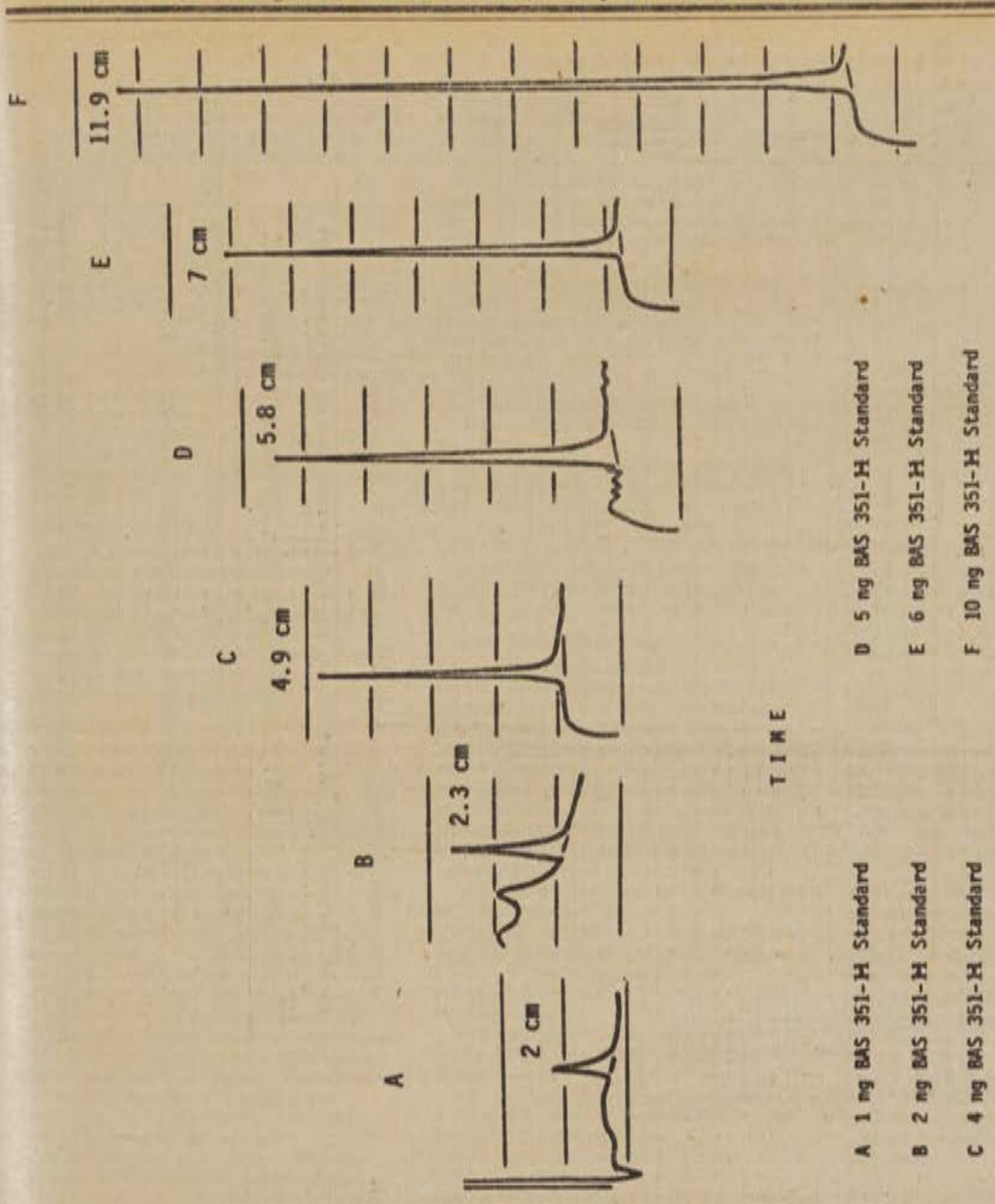



FIGURE 1

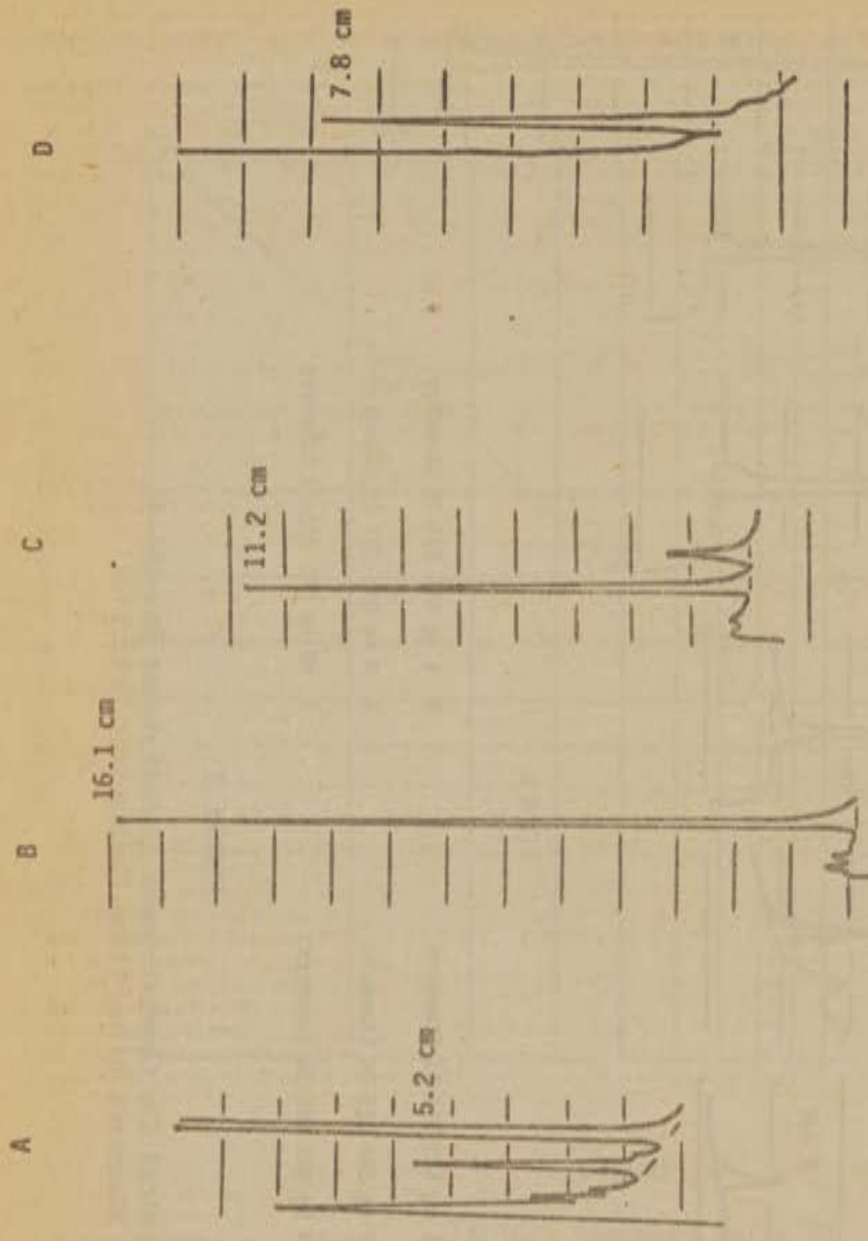
Typical Standard Curve Of
Methylated Bas 351-H




A 1 ng BAS 351-H Standard
B 2 ng BAS 351-H Standard
C 4 ng BAS 351-H Standard
D 5 ng BAS 351-H Standard
E 6 ng BAS 351-H Standard
F 10 ng BAS 351-H Standard

FIGURE 2

Typical Glc Chromatograms of Methylated Bas 351-H Standards Using Flame Photometric Detection




A Control water, 500 mg injected: 4.5 ng BAS.351-H (0.01 ppm)

B Control water + 0.1 ppm BAS 351-H, 100 mg injected: 10.5 ng (105% recovery)

C Treated water, 3.0 lb/A. 125 mg injected: 8 ng BAS 351-H (0.06 ppm)

D Control water, +0.01 ppm BAS 351-H, 600 mg injected: 5.7 ng BAS 351-H (94% recovery)

Chromatograms from Experiment No. 8-A-20-73 Report No. P-9

FIGURE 3
Typical Glc Chromatograms Of Control, Fortified Control And Treated Water Analyzed For Bas 351-H Residues Using Flame Photometric Detection



BILLING CODE 6560-50-C

**Method 130—Mephosfolan, Phorate, and Terbufos**

*1. Scope and Application*

1.1 This method covers the determination of certain organophosphorus compounds. The following parameters can be determined by this method.

| Parameter | Storet No. | CAS No. |
|---|---|---|
| Mephosfolan (CYTROLANE) | | 950-10-7 |
| Phorate (THIMET) | | 298-02-2 |
| Terbufos (COUNTER) | 82068 | 13071-79-9 |

1.2 This is a gas chromatographic (GC) method applicable to the determination of the compounds listed above in process wastewater streams.

1.3 The method detection limit (MDL) for the pesticides covered by this method is in the range of 5–25 µg/L when an alkali flame ionization detector is employed.

*2. Summary of Method*

2.1 A measured volume of sample (1-liter) is extracted with several portions of chloroform. The combined chloroform extracts are concentrated and analyzed by gas chromatography with alkali flame ionization detector. If high concentrations of the pesticides are expected, a flame ionization detector may be used.

*3. Interferences*

3.1 All solvents, reagents, glassware, sample handling equipment, and instrumentation must be demonstrated to be free from pesticides and/or artifacts which could cause interference or misinterpretation of gas chromatograms.

3.2 Some organic compounds present in mixed plant waste streams cause interferences in the analysis of organophosphorus pesticides by gas chromatography, using a flame ionization detector. These interferences can often be overcome by the use of an alkali flame (phosphorus specific) ionization detector.

3.3 When this method is used to analyze unfamiliar samples for any analyte above, compound identification should be confirmed by at least one additional qualitative technique. Techniques which have been useful for confirmation are gas chromatography on a column of differing polarity from the column specified (see e.g. Method 608), liquid chromatography with a selective detector (see e.g. Method 610), and gas chromatography combined with mass spectrometry (GC/MS) (see e.g. Method 625). These techniques have not been demonstrated to work or actual wastewater samples with this method but have worked well in confirming other analytes (see e.g. Methods 608 and 625).

*4. Safety*

4.1 The toxicity or carcinogenicity of each reagent used in this method has not been precisely defined; however, each chemical compound must be treated as a potential health hazard. From this viewpoint, exposure to these chemicals must be reduced to the lowest possible level by whatever means available. The laboratory is responsible for maintaining a current awareness file of OSHA regulations regarding the safe handling of the chemicals specified in this method. A reference file of material data handling sheets should also be made available to all personnel involved in the chemical analysis.

4.2 Primary standards of toxic compounds should be prepared in a hood, especially when classified of tentatively classified as known or suspected human or mammalian carcinogens.

4.3 For those compounds classified as potential explosives, the following precautions must be followed:

(a) Use only a well-ventilated hood—do not breathe vapors.

(b) Use a safety screen.

(c) Use mechanical pipetting aides.

(d) Do not heat above 90 °C—EXPLOSION may result.

(e) Avoid grinding surfaces, ground glass joints, sleeve bearings, glass stirrers—EXPLOSION may result.

(f) Store away for alkali metals—EXPLOSION may result.

(g) Solutions may decompose rapidly in the presence of solid materials such as copper powder, calcium chloride, and boiling chips.

*5. Apparatus and Materials*

5.1 Sampling Equipment

5.1.1 Grab samples must be collected in glass containers. Conventional sampling practices should be followed; however, the bottle must not be prerinsed with the sample before collection. Composite samples should be collected in refrigerated glass containers in accordance with program requirements. Automatic sampling equipment must be as free as possible of plastic tubing and other potential sources of contamination.

5.1.2 All samples must be adjusted to pH between 5 and 9. When analysis of chlorinated pesticides is to be made, it should be preserved with 0.008 percent $Na_2S_2O_3$.

5.1.3 The samples must be iced or refrigerated at 4 °C from the time of collection until extraction.

5.1.4 All samples must be extracted within 7 days and completely analyzed within 40 days of extraction.

5.2 Glassware and Other Equipment

5.2.1 Microliter syringes (Series No. 700, Hamilton Company), 10 µL

5.2.2 Separately funnels, 100 mL

5.2.3 Beakers, 150 mL

5.2.4 Watch glasses, Speedyvap Ace Scientific Cat. No. 14–9420

5.2.5 Volumetric flasks, (10 mL, 25 mL, 50 mL, 10 mL and 200 mL)

5.2.6 Graduated cylinders (25 mL, 100 mL, 500 mL)

5.2.7 Glass wool, silane-treated (No. 14502, Applied Science Labs)

5.3 Gas Chromatograph—An instrument designed for use with dual glass columns and equipped with an on-column injection system, and high-sensitivity flame ionization detectors or alkali flame ionization detectors and an electrometer having a sensitivity of at least $10^{-12}$ amperes driving a 1-mv strip chart recorder, and having a drift of less than 1% hour (a totally solid state amplifier with an FET input) is recommended. Electronic digital integration or computer-based area measurements may also be employed. The integrator should have independent controls for the selection of up and down slope sensitivities so that start and stop integration points can be selected. An automated sample injection system also contributes significantly, particularly to analytical precision. The Hewlett-Packard Model 7600 and the Varian Model 2800 are suitable when equipped as described. Other equivalent instrumentation may be used, but may require modification of operating conditions in order to obtain good peak shape, adequate resolution, and appropriate retention times.

5.3.1 Gas Chromatographic Column—122-cm borosilicate glass tube (4-mm I.D., 6-mm O.D.) bent to fit the chromatograph and packed with 3% OV-25 on Gas Chrom Q (100/120 mesh). A prepared packing can be purchased from Supelco, Inc., Supelco Park, Bellefonte, PA 16823, or Alltech Associates, 202 Campus Drive, Arlington Heights, IL 60004.

*6. Reagents*

6.1 Chloroform, reagent grade

6.2 Pesticide standards—High purity pesticides: THIMET, COUNTER, and CYTROLANE may be obtaining from American Cyanamid Company, Agricultural Division, Princeton, NJ 08540.

6.3 Di(2-ethylhexyl) sebacate: Applied Science Laboratories, Inc., State College, PA 16801.

*7. Calibration*

7.1 Establish GC operating parameters equivalent to those indicated in Table 1.

7.2 Calibration Procedure

7.2.1 Gas chromatographic operating conditions are considered acceptable if the response to malathion is at least 50% of full scale when <0.6 ug is injected for flame ionization detection and <0.6 ng is injected for alkali flame ionization detection. For all quantitative measurements, the detector must be operated within its linear response range.

7.2.2 Standards should be injected frequently to check the stability of the operating conditions.

7.2.3 Either external standardization or internal standardization methods may be used. When the internal standardization method is employed with flame ionization, di-(2-ethylhexyl) sebacate is used as the internal standard.

*B. Quality Control*

8.1 The Agency requires that each laboratory operate a formal quality control program. The minimum requirements of this program consist of an initial demonstration of laboratory capability and the analysis of spiked samples as a continuing check on performance. The laboratory is required to maintain performance records to define the quality of data generated

(a) Before any analyses, the analyst must demonstrate the ability to generate acceptable accuracy and precision. This ability is established as described below.

(b) In recognition of the rapid advances occurring in chromatography, the analyst is permitted certain options to improve the separations or lower the cost of measurements. Each time such modifications

to the methods are made, the analyst is required to repeat the accuracy and precision procedure.

(c) The laboratory must spike and analyze a minimum of 10 percent of all samples to monitor continuing laboratory performance.

8.2 To establish the ability to generate acceptable accuracy and precision, the analyst must perform the following operations.

(a) Select a representative spike concentration for each compound to be measured.

(b) Add the known amount of standard to each of a minimum of four 1,000-mL aliquots of reagent water. A representative wastewater may be used in place of the reagent water, but one or more additional aliquots must be analyzed to determine background levels, and the spike level must exceed twice the background level for the test to be valid.

(c) Calculate the average percent recovery (R) and the standard deviation of the percent recovery (s) for the results. Wastewater background corrections must be made before R and s calculations are performed.

(d) Using average recovery and standard deviation expected for each method parameter, compare these values to R and s. If the data are not comparable, review potential problem areas and repeat the test.

8.3 The analyst must calculate method performance criteria and define the performance of the laboratory for each spike concentration and parameter being measured.

(a) Calculate upper and lower control limits for method performance as follows:

Upper Control Limit (UCL) = R + 3s
Lower Control Limit (LCL) = R − 3s

where R and s are calculated as noted above. The UCL and LCL can be used to construct charts that are useful in observing trends in performance.

(b) The laboratory must develop and maintain separate accuracy statements of laboratory performance for wastewater samples. An accuracy statement for the method is defined as R ± 2s. The accuracy statement should be developed by the analysis of four aliquots of wastewater, followed by the calculation of R and s. Alternatively, the analyst may use four wastewater data points gathered through the requirement for continuing quality control. The accuracy statements should be updated regularly.

8.4 The laboratory is required to collect in duplicate a portion of its samples to monitor spike recoveries. The frequency of spiked sample analysis must be at least 10 percent of all samples or one spiked sample per month, whichever is greater. One aliquot of the sample must be spiked and analyzed. If the recovery for a particular parameter does not fall within the control limits for method performance, the results reported for that parameter in all samples processed as part of the same set must be qualified. The laboratory should monitor the frequency of data qualified to ensure that it remains at or below 5 percent.

8.5 Before processing any samples, the analyst must demonstrate through the analysis of a 1-liter aliquot of reagent water that all glassware and reagents inteferences are under control. Each time a set of samples is extracted or there is a change in reagents, a laboratory reagent blank must be processed as a safeguard against laboratory contamination.

8.6 It is recommended that the laboratory adopt additional quality assurance practices for use with these methods. The specific practices that are most productive depend upon the needs of the laboratory and the nature of the samples. Field duplicates may be analyzed to monitor the precision of the sampling technique. When doubt exists over the identification of a peak on a chromatogram, confirmatory techniques such as gas chromatography with a dissimilar column, specific element detector, or mass spectrometer must be used. Whenever possible, the laboratory should perform analysis of quality control materials and participate in relevant performance evaluation studies.

*9. Sample Collection, Preservation, and Handling*

9.1 Nonpersistent pesticide compounds *hydrolyze in water* solutions; therefore, wastewater should be extracted immediately.

9.2 If it is necessary to store wastewater samples for even a short period of time, the samples should be refrigerated at 4 °C.

9.3 Grab samples must be collected in glass containers. Conventional sampling practices should be followed; however, the bottle must not be prerinsed with the sample before collection. Composite samples should be collected in refrigerated glass containers in accordance with program requirements. Automatic sampling equipment must be as free as possible of plastic tubing and other potential sources of contamination.

9.4 All samples must be extracted immediately and completely analyzed within 40 days of extraction.

*10. Sample Extraction*

10.1 Depending on the level of detection required in the waste sample, 200 to 500 mL of sample is required for analysis.

10.2 Mix the sample thoroughly, and quantitatively transfer the required amount to a 1000-mL separatory funnel.

10.3 Add 15 mL of chloroform to the sample in the separatory funnel and shake vigorously for two minutes.

10.4 Allow the solvent to separate from the sample, then drain the solvent phase into a 50-mL volumetric flask (if concentration is *not* required) or into a 150-mL beaker (if concentration is required.

10.5 Perform second and third extractions in the same manner.

10.6 Add a specific amount of di-(s-ethylhexyl) sebacate to the 50-mL volumetric flask if the internal standardization method is to be used, and fill the flask to the mark with chloroform.

10.7 Analyze the extract by gas chromatography.

10.8 The external standardization method is employed if a low detection limit is required. The chloroform extract is concentrated by covering the 150-mL beaker of extract with a watch glass and allowing the extract to evaporate to dryness in a well-ventilated hood overnight. Do not heat to evaporate the extract because some pesticide compounds exhibit a high vapor pressure. In addition, uncontrolled heat may cause degradation of the nonpersistent pesticides.

10.9 Carefully rinse the extract residue from the 150-mL beaker into a 10-mL volumetric flask with small portions of chloroform and fill the flask to the mark.

10.10 Analyze the concentrated extract by gas chromatography.

*11. Gas Chromatography*

11.1 Table 1 summarizes the recommended operating conditions for the gas chromatograph.

11.2 Calibrate the system as described in Section 7.

11.3 Cleanup

11.3.1 Interfering compounds coextracted from a sample with the analyte(s) of interest (matrix interferences) may preclude analysis of a specific wastewater sample without a sample extract cleanup step. Cleanup procedures can be pH exchange of the wastewater (provided the analyte is not harmed by the pH chosen) or column chromatography of the extract (see e.g. Method 608). These cleanup steps have not been demonstrated to work with wastewater samples containing the analyte(s) in this Method; however, they have worked for other analytes (see e.g. Method 608). Prior to applying the cleanup step(s) to determination of the analytes in wastewater, the analyst should test the cleanup step(s) to assure recovery of the analyte(s) and to determine in which fraction the analyte(s) will elute when column chromatography procedures are employed.

*12. Calculations*

12.1 Determine the pesticides concentration by using either external standardization or internal standardization.

12.2 In the external standardization method, the gas chromatographic response of the sample extract is compared to the response of a pesticide standard.

12.2.1 The pesticides concentration of the sample is calculated as follows:

$$\text{micrograms/liter} = \frac{(Ai)}{(KF)\quad(Vs)}$$

where

Ai = Area of the pesticide component in the extract injected.
Vs = Volume (liters) of wastewater sample extracted.
KF = Calibration factor for the pesticide component.

$$KF = \frac{(Ac)}{(Cc)}$$

where

Ac = Area of pesticide standard in the calibration standard injected.
Cc = Amount of the pesticide in the calibration standard (micrograms).

12.3 In the internal standardization method, the gas chromatographic response of the sample extract is quantified by the addition of a known internal standard; this response is compared to response of a pesticide standard containing the same internal standard.

12.3.1 The pesticide concentration of the sample is calculated as follows:

$$\text{milligram/liter} = \frac{(IS)\ (KF)\ (Ai)}{(Vs)\ (Ais)}$$

where

IS = Internal standard amount (milligrams)
Ai = Area of the pesticide component in extract injected.
Vs = Volume of wastewater sample extracted (liters)
Ais = Area of the internal standard in the extract injected
KF = Calibration factor of the pesticide component

$$KF = \frac{(Cc)\ (Ais)}{(A)\ (Cis)}$$

where

Cc = Amount of the pesticide component in the calibration sample (milligrams).
Cis = Amount of internal standard in the calibration sample (milligrams).
Ais = Area of the internal standard in the calibration sample.
A = Area of the pesticide component in the calibration sample.

12.4 Report results in milligrams per liter (mg/L) or micrograms per liter (μg/L) without correction for recovery data.

*13. Method Performance*

13.1 The detection limit for the pesticides covered by the method is in the range of 5 to 25 mg/L (based on the original waste sample) when a flame ionization detector is employed.

13.2 The detection limit for the pesticides covered by the method is in the range of 5 to 25 μg/L (based on the original waste sample) when an alkali flame ionization detector is employed.

*14. References*

14.1 Methods for Analysis of American Cyanamid Company.

14.2 Zweig, G. and Sherma, J., *Analytical Methods for Pesticides and Plant Growth Regulators*, Vol. VI, *Gas Chromatographic* Analysis, Academic Press, NY, 1972.

14.3 "Developmental Laboratory Procedure for the Detection of American Cyanamid Company Non-Persistent Organophosphorus Pesticides in Wastewater," Standard Test Method, American Cyanamid Company, Linden, NJ.

TABLE 1.—CHROMATOGRAPHIC CONDITIONS

*Instrumentation Operation Parameters*

I. The following operating parameters are used with the Hewlett-Packard Model 7600:

| | |
|---|---|
| Operation Mode | Dual Column. |
| Detector | Flame Ionization. |
| Column-oven, programmed temperature | 130 °C–250 °C at 4 °C/min. |
| Injection port temperature | 230 °C. |
| Detector temperature | 270 °C. |
| Helium flowrate | 75 mL/min. |
| Hydrogen flowrate | 50 mL/min. |
| Air flowrate | 500 mL/min. |
| Range | $10^{3}$. |
| Attenuation | 1. |
| Chart Speed | ¼ inch/min. |

II. The following operating parameters are used with the Varian Model 2800:

| | |
|---|---|
| Operation Mode | Single Column. |
| Detector | Alkali Flame Ionization |
| Column-oven, programmed temperature | 170 °C–250 °C at 8 °C/min. |
| Injection port temperature | 230 °C. |
| Detector temperature | 270 °C. |
| Helium flowrate | 65 mL/min. |
| Hydrogen flowrate | 24 mL/min. |
| Air flowrate | 250 mL/min. |
| Range | $10^{-12}$. |
| Injection Volume | 2 μL. |
| Attenuation | Variable. |
| Chart Speed | 40 cm/hr. |

TABLE 2.—RETENTION TIMES

| Parameter | Retention time (min) |
|---|---|
| Condition I: | |
| THIMET (phorate) | 6.7 |
| COUNTER (terbufos) | 9.5 |
| CYTROLANE (mephosfolan) | 22.5 |
| Internal Standard | 28.3 |
| Condition II: | |
| THIMET (phorate) | 3.3 |
| COUNTER (terbufos) | 4.3 |
| CYTROLANE (mephosfolan) | 12.3 |

**Method 140–Revision A–Glyphosate**

*1. Scope and Application*

1.1 This method covers the determination of glyphosate.

| Parameter | Storet No. | CAS No. |
|---|---|---|
| Glyphosate | 39941 | 1071-83-6 |

1.2 This is a high-performance liquid chromatographic (HPLC) method applicable to the determination of the compound listed above in industrial effluent.

1.3 The method detection limit (MDL) is 5 ug/L with 5% of full-scale deflection. The MDL for a specific wastewater may differ from that given, depending upon the nature of interferences in the sample matrix.

*2. Summary of Method*

2.1 A known volume of glyphosate industrial effluent is applied to a Bio-Rad prefilled AG50W–X8 column. The column effluent is injected via an auto injector onto the primary column packed with a cation exchange resin but used in an anion exclusion mode. A heart cut from this column is then switched onto a strong anion exchange column where the analytical separation is accomplished. The eluent from this column is air segmented, a buffered ninhydrin solution is added and heated. Detection and quanitification is made with a visible spectrophotometer at 570 nm. The post column detector employs the Technicon Auto Analyzer system.

2.2 This method provides a selected cleanup procedure to aid in the elimination of interferences which may be encountered.

*3. Interferences*

3.1 Equipment used in this analysis (columns, filters, glassware, etc.) should be limited to trace glyphosate analysis only. This will eliminate any possibility of residual contamination at these low levels.

3.2 There are no known interferences for this method. Ammonia, as well as primary and secondary amines have a significant response with ninhydrin. However, these are eliminated in the manual cleanup step. Other amino acids are eliminated in the primary column.

3.3 An 0.04–0.06% NaOCl solution is prepared and used to wash the glassware to remove any traces of glyphosate which might be present. Be sure to rinse the glassware with copious amounts of deionized water.

*4. Safety*

4.1 The toxicity or carcinogenicity of each reagent used in this method has not been precisely defined; however, each chemical compound must be treated as a potential health hazard. From this viewpoint, exposure to these chemicals must be reduced to the lowest possible level by whatever means available. The laboratory is responsible for maintaining a current awareness file of OSHA regulations regarding the safe handling of the chemicals specified in this method. A reference file of material data handling sheets should also be made available to all personnel involved in the chemical analysis.

4.2 Primary standards of toxic compounds should be prepared in a hood, especially when classified or tentatively classified as known or suspected human or mammalian carcinogens.

4.3 For those compounds classified as potential explosives, the following precautions must be followed:

(a) Use only a well-ventilated hood—do not breath vapors

(b) Use a safety screen
(c) Use mechanical pipetting aids
(d) Do not heat above 90 °C—EXPLOSION may result
(e) Avoid grinding surfaces, ground glass joints, sleeve bearings, glass stirrers—EXPLOSION may result
(f) Store away from alkali metals—EXPLOSION may result
(g) Solutions may decompose rapidly in the presence of solid materials such as copper powder, calcium chloride, and boiling chips.

*5. Apparatus/Equipment*

5.1 Two Du Pont 8800 Pump Modules
5.2 Sample Injector—Waters Intelligent Sample Processor (WISP) 701B
5.3 Technicon Proportioning Pump III
5.4 Technicon Single Channel Colorimeter Equipped with 2.0×50 mm Flow Cell and 570 nm Filters
5.5 Technicon Oil Bath Cartridge Kit, Type A
5.6 Electronic Filter—Spectrum 1021 Filter and Amplifier
5.7 Strip Chart Recorder, 0–100 mV span
5.8 Column-Switching Valve, Air Actuated, Six Port, Valco Model ACF–6–UHPa–N60
5.9 Digital Valve Sequence Programmer (DVSP), Valco Model DVSP–4
5.10 Millipore Solvent Filtering Apparatus—Type GS, 0.22 micron Filters
5.11 An appropriate computer data handling system
5.12 Technicon Mixing Coils and Tees—See Reactor Flow Diagram for Catalog Numbers
5.13 Du Pont Zorbax SAX Column, 150 x 4.6 mm I.D.
5.14 HPLC Primary Column Consisting of:
(a) SS Tubing, 150 x 4.6 mm I.D.
(b) Column Packing, Bio-Rad AG50W–X8, Hydrogen Form, 200–400 Mesh
(c) Bottom Drilled Swagelok Fittings with 15 micron Pore Size Bed Supports
5.15 Bio-Rad Prefilled Econo-Columns, AG50W–X8, 100–200 Mesh (#731–6213)
5.16 Gilson Pipetman Continuously Adjustable Digital Pipette, 0.5–5 mL (#P–5000)
5.17 Standard Laboratory Glassware
5.18 Disposable Pasteur Pipettes, 5.75" (Fisher, 13–678–6A)

*6. Reagents*

6.1 Sulfuric Acid, 96% (Fisher, A–300)
6.2 Phosphoric Acid, 85% (Fisher, A–242)
6.3 Potassium Phosphate Monobasic (Mallinckrodt, 7100)
6.4 Methanol, HPLC Grade (Fisher, A–452)
6.5 Dimethylsulfoxide (Pierce, 20687)
6.6 Ninhydrin (Pierce, 21001)
6.7 Lithium Acetate pHix Buffer, *4M* $Li^+$, pH 5.20 (Pierce, 27203)
6.8 Hydrindantin Dihydrate (Pierce, 24000)
6.9 Brij 35, 30% (Fisher, CS–285–2)
6.10 Acetone (Fisher, A–18)
6.11 Argon
6.12 Sodium Hypochlorite (4–6%, Fisher, So–S–290)
6.13 Sodium Hydroxide, 2.5 *N* (Fisher, So–S–414)

*7. Calibration*

7.1 Establish HPLC operating parameters equivalent to those indicated in Table 1.
7.2 Calibration Procedure
7.2.1 Prepare a 1000 ppm standard by dissolving 0.1 ± 0.0001 grams of analytical grade glyphosate in deionized water (not mobile phase) and diluting to the mark in a 100 mL volumetric flask. This could be stored in the refrigerator.
7.2.2 Prepare a 10 ppm standard by pipetting 1.00 mL of the 1000 ppm glyphosate standard into a 100 mL volumetric flask. Fill the volumetric flask to the mark with deionized water.
7.2.3 A series of working standards (20–200 ppb) is prepared weekly by appropriate dilutions with 0.05 *M* sulfuric acid of the 10 ppm standard. If needed, 5 and 10 ppb standards can be prepared by appropriate dilutions with 0.05 *M* sulfuric acid of the 100 ppb standard.
7.2.4 A series of external standards bracketing the expected levels of glyphosate in the samples to be analyzed is prepared. These external standards are used to prepare a calibration curve for quantifying glyphosate in the samples being analyzed.

*8. Quality Control*

8.1 The Agency requires that each laboratory operate a formal quality control program. The minimum requirements of this program consists of an initial demonstration of laboratory capability and the analysis of spiked samples as a continuing check on performance. The laboratory is required to maintain performance records to define the quality of data generated.
(a) Before performing any analysis, the analyst must demonstrate the ability to generate acceptable accuracy and precision. This ability is established as described below.
(b) In recognition of the rapid advances occurring in chromatography, the analyst is permitted certain options to improve the separations or lower the cost of measurements. Each time such modifications to the method are made, the analyst is required to repeat the accuracy and precision procedure.
(c) The laboratory must spike and analyze minimum of 10% of all samples to monitor continuing laboratory performance.
8.2 To establish the ability to generate acceptable accuracy and precision, the analyst must perform the following operations:
(a) Select a representative spike concentration for each compound to be measured.
(b) Add the known amount of standard to each of a minimum of four 1000-ml aliquots of reagent water. A representative waste-water may be used in place of the reagent water, but one or more additional aliquots must be analyzed to determine background levels, and the spike level must exceed twice the background level for the test to be valid.
(c) Calculate the average percent recovery (R) and the pooled coefficient of variation ($\bar{C}_v$) of the percent recovery for the results. Wastewater background corrections must be made before R and $\bar{C}_v$ calculations are performed.
(d) Using average recovery and standard deviation for each method parameter as given in Section 14, compare these values to R and $\bar{C}_v$. If the data are not comparable, review potential problem areas and repeat the test.
8.3 The analyst must calculate method performance criteria and define the performance of the laboratory for each spike concentration and parameter being measured.
(a) Calculate upper and lower control limits for method performance as follows:

$$\text{Upper Control Limit (UCL)} = R + 3\bar{C}_v$$
$$\text{Lower Control Limit (UCL)} = R - 3\bar{C}_v$$

where R and s are calculated as noted above. The UCL and LCL can be used to construct control charts that are useful in observing trends in performance.
(b) The laboratory must develop and maintain separate accuracy statements of laboratory performance for wastewater samples. An accuracy statement for the method is defined as $R \pm \bar{C}_v$. The accuracy statement should be developed by the analysis of four aliquots of wastewater, following by the calculation of R and $\bar{C}_v$. Alternatively, the analyst may use four wastewater data points gathered through the requirement for continuing quality control. The accuracy statements should be updated regularly.
8.4 The laboratory is required to collect in duplicate a portion of its samples to monitor spike recoveries. The frequency of spiked sample analysis must be at least 10% of all samples or one spiked sample per month, whichever is greater. One aliquot of the sample must be spiked and analyzed. If the recovery for a particular parameter does not fall within the control limits for method performance, the results reported for that parameter in all samples processed as part of the same set must be qualified. The laboratory should monitor the frequency of data qualified to ensure that it remains at or below 5%.
8.5 Before processing any samples, the analyst must demonstrate through the

analysis of a 1-liter aliquot of reagent water that all glassware and reagents interferences are under control. Each time a set of samples is extracted or there is a change in reagents, a laboratory reagent blank must be processed as a safeguard against laboratory contamination.

8.6 It is recommended that the laboratory adopt additional quality assurance practices for use with these methods. The specific practices that are most productive depend upon the needs of the laboratory and the nature of the samples. Field duplicates may be analyzed to monitor the precision of the sampling technique. When doubt exists over the identification of a peak on a chromatogram, confirmatory techniques such as gas chromatography with a dissimilar column, specific element detector, or mass spectrometer must be used. Whenever possible, the laboratory should perform analysis of quality control materials and participate in relevant performance evaluation studies.

*9. Sample Collection, Preservation and Handling*

9.1 Grab samples must be collected in glass containers. Conventional sampling practices should be followed; however, the bottle must not be prerinsed with the sample before collection. Composite samples should be collected in refrigerated glass containers in accordance with program requirements. Automatic sampling equipment must be as free as possible of plastic tubing and other potential sources of contamination.

9.2 The sample is adjusted to pH<2 with sulfuric acid. If the sample is not analyzed the same day or it is shipped to another location, samples should be frozen in addition to adjusting the pH.

9.3 All samples must be extracted within 7 days and completely analyzed within 40 days of extraction.

*10. Sample Extraction*

10.1 Adjust sample pH to 4–6. Remove top and tip of Bio-Rad Econo-Column. Let any liquid in column drain out. Fill column reservoir with deionized water and let it run through column. Fill column reservoir a second time with deionized water and let it run through column. Once column is drained, draw 3 mL of sample into Gilson Pipetman and transfer to top of column. Let sample run through column collecting the eluent in a vial. When sample has completely run through column, place 2.0 mL of deionized water (use Gilson Pipetman) on top of the column and run this through the column, collecting eluent in the same vial. When all 5 mL of eluent has been collected, add one drop of sulfuric acid (98%) and mix thoroughly. Sample pH should now be <1.3. Transfer to sample vial using disposable Pasteur pipette. Sample is now ready for the HPLC. Discard used Econo-Column.

10.2 Care must be taken during the sample pretreatment to prevent contamination of the samples with glyphosate. For this reason, disposable pipette tips and columns are employed in this method to minimize cross contamination.

10.3 A water blank should be included in the sample pretreatment and HPLC analysis to ensure the absence of glyphosate contamination via sample manipulation.

*11. Cleanup and Separation*

11.1 A sample cleanup using the Bio-Rad prefilled AG50W-X8 column will eliminate cationic species (metals, amines), which will bind to the primary column.

11.2 The automated *in-situ* sample cleanup via primary anion exclusion column eliminates strong organic acids and anions from being introduced to the analytical column and ninhydrin system.

*12. Liquid Chromatography*

12.1 Table 1 summarizes the recommended operating conditions for the liquid chromatography.

12.2 Calibrate the system as described in Section 7.

12.3 *Packing the Primary Column*

12.3.1 Dimension—15 cm x 6.35 mm O.D. x 4.0 mm I.D.

12.3.2 Packing Material AG50W-X8, mesh $H^+$ form (Bio-Rad, 142–1461).

12.3.3 Packing Procedures:

(1) Prepare a slurry of AG50W-X8 in HPLC mobile phase (Sulfuric acid, pH-3) (Section 8.2). Decant the free suspension and let stand in mobile phase overnight.

(2) Place bed support in end fitting and insert one end of column. Tighten nut and ferrule onto end fitting.

(3) Attach vacuum aspirator to end fitting and turn on vacuum. Fill column from open end with slurry of AG50W-X8 until column is completely filled.

(4) Attach end fitting with bed support, nut, and ferrule on open end.

(5) Connect to LC pump and run buffer to settle packing.

(6) Open column on inlet end and check to see if there is a void. If there is, repeat steps 3–5 until packing material is packed tight and no voids remain in column.

12.4 Preparation of Reagents

12.4.1 HPLC Mobile Phase—Primary Column

Add sulfuric acid to 3.8 L deionized water until the pH is adjusted to 3.0. Filter/degas the mobile phase through a millipore 0.22 micron filter before use.

12.4.2 HPLC Mobile Phase—Analytical Column

Dilute 160 mL methanol with deionized water to 3.8 L total volume. Add 9.5 g potassium phosphate monobasic and adjust pH to 2.3 with phosphoric acid. Filter/degas the mobile phase through a millipore 0.22 micron filter before use.

12.4.3 Ninhydrin Solution

Combine 1000 mL of DMSO, 600 mL of deionized water and 400 mL of 4.0 *M* (pH 5.2) lithium acetate. Bubble argon through this solution for approximately 15 minutes. Then add 32 g of ninhydrin, stirring until dissolved. Into a separate beaker, weigh 1.6 g of hydrindantin and add 100 mL of DMSO. Add a few mL of the ninhydrin solution and stir several minutes. Decant liquid into ninhydrin solution taking care to not let any solid hydrindantin get into the ninhydrin solution. To remaining solids in the beaker, add 50 mL DMSO and a few mL of the ninhydrin solution and stir. Decant off the liquid into the ninhydrin solution. To the remaining solids in the beaker, add 50 mL DMSO and a few mL of ninhydrin solution. Stir until all remaining solids are dissolved. Add this to the ninhydrin solution. Continue stirring and bubbling argon through the ninhydrin solution for an additional 15 minutes.

12.4.4 Wetting Solution for Auto Analyzer

Add 10 mL of Brij to 990 mL of deionized water. Stir until completely mixed and then add 1–2 mL of sulfuric acid (98%).

12.4.5 0.5 *M* Sulfuric Acid Solution. Add sulfuric acid (98%) to 3.8 L deionized water until the pH is adjusted to 1.3.

12.5 Construction of Ninhydrin Reactor. Refer to Figure 1.

12.6 Interfacing between WISP and DVSP—Refer to Figure 2.

12.7 Interfacing between DVSP and Six Port Valve solenoid—Refer to Figure 3. DVSP sequence timing is set as follows:

| Sequence | Time (Minutes) |
|---|---|
| 1 | 5.0 |
| 2 | 2.0 |

12.8 Interfacing Between Colorimeter and Spectrum—Refer to Figure 4.

12.9 Configuration of Column Switching Instrumentation—Refer to Figure 5.

12.10 Alternate injections between standard and sample throughout the analysis.

12.11 A typical chromatogram of 50 µg/l glyphosate in a 102 sump sample is shown in Figure 6. The peak height of glyphosate standard is given in Figure 7.

12.12 Peak heights of standards are measured. A calibration curve is prepared.

12.13 The amount of glyphosate in the samples is obtained from the calibration curve.

*13. Calculations*

13.1 The actual concentration of glyphosate in a waste sample is calculated from the µg/L glyphosate given the calibration curve times the total volume collected from the Bio-Rad Econocolumn (5) divided by the volume of waste sample added to the Bio-Rad column (3).

µg/L (ppb) glyphosate =
(ppb glyphosate from calibration curve) (5/3)

*14. Method Performance*

14.1 The method was validated over the range of 5–210 ppb glyphosate.

14.2 If the glyphosate concentration in the sample is greater than 200 ppb, then the appropriate sample dilution should be made before the sample is run through the manual cleanup column and not after the cleanup column. All sample dilutions should be made with deionized water.

14.3 The sensitivity of the method is 1.5 mV/ppb glyphosate.

14.4 The detection limit is 5 µg/L glyphosate.

14.5 The pooled coefficient of variation (CV) for the analytical method in the range of 5–210 ppb glyphosate was 0.023. The correlation coefficient was 0.9992.

14.6 The lifetime of the primary column has not been determined. During this work, the primary column was repacked once a week. No column deterioration was noticed over this one-week period.

14.7 The response to glyphosate should be optimized for each system. This can be done by varying the times on the DVSP, retaining the two-minute width for the heart cut.

14.8 When working with samples that are known to be in the 5–40 ppb range, it is recommended that standards only in the range of 5–60 ppb be used. This will effectively eliminate any contamination in the WISP due to syringe and needle carryover of standards.

14.9 It was found that glyphosate recovery from the Bio-Rad Econo-Columns was dependent upon the pH of the sample. At a pH of 6, the average glyphosate recovery (R) was 99%. At a pH of 1.8, the average recovery (R) was 85%. This is why samples must be pH adjusted to between 4 and 6 before being run through the Bio-Rad columns.

14.10. *Advantage*

This column-switching, HPLC/post-column reactor method gives a procedure that is sensitive to glyphosate at the parts-per-billion level. Use of the post-column reactor makes this method selective for primary and secondary amines. The multicolumn approach eliminates many of the problems caused by the varied sample matrices which may be encountered. These include widely varying ionic strength and strong organic acids that are ninhydrin active.

14.11 *Disadvantages*

Use of post-column reactor increases the analysis time and the complexity of the procedure. The method is not completely automatd. A manual cleanup column must be used. This introduces additional sources of error.

*15. References*

15.1 "Automated Method for the Determination of Glyphosate in Industrial Effluents via Column Switching Technique," Standard Test Method, Monsanto Agricultural Products Co., St. Louis, MO.

15.2 Letter to Mr. G.M. Jett, USEPA from Mr. D.E. Cayard, Monsanto Agricultural Products Co., April 8, 1983.

TABLE 1.—CHROMATOGRAPHIC CONDITIONS

| | |
|---|---|
| HPLC operation conditions for both columns: | |
| Buffer flow rate | 0.6 mL/min. |
| WISP: | |
| Operation parameters injection volume. | 1.0 mL. |
| Run time | 30 min. |
| Number of injections | 1. |
| Analysis time | 40 min. |
| Detector | Normal, Std. Cat. 2.00. |
| Electronic filter: | |
| Cutoff frequency | 0.01. |
| Attenuation | 2.0. |
| Recorder | Chart speed—0.25 cm/min. |
| Primary column | 15 cm × 4.0 mm AG 50W-X8, 200–400 mesh, H+ form. |
| Analytical column | 15 cm × 4.6 mm Du Pont SAX. |
| Mobile phase | 9.5, $KH_2PO_4$, 4 percent methanol, pH 2.3 with 85 percent $H_3PO_4$ dissolved in 4L of water. |

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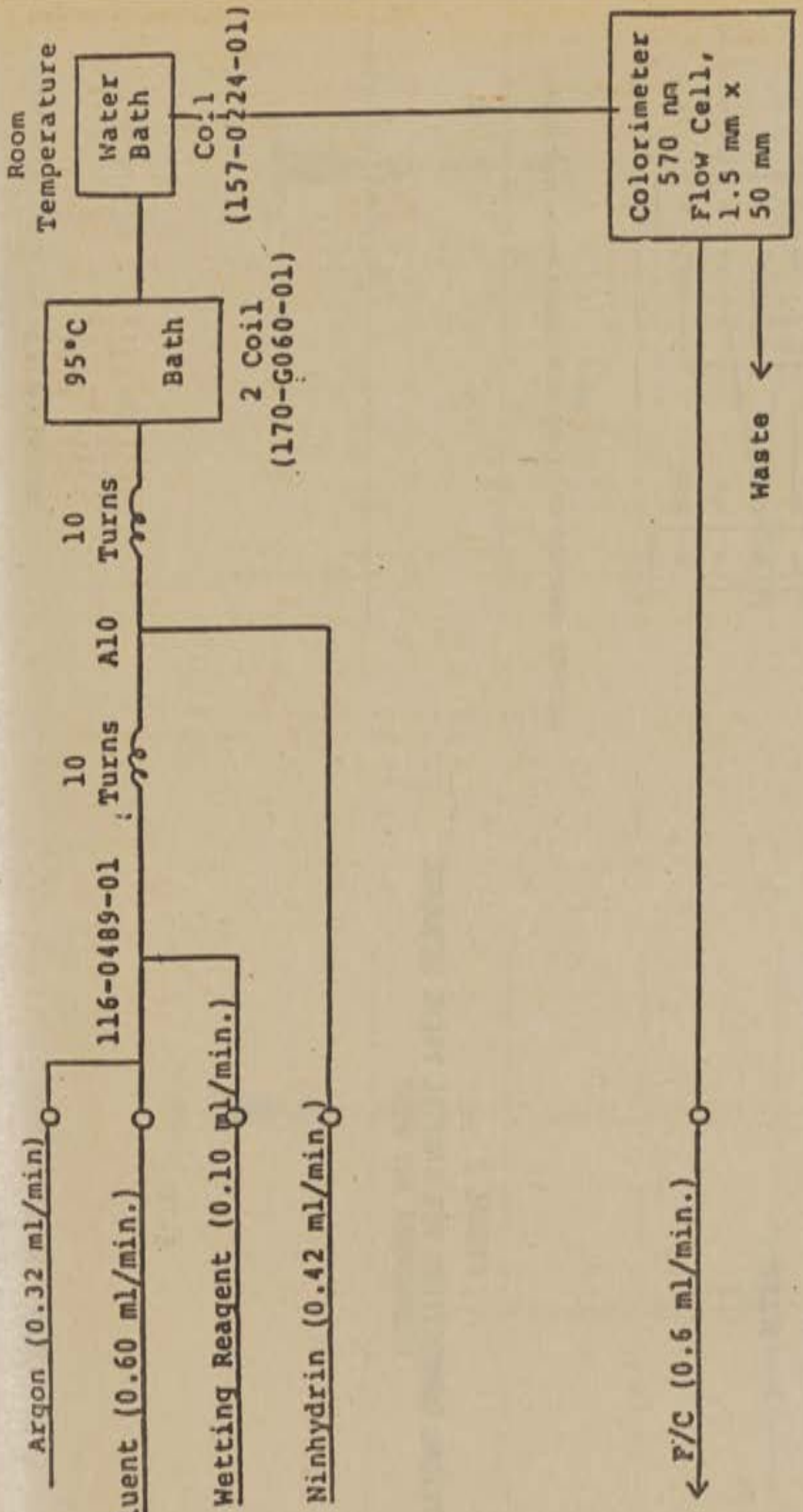


FIGURE 1

HYDRAULIC SYSTEM OF TECHNICIAN AUTOANALYZER BASED NINHYDRIN REACTOR

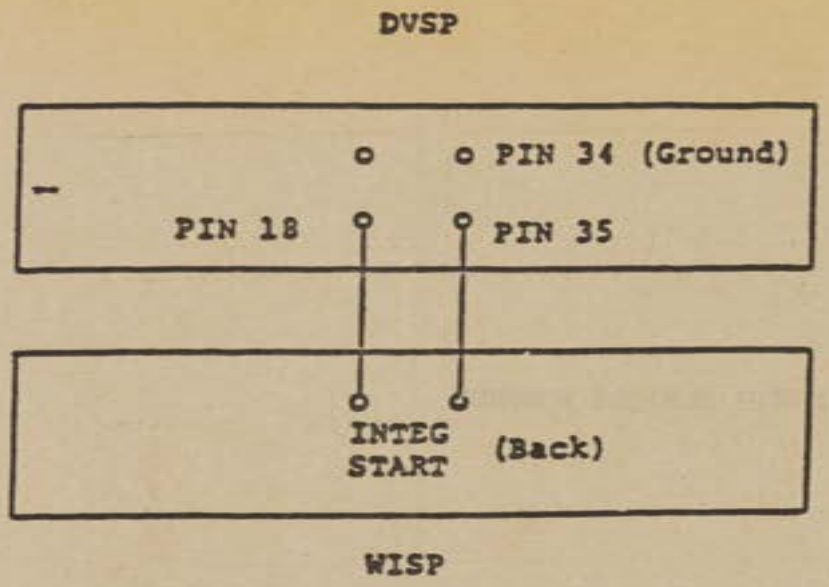


FIGURE 2

ELECTRICAL CONNECTIONS FOR DIGITAL VALVE SEQUENCE PROGRAMMER AND WISP



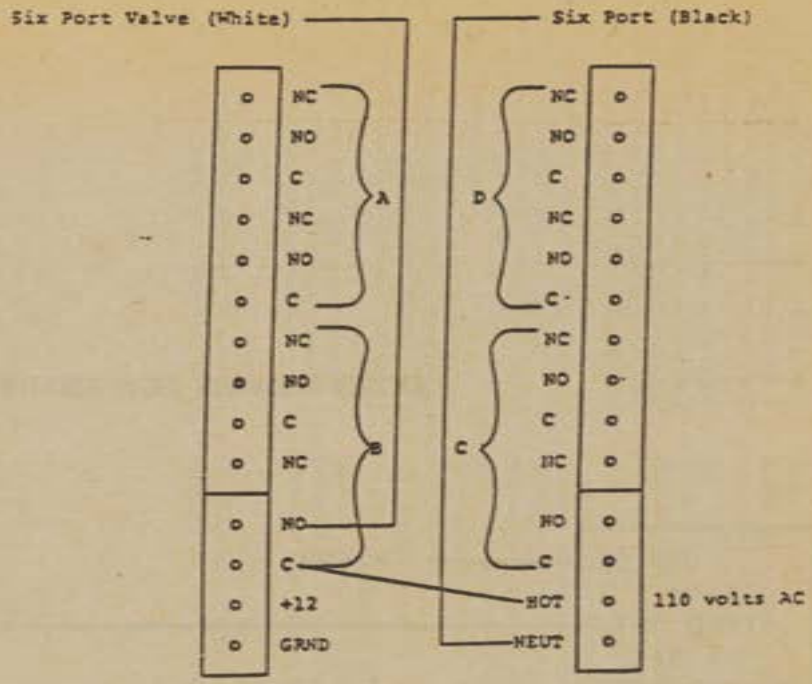


FIGURE 3

ELECTRICAL CONNECTIONS FOR SIX PORT VALVE SOLENOID DIGITAL VALVE SEQUENCE

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FIGURE 4
CHROMATOGRAM OF 50 PPB GLYPHOSATE

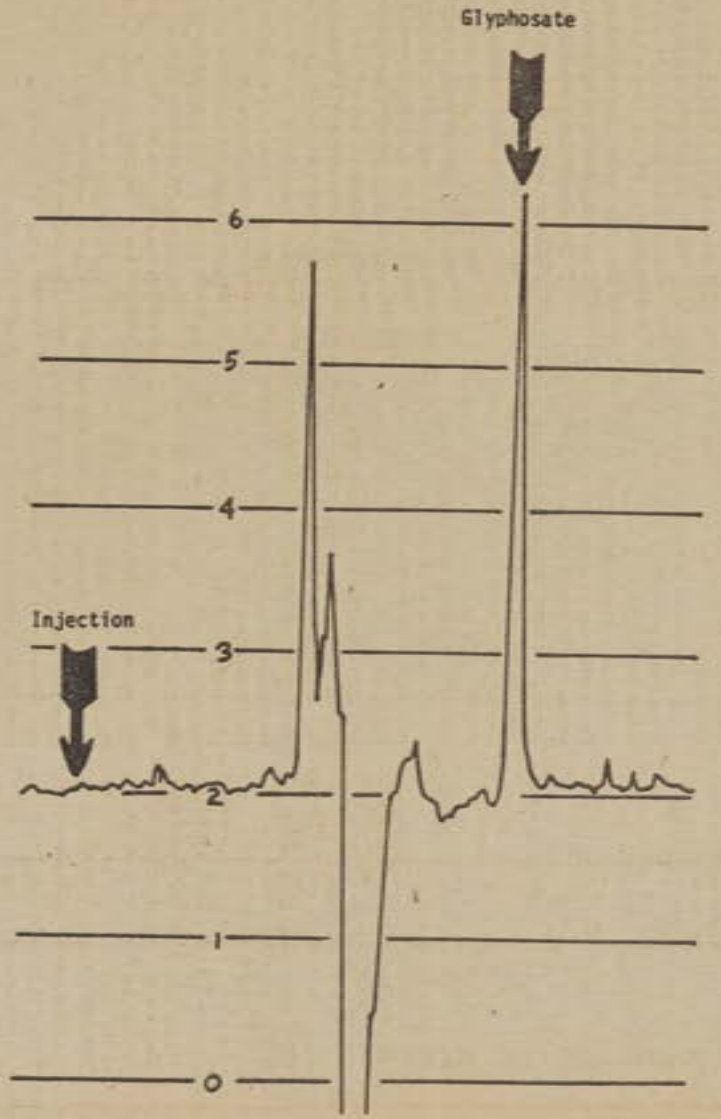


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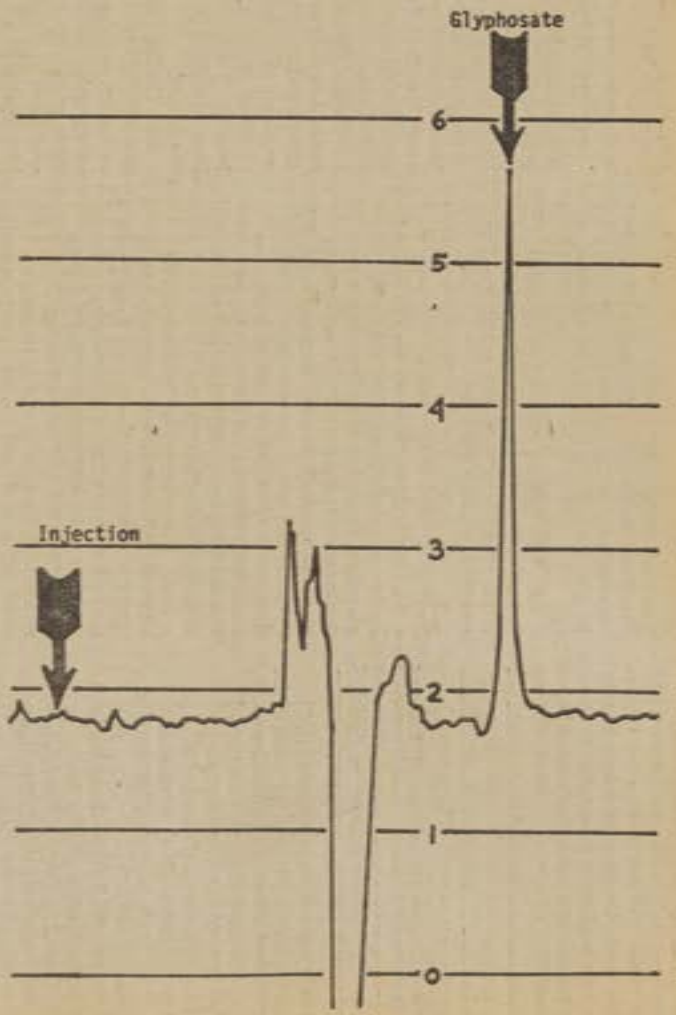
FIGURE 5
CHROMATOGRAM OF 44 PPB GLYPHOSATE STANDARD

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## Method 608.1—Chlorinated Pesticides

*1. Scope and Application*

1.1 This method covers the determination of certain organochlorine pesticides. The following parameters can be determined by this method:

| Parameter | Storet No. | CAS No. |
|---|---|---|
| Chlorobenzilate | 39460 | 510-15-6 |
| Chloropropylate | | 5836-10-2 |
| Dibromochloropropane (DBCP) | | 96-10-2 |
| Etridiazole | | 2593-15-9 |
| Propachlor | | 1918-16-7 |

1.2 This is a gas chromatographic (GC) method applicable to the determination of the compounds listed above in industrial and municipal discharges. Any modification of this method beyond those expressly permitted shall be considered a major modification subject to application and approval of alternate test procedures under 40 CFR 136.4 and 136.5.

1.3 The estimated method detection limit (MDL, defined in Section 15) for each parameter is listed in Table 1. The MDL for a specific wastewater may differ from those listed, depending upon the nature of interferences in the same matrix.

1.4 This method presents an extension in scope of Method 608. Further, the sample extraction and concentration steps in this method are essentially the same as several others in the 600-method series. Thus, a single sample may be extracted to measure the parameters included in the scope of each of these methods. When cleanup is required, the concentration levels must be high enough to permit selecting aliquots, as necessary, in order to apply appropriate cleanup procedures. Under Gas Chromatography, the analyst is allowed the latitude to select chromatographic conditions appropriate for the simultaneous measurement of combinations of these parameters (see Section 12).

1.5 This method is restricted to use by or under the supervision of analysts experienced in the use of gas chromatography and in the interpretation of gas chromatograms. Each analyst must demonstrate the ability to generate acceptable results with this method using the procedure described in Section 8.2.

1.6 When this method is used to analyze unfamiliar samples for any or all of the compounds above, compound identifications should be supported by at least one additional qualitative technique. This method describes analytical conditions for a second gas chromatographic column for chlorobenzilate and chloropropylate that can be used to confirm measurements made with the primary column. Section 14 provides gas chromatograph/mass spectrometer (GC/MS) criteria appropriate for the qualitative confirmation of compound identifications.

*2. Summary of Method*

2.1 A measured volume of sample, approximately 1 liter, is solvent extracted with methylene chloride using a separatory funnel. The methylene chloride extract is dried and exchanged to hexane during concentration to a volume of 10 mL or less. Gas chromatographic conditions are described which permit the separation and measurement of the compounds in the extract by electron capture (EC) gas chromatography (*1*).

2.2 This method provides an optional Florisil column cleanup procedure to aid in the elimination or reduction of interferences which may be encountered.

*3. Interferences*

3.1 Method interferences may be caused by contaminants in solvents, reagents, glassware and other sample processing apparatus that lead to discrete artifacts or elevated baselines in gas chromatograms. All reagents and apparatus must be routinely demonstrated to be free from interferences under the conditions of the analysis by running laboratory reagent blanks as described in Section 8.5.

3.1.1 Glassware must be scrupulously cleaned (*2*). Clean all glassware as soon as possible after use by thoroughly rinsing with the last solvent used in it. Follow by washing with hot water and detergent and thorough rinsing with tap and reagent water. Drain dry, and heat in an oven or muffle furnace at 400°C for 15 to 30 min. Do not heat volumetric glassware. Thermally stable materials such as PCBs might not be eliminated by this treatment. Thorough rinsing with acetone and pesticide quality hexane may be substituted for the heating. After drying and cooling, seal and store glassware in a clean environment to prevent any accumulation of dust or other contaminants. Store inverted or capped with aluminum foil.

3.1.2 The use of high purity reagents and solvents helps to minimize interference problems. Purification of solvents by distillation in all-glass systems may be required.

3.2 Interference by phthalate esters can pose a major problem in pesticide analysis when the EC detector is used. These compounds generally appear in the chromatogram as large late eluting peaks, especially in the 15 and 50% fractions from the Florisil column cleanup. Common flexible plastics contain varying amounts of phthalates. These phthalates are easily extracted or leached from such materials during laboratory operations. Cross contamination of clean glassware occurs when plastics are handled during extraction steps, especially when solvent wetted surfaces are handled. Interferences from phthalates can be minimized by avoiding the use of plastics in the laboratory. Exhaustive cleanup of regents and glassware may be required to eliminate background phthalate contamination (*3,4*). The interferences from phthalate esters can be avoided by using a microcoulometric or electrolytic conductivity detector.

3.3 Matrix interferences may be caused by contaminants that are co-extracted from the sample. The extent of matrix interferences will vary considerably from source to source, depending upon the nature and diversity of the industrial complex or municipality sampled. The cleanup procedure in Section 11 can by used to overcome many of these interferences, but unique samples may require additional cleanup approaches to achieve the MDL listed in Table 1.

*4. Safety*

4.1 The toxicity or carcinogenicity of each reagent used in this method has not been precisely defined; however, each chemical compound must be treated as a potential health hazard. From this viewpoint, exposure to these chemicals must be reduced to the lowest possible level by whatever means available. The laboratory is responsible for maintaining a current awareness file of OSHA regulations regarding the safe handling of the chemicals specified in this method. A reference file of material data handling sheets should also be made available to all personnel involved in the chemical analysis. Additional references to laboratory safety are available and have been identified (*5–7*) for the information of the analyst.

4.2 The following parameters covered by this method have been tentatively classified as known or suspected, human or mamalian carcinogens: chlorobenzilate; dibromochloropropane; and PCNB. Primary standards of these toxic compounds should be prepared in a hood.

*5. Apparatus and Materials*

5.1 Sampling equipment, for discrete or composite sampling.

5.1.1 Grab sample bottle—Amber borosilicate or flint glass, 1-liter or 1-quart volume, fitted with screw caps lined with TFE-fluorocarbon. Aluminum foil may be substituted for TFE if the sample is not corrosive. If amber bottles are not available, protect sample from light. The container and cap liner must be washed, rinsed with acetone or methylene chloride, and dried before use to minimize contamination.

5.1.2 Automatic sampler (optional)—Must incorporate glass sample containers for the collection of a minimum of 250 mL. Sample containers must be kept refrigerated at 4 °C and protected from light during compositing. If the sampler uses a peristaltic pump, a minimum length of compressible silicone rubber tubing may be used. Before use, however, the compressible tubing must be thoroughly rinsed with methanol, followed by repeated rinsings with reagent water to minimize the potential for contamination of the sample. An integrating flow meter is required to collect flow proportional composites.

5.2 Glassware (all specifications are suggested. Catalog numbers are included for illustration only.)

5.2.1 Separatory funnel—2000-mL, with TFE-fluorocarbon stopcock, ground glass of RFE stopper.

5.2.2 Drying column—Chromatographic column 400 mm long x 19 mm ID with coarse fritted disc.

5.2.3 Chromatographic column—400 mm lng x 19 mm ID with coarse fritted disc at bottom and TFE-fluorocarbon stopcock (Kontes K–420540–0224 or equivalent).

5.2.4 Concentrator tube, Kuderna-Danish—10-mL, graduated (Kontes K–570050–1025 or equivalent). Calibration must be checked at the volumes employed in the test.

Ground glass stopper is used to prevent evaporation of extracts.

5.2.5 Evaporative flask, Kuderna-Danish—500-mL (Kontes K-570001-0500 or equivalent). Attach to concentrator tube with springs.

5.2.6 Snyder column, Kuderna-Danish—three-ball macro (Kontes K-503000-0121 or equivalent).

5.2.7 Vials—Amber glass, 10 to 15 mL capacity with TFE fluorocarbon lined screw cap.

5.3 Boiling chips—approximately 10/40 mesh. Heat at 400 °C for 30 min. or Soxhlet extract with methylene chloride.

5.4 Water bath—Heated, with concentric ring cover, capable of temperature control. (± 2 °C). The bath should be used in a hood.

5.5 Balance—Analytical, capable of accurately weighing to the nearest 0.0001 g.

5.6 Gas chromatograph—Analytical system complete with gas chromatograph suitable for on-column injection and all required accessories including syringes, analytical columns, gases, detector and strip-chart recorder. A data system is recommended for measuring peak areas.

5.6.1 Column 1—180 cm long x 2 mm ID glass, packed with 1.5% SP-2250/1.95% SP-2401 on Supelcoport (100/120 mesh) or equivalent. This column was used to develop the method performance statements in Section 15. Alternative columns may be used in accordance with the provisions described in Section 12.1.

5.6.2 Column 1—180 cm long x mm ID glass, packed with Ultrabond 20 M (100/120 mesh) or equivalent.

5.6.3 Detector—Electron capture. This detector has proven effective in the analysis of wastewaters for the parameters listed in the scope and was used to develop the method performance statements in Section 15. Alternative detectors, including a mass spectrometer, may be used in accordance with the provisions described in Section 12.1.

*6. Reagents*

6.1 Reagent water—Reagent water is defined as a water in which an interferent is not observed at the method detection limit of each parameter of interest.

6.2 Acetone, hexane, isooctane, methylene chloride, methanol—Pesticide quality or equivalent.

6.3 Ethyl ether—Nanograde, redistilled in glass if necessary. Must be free of peroxides as indicated by EM Quant test strips. (Available from Scientific Products Co., Cat. No. P1126-6, and other suppliers.) Procedures recommended for removal of peroxides are provided with the test strips. After cleanup, 20 mL ethyl alcohol preservative must be added to each liter of ether.

6.4 Sodium sulfate—(ACS) Granular, anhydrous. Heat treat in a shallow tray at 400°C for a minimum of 4 h to remove phthalates and other interfering organic substances. Alternatively, heat 16 h at 450-500°C in a shallow tray or Soxhlet extract with methylene chloride for 48 h.

6.5 Florisil—PR grade (60/100 mesh). Purchase activated at 1250 °F and store in dark in glass container with ground glass stopper or foil-lined screw cap. Before use activate each batch at least 16 h at 130 °C in a foil covered glass container.

6.6 Stock standard solutions (1.00 µg/uL)—Stock standard solutions may be prepared from pure standard materials or purchased as certified solutions.

6.6.1 Prepare stock standard solutions by accurately weighing approximately 0.0100 g of pure material. Dissolve the material in pesticide quality isooctane and dilute to volume in a 10-mL volumetric flask. Larger volumes may be used at the convenience of the analyst. If compound purity is certified at 96% or greater, the weight may be used without correction to calculate the concentration of the stock standard. Commercially prepared stock standards may be used at any concentration if they are certified by the manufacturer or by an independent source.

6.6.2 Transfer the stock standard solutions into TFE-fluorocarbon-sealed screw cap vials. Store at 4 °C and protect from light. Frequently check stock standard solutions for signs of degradation or evaporation, especially just prior to preparing calibration standards from them.

6.6.3 Stock standard solutions must be replaced after six months or sooner if comparison with check standards indicates a problem.

*7. Calibration*

7.1 Establish gas chromatographic operating parameters equivalent to those indicated in Table 1. The gas chromatographic system may be calibrated using either the external standard technique (Section 7.2) or the internal standard technique (Section 7.3).

7.2 External standard calibration procedure:

7.2.1 For each parameter of interest, prepare calibration standards at a minimum of three concentration levels by adding accurately measured volumes of one or more stock standards to a volumetric flask and diluting to volume with isooctane. One of the external standards should be representative of a concentration near, but above, the method detection limit. The other concentrations should correspond to the range of concentrations expected in the sample concentrates or should define the working range of the detector.

7.2.2 Using injections of 1 to 5 uL of each calibration standard, tabulate peak height or area responses against the mass injected. The results can be used to prepare a calibration curve for each parameter. Alternatively, the ratio of the response to the mass injected, defined as the calibration factor (CF), may be calculated for each parameter at each standard concentration. If the relative standard deviation of the calibration factor is less than 10% over the working range, the average calibration factor can be used in place of a calibration curve.

7.2.3 The working calibration curve or calibration factor must be verified on each working shift by the measurement of one or more calibration standards. If the response for any parameter varies from the predicted response by more than ±10%, the test must be repeated using a fresh calibration standard. Alternatively, a new calibration curve or calibration factor must be prepared for that parameter.

7.3 Internal standard calibration procedure. To use this aproach, the analyst must select one or more internal standards similar in analytical behavior to the compounds of interest. The analyst must further demonstrate that the measurement of the internal standard is not affected by method or matrix interferences. Due to these limitations, no internal standard applicable to all samples can be suggested.

7.3.1 Prepare calibration standards at a minimum of three concentration levels for each parameter of interest by adding volumes of one or more stock standards to a volumetric flask. To each calibration standard, add a known constant amount of one or more internal standards, and dilute to volume with isooctane. One of the standards should be representative of a concentration near, but above, the method detection limit. The other concentrations should correspond to the range of concentrations expected in the sample concentrates, or should define the working range of the detector.

7.3.2 Using injections of 1 to 5 µL of each calibration standard, tabulate the peak height or area responses against the concentration for each compound and internal standard. Calculate response factors (RF) for each compound as follows:

$RF = (A_s C_{is})/(A_{is} C_s)$

where:

$A_s$ = Response for the parameter to be measured.

$A_{is}$ = Response for the internal standard.

$C_{is}$ = Concentration of the internal standard in µg/L.

$C_s$ = Concentration of the parameter to be measured in µg/L.

If the RF value over the working range is constant, less than 10% relative standard deviation, the RF can be assumed to be invariant and the average RF may be used for calculations. Alternatively, the results may be used to plot a calibration curve of response ratios, $A_s/A_{is}$ against RF.

7.3.3 The working calibration curve or RF must be verified on each working shift by the measurement of one or more calibration standards. If the response for any parameter varies from the predicted response by more than ±10%, the test must be repeated using a fresh calibration standard. Alternatively, a new calibration curve must be prepared for that compound.

7.4 The cleanup procedure in Section 11 utilizes Florisil chromatography. Florisil from different batches or sources may vary in adsorptive capacity. To standardize the amount of Florisil which is used, the use of lauric acid value is suggested. This procedure (8) determines the adsorption from hexane solution of lauric acid, in mg, per g of Florisil. The amount of Florisil to be used for each column is calculated by dividing this factor into 110 and multiplying by 20 g.

7.5 Before using any cleanup procedure, the analyst must process a series of calibration standards through the procedure to validate elution patterns and the absence of interference from the reagents.

*8. Quality Control*

8.1 Each laboratory using this method is required to operate a formal quality control

program. The minimum requirements of this program consist of an initial demonstration of laboratory capability and the analysis of spiked samples as a continuing check on performance. The laboratory is required to maintain performance records to define the quality of data that is generated.

8.1.1 Before performing any analyses, the analyst must demonstrate the ability to generate acceptable accuracy and precision with this method. The ability is established as described in Section 8.2.

8.1.2 In recognition of the rapid advances occurring in chromatography, the analyst is permitted certain options to improve the separations or lower the cost of measurements. Each time such modifications to the method are made, the analyst is required to repeat the procedure in Section 8.2.

8.1.3 The laboratory must spike and analyze a minimum of 10% of all samples to monitor continuing laboratory performance. This procedure is described in Section 8.4.

8.2 To establish the ability to generate acceptable accuracy and precision, the analyst must perform the following operations.

8.2.1 Select a representative spike concentration for each compound to be measured. Using stock standards, prepare a quality control check sample concentrate in acetone 1000 times more concentrated than the selected concentrations.

8.2.2 Using a pipet, add 1.00 mL of the check sample concentrate to each of a minimum of four 1000-mL aliquots of reagent water. A representative wastewater may be used in place of the reagent water, but one or more additional aliquots must be analyzed to determine background levels, and the spike level must exceed twice the background level for the test to be valid. Analyze the aliquots according to the method beginning in Section 10.

8.2.3 Calculate the average percent recovery (R), and the standard deviation of the percent recovery(s), for the results. Wastewater background corrections must be made before R and s calculations are performed.

8.2.4 Using the appropriate data from Table 2, determine the recovery and single operator precision expected for the method, and compare these results to the values calculated in Section 8.2.3. If the data are not comparable, review potential problem areas and repeat the test.

8.3 The analyst must calculate method performance criteria and define the performance of the laboratory for each spike concentration and parameter being measured.

8.3.1 Calculate upper and lower control limits for method performance as follows:

$$\text{Upper Control Limit (ucl)} = R + 3s$$

$$\text{Lower Control Limit (LCL)} = R - 3s$$

where R and s are calculated as in Section 8.2.3. The UCL and LCL can be used to construct control charts (*9*) that are useful in observing trends in performance.

8.3.2 The laboratory must develop and maintain separate accuracy statements of laboratory performance for wastewater samples. An accuracy statement for the method is defined as $R \pm 2s$. The accuracy statement should be developed by the analysis of four aliquots of wastewater as described in Section 8.2.2, followed by the calculation of R and s. Alternatively, the analyst may use four wastewater data points gathered through the requirement for continuing quality control in Section 8.4. The accuracy statements should be updated regularly. (*9*)

8.4 The laboratory is required to collect in duplicate a portion of their samples to monitor spike recoveries. The frequency of spiked sample analysis must be at least 10% of all samples or one spiked sample per month, whichever is greater. One aliquot of the sample must be spiked and analyzed as described in Section 8.2. If the recovery for a particular parameter does not fall within the control limits for method performance, the results reported for that parameter in all samples processed as part of the same set must be qualified as described in Section 13.3. The laboratory should monitor the frequency of data so qualified to ensure that it remains at or below 5%.

8.5 Before processing any samples, the analyst must demonstrate through the analysis of a 1-liter aliquot of reagent water that all glassware and reagents interferences are under control. Each time a set of samples is extracted or there is a change in reagents, a laboratory reagent blank must be processed as a safeguard against laboratory contamination.

8.6 It is recommended that the laboratory adopt additional quality assurance practices for use with this method. The specific practices that are most productive depend upon the needs of the laboratory and the nature of the samples. Field duplicates may be analyzed to monitor the precision of the sampling technique. When doubt exists over the identification of a peak on the chromatogram, confirmatory techniques such as gas chromatography with a dissimilar column, specific element detector, or mass spectrometer must be used. Whenever possible, the laboratory should perform analysis of quality control materials and participate in relevant performance evaluation studies.

*9. Sample Collection, Preservation, and Handling*

9.1 Grab samples must be collected in glass containers. Conventional sampling practices (*10*) should be followed; however, the bottle must not be prerinsed with sample before collection. Composite samples should be collected in refrigerated glass containers in accordance with the requirements of the program. Automatic sampling equipment must be as free as possible of plastic and other potential sources of contamination.

9.2 The samples must be iced or refrigerated at 4 °C from the time of collection until extraction.

9.3 All samples must be extracted within seven days and completely analyzed within 40 days of extraction.

*10. Sample Extraction*

10.1 Mark the water meniscus on the side of the sample bottle for later determination of sample volume. Pour the entire sample into a 2-liter separatory funnel.

10.2 Add 60 mL methylene chloride to the sample bottle, seal, and shake 30 s to rinse the inner walls. Transfer the solvent to the separatory funnel and extract the sample by shaking the funnel for 2 min with periodic venting to release excess pressure. Allow the organic layer to separate from the water phase for a minimum of 10 min. If the emulsion interface between layers is more than one third the volume of the solvent layer, the analyst must employ mechanical techniques to complete the phase separation. The optimum technique depends upon the sample, but may include stirring, filtration of the emulsion through glass wool, centrifugation, or other physical methods. Collect the methylene chloride extract in a 250-mL Erlenmeyer flask.

10.3 Add a second 60-mL volume of methylene chloride to the sample bottle and repeat the extraction procedure a second time, combining the extracts in the Erlenmeyer flask. Perform a third extraction in the same manner.

10.4 Assemble a Kuderna-Danish (K–D) concentrator by attaching a 10-mL concentrator tube to a 500-mL evaporative flask. Other concentration devices or techniques may be used in place of the K–D if the requirements of Section 8.2 are met.

10.5 Pour the combined extract through a drying column containing about 10 cm of anhydrous sodium sulfate, and collect the extract in the K–D concentrator. Rinse the Erlenmeyer flask and column with 20 to 30 mL of methylene chloride to complete the quantitative transfer.

10.6 Add 1 or 2 clean boiling chips to the evaporative flask and attach a three-ball Snyder column. Prewet the Snyder column by adding about 1 mL methylene chloride to the top. Place the K–D apparatus on a hot water bath, 60 to 65 °C, so the concentrator tube is partially immersed in the hot water, and the entire lower rounded surface of the flask is bathed with hot vapor. Adjust the vertical position of the apparatus and the water temperature as required to complete the concentration in 15 to 20 min. At the proper rate of distillation, the balls of the column will actively chatter but the chambers will not flood with condensed solvent. When the apparent volume of liquid reaches 1 mL, remove the K–D apparatus and allow it to drain and cool for at least 10 min.

10.7 Increase the temperature of the hot water bath to about 80 °C. Momentarily remove the Snyder column, add 50 mL of hexane and a new boiling chip and reattach the Snyder column. Pour about 1 mL of hexane into the top of the Snyder column and concentrate the solvent extract as before. Elapsed time of concentration should be 5 to 10 min. When the apparent volume of liquid reaches 1 mL, remove the K–D apparatus and allow it to drain and cool for at least 10 min.

10.8 Remove the Snyder column and rinse the flask and its lower joint into the concentrator tube with 1 to 2 mL of hexane and adjust the volume to 10 mL. A 5-mL syringe is recommended for this operation. Stopper the concentrator tube and store refrigerated if further processing will not be performed immediately. If the extracts will be stored longer than two days, they should be

transferred to TFE-fluorocarbon-sealed screw-cap vials. If the sample extract requires no further cleanup, proceed with gas chromatographic analysis. If the sample requires cleanup, proceed to Section 11.

10.9 Determine the original sample volume by refilling the sample bottle to the mark and transferring the water to a 1000-mL graduated cylinder. Record the sample volume to the nearest 5 mL.

*11. Cleanup and Separation*

11.1 Cleanup procedures may not be necessary for a relatively clean sample matrix. The cleanup procedure recommended in this method has been used for the analysis of various industrial and municipal effluents. If particular circumstances demand the use of an alternative cleanup procedure, the analyst must determine the elution profile and demonstrate that the recovery of each compound of interest for the cleanup procedure is no less than 85%.

11.2 The following Florisil column cleanup procedure has been demonstrated to be applicable to the four organochlorine pesticides listed in Table 3. It should also be applicable to the cleanup of extracts for PCNB.

11.2.1 Add a weight of Florisil (nominally 20 g) predetermined by calibration (Section 7.4 and 7.5), to a chromatographic column. Settle the Florisil by tapping the column. Add anhydrous sodium sulfate to the top of the Florisil to form a layer 1 to 2 cm deep. Add 60 mL of hexane to wet and rinse the sodium sulfate and Florisil. Just prior to exposure of the sodium sulfate to air, stop the elution or the hexane by closing the stopcock on the chromatography column. Discard the eluate.

11.2.2 Adjust the sample extract volume to 10 mL with hexane and transfer it from the K–D concentrator tube to the Florisil column. Rinse the tube twice with 1 to 2 mL hexane, adding each rinse to the column.

11.2.3 Place a 500-mL K–D flask and clean concentrator tube under the chromatography column. Drain the column into the flask until the sodium sulfate layer is nearly exposed. Elute the column with 200 mL of 6% ethyl ether in hexane (V/V) (Fraction 1) using a drip rate of about 5 mL/min. Remove the K–D flask and set aside for later concentration. Elute the column again, using 200 mL of 15% ethyl ether in hexane (V/V) (Fraction 2), into a second K–D flask. Perform a third elution using 200 mL of 50% ethyl ether in hexane (V/V) (Fraction 3), into a separate K–D flask. The elution patterns for four of the pesticides are shown in Table 3.

11.2.4 Concentrate the eluates by standard K–D techniques (Section 10.6), substituting hexane for the glassware rinses and using the water bath at about 85 °C. Adjust final volume to 10mL with hexane. Analyze by gas chromatography.

*12. Gas Chromatography*

12.1 Table 1 summarizes the recommended operating conditions for the gas chromatograph. Included in this table are estimated retention times and method detection limits that can be achieved by this method. Other packed columns, chromatographic conditions, or detectors may be used if the requirements of Section 8.2 are met. Capillary (open-tubular) columns may also be used if the relative standards deviations of responses for replicate injections are demonstrated to be less than 6% and the requirements of Section 8.2 are met.

12.2 Calibrate the system daily as described in Section 7.

12.3 If the internal standard approach is being used, add the internal standard to sample extracts immediately before injection into the instrument. Mix thoroughly.

12.4 Inject 1 to 5 uL of the sample extract using the solvent-flush technique (*11*). Record the volume injected to the nearest 0.05 uL, and the resulting peak size in area or peak height units. An automated system that consistently injects a constant volume of extract may also be used.

12.5 The width of the retention time window used to make identifications should be based upon measurements of actual retention time variations of standards over the course of a day. Three times the standard deviation of a retention time can be used to calculate a suggested window size for a compound. However, the experience of the analyst should weigh heavily in the interpretation of chromatograms.

12.6 If the response for the peak exceeds the working range of the system, dilute the extract and reanalyze.

12.7 If the measurement of the peak response is prevented by the presence of interferences, further cleanup is required.

*13. Calculations*

13.1 Determine the concentration of individual compounds in the sample.

13.1.1 If the external standard calibration procedure is used, calculate the amount of material injected from the peak response using the calibration curve or calibration factor in Section 7.2.2. The concentration in the sample can be calculated as follows:

$$\text{Concentration, } \mu g/\text{ L} = \frac{(A)(V_t)}{(V_i)(V_s)}$$

where:

$A$ = Amount of material injected, in nanograms.
$V_t$ = Volume of extract injected in uL.
$V_t$ = Volume of total extract in uL.
$V_s$ = Volume of water extracted in mL.

13.1.2 If the internal standard calibration procedure was used, calculate the concentration in the sample using the response factor (RF) determined in Section 7.3.2 as follows:

$$\text{Concentration, } \mu g/L = \frac{(A_s)(I_s)}{(A_{is})(RF)(V_o)}$$

where:

$A_s$ = Response for the parameter to be measured.
$A_{is}$ = Response for the internal standard.
$I_s$ = Amount of internal standard added to each extract in µg.
$V_o$ = Volume of water extracted, in liters.

13.2 Report results in micrograms per liter without correction for recovery data. When duplicate and spiked samples are analyzed, report all data obtained with the sample results.

13.3 For samples processed as part of a set where the laboratory spiked sample recovery falls outside of the control limits in Section 8.3, data for the affected parameters must be labeled as suspect.

*14. GC/MS Confirmation*

14.1 It is recommended that GC/MS techniques be judiciously employed to support qualitative compound identification made with this method. The mass spectrometer should be capable of scanning the mass range from 35 amu to a mass 50 amu above the molecular weight of the compound. The instrument must be capable of scanning the mass range at a rate to produce at least 5 scans per peak but not to exceed 7 s per scan utilizing a 70 V (normal) electron energy in the electron impact ionization mode. A GC to MS interface constructed of all-glass or glass-lined materials is recommended. A computer system should be interfaced to the mass spectrometer that allows the continuous acquisition and storage on machine readable media of all mass spectra obtained throughout the duration of the chromatographic program.

14.2 Gas chromatographic columns and conditions should be selected for optimum separation and performance. The conditions selected must be compatible with standard GC/MS operating practices. Chromatographic tailing factors of less than 5.0 must be achieved (*12*).

14.3 At the beginning of each day that confirmatory analyses are to be performed, the GC/MS system must be checked to see that all decafluorotriphenyl phosphine (DFTPP) performance criteria are achieved (*13*).

14.4 To confirm an indentification of a compound, the background corrected mass spectrum of the compound must be obtained from the sample extract and compared with a mass spectrum from a stock or calibration standard analyzed under the same chromatographic conditions. It is recommended that at least 25 nanograms of material be injected into the GC/MS. The criteria below must be met for qualitative confirmation.

14.4 All ions that are present above 10% relative abundance in the mass spectrum of the standard must be present in the mass spectrum of the sample with agreement to plus or minus 10%. For example, if the relative abundance of an ion is 30% in the mass spectrum of the standard, the allowable limits for the relative abundance of that ion in the mass spectrum for the sample would be 20% to 40%.

14.4.2 The retention time of the compound in the sample must be within 6 seconds of the same compound in the standard solution.

14.4.3 Compounds that have very similar mass spectra can be explicitly identified by GC/MS only on the basis of retention time data.

14.5 Where available, chemical ionization mass spectra may be employed to aid in the qualitative identification process.

14.6 Should these MS procedures fail to provide satisfactory results, additional steps may be taken before reanalysis. These may include the use of alternate packed or capillary GC columns or additional cleanup (Section 11).

*15. Method Performance*

15.1 The method detection limit (MDL) is defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the value is above zero (*14, 16*). The MDL concentrations listed in Table 1 were estimated from the response of an electron capture detector to each compound. The estimate is based upon the amount of material required to yield a signal five times the GC background noise, assuming a 5-uL injection from a 10-mL final extract of a 1-liter sample.

15.2 In a single laboratory (West Cost Technical Services, Inc.) using effluents from pesticide manufacturers and publicly owned treatment works (POTW), the average recoveries presented in Table 2 were obtained after Florisil cleanup (*1*). The standard deviations of the percent recoveries of these measurements are also included in Table 2.

*References*

(*1*) "Pesticide Methods Evaluation," Letter Report #17 for EPA Contract No. 68–03–2697. Available from U.S. Environmental Protection Agency, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio 45268.

(*2*) ASTM Annual Book of Standards, Part 31, D3694, "Standard Practice for Preparation of Sample Containers and for Preservation," American Society for Testing and Materials, Philadelphia, PA, p. 679, 1980.

(*3*) Giam, D.S., Chan, H.S. and Nef, G.S., "Sensitive method for Determination of Phthalate Ester Plasticiziers in Open-Ocean Biota Samples," *Analytical Chemistry, 47,* 2225, (1975).

(*4*) Giam, C.S., Chan, H.S., "Control of Blanks in the Analysis of Phthalates in Air and Ocean Biota Samples," National Bureau of Standards (U.S.), Special Publication 442, pp. 701–708, 1976.

(*5*) "Carcinogens—Working with Carcinogens," Department of Health, Education, and Welfare, Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health, Publication No. 77–206, Aug. 1977.

(*6*) "OSHA Safety and Health Standards, General Industry," (29 CFR 1910), Occupational Safety and Health Administration, OSHA 2206, (Revised, January 1976).

(*7*) "Safety in Academic Chemistry Laboratories," American Chemical Society Publication, Committee on Chemical Safety, 3rd Edition, 1979.

(*8*) ASTM Annual Book of Standards, Part 31, D3086, Appendix X3, "Standardization of Florisil Column by Weight Adjustment Based on Adsorption of Lauric Acid," American Society for Testing and Materials, Philadelphia, PA, P 765, 1980.

(*9*) "Handbook for Analytical Quality Control in Water and Wastewater Laboratories," EPA–600/4–79–019, U.S. Environmental Protection Agency, Environmental Monitoring and Support Laboratory—Cincinnati, Ohio 45268, March 1979.

(*10*) ASTM Annual Book of Standards, Part 31, D3370, "Standard Practice for Sampling Water," American Society for Testing and Materials, Philadelphia, PA, p. 76, 1980.

(*11*) Burke, J.A., "Gas Chromatography for Pesticide Residue Analysis; Some Practical Aspects," *Journal of the Association of Official Analytical Chemists,* 48, 1037 (1965).

(*12*) McNair, H.M. and Bonelli, E.J., "Basic Chromatography," Consolidated Printing, Berkeley, California, p. 52, 1969.

(*13*) Eichelberger, J.W., Harris, L.E., and Budde, W.L. "Reference Compound to Calibrate Ion Abundance Measurement in Gas Chromatography-Mass Spectrometry," *Analytical Chemistry,* 47, 995 (1975).

(*14*) Glaser, J.A. et. al., "Trace Analysis for Wastewaters," *Environmental Science & Technology, 15,* 1426 (1981).

(*15*) "Determination of Organochlorine Pesticides in Industrial and Municipal Wastewater," Method 608–1, EPA No. 600/4–82–003, NTIS No. PB82–155979, January 1982, National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22165.

(*16*) 40 CFR Part 136, Appendix B.

TABLE 1.—CHROMATOGRAPHIC CONDITIONS AND ESTIMATED METHOD DETECTION LIMITS

| Parameter | Column 1 | | Column 2 | Estimated MDL (µg/L) |
|---|---|---|---|---|
| | Temperature °C | Retention Time (Min) | Retention Time (Min) | |
| Dibromochloropropane | 100 | 3.1 | | 0.04 |
| Etridiazole | 140 | 1.3 | | 0.04 |
| Propachlor | 150 | 3.8 | | 1.0 |
| Chloropropylate | 215 | 3.6 | 8.4 | 0.2 |
| Chlorobenzilate | 215 | 3.8 | 10.7 | 0.2 |

Column 1 conditions: Supelcoport (100/120 mesh) coated with 1.5% SP-2250/1.95% SP-2401 packed in a 1.8 m long x 2 mm ID glass column with nitrogen carrier gas at a flow rate of 30 mL/min. Column temperatures are listed above. An electron capture detector was used with this column to estimate the MDL.

Column 2 conditions: Ultrabond 20M (100/120 mesh) packed in a 1.8 m long x 2 mm ID glass column with nitrogen carrier gas at a flow rate of 30 mL/min. Column temperature is 200°C.

TABLE 2.—SINGLE OPERATOR ACCURACY AND PRECISION

| Parameter | Sample type | Background µg/L | Spike µg/L | Mean recovery (percent) | Standard deviation (percent) | Number of replicates |
|---|---|---|---|---|---|---|
| Chlorobenzilate | MW | ND | 10.5 | 74 | 7.2 | 6 |
| | MW | ND | 52.5 | 97 | 3.2 | 7 |
| Chloropropylate | MW | ND | 10.0 | 78 | 8.6 | 6 |
| | MW | ND | 50.0 | 96 | 3.3 | 7 |
| Dibromochloropropane | MW | ND | 1.9 | 83 | 12.4 | 7 |
| | MW | ND | 23 | 70 | 6.5 | 7 |
| | IW | ND | 1.9 | 61 | | 1 |
| | IW | ND | 24 | 55 | [1] 1.2 | 2 |
| Etridiazole | MW | ND | 0.50 | 144 | 9.9 | 7 |
| | MW | ND | 9.9 | 91 | 1.7 | 7 |
| Propachlor | IW | 21.3 | 179 | 87 | 3.8 | 7 |
| | MW | ND | 895 | 83 | 3.8 | 7 |

ND = Not detected
MW = Municipal wastewater
IW = Industrial wastewater, pesticide manufacturing
[1] For duplicate analyses range is listed.

TABLE 3.—DISTRIBUTION OF CHLORINATED PESTICIDES INTO FLORISIL COLUMN FRACTIONS

| Parameter | Percent recovery by fraction | | |
|---|---|---|---|
| | Fraction 1 | Fraction 2 | Fraction 3 |
| Chlorobenzilate | 0 | 15 | 70 |
| Chloropropylate | 0 | 32 | 61 |
| Etridiazole | 100 | | |

Eluant composition by fraction:
Fraction 1—200 mL of 6% ethyl ether in hexane.
Fraction 2—200 mL of 15% ethyl ether in hexane.
Fraction 3—200 mL of 50% ethyl ether in hexane.

## Method 615—Chlorinated Phenoxy Acids

*1. Scope and Application*

1.1 This method covers the determination of certain chlorinated herbicides and their esters. The following parent acids can be determined by this method:

| Parameter | Storet No. | CAS No. |
|---|---|---|
| 2,4-D | 39736 | 94-75-7 |
| Dalapon | | 75-99-0 |
| 2,4-DB | | 94-82-6 |
| Dicamba | | 1918-00-9 |
| Dichlorprop | | 120-36-5 |
| Dinoseb | | 88-85-7 |
| MCPA | | 94-74-6 |
| MCPP | | 93-65-2 |
| 2,4,5-T | 39740 | 93-76-5 |
| 2,4,5-TP (Silvex) | 39760 | 93-72-1 |

1.2 This method is also applicable to the determination of salts and esters of these compounds. This includes, but is not limited to the isobutyl and isooctyl esters of 2,4–D; the isobutyl and isooctyl esters of 2,4–DB; the isooctyl ester of MCPA; and the isooctyl ester of 2,4,5–TP. The actual form of each acid is not distinguished by this method. Results are

calculated and reported for each listed parameter as total free acid.

1.3 This is a gas chromatographic (GC) method applicable to the determination of the compounds listed above in industrial and municipal discharges. Any modification of this method beyond those expressly permitted, shall be considered a major modification subject to application and approval of alternate test procedures under 40 CFR 136.4 and 136.5.

1.4 The method detection limit (MDL, defined in Section 16) for each paramter is listed in Table 1. The MDL for a specific wastewater may differ from those listed, depending upon the nature of interferences in the sample matrix.

1.5 This method is restricted to use by or under the supervision of analysts experienced in the use of gas chromatography and in the interpretation of gas chromatograms. Each analyst must demonstrate the ability to generate acceptable results with this method using the procedures described in Section 8.2.

1.6 When this method is used to analyze unfamiliar samples for any or all of the compounds above, compound identifications should be supported by at least one additional qualitative technique. This method describes analytical conditions for alternative gas chromatographic columns that can be used to confirm measurements made with the primary column. Section 15 provides gas chromatograph/mass spectrometer (GC/MS) criteria appropriate for the qualitative confirmation of compound identifications.

*2. Summary of Method*

2.1 A measured volume of sample, approximately 1 liter, is acidified. The acid herbicides and their esters and salts are extracted with ethyl ether using a separatory funnel. The derivatives are hydrolyzed with potassium hydroxide and extraneous organic material is removed by a solvent wash. After acidification, the acids are extracted and converted to their methyl esters using diazomethane as the derivatizing agent. Excess reagent is removed, and the esters are determined by electron capture (EC) gas chromatography.(*1*)

*3. Interferences*

3.1 Method interferences may be caused by contaminants in solvents, reagents, glassware and other sample processing apparatus that lead to discrete artifacts or elevated baselines in gas chromatograms. All reagents and apparatus must be routinely demonstrated to be free from interferences under the conditions of the analysis by running laboratory reagent blanks as described in Section 8.5.

3.1.1 Glassware must be scrupulously cleaned.(*2*) Clean all glassware as soon as possible after use by thoroughly rinsing with the last solvent used in it. Follow by washing with hot water and detergent and thorough rinsing with dilute acid, tap and reagent water. Drain dry, and heat in an oven or muffle furnace at 400 °C for 15 to 30 min. Do not heat volumetric glassware. Thermally stable materials such as PCBs, might not be eliminated by this treatment. Thorough rinsing with acetone and pesticide quality hexane may be substituted for the heating. After drying and cooling, seal and store glassware in a clean environment to prevent any accumulation of dust or other contaminants. Store inverted or capped with aluminum foil.

3.1.2 The use of high purity reagents and solvents helps to minimize interference problems. Purification of solvents by distillation in all-glass systems may be required.

3.2 The acid forms of the herbicides are strong organic acids, which react readily with alkaline substances and can be lost during analysis. Glassware and glass wool must be acid-rinsed with (1+9) hydrochloric acid and the sodium sulfate must be acidified with sulfuric acid prior to use to avoid this possibility.

3.3 Organic acids and phenols, especially chlorinated compounds, cause the most direct interference with the determination. Alkaline hydrolysis and subsequent extraction of the basic solution remove many chlorinated hydrocarbons and phthalate esters that might otherwise interfere with the electron capture analysis.

3.4 Matrix interferences may be caused by contaminants that are coextracted from the sample. The extent of matrix interferences will vary considerably from source to source, depending upon the nature and diversity of the industrial complex or municipality sampled. The cleanup procedure in Section 11 can be used to overcome many of these interferences, but unique samples may require additional cleanup approaches to achieve the MDL listed in Table 1.

*4. Safety*

4.1 The toxicity or carcinogenicity of each reagent used in this method has not been precisely defined; however, each chemical compound must be treated as a potential health hazard. From this viewpoint, exposure to these chemicals must be reduced to the lowest possible level by whatever means available. The laboratory is responsible for maintaining a current awareness file of OSHA regulations regarding the safe handling of the chemicals specified in this method. A reference file of material data handling sheets should also be made available to all personnel involved in the chemical analysis. Additional references to laboratory safety are available and have been identified (*3–5*) for the information of the analyst.

4.2 Diazomethane is a toxic carcinogen and can explode under certain conditions. The following precautions must be followed:

4.2.1 Use only a well ventilated hood—do not breath vapors.

4.2.2 Use a safety screen.

4.2.3 Use mechanical pipetting aides.

4.2.4 Do not heat above 90 °C—EXPLOSION may result.

4.2.5 Avoid grinding surfaces, ground glass joints, sleeve bearings, glass stirrers—EXPLOSION may result.

4.2.6 Store away from alkali metals—EXPLOSION may result.

4.2.7 Solutions of diazomethane decompose rapidly in the presence of solid materials such as copper powder, calcium chloride, and boiling chips.

*5. Apparatus and Materials*

5.1 Sampling equipment, for discrete or composite sampling.

5.1.1 Grab sample bottle—Amber borosilicate or flint glass, 1-liter or 1-quart volume, fitted with screw caps lined with TFE-fluorocarbon. Aluminum foil may be substituted for TFE if the sample is not corrosive. If amber bottles are not available, protect samples from light. The container and cap liner must be washed, rinsed with acetone or methylene chloride, and dried before use to minimize contamination.

5.1.2 Automatic sampler (optional)—Must incorporate glass sample containers for the collection of a minimum of 250 mL. Sample containers must be kept refrigerated at 4 °C and protected from light during compositing. If the sampler uses a peristaltic pump, a minimum length of compressible silicone rubber tubing may be used. Before use, however, the compressible tubing must be thoroughly rinsed with methanol, followed by repeated rinsings with reagent water to minimize the potential for contamination of the sample. An integrating flow meter is required to collect flow proportional composites.

5.2 Glassware (All specifications are suggested. Catalog numbers are included for illustration only.)

5.2.1 Separatory funnels—60-mL and 2000-mL, with TFE-fluorocarbon stopcocks, ground glass or TFE stoppers.

5.2.2 Concentrator tube, Kuderna-Danish—10-mL, graduated (Kontes K–570050–1025 or equivalent). Calibration must be checked at the volumes employed in the test. Ground glass stopper is used to prevent evaporation of extracts.

5.2.3 Evaporative flask, Kuderna-Danish—500-mL (Kontes K–570001–0500 or equivalent). Attach to concentrator tube with springs.

5.2.4 Snyder column, Kuderna-Danish—three-ball macro (Kontes K–503000–0121 or equivalent).

5.2.5 Snyder column, Kuderna-Danish—two-ball micro (Kontes K–569001–0219 or equivalent).

5.2.6 Erlenmeyer flask—Pyrex, 250 mL with 24/40 ground glass joint.

5.2.7 Vials—Amber glass, 10 to 15 mL capacity with TFE-fluorocarbon lined screw cap.

5.3 Boiling chips—Approximately 10/40 mesh. Heat at 400 °C for 30 min or Soxhlet extract with methylene chloride.

5.4 Water bath—heated, with concentric ring cover, capable of temperature control (± 2 °C). The bath should be used in a hood.

5.5 Balance—analytical, capable of accurately weighing to the nearest 0.0001 g.

5.6 Diazomethane generator—assemble from two 20 x 150 mm test tubes, two Neoprene rubber stoppers and a source of nitrogen. The generator assembly is shown in Figure 1.

5.7 Glass wool—Acid washed (Supelco 2–0383 or equivalent).

5.8 Gas chromatograph—Analytical system complete with gas chromatograph suitable for on-column injection and all required accessories including syringes, analytical columns, gases, detector and strip-

chart recorder. A data system is recommended for measuring peak areas.

5.8.1 Column 1—180 cm long x 4 mm ID glass, packed with 1.5% SP-2250/1.95% SP-2401 on Supelcoport (100/120 mesh) or equivalent. This column was used to develop the method performance statements in Section 16. Alternative columns may be used in accordance with the provisions described in Section 13.1.

5.8.2 Column 2—180 cm long x 4 mm ID glass, packed with 5% OV-210 on Gas Chrom Q (100/120 mesh) or equivalent.

5.8.3 Column 3—180 cm long x 2 mm ID glass, packed with 0.1% SP-1000 on Carbopak C (80/100 mesh) or equivalent.

5.8.4 Detector—Electron capture. This detector has proven effective in the analysis of wastewaters for the parameters listed in the scope and was used to develop the method performance statements in Section 16. Alternative detectors, including a mass spectrometer, may be used in accordance with the provisions described in Section 13.1.

*6. Reagents*

6.1 Reagent water—Reagent water is defined as a water in which an interferent is not observed at the method detection limit of each parameter of interest.

6.2 Acetone, hexane, methanol—Pesticide quality or equivalent.

6.3 Ethyl ether—Nanograde, redistilled in glass if necessary. Must be free of peroxides as indicated by EM Quant test strips. (Available from Scientific Products Co., Cat. No. P1126-8, and other suppliers.) Procedures recommended for removal of peroxides are provided with the test strips. After cleanup, 20 mL ethyl alcohol preservative must be added to each liter of ether.

6.4 Sodium sulfate—(ACS) Granular, acidified, anhydrous. Heat treat in a shallow tray at 400 °C for a minimum of 4 h to remove phthalates and other interfering organic substances. Alternatively, heat 16 h at 450-500 °C in a shallow tray or Soxhlet extract with methylene chloride for 48 h. Acidify by slurrying 100 g sodium sulfate with enough ethyl ether to just cover the solid. Add 0.1 mL concentrated sulfuric acid and mix thoroughly. Remove the ether under vacuum. Mix 1 g of the resulting solid with 5 mL of reagent water and measure the pH of the mixture. It must be below pH 4. Store at 130 °C.

6.5 Hydrochloric acid (1+9)—(ACS) Add one volume of concentrated acid to 9 volumes reagent water.

6.6 Potassium hydroxide solution—37% aqueous solution (W:V). Dissolve 37 g ACS grade potassium hydroxide pellets in reagent water and dilute to 100 mL.

6.7 Sulfuric acid solution (1+1)—Slowly and 50 mL $H_2SO_4$ (sp. gr. 1.84) to 50 mL of reagent water.

6.8 Sulfuric acid solution (1+3)—Slowly add 25 mL $H_2SO_4$ (sp. gr. 1.84) to 75 mL of reagent water. Maintain at 4 °C.

6.9 Carbitol—(Diethylene glycol monoethyl ether), ACS. Available from Aldrich Chemical Co.

6.10 Diazald—(N-methyl-N-nitroso-p-toluenesulfonamide), ACS. Available from Aldrich Chemical Co.

6.11 Silicic acid—Chromatographic grade, nominal 100 mesh. Store at 130 °C.

6.12 Stock standard solutions (1.00 µg/µL)—Stock standard solutions can be prepared from pure standard materials or purchased as certified solutions.

6.12.1 Prepare stock standard solutions by accurately weighing about 0.0100 grams of pure acids. Dissolve the material in pesticide quality ethyl ether and dilute to volume in a 10-mL volumetric flask. Larger volumes can be used at the convenience of the analyst. If compound purity is certified at 96% or greater, the weight can be used without correction to calculate the concentration of the stock standard. Commercially prepared stock standards can be used at any concentration if they are certified by the manufacturer or by an independent source.

6.12.2 Transfer the stock standard solutions into Teflon-sealed screw-cap vials. Store at 4 °C and protect from light. Stock standard solutions should be checked frequently for signs of degradation or evaporation, especially just prior to preparing calibration standards from them.

6.12.3 Stock standard solutions must be replaced after one week or sooner if comparison with check standards indicates a problem.

*7. Calibration*

7.1 Establish gas chromatographic operating parameters equivalent to those indicated in Table 1. The gas chromatographic system must be calibrated using the external standard technique.

7.2 External standard calibration procedure:

7.2.1 For each parameter of interest, prepare working standards of the free acids at a minimum of three concentration levels by adding accurately measured volumes of one or more stock standards to a 10-mL volumetric flask containing 1.0 mL methanol and diluting to volume with ethyl ether. One of the external standards should be representative of a concentration near, but above, the method detection limit. The other concentrations should correspond to the range of concentrations expected in the sample concentrates or should define the working range of the detector.

7.2.2 Prepare calibrations standards by esterification of 1.00 mL volumes of the working standards as described in Section 11. Using injections of 2 to 5 µL of each calibration standard, tabulate peak height or area responses against the mass of free acid represented by the injection. The results can be used to prepare a calibration curve for each parameter. Alternatively, the ratio of the response to the mass injected, defined as the calibration factor (CF), can be calculated for each parameter at each standard concentration. If the relative standard deviation of the calibration factor is less than 10% over the working range, the average calibration factor can be used in place of a calibration curve.

7.2.3 The working calibration curve or calibration factor must be verified on each working shift by the preparation of one or more calibration standards. If the response for any parameter varies from the predicted response by more than ±10%, the test must be repeated using a fresh calibration standard. Alternatively, a new calibration curve or calibration factor must be prepared for that parameter.

7.3 Before using any cleanup procedure, the analyst must process a series of calibration standards through the procedure to validate elution patterns and the absence of interference from the reagents.

*8. Quality Control*

8.1 Each laboratory using this method is required to operate a formal quality control program. The minimum requirements of this program consist of an initial demonstration of laboratory capability and the analysis of spiked samples as a continuing check on performance. The laboratory is required to maintain performance records to define the quality of data that is generated.

8.1.1 Before performing any analyses, the analyst must demonstrate the ability to generate acceptable accuracy and precision with this method. This ability is established as described in Section 8.2.

8.1.2 In recognition of the rapid advances occurring in chromatography, the analyst is permitted certain options to improve the separations or lower the cost of measurements. Each time such modifications to the method are made, the analyst is required to repeat the procedure in Section 8.2.

8.1.3 The laboratory must spike and analyze a minimum of 10% of all samples to monitor continuing laboratory performance. This procedure is described in Section 8.4.

8.2 To establish the ability to generate acceptable accuracy and precision, the analyst must perform the following operations.

8.2.1 Select a representative spike concentration for each compound (acid or ester) to be measured. Using stock standards, prepare a quality control check sample concentrate in acetone 1000 times more concentrated than the selected concentrations.

8.2.2 Using a pipet, add 1.00 mL of the check samle concentrate to each of a minimum of four 1000-mL aliquots of reagent water. A representative wastewater may be used in place of the reagent water, but one or more additional aliquots must be analyzed to determine background levels, and the spike level must exceed twice the background level for the test to be valid. Analyze the aliquots according to the method beginning in Section 10.

8.2.3 Calculate the average percent recovery (R), and the standard deviation of the percent recovery (s), for the results. Wastewater background corrections must be made before R and s calculations are performed.

8.2.4 Using the appropriate data from Table 2, determine the recovery and single operator precision expected for the method, and compare these results to the values calculated in Section 8.2.3. If the data are not comparable, review potential problem areas and repeat the test.

8.3 The analyst must calculate method performance criteria and define the performance of the laboratory for each spike concentration and parameter being measured.

8.3.1 Calculate upper and lower control limits for method performance as follows:

Upper Control Limit (UCL) = R + 3 s
Lower Control Limit (LCL) = R − 3 s

where R and s are calculated as in Section 8.2.3. The UCL and LCL can be used to construct control charts (6) that are useful in observing trends in performance.

8.3.2 The laboratory must develop and maintain separate accuracy statements of laboratory performance for wastewater samples. An accuracy statement for the method is defined as R ± 2s. The accuracy statement should be developed by the analysis of four aliquots of wastewater as described in Section 8.2.2, followed by the calculation of R and s. Alternatively, the analyst may use four wastewater data points gathered through the requirement for continuing quality control in Section 8.4. The accuracy statements should be updated regularly. (6)

8.4 The laboratory is required to collect in duplicate a portion of their samples to monitor spike recoveries. The frequency of spiked sample analysis must be at least 10% of all samples or one spiked sample per month, whichever is greater. One aliquot of the sample must be spiked and analyzed as described in Section 8.2. If the recovery for a particular parameter does not fall within the control limits for method performance, the results reported for that parameter in all samples processed as part of the same set must be qualified as described in Section 14.3. The laboratory should monitor the frequency of data so qualified to ensure that it remains at or below 5%.

8.5 Before processing any samples, the analyst must demonstrate through the analysis of a 1-liter aliquot of reagent water that all glassware and reagents interferences are under control. Each time a set of samples is extracted or there is a change in reagents, a laboratory reagent blank must be processed as a safeguard against laboratory contamination.

8.6 It is recommended that the laboratory adopt additional quality assurance practices for use with this method. The specific practices that are most productive depend upon the needs of the laboratory and the nature of the samples. Field duplicates may be analyzed to monitor the precision of the sampling technique. When doubt exists over the identification of a peak on the chromatogram, confirmatory techniques such as gas chromatography with a dissimilar column, specific element detector, or mass spectrometer must be used. Whenever possible, the laboratory should perform analysis of quality control materials and participate in relevant performance evaluation studies.

*9. Sample Collection, Preservation, and Handling*

9.1 Grab samples must be collected in glass containers. Conventional sampling practices (7) should be followed; however, the bottle must not be prerinsed with sample before collection. Composite samples should be collected in refrigerated glass containers in accordance with the requirements of the program. Automatic sampling equipment must be as free as possible of plastic and other potential sources of contamination.

9.2 The samples must be iced or refrigerated at 4 °C from the time of collection until extraction.

9.3 All samples must be extracted within seven days and completely analyzed with 40 days of extraction.

*10. Sample Extraction*

10.1 Mark the water meniscus on the side of the sample bottle for later determination of sample volume. Pour the entire sample into a 2-liter separatory funnel. Check the pH with wide-range pH paper and adjust to pH less than 2 with sulfuric acid (1+1).

10.2 Add 150 mL ethyl ether to the sample bottle, cap the bottle and shake 30 s to rinse the walls. Transfer the solvent to the separatory funnel and extract the sample by shaking the funnel for 2 min with periodic venting to release excess pressure. Allow the organic layer to separate from the water phase for a minimum of 10 min. If the emulsion interface between layers is more than one third the volume of the solvent layer, the analyst must employ mechanical techniques to complete the phase separation. The optimum technique depends upon the sample, but may include stirring, filtration of the emulsion through glass wool, centrifugation or other physical means. Drain the aqueous phase into a 1000-mL Erlenmeyer flask and collect the extract in a 250-mL ground-glass Erlenmeyer flask containing 2 mL of 37% potassium hydroxide solution. Approximately 80 mL of the ethyl ether will remain dissolved in the aqueous phase.

10.3 Add a 50-mL volume of ethyl ether to the sample bottle and repeat the extraction a second time, combining the extracts in the Erlenmeyer flask. Perform a third extraction in the same manner.

10.4 Add 15 mL reagent water and 1 or 2 clean boiling chips to the 250-mL flask and attach a three-ball Snyder column. Prewet the Snyder column by adding 1 mL ethyl ether to the top. Place the apparatus on a hot water bath (60–65 °C), such that the bottom of the flask is bathed in the water vapor. Although the ethyl ether will evaporate in about 15 min, continue heating for a total of 60 min, beginning from the time the flask is placed on the water bath. Remove the apparatus and let stand at room temperature for at least 10 min.

10.5 Transfer the solution to a 60-mL separatory funnel using 5 to 10 mL of reagent water. Wash the basic solution twice by shaking for one min with 20-mL portions of ethyl ether. Discard the organic phase. The free acids remain in the aqueous phase.

10.6 Acidify the contents of the separatory funnel to pH 2 by adding 2 mL of cold (4 °C) sulfuric acid (1+3). Test with pH indicator paper. Add 20 mL ethyl ether and shake vigorously for 2 min. Drain the aqueous layer into the 250-mL Erlenmeyer, then pour the organic layer into a 125-mL Erlenmeyer flask containing about 0.5 g of acidified anhydrous sodium sulfate. Repeat the extraction twice more with 10-mL aliquots of ethyl ether, combining all solvent in the 125-mL flask. Allow the extract to remain in contact with the sodium sulfate for approximately 2 h.

10.7 Assemble a Kuderna-Danish (K–D) concentrator by attaching a 10-mL concentrator tube to a 500-mL evaporative flask. Other concentration devices or techniques may be used in place of the K–D if the requirements of Section 8.2 are met.

10.8 Pour the combined extract through a funnel plugged with acid washed glass wool, and collect the extract in the K–D concentrator. Use a glass rod to crush any caked sodium sulfate during the transfer. Rinse the Erlenmeyer flask and column with 20 to 30 mL of ethyl ether to complete the quantitative transfer.

10.9 Add to 1 to 2 clean boiling chips to the evaporative flask and attach a three-ball snyder column. Prewet the Snyder column by adding about 1 mL ethyl ether to the top. Place the K–D apparatus on a hot water bath, 60 to 65 °C, so the concentrator tube is partially immersed in the hot water, and the entire lower rounded surface of the flask is bathed with hot vapor. Adjust the vertical position of the apparatus and the water temperature as required to complete the concentration in 15 to 20 min. At the proper rate of distillation the balls of the column will actively chatter but the chambers will not flood. When the apparent volume of liquid reaches 1 mL, remove the K–D apparatus and allow it to drain and cool for at least 10 min.

10.10 Remove the Snyder column and rinse the flask and its lower joint into the concentrator tube with 1 to 2 mL of ethyl ether. A 5-mL syringe is recommended for this operation. Add a fresh boiling chip. Attach a micro-Snyder column to the concentrator tube and prewet the column by adding about 0.5 mL of ethyl ether to the top. Place the micro K–D apparatus on the water bath so that the concentrator tube is partially immersed in the hot water. Adjust the vertical position of the apparatus and the water temperature as required to complete concentration in 5 to 10 min. When the apparent volume of liquid reaches 0.5 mL, remove the micro K–D from the bath and allow it to drain and cool. Remove the micro Snyder column and add 0.1 mL of methanol. Rinse the walls of the concentrator tube while adjusting the volume to 1.0 mL with ethyl ether.

*11. Esterification of Acids*

11.1 Assemble the diazomethane generator (See Figure 1) in a hood using two 20 x 150 mm test tubes. Use neoprene rubber stoppers with holes drilled in them to accommodate glass delivery tubes. The exit tube must be drawn to a point to bubble diazomethane through the sample extract.

11.2 Add 5 mL of ethyl ether to the first test tube. Add 1 mL of ethyl ether, 1 mL of carbitol, 1.5 mL of 37% aqueous KOH, and 0.1 to 0.2 g Diazald to the second test tube. Immediately place the exit tube into the concentrator tube containing the sample extract. Apply nitrogen flow (10 mL/min) to bubble diazomethane through the extract for 10 min or until the yellow color of diazomethane persists.

11.3 Remove the concentrator tube and seal it with a Neoprene or Teflon stopper. Store at room temperature in a hood for 20 min.

11.4 Destroy any unreacted diazomethane by adding 0.1 to 0.2 g silicic acid to the concentrator tube. Allow to stand until the

evolution of nitrogen gas has stopped. Adjust the sample volume to 10.0 mL with hexane. Stopper the concentrator tube and store refrigerated if further processing will not be performed immediately. It is recommended that the methylated extracts be analyzed immediately to minimize any transesterification and other potential reactions that may occur. Analyze by gas chromatography.

11.5 Determine the original sample volume by refilling the sample bottle to the mark and transferring the water to a 1000-mL graduated cylinder. Record the sample volume to the nearest 5 mL.

*12. Cleanup and Separation*

12.1 No cleanup procedures were required to analyze the wastewaters described in Section 16. If particular circumstances demand the use of a cleanup procedure, the analyst must determine the elution profile and demonstrate that the recovery of each compound of interest for the cleanup procedure is no less than 85%.

*13. Gas Chromatography*

13.1 Table 1 summarizes the recommended operating conditions for the gas chromatograph. Included in this table are estimated retention times and method detection limits that can be achieved by this method. Examples of the separations achieved for the methyl esters are shown in Figures 2 to 4. Other packed columns, chromatographic conditions, or detectors may be used if the requirements of Section 8.2 are met. Capillary (open-tubular) columns may also be used if the relative standard deviations of responses for replicate injections are demonstrated to be less than 6% and the requirements of Section 8.2 are met.

13.2 Calibrate the system daily as described in Section 7.

13.3 Inject 1 to 5 μL of the sample extract using the solvent-flush technique. (*9*) Record the volume injected to the nearest 0.05 μL, and the resulting peak size in area or peak height units. An automated system that consistently injects a constant volume of extract may also be used.

13.4 The width of the retention time window used to make identifications should be based upon measurements of actual retention time variations of standards over the course of a day. Three times the standard deviation of a retention time can be used to calculate a suggested window size for a compound. However, the experience of the analyst should weigh heavily in the interpretation of chromatograms.

13.5 If the response for the peak exceeds the working range of the system, dilute the extract and reanalyze.

13.6 If the measurement of the peak response is prevented by the presence of interferences, further cleanup is required.

*14. Calculations*

14.1 Determine the concentration of individual compounds in the sample. Calculate the amount of free acid injected from the peak response using the calibration curve or calibration factor in Section 7.2.2. The concentration in the sample can be calculated as follows:

$$\text{Concentration, } \mu g/L = \frac{(A)(V_t)}{(V_i)(V_s)}$$

where:

A = Amount of material injected, in nanograms.

$V_i$ = Volume of extract injected in uL.

$V_t$ = Volume of total extract in uL.

$V_s$ = Volume of water extracted in mL.

14.2 Report results in micrograms per liter as acid equivalent without correction for recovery data. When duplicate and spiked samples are analyzed, report all data obtained with the sample results.

14.3 For samples processed as part of a set where the laboratory spiked sample recovery falls outside of the control limits in Section 8.3, data for the affected parameters must be labeled as suspect.

*15. GC/MS Confirmation*

15.1 It is recommended that GC/MS techniques be judiciously employed to support qualitative compound identifications made with this method. The mass spectrometer should be capable of scanning the mass range from 35 amu to a mass 50 amu above the molecular weight of the methyl ester of the acid herbicide. The instrument must be capable of scanning the mass range at a rate to produce at least 5 scans per peak but not to exceed 7 s per scan utilizing a 70 V (nominal) electron energy in the electron impact ionization mode. A GC to MS interface constructed of all-glass or glass-lined materials is recommended. A computer system should be interfaced to the mass spectrometer that allows the continuous acquisition and storage on machine readable media of all mass spectra obtained throughout the duration of the chromatographic program.

15.2 Gas chromatographic columns and conditions should be selected for optimum separation and performance. The conditions selected must be compatible with standard GC/MS operating practices. Chromatographic tailing factors of less than 5.0 must be achieved.(*9*)

15.3 At the beginning of each day that confirmatory analyses are to be performed, the GC/MS system must be checked to see that all decafluorotriphenyl phosphine (DFTPP) performance criteria are achieved.(*10*)

15.4 To confirm an identification of a compound, the background corrected mass spectrum of the methyl ester must be obtained from the sample extract and compared with a mass spectrum from a stock or calibration standard analyzed under the same chromatographic conditions. It is recommended that at least 25 nanograms of material be injected into the GC/MS. The criteria below must be met for qualitative confirmation.

15.4.1 All ions that are present above 10% relative abundance in the mass spectrum of the standard must be present in the mass spectrum of the sample with agreement to plus or minus 10%. For example, if the relative abundance of an ion is 30% in the mass spectrum of the standard, the allowable limits for the relative abundance of that ion in the mass spectrum for the sample would be 20% to 40%.

15.4.2 The retention time of the compound in the sample must be within 6 seconds of the same compound in the standard solution.

15.4.3 Compounds that have very similar mass spectra can be explicitly identified by GC/MS only on the basis of retention time data.

15.5 Where available, chemical ionization mass spectra may be employed to aid in the qualitative identification process.

15.6 Should these MS procedures fail to provide satisfactory results, additional steps may be taken before reanalysis. These may include the use of alternate packed or capillary GC columns or additional cleanup.

*16. Method Performance*

16.1 The method detection limit (MDL) is defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the value is above zero.(*11*), (*13*). The MDL concentrations listed in Table 1 were obtained from reagent water with an electron capture detector. (*1*)

16.2 In a single laboratory (West Coast Technical Services, Inc.), using reagent water and effluents from publicly owned treatment works (POTW), the average recoveries presented in Table 2 were obtained.(*1*) The standard deviations of the percent recoveries of these measurements are also included in Table 2.

*References*

(*1*) "Pesticide Methods Evaluation," Letter Report #33 for EPA Contract No. 68-03-2967. Available from U.S. Environmental Protection Agency, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio 45268.

(*2*) ASTM Annual Book of Standards, part 31, D3694, "Standard Practice for Preparation of Sample Containers and for Preservation," American Society for Testing and Materials, Philadelphia, PA, p. 679, 1980.

(*3*) "Carcinogens—Working with Carcinogens," Department of Health, Education, and Welfare, Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health, Publication No. 77-206, Aug. 1977.

(*4*) "OSHA Safety and Health Standards, General Industry," (29 CFR 1910), Occupational Safety and Health Administration, OSHA 2206, (Revised, January 1976).

(*5*) "Safety in Academic Chemistry Laboratories," American Chemical Society Publication, Committee on Chemical Safety, 3rd Edition, 1979.

(*6*) "Handbook for Analytical Quality Control in Water and Wastewater Laboratories," EPA-600/4-79-019, U.S. Environmental Protection Agency, Environmental Monitoring and Support Laboratory—Cincinnati, Ohio 45268, March 1979.

(*7*) ASTM Annual Book of Standards, Part 31, D3370, "Standard Practice for Sampling Water," American Society for Testing and Meterials, Philadelphia, PA, p. 76, 1980.

(*8*) Burke J.A., "Gas Chromatography for Pesticide Residue Analysis; Some Practical Aspects, "*Journal of the Association of Official Analytical Chemists*, *48* 1037 (1965).

(9) McNair, H.M. and Bonelli, E.J., "Basic Chromatography," Consolidated Printing, Berkeley, California, p. 52, 1969.

(10) Eichelberger, J.W., Harris, L.E., and Budde, W.L. "Reference Compound to Calibrate Ion Abundance Measurement in Gas Chromatography-Mass Spectrometry," *Analytical Chemistry, 47,* 995 (1975).

(11) Glaser, J.A. et.al, "Trace Analysis for Wastewaters," *Environmental Science & Technology, 15,* 1426 (1981).

(12) "Determination of Chlorinated Herbicides in Industrial and Municipal Wastewater," Method 615, EPA No. 600/4–82–005, NTIS No. PB82–155995, January 1982, National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22165.

(13) 40 CFR Part 136, Appendix B.

TABLE 1.—CHROMATOGRAPHIC CONDITIONS AND METHOD DETECTION LIMITS

| Parameter (as methyl ester) | Column 1 | Retention time (minutes) column 2 | Column 3 | Method detection limit µg/L |
|---|---|---|---|---|
| Dicamba | 1.2 | 1.0 | | 0.27 |
| 2,4-D | 2.0 | 1.6 | | 1.2 |
| 2,4,5-TP | 2.7 | 2.0 | | 0.17 |
| 2,4,5-T | 3.4 | 2.4 | | 0.20 |
| 2,4-DB | 4.1 | | | 0.91 |
| Dalapon | | | 5.0 | 5.8 |
| MCPP | 3.4 | | | 192 |
| MCPA | 4.1 | | | 249 |
| Dichlorprop | 4.8 | | | 0.65 |
| Dinoseb | 11.2 | | | 0.07 |

Column 1 conditions: Supelcoport (100/120 mesh) coated with 1.5% SP–2250/1.95% SP–2401 packed in a 1.8 m long × 4 mm ID glass column with 95% argon/5% methane carrier gas at a flow rate of 70 mL/min. Column temperature: isothermal at 185 °C except for MCPP, MCPA, dichlorprop and dinoseb, where the column temperature was held at 140 °C for 6 min and then programmed to 200 °C at 10°/min. An electron capture detector was used to measure MDL.

Column 2 conditions: Gas Chrom Q (100/120 mesh) coated with 5% OV–210 packed in a 1.8 m long × 4 mm ID glass column with 95% argon/5% methane carrier gas at a flow rate of 70 mL/min. Column temperature: isothermal at 185 °C.

Column 3 conditions: Carbopak C (80/100 mesh) coated with 0.1% SP–1000 packed in a 1.8 m long × 2 mm ID glass column with nitrogen carrier gas at a flow rate of 25 mL/min. Column temperature: programmed at injection from 100 °C to 150 °C at 10°/min.

TABLE 2.—Single Operator Accuracy and Precision [1]

| Parameter | Sample type | Spike (µg/L) | Mean recovery (percent) | Standard deviation (percent) |
|---|---|---|---|---|
| 2,4-D | DW | 10.9 | 75 | 4 |
| | MW | 10.1 | 77 | 4 |
| | MW | 200 | 65 | 5 |
| Dalapon | DW | 23.4 | 66 | 8 |
| | MW | 23.4 | 96 | 13 |
| | MW | 468 | 81 | 9 |
| 2,4-DB | DW | 10.3 | 93 | 3 |
| | MW | 10.4 | 93 | 3 |
| | MW | 208 | 77 | 6 |
| Dicamba | DW | 1.2 | 79 | 7 |
| | MW | 1.1 | 86 | 9 |
| | MW | 22.2 | 82 | 6 |
| Dichlorprop | DW | 10.7 | 97 | 2 |
| | MW | 10.7 | 72 | 3 |
| | MW | 213 | 100 | 2 |
| Dinoseb | MW | 0.5 | 86 | 4 |
| | MW | 102 | 81 | 3 |
| MCPA | DW | 2020 | 98 | 4 |
| | MW | 2020 | 79 | 3 |
| | MW | 21400 | 97 | 2 |
| MCPP | DW | 2080 | 94 | 4 |
| | MW | 2100 | 97 | 3 |
| | MW | 20440 | 95 | 2 |
| 2,4,5-T | DW | 1.1 | 85 | 6 |
| | MW | 1.3 | 87 | 4 |
| | MW | 25.5 | 78 | 5 |
| 2,4,5-TP | DW | 1.0 | 88 | 5 |
| | MW | 1.3 | 86 | 4 |
| | MW | 26.0 | 79 | 5 |

[1] All results based upon seven replicate analyses.
DW = Reagent water.
MW = Municipal water.

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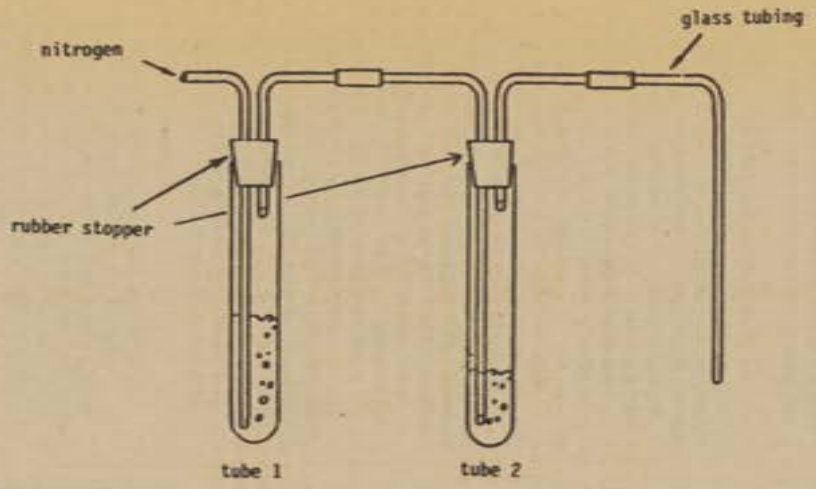


FIGURE 1
DIAZOMETHANE GENERATOR

E-136

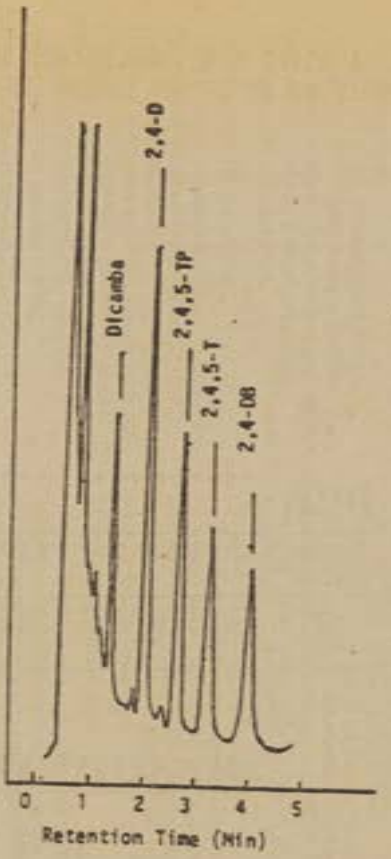


FIGURE 2
GAS CHROMATOGRAM OF METHYL ESTERS OF CHLORINATED HERBICIDES ON COLUMN 1.
FOR CONDITIONS, SEE TABLE 1.

F-137

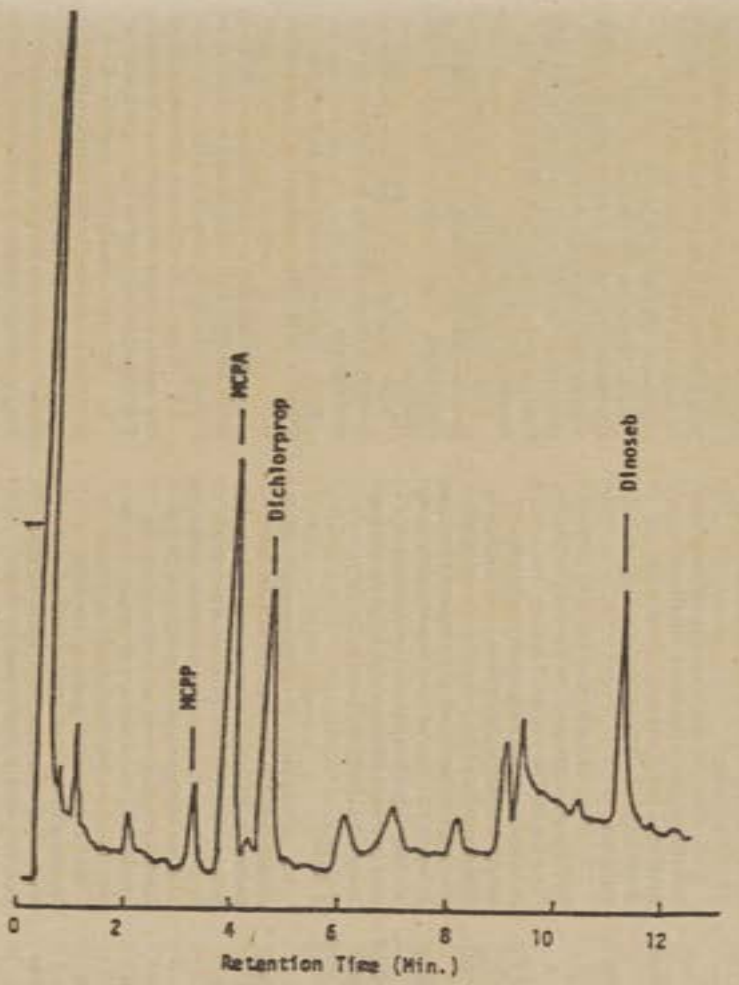


FIGURE 3

GAS CHROMATOGRAM OF METHYL ESTERS OF CHLORINATED HERBICIDES ON COLUMN 1. FOR CONDITIONS, SEE TABLE 1.



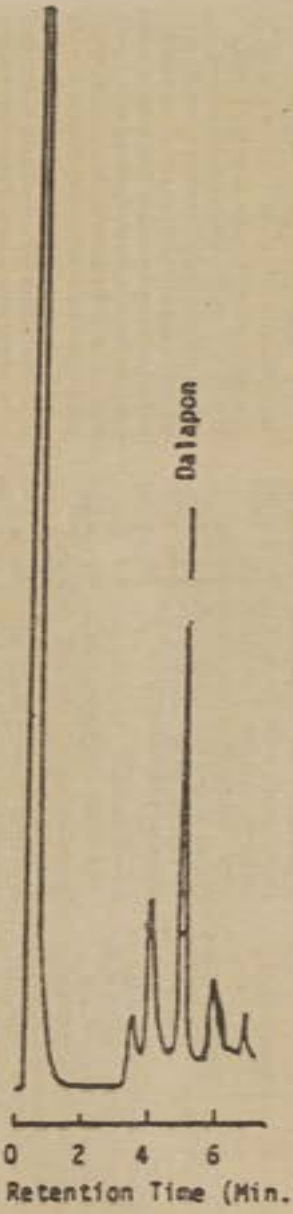


FIGURE 4

GAS CHROMATOGRAM OF METHYL ESTER OF DALAPON ON COLUMN 3. FOR CONDITIONS, SEE TABLE 1.

## Method 619—Triazines

*1. Scope and Application*

1.1 This method covers the determination of certain triazine pesticides. The following parameters can be determined by this method:

| Parameter | Storet No. | CAS No. |
|---|---|---|
| Simetryn | 39054 | 1014-70-6 |
| Terbutryn | | 886-50-0 |

1.2 This is a gas chromatographic (CG) method applicable to the determination of the compounds listed above in industrial and municipal discharges. Any modification of this method beyond those expressly permitted, shall be considered a major modification subject to application and approval of alternate test procedures under 40 CFR 136.4 and 136.5.

1.3 The estimated method detection limit (MDL, defined in Section 15) for each parameter is listed in Table 1. The MDL for a specific wastewater may differ from those listed, depending upon the nature of interferences in the sample matrix.

1.4 The sample extraction and concentration steps in this method are essentially the same as several others in the 600-method series. Thus, a single sample may be extracted to measure the parameters included in the scope of each of these methods. When cleanup is required, the concentration levels must be high enough to permit selecting aliquots, as necessary, in order to apply appropriate cleanup procedures. Under Gas Chromatography, the analyst is allowed the latitude to select chromatographic conditions appropriate for the simultaneous measurement of combinations of these parameters (see Section 12).

1.5 This method is restricted to use by or under the supervision of analysts experienced in the use of gas chromatography and in the interpretation of gas chromatograms. Each analyst must demonstrate the ability to generate acceptable results with this method using the procedure described in Section 8.2.

1.6 When this method is used to analyze unfamiliar samples for any or all of the compounds above, compound identifications should be supported by at least one additional qualitative technique. This method describes analytical conditions for a second gas chromatographic column that can be used to confirm measurements made with the primary column. Section 14 provides gas chromatograph/mass spectrometer (GC/MS) criteria appropriate for the qualitative confirmation of compound identifications.

*2. Summary of Method*

2.1 A measured volume of sample, approximately 1-liter, is solvent extracted with 15% methylene chloride using a separatory funnel. The methylene chloride extract is dried and exchanged to hexane during concentration to a volume of 10 ml or less. Gas chromatographic conditions are described which permit the separation and measurement of the compounds in the extract by gas chromatography with a thermionic bead detector in the nitrogen mode.*(1,2)*

2.2 Method 619 represents an editorial revision of a previously promulgated U.S. EPA method for organophosphorus pesticides. *(3)* While complete method validation data is not presented herein, the method has been in widespread use since its promulgation, and represents the state of the art for the analysis of such materials.

2.3 This method provides an optional Florisil column cleanup procedure to aid in the elimination or reduction of interferences which may be encountered.

*3. Interferences*

3.1 Method interferences may be caused by contaminants in solvents, reagents, glassware and other sample processing apparatus that lead to discrete artifacts or elevated baselines in gas chromatograms. All reagents and apparatus must be routinely demonstrated to be free from interferences under the conditions of the analysis by running laboratory reagent blanks as described in Section 8.5.

3.1.1 Glassware must be scrupulously cleaned*(4)*. Clean all glassware as soon as possible after use by thoroughly rinsing with the last solvent used in it. Follow by washing with hot water and detergent and thorough rinsing with tap and reagent water. Drain dry, and heat in an oven or muffle furnace at 400°C for 15 to 30 min. Do not heat volumetric glassware. Thermally stable materials such as PCBs, might not be eliminated by this treatment. Thorough rinsing with acetone and pesticide quality hexane may be substituted for the heating. After drying and cooling, seal and store glassware in a clean environment to prevent any accumulation of dust or other contaminants. Store inverted or capped with aluminum foil.

3.1.2 The use of high purity reagents and solvents helps to minimize interference problems. Purification of solvents by distillation in all-glass systems may be required.

3.2 Matrix interferences may be caused by contaminants that are coextracted from the sample. The extent of matrix interferences will vary considerably from source to source, depending upon the nature and diversity of the industrial complex or municipality sampled. The cleanup procedure in Section 11 can be used to overcome many of these interferences, but unique samples may require additional cleanup approaches to achieve the MDL listed in Table 1.

*4. Safety*

4.1 The toxicity or carcinogenicity of each reagent used in this method has not been precisely defined; however, each chemical compound must be treated as a potential health hazard. From this viewpoint, exposure to these chemicals must be reduced to the lowest possible level by whatever means available. The laboratory is responsible for maintaining a current awareness file of OSHA regulations regarding the safe handling of the chemicals specified in this method. A reference file of material data handling sheets should also be made available to all personnel involved in the chemical analysis. Additional references to laboratory safety are available and have been identified [5-7] for the information of the analyst.

*5. Apparatus and Materials*

5.1 Sampling equipment, for discrete or composite sampling.

5.1.1 Grab sample bottle—Amber borosilicate or flint glass, 1-liter or 1-quart volume, fitted with screw caps lined with TFE-fluorocarbon. Aluminum foil may be substituted for TFE if the sample is not corrosive. If amber bottles are not available, protect samples from light. The container and cap liner must be washed, rinsed with acetone or methylene chloride, and dried before use to minimize contamination.

5.1.2 Automatic sampler (optional)—Must incorporate glass sample containers for the collection of a minimum of 250 mL. Sample containers must be kept refrigerated at 4 °C and protected from light during compositing. If the sampler uses a peristaltic pump, a minimum length of compressible silicone rubber tubing may be used. Before use, however, the compressible tubing must be thoroughly rinsed with methanol, followed by repeated rinsings with reagent water to minimize the potential for contamination of the sample. An integrating flow meter is required to collect flow proportional composites.

5.2 Glassware (All specifications are suggested. Catalog numbers are included for illustration only.)

5.2.1 Separatory funnel—2000-ml, with TFE-fluorocarbon stopcock, ground glass or TFE stopper.

5.2.2 Drying column—Chromatographic column 400 mm long × 19 mm ID with coarse fritted disc.

5.2.3 Chromatographic column—400 mm long x 19 mm ID with coarse fritted disc at bottom and TFE-fluorocarbon stopcock (Kontes K–420540–0224 or equivalent).

5.2.4 Concentrator tube, Kuderna-Danish—10-mL, graduated (Kontes K–570050–1025 or equivalent). Calibration must be checked at the volumes employed in the test. Ground glass stopper is used to prevent evaporation of extracts.

5.2.5 Evaporative flask, Kuderna-Danish—500-mL (Kontes K–570001–0500 or equivalent). Attach to concentrator tube with springs.

5.2.6 Snyder column, Kuderna-Danish—three-ball macro (Kontes K–503000–0121 or equivalent).

5.2.7 Vials—Amber glass, 10 to 15 mL capacity with TFE-fluorocarbon lined screw cap.

5.3 Boiling chips—approximately 10/40 mesh. Heat at 400° C for 30 min or soxhlet extract with methylene chloride.

5.4 Water bath—Heated, with concentric ring cover, capable of temperature control (± 2° C). The bath should be used in a hood.

5.5 Balance—Analytical, capable of accurately weighing to the nearest 0.0001 g.

5.6 Gas chromatograph—Analytical system complete with gas chromatograph suitable for on-column injection and all required accessories including syringes, analytical columns, gases, detector and strip-

chart recorder. A data system is recommended for measuring peak areas.

5.6.1 Column 1—180 cm long x 2 mm ID glass, packed with 5% Carbowax 20M–TPA on Supelcoport (80/100 mesh) or equivalent. This column was used to develop the method performance statements in Section 15. Alternative columns may be used in accordance with the provisions described in Section 12.1.

5.6.2 Column 2—180 cm long x 4 mm ID glass, packed with 1.0% Carbowax 20M on Gas Chrom Q (100/120 mesh) or equivalent.

5.6.3 Detector—Thermionic bead in the nitrogen mode. This detector has proven effective in the analysis of wastewaters for the parameters listed in the scope and was used to develop the method performance statements in Section 15. Alternative detectors, including a mass spectrometer, may be used in accordance with the provisions described in Section 12.1.

*6. Reagents*

6.1 Reagent water—Reagent water is defined as a water in which an interferent is not observed at the method detection limit of each parameter of interest.

6.2 Acetone, hexane, methylene chloride, methanol—Pesticide quality or equivalent.

6.3 Ethyl ether—Nanograde, redistilled in glass if necessary. Must be free of peroxides as indicated by EM Quant test strips. (Available from Scientific Products Co., Cat. No. P1126–8, and other suppliers.) Procedures recommended for removal of peroxides are provided with the test strips. After cleanup, 20 mL ethyl alcohol preservative must be added to each liter of ether.

6.4 Sodium sulfate—(ACS) Granular, anhydrous. Heat treat in a shallow tray at 400° C for a minimum of 4 h to remove phthalates and other interfering organic substances. Alternatively, heat 16 h at 450–500° C in a shallow tray or Soxhlet extract with methylene chloride for 48 h.

6.5 Florisil—PR grade (60/100 mesh). Purchase activated at 1250° F and store in dark in glass container with ground glass stopper or foil-lined screw cap. Before use activate each batch at least 16 h at 130° C in a foil covered glass container.

6.6 Stock standard solutions (1.00 µg/uL)—Stock standard solutions may be prepared from pure standard materials or purchased as certified solutions.

6.6.1 Prepare stock standard solutions by accurately weighing approximately 0.0100 g of pure material. Dissolve the material in pesticide quality hexane or other suitable solvent and dilute to volume in a 10-mL volumetric flask. Larger volumes may be used at the convenience of the analyst. If compound purity is certified at 96% or greater, the weight may be used without correction to calculate the concentration of the stock standard. Commercially prepared stock standards may be used at any concentration if they are certified by the manufacturer or by an independent source.

6.6.2 Transfer the stock standard solutions into TFE-fluorocarbon sealed screw cap vials. Store at 4° C and protect from light. Frequently check stock standard solutions for signs of degradation or evaporation, especially just prior to preparing calibration standards from them.

6.6.3 Stock standard solutions must be replaced after six months or sooner if comparison with check standards indicates a problem.

*7. Calibration*

7.1 Establish gas chromatographic operating parameters equivalent to those indicated in Table 1. The gas chromatographic system may be calibrated using either the external standard technique (Section 7.2) or the internal standard technique (Section 7.3)

7.2 External standard calibration procedure:

7.2.1 For each parameter of interest, prepare calibration standards at a minimum of three concentration levels by adding accurately measured volumes of one or more stock standards to a volumetric flask and diluting to volume with hexane or other suitable solvent. One of the external standards should be representative of a concentration near, but above, the method detection limit. The other concentrations should correspond to the range of concentrations expected in the sample concentrates or should define the working range of the detector.

7.2.2 Using injections of 1 to 5 µL of each calibration standard, tabulate peak height or area responses against the mass injected. The results can be used to prepare a calibration curve for each parameter. Alternatively, the ratio of the response to the mass injected, defined as the calibration factor (CF), may be calculated for each parameter at each standard concentration. If the relative standard deviation of the calibration factor is less than 10% over the working range, the average calibration factor can be used in place of a calibration curve.

7.2.3 The working calibration curve or calibration factor must be verified on each working shift by the measurement of one or more calibration standards. If the response for any parameter varies from the predicted response by more than ±10%, the test must be repeated using fresh calibration standards. Alternatively, a new calibration curve or calibration factor must be prepared for that parameter.

7.3 Internal standard calibration procedure. To use this approach, the analyst must select one or more internal standards similar in analytical behavior to the compounds of interest. The analyst must further demonstrate that the measurement of the internal standard is not affected by method or matrix interferences. Due to these limitations, no internal standard applicable to all samples can be suggested.

7.3.1 Prepare calibration standards at a minimum of three concentration levels for each parameter of interest by adding volumes of one or more stock standards to a volumetric flask. To each calibration standard, add a known constant amount of one or more internal standards, and dilute to volume with hexane or other suitable solvent. One of the standards should be representative of a concentration near, but above, the method detection limit. The other concentrations should correspond to the range of concentrations expected in the sample concentrates, or should define the working range of the detector.

7.3.2 Using injections of 1 to 5 µL of each calibration standard, tabulate the peak height or area responses against the concentration for each compound and internal standard. Calculate response factors (RF) for each compound as follows:

$$RF = (A_s C_{is})/(A_{is} C_s)$$

where:

$A_s$ = Response for the parameter to be measured.

$A_{is}$ = Response for the internal standard.

$C_{is}$ = Concentration of the internal standard in µg/L.

$C_s$ = Concentration of the parameter to be measured in µg/L.

If the RF value over the working range is constant, less than 10% relative standard deviation, the RF can be assumed to be invariant and the average RF may be used for calculations. Alternatively, the results may be used to plot a calibration curve of response ratios, $A_s/A_{is}$ against RF.

7.3.3 The working calibration curve or RF must be verified on each working shift by the measurement of one or more calibration standards. If the response for any parameter varies from the predicted response by more than ±10%, the test must be repeated using a fresh calibration standard. Alternatively, a new calibration curve must be prepared for that compound.

7.4 The cleanup procedure in Section 11 utilizes Florisil chromatography. Florisil from different batches or sources may vary in adsorptive capacity. To standardize the amount of Florisil which is used, the use of lauric acid value is suggested. This procedure[9] determines the adsorption from hexane solution of lauric acid, in mg, per g of Florisil. The amount of Florisil to be used for each column is calculated by dividing this factor into 110 and multiplying by 20 g.

7.5 Before using any cleanup procedure, the analyst must process a series of calibration standards through the procedure to validate elution patterns and the absence of interference from the reagents.

*8. Quality Control*

8.1 Each laboratory using this method is required to operate a formal quality control program. The minimum requirements of this program consist of an initial demonstration of laboratory capability and the analysis of spiked samples as a continuing check on performance. The laboratory is required to maintain performance records to define the quality of data that is generated.

8.1.1 Before performing any analyses, the analyst must demonstrate the ability to generate acceptable accuracy and precision with this method. This ability is established as described in Section 8.2.

8.1.2 In recognition of the rapid advances occurring in chromatography, the analyst is permitted certain options to improve the separations or lower the cost of measurements. Each time such modifications to the method are made, the analyst is required to repeat the procedure in Section 8.2.

8.1.3 The laboratory must spike and analyze a minimum of 10% of all samples to monitor continuing laboratory performance. This procedure is described in Section 8.4.

8.2 To establish the ability to generate acceptable accuracy and precision, the analyst must perform the following operations.

8.2.1 Select a representative spike concentration for each compound to be measured. Using stock standards, prepare a quality control check sample concentrate in acetone 1000 times more concentrated than the selected concentrations.

8.2.2 Using a pipet, add 1.00 mL of the check sample concentrate to each of a minimum of four 1000-mL aliquots of reagent water. A representative wastewater may be used in place of the reagent water, but one or more additional aliquots must be analyzed to determine background levels, and the spike level must exceed twice the background level for the test to be valid. Analyze the aliquots according to the method beginning in Section 10.

8.2.3 Calculate the average percent recovery (R), and the standard deviation of the percent recovery (s), for the results. Wastewater background corrections must be made before R and s calculations are performed.

8.2.4 Using the data from Table 2, estimate the recovery and single operator precision expected for the method, and compare these results to the values calculated in Section 8.2.3. If the data are not comparable, review potential problem areas and repeat the test.

8.3 The analyst must calculate method performance criteria and define the performance of the laboratory for each spike concentration and parameter being measured.

8.3.1 Calculate upper and lower control limits for method performance as follows:

Upper Control Limit (UCL) = R + 3s
Lower Control Limit (LCL) = R − 3s

where R and s are calculated as in Section 8.2.3. The UCL and LCL can be used to construct control charts [9] that are useful in observing trends in performance.

8.3.2 The laboratory must develop and maintain separate accuracy statements of laboratory performance for wastewater samples. An accuracy statement for the method is defined as R ± 2s. The accuracy statement should be developed by the analysis of four aliquots of wastewater as described in Section 8.2.2, followed by the calculation of R and s. Alternatively, the analyst may use four wastewater data points gathered through the requirements for continuing quality control in Section 8.4. The accuracy statement should be updated regularly.[9]

8.4 The laboratory is required to collect in duplicate a portion of their samples to monitor spike recoveries. The frequency of spiked sample analysis must be at least 10% of all samples or one spiked sample per month, whichever is greater. One aliquot of the sample must be spiked and analyzed as described in Section 8.2. If the recovery for a particular parameter does not fall within the control limits for method performance, the results reported for that parameter in all samples processed as part of the same set must be qualified as described in Section 13.3. The laboratory should monitor the frequency of data so qualified to ensure that it remains at or below 5%.

8.5 Before processing any samples, the analyst must demonstrate through the analysis of a 1-liter aliquot of reagent water that all glassware and reagents interferences are under control. Each time a set of samples is extracted or there is a change in reagents, a laboratory reagent blank must be processed as a safeguard against laboratory contamination.

8.6 It is recommended that the laboratory adopt additional quality assurance practices for use with this method. The specific practices that are most productive depend upon the needs of the laboratory and the nature of the samples. Field duplicates may be analyzed to monitor the precision of the sampling technique. When doubt exists over the identification of a peak on the chromatogram, confirmatory techniques such as gas chromatography with a dissimilar column, speicific element detector, or mass spectrometer must be used. Whenever possible, the laboratory should perform analysis of quality control materials and participate in relevant performance evaluation studies.

*9. Sample Collection, Preservation, and Handling*

9.1 Grab samples must be collected in glass containers. Conventional sampling practices[10] should be followed; however, the bottle must not be prerinsed with sample before collection. Composite samples should be collected in refrigerated glass containers in accordance with the requirements of the program. Automatic sampling equipment must be as free as possible of plastic and other potential sources of contamination.

9.2 The samples must be iced or refrigerated at 4 °C from the time of collection until extraction.

9.3 All samples must be extracted within seven days and completely analyzed within 40 days of extraction.

*10. Sample Extraction*

10.1 Mark the water meniscus on the side of the sample bottle for later determination of sample volume. Pour the entire sample into a 2-liter separatory funnel.

10.2 Add 60 mL methylene chloride to the sample bottle, seal, and shake 30 s to rinse the inner walls. Transfer the solvent to the separatory funnel and extract the sample by shaking the funnel for 2 min with periodic venting to release excess pressure. Allow the organic layer to separate from the water phase for a minimum of 10 min. If the emulsion interface between layers is more than one third the volume of the solvent layer, the analyst must employ mechanical techniques to complete the phase separation. The optimum technique depends upon the sample, but may include stirring, filtration of the emulsion through glass wool, centrifugation, or other physical methods. Collect the methylene chloride extract in a 250-mL Erlenmeyer flask.

10.3 Add a second 60-mL volume of methylene chloride to the sample bottle and repeat the extraction procedure a second time, combining the extracts in the Erlenmeyer flask. Perform a third extraction in the same manner.

10.4 Assemble a Kuderna-Danish (K–D) concentrator by attaching a 10-mL concentrator tube to a 500-mL evaporative flask. Other concentration devices or techniques may be used in place of the K–D if the requirements of Section 8.2 are met.

10.5 Pour the combined extract through a drying column containing about 10 cm of anhydrous sodium sulfate, and collect the extract in the K–D concentrator. Rinse the Erlenmeyer flask and column with 20 to 30 mL of methylene chloride to complete the quantitative transfer.

10.6 Add 1 or 2 clean boiling chips to the evaporative flask and attach a three-ball Snyder column. Prewet the Snyder column by adding about 1 mL methylene chloride to the top. Place the K–D apparatus on a hot water bath, 60 to 65 °C, so that the concentrator tube is partially immersed in the hot water, and the entire lower rounded surface of the flask is bathed with hot vapor. Adjust the vertical position of the apparatus and the water temperature as required to complete the concentration in 15 to 20 min. At the proper rate of distillation, the balls of the column will actively chatter but the chambers will not flood with condensed solvent. When the apparent volume of liquid reaches 1 mL, remove the K–D apparatus and allow it to drain and cool for at least 10 min.

10.7 Increase the temperature of the hot water bath to about 80 °C. Momentarily remove the Snyder column, add 50 mL of hexane and a new boiling chip and reattach the Snyder column. Pour about 1 mL of hexane into the top of the Snyder column and concentrate the solvent extract as before. Elapsed time of concentration should be 5 to 10 min. When the apparent volume of liquid reaches 1 mL, remove the K–D apparatus and allow it to drain and cool for at least 10 min.

10.8 Remove the Snyder column and rinse the flask and its lower joint into the concentrator tube with 1 to 2 mL of hexane and adjust the volume to 10 mL. A 5-mL syringe is recommended for this operation. (Note: Precipitation of triazines in the hexane may occur if the concentration in the original sample exceeds 500 µg/L. If this occurs, redissolve the triazines in methylene chloride and analyze the extract using flame ionization gas chromatography.) Stopper the concentrator tube and store refrigerated if further processing will not be performed immediately. If the extracts will be stored longer than two days, they should be transferred to TFE-fluorocarbon-sealed screw-cap vials. If the sample extract requires no further cleanup, proceed with gas chromatographic analysis. If the sample requires cleanup, proceed to Section 11.

10.9 Determine the original sample volume by refilling the sample bottle to the mark and transferring the water to a 1000-mL graduated cylinder. Record the sample volume to the nearest 5 mL.

*11. Cleanup and Separation*

11.1 Cleanup procedures may not be necessary for a relatively clean sample matrix. The cleanup procedure recommended in this method has been used for the analysis of various industrial and municipal effluents. If particular circumstances demand the use of an alternative cleanup procedure, the analyst must determine the elution profile and

demonstrate that the recovery of each compound of interest for the cleanup procedure is no less than 85%.

11.2 The following Florisil column cleanup procedure has been demonstrated to be applicable to the nine triazine pesticides listed in Table 3.

11.2.1 Add a weight of Florisil (nominally 20 g) predetermined by calibration (Section 7.4 and 7.5), to a chromatographic column. Settle the Florisil by tapping the column. Add anhydrous sodium sulfate to the top of the Florisil to form a layer 1 to 2 cm deep. Add 60 mL of hexane to wet and rinse the sodium sulfate and Florisil. Just prior to exposure of the sodium sulfate to air, stop the elution of the hexane by closing the stopcock on the chromatography column. Discard the eluate.

11.2.2 Adjust the sample extract volume to 10 mL with hexane and transfer it from the K–D concentrator tube to the Florisil column. Rinse the tube twice with 1 to 2 mL hexane, adding each rinse to the column.

11.2.3 Drain the column until the sodium sulfate layer is nearly exposed. Elute the column with 200 mL of 6% ethyl ether in hexane (V/V) (Fraction 1) using a drip rate of about 5 mL/min. This fraction may be discarded. Place a 500-mL K–D flask and clean concentrator tube under the chromatography column. Elute the column again, using 200 mL of 15% ethyl ether in hexane (V/V) (Fraction 2). Perform a third elution using 200 mL of 50% ethyl ether in hexane (V/V) (Fraction 3), and a final elution with 200 mL of 100% ethyl ether (Fraction 4), into a separate K–D flask. The elution patterns for nine of the pesticides are shown in Table 3.

11.2.4 Concentrate the eluates by standard K–D techniques (Section 10.6), substituting hexane for the glassware rinses and using the water bath at about 85 °C. Adjust final volume to 10mL with hexane. Analyze by gas chromatography.

*12. Gas Chromatography*

12.1 Table 1 summarizes the recommended operating conditions for the gas chromatograph. Included in this table are estimated retention times and method detection limits that can be achieved by this method. An example of the separation achieved by Column 1 is shown in Figure 1. Other packed columns, chromatographic conditions, or detectors may be used if the requirements of Section 8.2 are met. Capillary (open-tubular) columns may also be used if the relative standard deviations of responses for replicate injections are demonstrated to be less than 6% and the requirements of Section 8.2 are met.

12.2 Calibrate the system daily as described in Section 7.

12.3 If the internal standard approach is being used, add the internal standard to sample extracts immediately before injection into the instrument. Mix thoroughly.

12.4 Inject 1 to 5 μL of the sample extract using the solvent-flush technique.[11] Record the volume injected to the nearest 0.05 μL, and the resulting peak size in area or peak height units. An automated system that consistently injects a constant volume of extract may also be used.

12.5 The width of the retention time window used to make identifications should be based upon measurements of actual retention time variations of standards over the course of a day. Three times the standard deviation of a retention time can be used to calculate a suggested window size for a compound. However, the experience of the analyst should weigh heavily in the interpretation of chromatograms.

12.6 If the response for the peak exceeds the working range of the system, dilute the extract and reanalyze.

12.7 If the measurement of the peak response is prevented by the presence of interferences, further cleanup is required.

*13. Calculations*

13.1 Determine the concentration of individual compounds in the sample.

13.1.1 If the external standard calibration procedure is used, calculate the amount of material injected from the peak response using the calibration curve or calibration factor in Section 7.2.2. The concentration in the sample can be calculated as follows:

$$\text{Concentration, } \mu g/L = \frac{(A)(V_t)}{(V_i)(V_s)}$$

where:

$A$ = Amount of material injected, in nanograms.
$V_i$ = Volume of extract injected in μL.
$V_t$ = Volume of total extract in μL.
$V_s$ = Volume of water extracted in mL.

13.1.2 If the internal standard calibration procedure was used, calculate the concentration in the sample using the response factor (RF) determined in Section 7.3.2 as follows:

$$\text{Concentration, } \mu g/L = \frac{(A_s)(I_s)}{(A_{is})(RF)(V_o)}$$

where:

$A_s$ = Response for the parameter to be measured.
$A_{is}$ = Response for the internal standard.
$I_s$ = Amount of internal standard added to each extract in μg.
$V_o$ = Volume of water extracted, in liters.

13.2 Report results in micrograms per liter without correction for recovery data. When duplicate and spiked samples are analyzed, report all data obtained with the sample results.

13.3 For samples processed as part of a set where the laboratory spiked sample recovery falls outside of the control limits in Section 8.3, data for the affected parameters must be labeled as suspect.

*14. GC/MS Confirmation*

14.1 It is recommended that GC/MS techniques be judiciously employed to support qualitative compound identification made with this method. The mass spectrometer should be capable of scanning the mass range from 35 amu to a mass 50 amu above the molecular weight of the compound. The instrument must be capable of scanning the mass range at a rate to produce at least 5 scans per peak but not to exceed 7 s per scan utilizing a 70 V (nominal) electron energy in the electron impact ionization mode. A GC to MS interface constructed of all-glass or glass-lined materials is recommended. A computer system should be interfaced to the mass spectrometer that allows the continuous acquisition and storage on machine readable media of all mass spectra obtained throughout the duration of the chromatographic program.

14.2 Gas chromatographic columns and conditions should be selected for optimum separation and performance. The conditions selected must be compatible with standard GC/MS operating practices. Chromatographic tailing factors of less than 5.0 must be achieved.[12]

14.3 At the beginning of each day that confirmatory analyses are to be performed, the GC/MS system must be checked to see that all decafluorotriphenyl phosphine (DFTPP) performance criteria are achieved.[13]

14.4 To confirm an identification of a compound, the background corrected mass spectrum of the compound must be obtained from the sample extract and compared with a mass spectrum from a stock or calibration standard analyzed under the same chromatographic conditions. It is recommended that at least 25 nanograms of material be injected into the GC/MS. The criteria below must be met for qualitative confirmation.

14.4.1 All ions that are present above 10% relative abundance in the mass spectrum of the standard must be present in the mass spectrum of the sample with agreement to plus or minus 10%. For example, if the relative abundance of an ion is 30% in the mass spectrum of the standard, the allowable limits for the relative abundance of that ion in the mass spectrum for the sample would be 20% to 40%.

14.4.2 The retention time of the compound in the sample must be within 6 seconds of the same compound in the standard solution.

14.4.3 Compounds that have very similar mass spectra can be explicitly identified by GC/MS only on the basis of retention time data.

14.5 Where available, chemical ionization mass spectra may be employed to aid in the qualitative identification process.

14.6 Should these MS procedures fail to provide satisfactory results, additional steps may be taken before reanalysis. These may include the use of alternate packed or capillary GC columns or additional cleanup (Section 11).

*15. Method Performance*

15.1 The method detection limit (MDL) is defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the value is above zero.[14, 15] The MDL concentrations listed in

Table 1 were estimated from the response of an electron capture detector to each compound. The estimate is based upon the amount of material required to yield a signal five times the GC background noise, assuming a 5-uL injection from a 10-mL final extract of a 1-liter sample.

15.2 In a single laboratory (either West Coast Technical Services, Inc. or Midwest Research Institute), using effluents from pesticide manufacturers and publicly owned treatment works (POTW), the average recoveries presented in Table 2 were obtained after Florisil cleanup.[1, 2] The standard deviations of the percent recoveries of these measurements are also included in Table 2.

**References**


1. "Pesticide Methods Evaluation," Letter Report No. 11 for EPA Contract No. 68-03-2697. Available from U.S. Environmental Protection Agency, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio 45268.

2. "Development of Analytical Test Procedures for Organic Pollutants in Wastewater-Application to Pesticides," EPA Report 600/4-81-017, U.S. Environmental Protection Agency, Cincinnati, Ohio 45268. PB#82 132507, National Technical Information Service, Springfield, VA.

3. "Methods for Benzidine, Chlorinated Organic Compounds, Pentachlorophenol and Pesticides in Water and Wastewater," U.S. Environmental Protection Agency, Environmental Monitoring and Support Laboratory—Cincinnati, Ohio 45268, September 1978.

4. ASTM Annual Book of Standards, Part 31, D3694, "Standard Practice for Preparation of Sample Containers and for Preservation," American Society for Testing and Materials, Philadelphia, PA, p. 679, 1980.

5. "Carcinogens—Working with Carcinogens," Department of Health, Education, and Welfare, Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health, Publication No. 77-206, Aug. 1977.

6. "OSHA Safety and Health Standards, General Industry," (29 CFR 1910), Occupational Safety and Health Administration, OSHA 2206, (Revised, January 1976).

7. "Safety in Academic Chemistry Laboratories," American Chemical Society Publication, Committee on Chemical Safety, 3rd Edition, 1979.

8. ASTM Annual Book of Standards, Part 31, D3086, Appendix X3, "Standardization of Florisil Column by Weight Adjustment Based on Adsorption of Lauric Acid," American Society for Testing and Materials, Philadelphia, PA, p. 765, 1980.

9. "Handbook for Analytical Quality Control in Water and Wastewater Laboratories," EPA-600/4-79-019, U.S. Environmental Protection Agency, Environmental Monitoring and Support Laboratory—Cincinnati, Ohio 45268, March 1979.

10. ASTM Annual Book of Standards, Part 31, D3370, "Standard Practice for Sampling Water," American Society for Testing and Materials, Philadelphia, PA, p. 76, 1980.

11. Burke, J.A., "Gas Chromatography for Pesticide Residue Analysis; Some Practical Aspects," *Journal of the Association of Official Analytical Chemists, 48*, 1037 (1965).

12. McNair, H.M. and Bonelli, E.J., "Basic Chromatography," Consolidated Printing, Berkeley, California, p. 52, 1969.

13. Eichelberger, J.W., Harris, L.E., and Budde, W.L. "Reference Compound to Calibrate Ion Abundance Measurement in Gas Chromatography-Mass Spectrometry," *Analytical Chemistry, 47*, 995 (1975).

14. Glaser, J.A. et al., "Trace Analysis for Wastewaters," *Environmental Science & Technology, 15*, 1426 (1981).

15. "Determination of Triazine in Industrial and Municipal Wastewater," Method 619, EPA No. 600/4-82-007, NTIS No. PB82-156019, January 1982, National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22165.

16. 40 CFR Part 136, Appendix B.


TABLE 1.—CHROMATOGRAPHIC CONDITIONS AND METHOD DETECTION LIMITS

| Parameter | Retention Time (min.) | | Method Detection Limit (ug/L) |
|---|---|---|---|
| | Column 1 | Column 2 | |
| Tebutryn | 15.4 | | 0.05 |
| Simetryn | 23.0 | | 0.07 |

Column 1 conditions: Suplecoport (80/100 mesh) coated with 5% Carbowax 20M-TPA packed in a 1.8 m long × 2 mm ID glass column with helium carrier gas at a flow rate of 30 mL/min. Column temperature, isothermal at 200 °C. A thermionic bead detector was used with this column to determine the MDL.

Column 2 conditions: Gas Chrom Q (100/120 mesh) coated with 1.0% Carbowax 20 M packed in a 1.8 m long × 4 mm ID glass column with helium carrier gas at 80 mL/min flow rate. Column temperature, isothermal at 155 °C.

TABLE 2.—SINGLE LABORATORY ACCURACY AND PRECISION

| Parameter | Sample Type [1] | Spike (ug/L) | Number of replicates | Mean Recovery (percent) | Standard Deviation (percent) |
|---|---|---|---|---|---|
| Simetryn | 3 | 30 | 2 | 183 | |
| | 3 | 15 | 2 | 182 | |
| Terbutryn | 1 | 968 | 7 | 83 | 10.0 |
| | 2 | 189 | 7 | 89 | 24.0 |

[1] Sample Type:
1. Industrial process water.
2. Industrial effluent.
3. 80% Industrial process water/20% industrial effluent.

TABLE 3.—FLORISIL FRACTIONATION PATTERNS [1]

| Parameter | Percent Recovery by Fraction | | | |
|---|---|---|---|---|
| | No. 1 | No. 2 | No. 3 | No. 4 |
| Propazine | 0 | 90 | 10 | |
| Terbuthylazine | 0 | 30 | 70 | |
| Atrazine | 0 | 20 | 80 | |
| Ametryn | | | 100 | |
| Prometryn | | | 100 | |
| Simazine | | | 100 | |
| Atraton | | | 100 | |
| Secburneton | | | | 100 |
| Prometon | | | | 100 |

[1] Florisil eluate composition by fraction:
Fraction 1—200 mL of 6% ethyl ether in hexane.
Fraction 2—200 mL of 15% ethyl ether in hexane.
Fraction 3—200 mL of 50% ethyl ether in hexane.
Fraction 4—200 mL of ethyl ether.

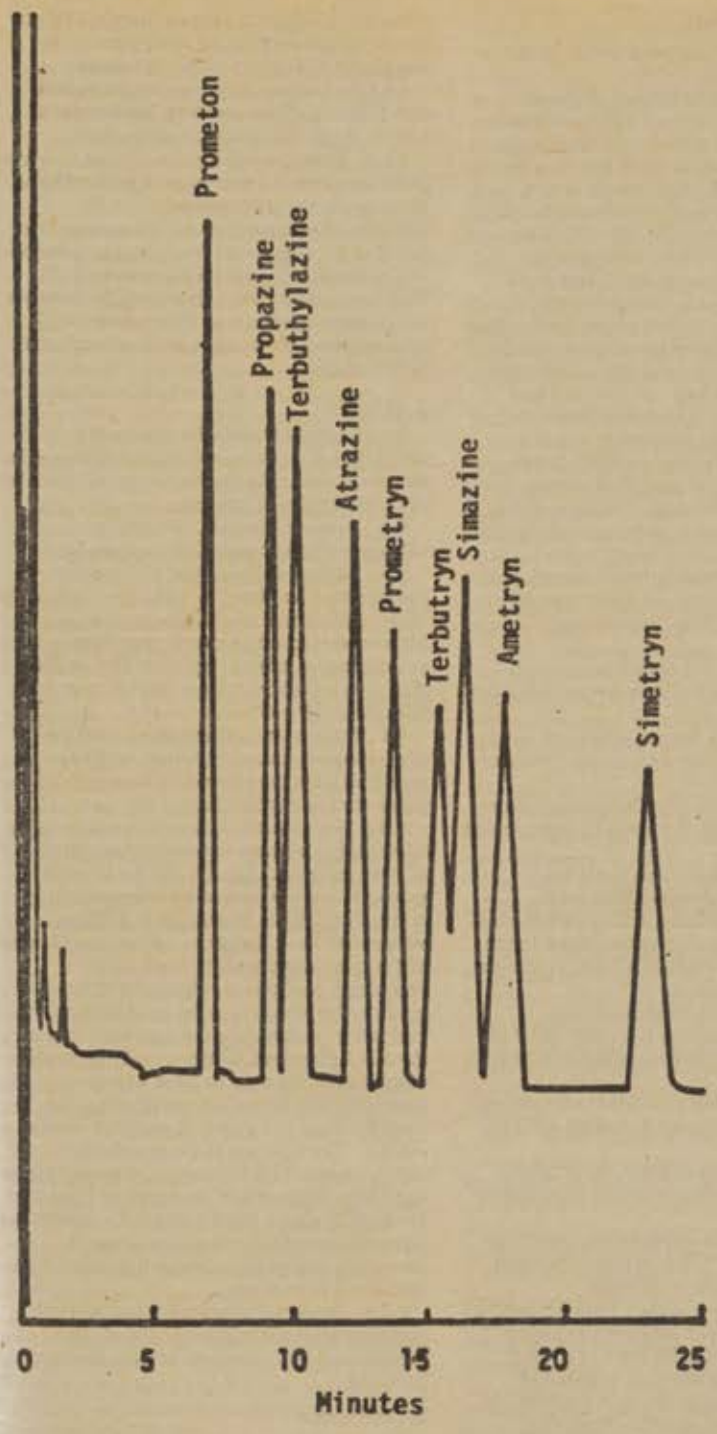


**FIGURE 1**

**GAS CHROMATOGRAM OF TRIAZINE PESTICIDES ON COLUMN 1. FOR CONDITIONS, SEE TABLE 1.**

**Method 622—Organophosphorus Pesticides**

*1. Scope and Application*

1.1 This method covers the determination of certain organophosphorus pesticides. The following parameters can be determined by this method:

| Parameter | Storet No. | CAS No. |
|---|---|---|
| Bolstar | | 35400-43-2 |
| Chlorpyrifos | | 2921-88-2 |
| Chlorpyrifos methyl | | 5598-13-0 |
| Coumaphos | 81293 | 56-72-4 |
| Dichlorvos | | 62-73-7 |
| Disulfoton | 39010 | 298-04-4 |
| Fensulfothion | | 115-90-2 |
| Fenthion | 39016 | 55-38-9 |
| Mevinphos | | 7786-34-7 |
| Naled | | 300-76-5 |
| Phorate | 39023 | 298-02-2 |
| Ronnel | 39357 | 299-84-3 |
| Stirofos | | 961-11-5 |
| Trichloronate | | 327-98-0 |

1.2 This is a gas chromatographic (GC) method applicable to the determination of the compounds listed above in industrial and municipal discharges. Any modification of this method beyond those expressly permitted, shall be considered a major modification subject to application and approval of alternate test procedures under 40 CFR 136.4 and 136.5.

1.3 The estimated method detection limit (MDL, defined in Section 15) for each parameter is listed in Table 1. The MDL for a specific wastewater may differ from those listed, depending upon the nature of interferences in the sample matrix.

1.4 The sample extraction and concentration steps in this method are essentially the same as several others in the 600-method series. Thus, a single sample may be extracted to measure the parameters included in the scope of each of these methods. When cleanup is required, the concentration levels must be high enough to permit cleanup procedures. Under Gas Chromatography, the analyst is allowed the latitude to select chromatographic conditions appropriate for the simultaneous measurement of combinations of these parameters (see Section 12).

1.5 This method is restricted to use by or under the supervision of analysts experienced in the use of gas chromatography and in the interpretation of gas chromatograms. Each analyst must demonstrate the ability to generate acceptable results with this method using the procedure described in Section 8.2.

1.6 When this method is used to analyze unfamiliar samples for any or all of the compounds above, compound identifications should be supported by at least one additional qualitative technique. Section 14 provides gas chromatograph/mass spectrometer (GC/MS) criteria appropriate for the qualitative confirmation of compound identifications.

*2. Summary of Method*

2.1 A measured volume of sample, approximately 1-liter, is solvent extracted with 15% methylene chloride using a separatory funnel. The methylene chloride extract is dried and exchanged to hexane during concentration to a volume of 10 mL or less. Gas chromatographic conditions are described which permit the separation and measurement of the compounds in the extract by gas chromatography with a thermionic bead or flame photometric detector in the phosphorus mode.[1]

*3. Interferences*

3.1 Method interferences may be caused by contaminants in solvents, reagents, glassware and other sample processing apparatus that lead to discrete artifacts or elevated baselines in gas chromatograms. All reagents and apparatus must be routinely demonstrated to be free from interferences under the conditions of the analysis by running laboratory reagent blanks as described in Section 8.5.

3.1.1 Glassware must be scrupulously cleaned.[2] Clean all glassware as soon as possible after use by thoroughly rinsing with the last solvent used in it. Follow by washing with hot water and detergent and thorough rinsing with tap and reagent water. Drain dry, and heat in an oven or muffle furnance at 400 °C for 15 to 30 min. Do not heat volumetric glassware. Thermally stable materials such as PCBs, might not be eliminated by this treatment. Thorough rinsing with acetone and pesticide quality hexane may be substituted for the heating. After drying and cooling, seal and store glassware in a clean environment to prevent any accumulation of dust or other contaminants. Store inverted or capped with aluminum foil.

3.1.2 The use of high purity reagents and solvents helps to minimize interference problems. Purification of solvents by distillation in all-glass systems may be required.

3.2 Matrix interferences may be caused by contaminants that are coextracted from the sample. The extent of matrix interferences will vary considerably from source to source, depending upon the nature and diversity of the industrial complex or municipality sampled. Unique samples may require special clean-up approaches or selective GC detectors to achieve the MDL listed in Table 1. Use of a flame photometric detector in the phosphorus mode will minimize interferences from materials that do not contain phosphorus. Elemental sulfur, however, may interfere with the determination of certain organophosphorus pesticides by flame photometric gas chromatography. A halogen specific detector (electrolytic conductivity or microcoulometric) is very selective for the halogen containing pesticides and has been shown to be effective in the analysis of wastewater for dichlorvos, naled and stirofos.

*4. Safety*

4.1 The toxicity or carcinogencity of each reagent used in this method has not been precisely defined; however, each chemical compound must be treated as a potential health hazard. From this viewpoint, exposure to these chemicals must be reduced to the lowest possible level by whatever means available. The laboratory is responsible for maintaining a current awareness file of OSHA regulations regarding the safe handling of the chemicals specified in this method. A reference file of material data handling sheets should also be made available to all personnel involved in the chemical analysis. Additional references to the laboratory safety are available and have been identified [3-5] for the information of the analyst.

*5. Apparatus and Materials*

5.1 Sampling equipment, for discrete or composite sampling.

5.1.1. Grab sample bottle—Amber borosilicate or flint glass, 1-liter or 1-quart volume, fitted with screw caps lined with TFE-fluorocarbon. Aluminum foil may be substituted for TFE if the sample is not corrosive. If amber bottles are not available, protect samples from light. The container and cap liner must be washed, rinsed with acetone or methylene chloride, and dried before use to minimize contamination.

5.1.2 Automatic sampler (optional)—Must incorporate glass sample containers for the collection of a minimum of 250 mL. Sample containers must be kept refrigerated at 4 °C and protected from light during compositing. If the sampler uses a peristaltic pump, a minimum length of compressible silicone rubber tubing may be used. Before use, however, the compressible tubing must be thoroughly rinsed with methanol, followed by repeated rinsings with reagent water to minimize the potential for contamination of the sample. An integrating flow meter is required to collect flow proportional composites.

5.2 Glassware (All specifications are suggested. Catalog numbers are included for illustration only.)

5.2.1 Separatory funnel—2000-mL, with TFE-fluorocarbon stopcock, ground glass or TFE stopper.

5.2.2 Drying column—Chromatographic column 400 mm long × 19 mm ID with coarse fritted disc.

5.2.3 Concentrator tube, Kuderna-Danish—10-mL, graduated (Kontes K-570050-1025 or equivalent). Calibration must be checked at the volumes employed in the test. Ground glass stopper is used to prevent evaporation of extracts.

5.2.4 Evaporative flask, Kuderna-Danish—500-mL (Kontes K-570001-0500 or equivalent). Attach to concentrator tube with springs.

5.2.5 Snyder column, Kuderna-Danish—three-ball macro (Kontes K-503000-0121 or equivalent).

5.2.6 Vials—Amber glass, 10 to 15 mL capacity with TFE-fluorocarbon lined screw cap.

5.3 Boiling chips—approximately 10/40 mesh. Heat at 400 °C for 30 min or Soxhlet extract with methylene chloride.

5.4 Water bath—Heated, with concentric ring cover, capable of temperature control (± 2 °C). The bath should be used in a hood.

5.5 Balance—Analytical, capable of accurately weighing to the nearest 0.0001 g.

5.6 Gas chromatograph—Analytical system complete with gas chromatograph suitable for on-column injection and all required accessories including syringes, analytical columns, gases, detector and stripchart recorder. A data system is recommended for measuring peak areas.

5.6.1 Columns—These columns were used to develop the method performance statements in Section 15. Alternate columns may be used in accordance with the provisions described in Section 12.1

5.6.1.1 Column 1—180 cm long x 2 mm ID glass, packed with 5% SP-2401 on Supelcoport (100/120 mesh) or equivalent.

5.6.1.2 Column 2—180 cm long x 2 mm ID glass, packed with 3% SP-2401 on Supelcoport (100/120 mesh) or equivalent.

5.6.1.3 Column 3—50 cm long x ⅛ inch OD Teflon, packed with 15% SE-54 on Gas Chrom Q (80/100 mesh) or equivalent.

5.6.2 Detector—Thermionic bead or flame photometric in the phosphorus mode. These detectors have proven effective in the analysis of wastewaters for the parameters listed in the scope and were used to develop the method performance statements in Section 15. Alternative detectors, including a mass spectrometer, may be used in accordance with the provisions described in Section 12.1.

*6. Reagents*

6.1 Reagent water—Reagent water is defined as a water in which an interferent is not observed at the method detection limit of each parameter of interest.

6.2 Acetone, hexane, methylene chloride—Pesticide quality or equivalent.

6.3 Sodium sulfate—(ACS) Granular, anhydrous. Heat treat in a shallow tray at 500 °C for a minimum of a 4 h to remove phthalates and other interfering organic substances. Alternatively, heat 16 h at 450-400 °C in a shallow tray or Soxhlet extract with methylene chloride for 48 h.

6.4 Stock standard solutions (1.00 µg/µL)—Stock standard solutions may be prepared from pure standard materials or purchased as certified solutions.

6.4.1 Prepare stock standard solutions by accurately weighing approximately 0.0100 g of pure material. Dissolve the material in pesticide quality hexane or other suitable solvent and dilute to volume in a 10-mL volumetric flask. Larger volumes may be used at the convenience of the analyst. If compound purity is certified at 96% or greater, the weight may be used without correction to calculate the concentration of the stock standard. Commercially prepared stock standards may be used at any concentration if they are certified by the manufacturer or by an independent source.

6.4.2 Transfer the stock standard solutions into TFE-fluorocarbon sealed screw cap vials. Store at 4 °C and protect from light. Frequently check stock standard solutions for signs of degradation or evaporation, especially just prior to preparing calibration standards from them.

6.4.3 Stock standard solutions must be replaced after six months or sooner if comparison with check standards indicates a problem.

*7. Calibration*

7.1 Establish gas chromatographic operating parameters equivalent to those indicated in Table 1. The gas chromatographic system may be calibrated using either the external standard technique (Section 7.2) or the internal standard technique (Section 7.3).

7.2 External standard calibration procedure:

7.2.1 For each parameter of interest, prepare calibration standards at a minimum of three concentration levels by adding accurately measured volumes of one or more stock standards to a volumetric flask and

diluting to volume with hexane or other suitable solvent. One of the external standards should be representative of a concentration near, but above, the method detection limit. The other concentrations should correspond to the range of concentrations expected in the sample concentrates or should define the working range of the detector.

7.2.2 Using injections of 1 to 5 µL of each calibration standard, tabulate peak height or area responses against the mass injected. The results can be used to prepare a calibration curve for each parameter. Alternatively, the ratio of the response to the mass injected, defined as the calibration factor (CF), may be calculated for each parameter at each standard concentration. If the relative standard deviation of the calibration factor is less than 10% over the working range, the average calibration factor can be used in place of a calibration curve.

7.2.3 The working calibration curve or calibration factor must be verified on each working shift by the measurement of one or more calibration standards. If the response for any parameter varies from the predicted response by more than ±10%, the test must be repeated using a fresh calibration standard. Alternatively, a new calibration curve or calibration must be prepared for that parameter.

7.3 Internal standard calibration procedure. To use this approach, the analyst must select one or more internal standards similar in analytical behavior to the compounds of interest. The analyst must further demonstrate that the measurement of the internal standard is not affected by method or matrix interferences. Due to these limitations, no internal standard applicable to all samples can be suggested.

7.3.1 Prepare calibration standards at a minimum of three concentration levels for each parameter of interest by adding volumes of one or more stock standards to a volumetric flask. To each calibration standard, add a known constant amount of one or more internal standards, and dilute to volume with hexane or other suitable solvent. One of the standards should be representative of a concentration near, but above, the method detection limit. The other concentrations should correspond to the range of concentrations expected in the sample concentrates, or should define the working range of the detector.

7.3.2 Using injections of 1 to 5 µL of each calibration standard, tabulate the peak height or area responses against the concentration for each compound and internal standard. Calculate responses factors (RF) for each compound as follows:

$RF=(A_sC_{is})/(A_{is}C_s)$

where:

$A_s$ = Response for the parameter to be measured.

$A_{is}$ = Response for the internal standard.

$C_{is}$ = Concentration of the internal standard in µg/L.

$C_s$ = Concentration of the parameter to be measured in µg/L.

If the RF value over the working range is constant, less than 10% relative standard deviation, the RF can be assumed to be invariant and the average RF may be used for calculations. Alternatively, the results may be used to plot a calibration curve of response ratios, $A_s/A_{is}$ against RF.

7.3.3 The working calibration curve or RF must be verified on each working shift by the measurement of one or more calibration standards. If the response for any parameter varies from the predicted response by more than ±10%, the test must be repeated using a fresh calibration standard. Alternatively, a new calibration curve must be prepared for that compound.

7.4 Before using any cleanup procedure, the analyst must process a series of calibration standards through the procedure to validate elution patterns and the absence of interference from the reagents.

*8. Quality Control*

8.1 Each laboratory using this method is required to operate a formal quality control program. The minimum requirements of this program consist of an initial demonstration of a laboratory capability and the analysis of spiked samples as a continuing check on performance. The laboratory is required to maintain performance records to define the quality of data that is generated.

8.1.1 Before performing any analyses, the analyst must demonstrate the ability to generate acceptable accuracy and precision with this method. This ability is established as described in Section 8.2.

8.1.2 In recognition of the rapid advances occurring in chromatography, the analyst is permitted certain options to improve the separations or lower the cost of measurements. Each time such modifications to the method are made, the analyst is required to repeat the procedure in Section 8.2.

8.1.3 The laboratory must spike and analyze a minimum of 10% of all samples to monitor continuing laboratory performance. This procedure is described in Section 8.4.

8.2. To establish the ability to generate acceptable accuracy and precision, the analyst must perform the following operations.

8.2.1 Select a representative spike concentration for each compound to be measured. Using stock standards, prepare a quality control check sample concentrate in acetone 1000 times more concentrated than the selected concentrations.

8.2.2 Using a pipet, add 1.00 mL of the check sample concentrate to each of a minimum of four 1000-mL aliquots of reagent water. A representative wastewater may be used in place of the reagent water, but one or more addition aliquots must be analyzed to determine background levels, and the spike level must exceed twice the background level for the test to be valid. Analyze the aliquots according to the method beginning in Section 10.

8.2.3 Calculate the average percent recovery (R), and the standard deviation of the percent recovery (s), for the results. Wastewater background corrections must be made before R and s calculations are performed.

8.2.4 Using the appropriate data from Table 2, determine the recovery and single operator precision expected for the method, and compare these results to the values calculated in Section 8.2.3. If the data are not comparable, review potential problem areas and repeat the test.

8.3 The analyst must calculate method performance criteria and define the performance of the laboratory for each spike concentration and parameter being measured.

8.3.1 Calculate upper and lower control limits for method performance as follows:

Upper Control Limit (UCL) = R + 3 s

Lower Control Limit (LCL) = R − 3 s

where R and s are calculated as in Section 8.2.3. The UCL and LCL can be used to construct control charts [6] that are useful in observing trends in performance.

8.3.2 The laboratory must develop and maintain separate accuracy statements of laboratory performance for wastewater samples. An accuracy statement for the method is defined as R ± 2 s. The accuracy statement should be developed by the analysis of four aliquots of wastewater as described in Section 8.2.2, followed by the calculation of R and s. Alternatively, the analyst may use four wastewater data points gathered through the requirement for continuing quality control in Section 8.4. The accuracy statements should be updated regularly.[6]

8.4 The laboratory is required to collect in duplicate a portion of their samples to monitor spike recoveries. The frequency of spiked sample analysis must be at least 10% of all samples or one spiked sample per month, whichever is greater. One aliquot of the sample must be spiked and analyzed as described in Section 8.2. If the recovery for a particular parameter does not fall within the control limits for method performance, the results reported for that parameter in all samples processed as part of the same set must be qualified as described in Section 13.3. The laboratory should monitor the frequency of data so qualified to ensure that it remains at or below 5%.

8.5 Before processing any samples, the analyst must demonstrate through the analysis of a 1-liter aliquot of reagent water that all glassware and reagents interferences are under control. Each time a set of samples is extracted or there is a change in reagents, a laboratory reagent blank must be processed as a safeguard against laboratory contamination.

8.6 It is recommended that the laboratory adopt additional quality assurance practices for use with this method. The specific practices that are most productive depend upon the needs of the laboratory and the nature of the samples. Field duplicates may be analyzed to monitor the precision of the sampling technique. When doubt exists over the identification of a peak on the chromatogram, confirmatory techniques such as gas chromatography with a dissimilar column, specific element detector, or mass spectrometer must be used. Whenever possible, the laboratory should perform analysis of quality control materials and participate in relevant performance evaluation studies.

*9. Sample Collection, Preservation, and Handling*

9.1 Grab samples must be collected in glass containers. Conventional sampling practices [7] should be followed; however, the bottle must not be prerinsed with sample before collection. Composite samples should be collected in refrigerated glass containers in accordance with the requirements of the program. Automatic sampling equipment must be as free as possible of plastic and other potential sources of contamination.

9.2 The samples must be iced or refrigerated at 4 °C from the time of collection until extraction.

9.3 All samples must be extracted within seven days and completely analyzed within 40 days of extraction.

*10. Sample Extraction*

10.1 Mark the water meniscus on the side of the sample bottle for later determination of sample volume. Pour the entire sample into a 2-liter separatory funnel.

10.2 Add 60-mL methylene chloride to the sample bottle, seal, and shake 30 s to rinse the inner walls. Transfer the solvent to the separatory funnel and extract the sample by shaking the funnel for 2 min with periodic venting to release excess pressure. Allow the organic layer to separate from the water phase for a minimum of 10 min. If the emulsion interface between layers is more than one third the volume of the solvent layer, the analyst must employ mechanical techniques to complete the phase separation. The optimum technique depends upon the sample, but may include stirring, filtration of the emulsion through glass wool, centrifugation, or other physical methods. Collect the methylene chloride extract in a 250-mL Erlenmeyer flask.

10.3 Add a second 60-mL volume of methylene chloride to the sample bottle and repeat the extraction procedure a second time, combining the extracts in the Erlenmeyer flask. Perform a third extraction in the same manner.

10.4 Assemble a Kuderna-Danish (K–D) concentrator by attaching a 10-mL concentrator tube to a 500-mL evaporative flask. Other concentration devices or techniques may be used in place of the K–D if the requirements of Section 8.2 are met.

10.5 Pour the combined extract through a drying column containing about 10 cm of anhydrous sodium sulfate, and collect the extract in the K–D concentrator. Rinse the Erlenmeyer flask and column with 20 to 30-mL of methylene chloride to complete the quantitative transfer.

10.6 Add 1 or 2 clean boiling chips to the evaporative flask and attach a three-ball Snyder column. Prewet the Snyder column by adding about 1-mL methylene chloride to the top. Place the K–D apparatus on a hot water bath, 60 to 65 °C, so that the concentrator tube is partially immersed in the hot water, and the entire lower rounded surface of the flask is bathed with hot vapor. Adjust the vertical position of the apparatus and the water temperature as required to complete the concentration in 15 to 20 min. At the proper rate of distillation, the balls of the column will actively chatter but the chambers will not flood with condensed solvent. When the apparent volume of liquid reaches 1-mL, remove the K–D apparatus and allow it to drain and cool for at least 10 min.

10.7 Increase the temperature of the hot water bath to about 80 °C. Momentarily remove the Snyder column, add 50-mL of hexane and a new boiling chip and reattach the Snyder column. Pour about 1-mL of hexane into the top of the Snyder column and concentrate the solvent extract as before. Elapsed time of concentration should be 5 to 10 min. When the apparent volume of liquid reaches 1-mL, remove the K–D apparatus and allow it to drain and cool for at least 10 min.

10.8 Remove the Snyder column and rinse the flask and its lower joint into the concentrator tube with 1 to 2 mL of hexane and adjust the volume to 10-mL. A 5-mL syringe is recommended for this operation. Stopper concentrator tube and store refrigerated if further processing will not be performed immediately. If the extracts will be stored longer than two days, they should be transferred to TFE-fluorocarbon-sealed screw cap vials. If the sample extract requires no further cleanup, proceed with gas chromatographic analysis. If the sample requires cleanup, proceed to Section 11.

10.9 Determine the original sample volume by refilling the sample bottle to the mark and transferring the water to a 1000-mL graduated cylinder. Record the sample volume to the nearest 5-mL.

*11. Cleanup and Separation*

11.1 Cleanup procedures may not be necessary for a relatively clean sample matrix and were not required for the analysis of the wastewaters reported in Section 15. If particular circumstances demand the use of a cleanup procedure, the analyst must determine the elution profile and demonstrate that the recovery of each compound of interest for the cleanup procedure is no less than 85%.

*12. Gas Chromatography*

12.1 Table 1 summarizes the recommended operating conditions for the gas chromatograph. Included in this table are estimated retention times and method detection limits that can be achieved by this method. Naled is partially converted to dichlorvos on GC Columns 1 and 2 but not on Column 3. Therefore, if naled is to be measured in the sample, GC analysis for dichlorvos and naled must be performed using Column 3. Examples of the separations achieved are shown in Figures 1 to 3. Other packed columns, chromatographic conditions, or detectors may be used if the requirements of Section 8.2 are met. Capillary (open-tubular) columns may also be used if the relative standard deviations of responses for replicate injections are demonstrated to be less than 6% and the requirements of Section 8.2 are met.

12.2 Calibrate the system daily as described in Section 7.

12.3 If the internal standard approach is being used, add the internal standard to sample extracts immediately before injection into the instrument. Mix thoroughly.

12.4 Inject 1 to 5 μL of the sample extract using the solvent-flush technique.[8] Record the volume injected to the nearest 0.05 μL, and the resulting peak size in area or peak height units. An automated system that consistently injects a constant volume of extract may also be used.

12.5 The width of the retention time window used to make identifications should be based upon measurements of actual retention time variations of standards over the course of a day. Three times the standard deviation to a retention time can be used to calculate a suggested window size for a compound. However, the experience of the analyst should weigh heavily in the interpretation of chromatograms.

12.6 If the response for the peak exceeds the working range of the system, dilute the extract and reanalyze.

12.7 If the measurement of the peak response is prevented by the presence of intereferences, cleanup is required.

*13. Calculations*

13.1 Determine the concentration of individual compounds in the sample.

13.1.1 If the external standard calibration procedure is used, calculate the amount of material injected from the peak response using the calibration curve or calibration factor in Section 7.2.2. The concentration in the sample can be calculated as follows:

$$\text{Concentration, } \mu g/L = \frac{(A)(V_t)}{(V_i)(V_s)}$$

where:

$A$ = Amount of material injected, in nanograms.

$V_i$ = Volume of extract injected in uL.

$V_t$ = Volume of total extract in uL.

$V_s$ = Volume of water extracted in mL.

13.1.2 If the internal standard calibration procedure was used, calculate the concentration in the sample using the response factor (RF) determined in Section 7.3.2 as follows:

$$\text{Concentration, } \mu g/L = \frac{(A_s)(I_s)}{(A_{is})(RF)(V_o)}$$

where:

$A_s$ = Response for the parameter to be measured.

$A_{is}$ = Response for the internal standard.

$I_s$ = Amount of internal standard added to each extract in μg.

$V_o$ = Volume of water extracted, in liters.

13.2 Report results in micrograms per liter without correction for recovery data. When duplicate and spiked samples are analyzed, report all data obtained with the sample results.

13.3 For samples processed as part of a set where the laboratory spiked sample recovery falls outside of the control limits in Section 8.3, data for the affected parameters must be labeled as suspect.

*14. GC/MS Conformation*

14.1 It is recommended that GC/MS techniques be judiciously employed to support qualitative compound identifications made with this method. The mass spectrometer should be capable of scanning the mass range from 35 amu to a mass 50 amu above the molecular weight of the compound. The instrument must be capable of scanning the mass range at a rate to produce at least 5 scans per peak but not to exceed 7 s per scan utilizing a 70 V (nominal) electron energy in the electron impact ionization mode. A GC to MS interface constructed of all-glass or glass-lined materials is recommended. A computer system should be interfaced to the mass spectrometer that allows the continuous acquisition and storage on machine readable media of all mass spectra obtained throughout the duration of the chromatographic program.

14.2 Gas chromatographic columns and conditions should be selected for optimum separation and performance. The conditions selected must be compatible with standard GC/MS operating practices. Chromatographic tailing factors of less than 5.0 must be achieved.[9]

14.3 At the beginning of each day that confirmatory analyses are to be performed, the GC/MS system must be checked to see that all decalfluorotriphenyl phosphine (DFTPP) performance criteria are achieved.[10]

14.4 To confirm an identification of a compound, the background corrected mass spectrum of the compound must be obtained from the sample extract and compared with a mass spectrum from a stock or calibration standard analyzed under the same chromatographic conditions. It is recommended that at least 25 nanograms of material be injected into the GC/MS. The criteria below must be met for qualitative confirmation.

14.4.1 All ions are present above 10% relative abundance in the mass spectrum of the standard must be present in the mass spectrum of the sample with agreement to plus or minus 10%. For example, if the relative abundance of an ion is 30% in the mass spectrum of the standard, the allowable limits for the relative abundance of that ion in the mass spectrum for the sample would be 20% to 40%.

14.4.2 The retention time of the compound in the sample must be within 6 seconds of the same compound in the standard solution.

14.4.3 Compounds that have very similar mass spectra can be explicitly identified by GC/MS only on the basis of retention time data.

14.5 Where available, chemical ionization mass spectra may be employed to aid in the qualitative identification process.

14.6 Should these MS procedures fail to provide satisfactory results, additional steps may be taken before reanalysis. These may include the use of alternate packed or capillary GC columns or additional cleanup (Section 11).

*15. Method Performance*

15.1 The method detection limit (MDL) is defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the value is above zero.[11, 12] The MDL concentration listed in Table 1 were estimated from the response of the detector to each compound. The estimate is based upon the amount of material required to yield a signal five times the TC background noise, assuming a 5-μL injection from a 10-mL final extract of a 1-liter sample.

15.2 In a single laboratory (West Coast Technical Services, Inc.), using effluents from pesticide manufacturers and publicly owned treatment works (POTWs), the average recoveries presented in Table 2 were obtained.[1] The standard deviations of the percent recoveries of these measurements are also included in Table 2.

**References**


1. "Pesticide Methods Evaluation," Letter Reports #6, 12A, and 14 for EPA Contract No. 68-03-2697. Available from U.S. Environmental Protection Agency, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio 45268.

2. ASTM Annual Book of Standards, Part 31, D3694, "Standard Practice for Preparation of Sample Containers and for Preservation, "American Society for Testing and Materials, Philadelphia, PA, p. 679, 1980.

3. "Carcinogens—Working with Carcinogens," Department of Health, Education, and Welfare, Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health, Publication No. 77-206, Aug. 1977.

4. "OSHA Safety and Health Standards, General Industry," (29 CFR 1910), Occupational Safety and Health Administration, OSHA 2206, (Revised, January 1976).

5. "Safety in Academic Chemistry Laboratories," American Chemical Society Publication, Committee on Chemical Safety, 3rd Edition, 1979.

6. "Handbook for Analytical Quality Control in Water and Wastewater Laboratories," EPA-600/4-79-019, U.S. Environmental Protection Agency, Environmental Monitoring and Support Laboratory—Cincinnati, Ohio 45268, March 1979.

7. ASTM Annual Book of Standards, Part 31, D3370, "Standard Practice for Sampling Water," American Society for Testing and Materials, Philadelphia, PA, p. 76, 1980.

8. Burke, J.A., "Gas Chromatography for Pesticide Residue Analysis; Some Practical Aspects," *Journal of the Association of Official Analytical Chemists*, 48, 1037 (1965).

9. NcNair, H.M. and Bonelli, E.J., "Basic Chromatography," Consolidated Printing, Berkeley, California, p. 52, 1969.

10. Eichelberger, J.W., Harris, L.E., and Budde, W.L., "Reference Compound to Calibrate Ion Abundance Measurement in Gas Chromatography-Mass Spectrometry," *Analytical Chemistry*, 47, 995 (1975).

11. Glaser, J.A. et al, "Trace Analysis for Wastewaters," *Environmental Science & Technology*, 15, 1426 (1981).

12. "Determination of Dinitroaniline in Industrial and Municipal Wastewater," Method 662, EPA No. 600/4-82-008, NTIS No. PB82,156027, January 1982, National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22165.

13. 40 CFR Part 136, Appendix B.


TABLE 1.—CHROMATOGRAPHIC CONDITIONS AND ESTIMATED METHOD DETECTION LIMITS

| Parameter | GC Column | Retention Time (Min) | Estimated MDL (μg/L) |
|---|---|---|---|
| Phorate | 1a | 1.43 | 0.15 |
| Disulfoton | 1a | 2.10 | 0.20 |
| Trichloronate | 1a | 2.94 | 0.15 |
| Fenthion | 1a | 3.12 | 0.10 |
| Bolstar | 1a | 4.23 | 0.15 |
| Fensulfothion | 1a | 6.41 | 1.5 |
| Coumaphos | 1a | 11.6 | 1.5 |
| Dichlorvos | 1b | 0.8 | 0.1 |
| Mevinphos | 1b | 2.41 | 0.3 |
| Stirofos | 1b | 8.52 | 5.0 |
| Ronnel | 2 | 5.57 | 0.3 |
| Chlorpyrifos methyl | 2 | 5.72 | 0.3 |
| Chlorpyrifos | 2 | 6.16 | 0.3 |
| Dichlorvos | 3 | 1.50 | 0.1 |
| Naled | 3 | 3.28 | 0.1 |
| Stirofos | 3 | 5.51 | 5.0 |

Column 1a Conditions: Supelcoport (100/120 mish) coated with 5% SP-2401 packed in a 180 cm long x 2 mm ID glass column with helium carrier gas at a flow rate of 30 mL/min. Column temperature, programmed: initial 150°C, hold for 1 min, then program at 25°C/min to 220 °C and hold. A flame photometric detector was used with this column to estimate the MDL.

Column 1b Conditions: Same as Column 1a, except nitrogen carrier gas at a flow rate of 30 mL/min. Temperature, programmed: initial 170°C, hold 2 min, then program at 20°C/min to 220°C and hold.

Column 2 Conditions: Supelcoport (100/120 mesh) coated with 3% SP-2401 packed in a 180 cm long x 2 mm ID glass column with helium carrier gas at a flow rate of 25 mL/min. Column temperature, programmed: initial 170°C, hold for 7 min, then program at 10°C/min to 250°C and hold. A thermionic bead detector was used with this column to estimate the MDL.

Column 3 Conditions: Gas Chrom Q (100/120 mesh) coated with 15% SE-54 packed in a 50 cm long x ⅛ in. OD Teflon column with nitrogen carrier gas at a flow rate of 30 mL/min. Temperature, programmed: initial 100°C, then program immediately at 25°C/min to 200°C and hold. An electrolytic detector in the halogen mode was used with this column to estimate the MDL.

TABLE 2.—SINGLE OPERATOR ACCURACY AND PRECISION

| Parameter | Average percent recovery | Standard deviation (percent) | Spike range (µg/L) | Number of analyses | Matrix types |
|---|---|---|---|---|---|
| Bolstar | 64.6 | 6.3 | 4.9–46 | 17 | 3 |
| Chlorpyrifos | 98.3 | 5.5 | 1.0–50.3 | 18 | 3 |
| Coumaphos | 109.0 | 12.7 | 25–225 | 17 | 3 |
| Dichlorvos | 72.1 | 7.7 | 15.6–517 | 16 | 3 |
| Disulfoton | 81.9 | 9.0 | 5.2–92 | 17 | 3 |
| Fensulfothion | 94.1 | 17.1 | 23.9–110 | 17 | 3 |
| Fenthion | 68.7 | 19.9 | 5.3–84 | 17 | 3 |
| Mevinphos | 56.5 | 7.8 | 15.5–520 | 16 | 3 |
| Naled | 78.0 | 8.1 | 25.8–294 | 16 | 3 |
| Phorate | 62.7 | 8.9 | 4.9–47 | 17 | 3 |
| Ronnel | 99.2 | 5.6 | 1.0–50 | 18 | 3 |
| Stirofos | 66.1 | 5.9 | 30.3–505 | 16 | 3 |
| Trichloronate | 105.0 | 16.6 | 20 | 3 | 1 |

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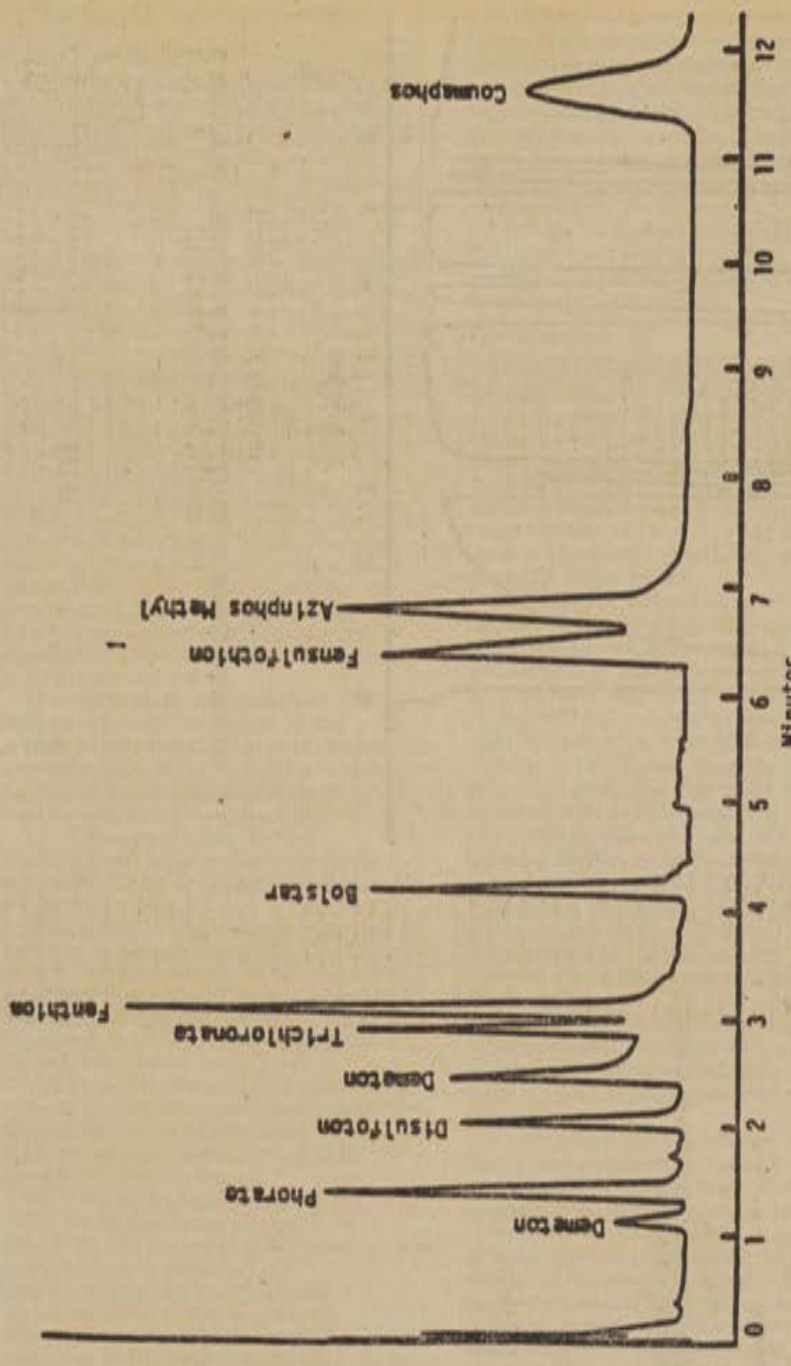


FIGURE 1

GAS CHROMATOGRAM OF ORGANOPHOSPHORUS PESTICIDES ON COLUMN 1a.
FOR CONDITIONS, SEE TABLE 1.

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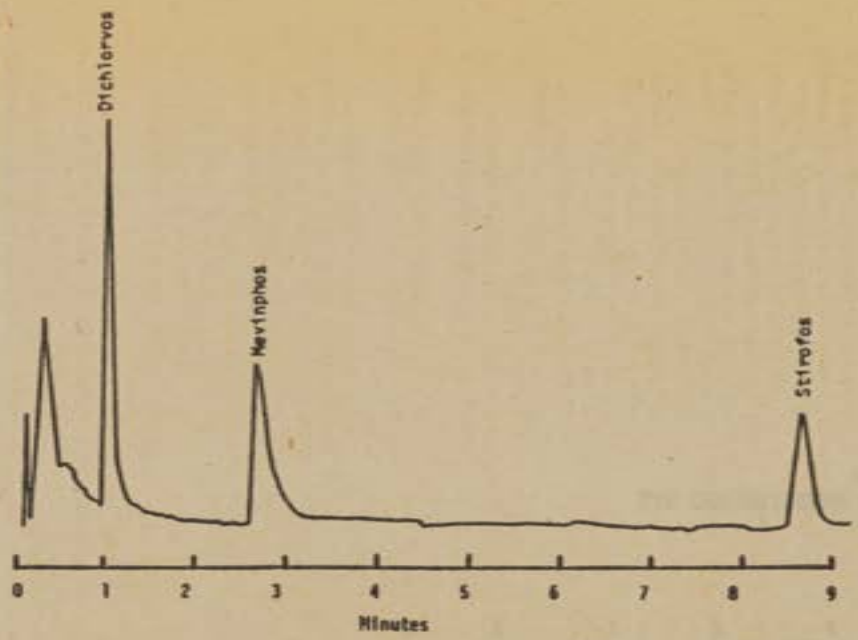


FIGURE 2

GAS CHROMATOGRAM OF ORGANOPHOSPHORUS PESTICIDES ON COLUMN 1b.
FOR CONDITIONS, SEE TABLE 1.



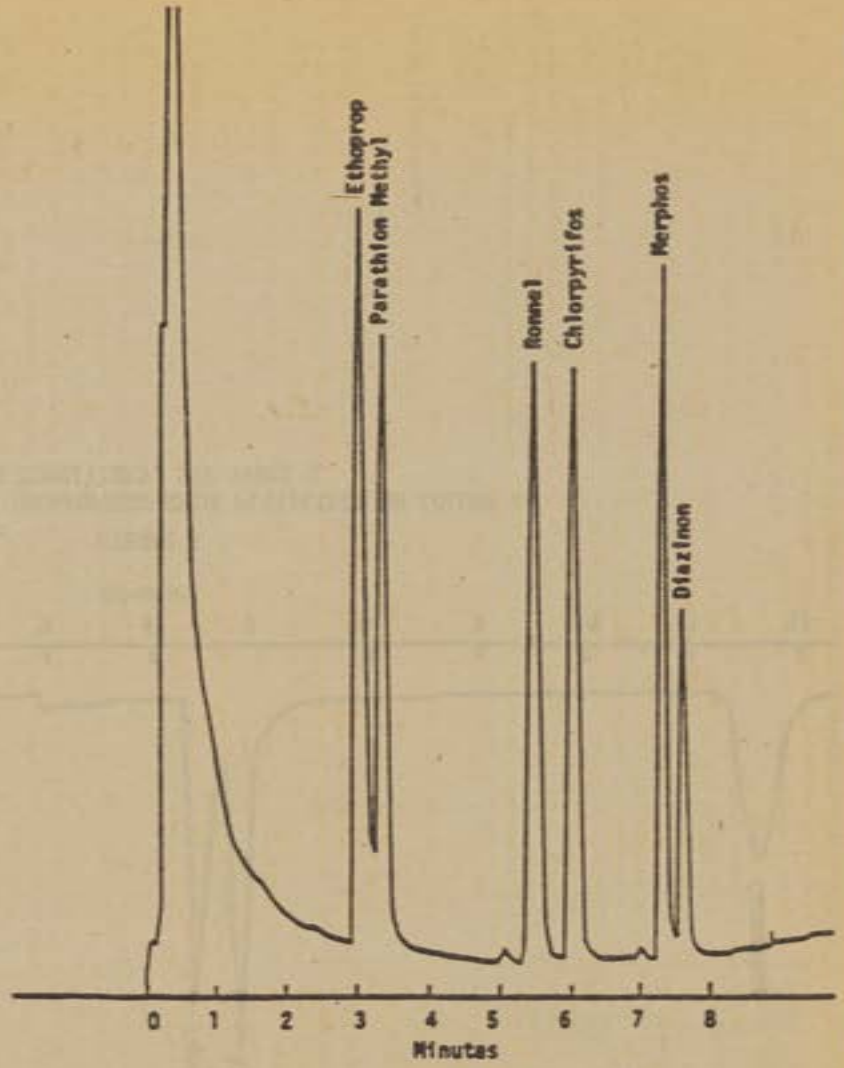


FIGURE 3

GAS CHROMATOGRAM OF ORGANOPHOSPHORUS PESTICIDES ON COLUMN 2.
FOR CONDITIONS, SEE TABLE 1.

**Method 627—Dinitroaniline Pesticides**

*1. Scope and Application*

1.1 This method covers the determination of certain dinitroaniline pesticides. The following parameters can be determined by this method:

| Parameter | Storet No. | CAS No. |
|---|---|---|
| Benfluralin | 39002 | 1861-40-1 |
| Ethalfluralin | | 55283-68-6 |
| Isopropalin | | 33820-53-0 |
| Profluralin | | 26399-36-0 |
| Trifluralin | 39030 | 1582-09-8 |

1.2 This method fails to distinguish between benfluralin, ethalfluralin, and trifluralin. When more than one of these materials may be present in a sample, the results are reported as trifluralin.

1.3 This is a gas chromatographic (GC) method applicable to the determination of the compounds listed above in industrial and municipal discharges. Any modification of this method beyond those expressly permitted, shall be considered a major modification subject to application and approval of alternate test procedures under 40 CFR 136.4 and 136.5.

1.4 The method detection limits (MDL, defined in Section 15) for four of the parameters are listed in Table 1. The MDL for a specific wastewater may differ from those listed, depending upon the nature of interferences in the sample matrix.

1.5 The sample extraction and concentrations steps in this method are essentially the same as several others in the 600-method series.

Thus, a single sample may be extracted to measure the parametes included in the scope of each of these methods. When cleanup is required, the concentration levels must be high enough to permit selecting aliquots, as necessary, in order to apply appropriate cleanup procedures. Under Gas Chromatography, the analyst is allowed the latitude to select chromatographic conditions appropriate for the simultaneous measurement of combinations of these parameters (see Section 12).

1.6 This method is restricted to use by or under the supervision of analysts experienced in the use of gas chromatography and in the interpretation of gas chromatograms. Each analyst must demonstrate the ability to generate acceptable results with this method using the procedure described in Section 8.2.

1.7 When this method is used to analyze unfamiliar samples for any or all of the compounds above, compound identification should be supported by at least one additional qualitative technique. This method describes analytical conditions for a second gas chromatographic column that can be used to confirm measurements made with the primary column within the limitations described in Section 1.2. Section 14 provides gas chromatograph/mass spectrometer (GC/MS) criteria appropriate for the qualitative confirmation of compound identifications.

*2. Summary of Method*

2.1 A measured volume of sample, approximately 1-liter, is solvent extracted with methylene chloride using a separatory funnel. The methylene chloride extract is dried and exchanged to hexane during concentration to a volume of 10 mL or less. Gas chromatographic conditions are described which permit the separation and measurement of the compounds in the extract by electron capture (EC) gas chromatography.[1]

2.2 This method provides an optional Florisil column cleanup procedure to aid in the elimination or reduction of interferences which may be encountered.

*3. Interferences*

3.1 Method interferences may be caused by contaminants in solvents, reagents, glassware, and other sample processing apparatus that lead to discrete artifacts or elevated baselines in gas chromatograms. All reagents and apparatus must be routinely demonstrated to be free from interferences under the conditions of the analysis by running laboratory reagent blanks as described in Section 8.5.

3.1.1 Glassware must be scrupulously cleaned.[2] Clean all glassware as soon as possible after use by thoroughly rinsing with the last solvent used in it. Follow by washing with hot water and detergent and thorough rinsing with tap and reagent water. Drain dry and heat in an over of muffle furnace at 400 °C for 15 to 30 minutes. Do not heat volumetric glassware. Thermally stable materials such as PCBs might not be eliminated by this treatment. Thorough rinsing with acetone and pesticide quality hexane may be substituted for the heating. After drying and cooling, seal and store glassware in a clean environment to prevent any accumulation of dust or other contaminants. Store inverted or capped with aluminum foil.

3.1.2 The use of high purity reagents and solvents helps to minimize interference problems. Purification of solvents by distillation in all-glass systems may be required.

3.2 Interferences by phthalate esters can pose a major problem in pesticide analysis when the EC detector is used. These compounds generally appear in the chromatogram as large late eluting peaks. Common flexible plastics contain varying amount of phthalates. These phthalates are easily extracted or leached from such materials during laboratory operations. Cross contamination of clean glassware occurs when plastics are handled during extraction steps, especially when solvent wetted surfaces are handled. Interferences from phthalates can be minimized by avoiding the use of plastics in the laboratory. Exhaustive cleanup of reagents and glassware may be required to eliminate background phthalate contamination.

3.3 Matrix interferences may be caused by contaminants that are coextracted from the sample. The extent of matrix interferences will vary considerably from source to source, depending upon the nature and diversity of the industrial complex or municipality sampled. Unique samples may require special cleanup approaches to achieve the MDL listed in Table 1.

*4. Safety*

4.1 The toxicity or carcinogenicity of each reagent used in this method has not been precisely defined; however, each chemical compound must be treated as a potential health hazard. From this viewpoint, exposure to these chemicals must be reduced to the lowest possible level by whatever means available. The laboratory is responsible for maintaining a current awareness file of OSHA regulations regarding the safe handling of the chemicals specified in this method. A reference file of material data handling sheets should also be made available to all personnel involved in the chemical analysis. Additional references to laboratory safety are available and have been identified [3-7] for the information of the analyst.

*5. Apparatus and Materials*

5.1 Sampling equipment for discrete or composite sampling.

5.1.1 Grab sample bottle—Amber borosilicate or flint glass, 1-liter or 1-quart volume fitted with screw caps lined with TFE-fluorocarbon. Aluminium foil may be substituted for TFE if the sample is not corrosive. If amber bottles are not available, protect samples from light. The container and cap liner must be washed, rinsed with acetone or methylene chloride, and dried before use to minimize contamination.

5.1.2 Automatic sampler (optional)—Must incorporate glass sample containers for the collection of a minimum of 250 mL. Sample containers must be kept refrigerated at 4 °C and protected from light during compositing. If the sampler uses a peristaltic pump, a minimum length of compressible silicone rubber tubing may be used. Before use, however, the compressible tubing must be throroughly rinsed with methanol, followed by repeated rinsings with reagent water to minimize the potential for contamination of the sample. An integrating flow meter is required to collect flow proportional composites.

5.2 Glassware (All specifications are suggested. Catalog numbers are included for illustration only.)

5.2.1 Separatory funnel—2000-mL, with TFE-fluorocarbon stopcock, ground glass or TFE stopper.

5.2.2 Drying column—Chromatographic column 400 mm long x 19 mm ID with coarse fritted disc.

5.2.3 Concentrator tube, Kuderna-Danish—10-mL, graduated (Kontes K-570050-1025 or equivalent). Calibration must be checked at volumes employed in the test. Ground glass stopper is used to prevent evaporation of extracts.

5.2.4 Evaporative flask, Kuderna-Danish—500-mL (Kontes K-570001-0500 or equivalent). Attach to concentrator tube with springs.

5.2.5 Snyder column, Kuderna-Danish—three-ball macro (Kontes K-503000-0121 or equivalent).

5.2.6 Vials—Amber glass, 10 to 15 mL capacity with TFE-fluorocarbon lines screw cap.

5.3 Boiling chips—approximately 10/40 mesh. Heat at 400 °C for 30 min or Soxhlet extract with methylene chloride.

5.4 Water bath—Heated, with concentric ring cover, capable of temperature control (±2°C). The bath should be used in a hood.

5.5 Balance—Analytical, capable of accurately weighing to the nearest 0.001 g.

5.6 Gas chromatograph—Analytical system complete with gas chromatograph suitable for on-column injection and all required accessories including syringes, analytical column, gases, detector, and strip-chart recorder. A data system is recommended for measuring peak areas.

5.6.1 Column 1—180 cm long x 2 mm ID glass, packed with 1.5% OV-17/1.95% OV-210 on Gas Chrom Q (100/120 mesh) or equivalent. This column was used to develop the method performance statements in Section 15. Alternative columns may be used in accordance with the provisions described in Section 12.1

5.6.2 Column 2—180 cm long x 2 mm ID glass, packed with Ultrabond 20M (100/120 mesh) or equivalent.

5.6.3 Detector—Electron capture. This detector has proven effective in the analysis of wastewaters for the parameters listed in the scope and was used to develop the method performance statements in Section 15. Alternative detectors, including a mass spectrometer, may be used in accordance with the provisions described in Section 12.1.

*6. Reagents*

6.1 Reagent water—Reagent water is defined as a water in which an interferent is not observed at the method detection limit of each parameter of interest.

6.2 Acetone, hexane, methylene chloride—Pesticide quality or equivalent.

6.3 Sodium sulfate—(ACS) Granular, anhydrous. Heat treat in a shallow tray at 400°C for a minimum of 4 h to remove phthalates and other interfering organic substances. Alternatively, heat 16 h at 450–500°C in a shallow tray or Soxhlet extract with methylene chloride for 48 h.

6.4 Stock standards solutions (1.00 µg/µL)—Stock standard solutions may be prepared from pure standard materials or purchased as certified solutions.

6.4.1 Prepare stock standard solutions by accurately weighing approximately 0.0100 g of pure material. Dissolve the material in pesticide quality hexane and dilute to volume in a 10-mL volumetric flask. Larger volumes may be used at the convenience of the analyst. If compound purity is certified at 96% or greater, the weight may be used without correction to calculate the concentration of the stock standard. Commercially prepared stock standards may be used at any concentration if they are certified by the manufacturer or by an independent source.

6.4.2 Transfer the stock standard solutions into TFE-fluorocarbon-sealed screw cap vials. Store at 4°C and protect from light. Frequently check stock standard solutions for signs of degradation or evaporation, especially just prior to preparing calibration standards from them.

6.4.3 Stock standard solutions must be replaced after six months or sooner if comparison with check standard indicates a problem.

*7. Calibration*

7.1 Establish gas chromatographic operating parameters equivalent to those indicated in Table 1. These parameters do not adequately resolve benfluralin, ethalfluralin, and trifluralin. When more than one of these compounds may be present in a sample, the instrument must be calibrated with trifluralin. The gas chromatographic system may be calibrated using either the external standard technique (Section 7.2) or the internal standard technique (Section 7.3).

7.2 External standard calibration procedure:

7.2.1 For each parameter of interest, prepare calibration standards at a minimum of three concentration levels by adding accurately measured volumes of one or more stock standards to a volumetric flask and diluting to volume with hexane. One of the external standards should be representative of a concentration near, but above, the method detection limit. The other concentrations should correspond to the range of concentrations expected in the sample concentrates or should define the working range of the detector.

7.2.2 Using injections of 1 to 5 µL of each calibration standard, tabulate peak height or area responses against the mass injected. The results can be used to prepare a calibration curve for each parameter. Alternatively, the ratio of the response to the mass injected, defined as the calibration factor (CF), may be calculated for each parameter at each standard concentration. If the relative standard deviation of the calibration factor is less than 10% over the working range, the average calibration factor can be used in place of a calibration curve.

7.2.3 The working calibration curve or calibration factor must be verified on each working shift by the measurement of one or more calibration standards. If the response for any parameter varies from the predicted response by more than ±10%, the test must be repeated using a fresh calibration standard. Alternatively, a new calibration curve or calibration factor must be prepared for that parameter.

7.3 Internal standard calibration procedure. To use this approach, the analyst must select one or more internal standards similar in analytical behavior to the compounds of interest. The analyst must further demonstrate that the measurement of the internal standard is not affected by method or matrix interferences. Due to these limitations, no internal standard applicable to all samples can be suggested.

7.3.1 Prepare calibration standards at a minimum of three concentration levels for each parameters of interest by adding volumes of one or more stock standards to a volumetric flask. To each calibration standard, add a known constant amount of one or more internal standards, and dilute to volume with hexane. One of the standards should be representative of a concentration near, but above, the method detection limit. The other concentrations should correspond to the range of concentrations expected in the sample concentrates, or should define the working range of the detector.

7.3.2 Using injections of 1 to 5 µL of each calibration standard, tabulate the peak height or area responses against the concentration for each compound and internal standard. Calculate response factors (RF) for each compound as follows:

$$RF = (A_s C_{is})/(A_{is} C_s)$$

where:

$A_s$ = Response for the parameter to be measured

$A_{is}$ = Response for the internal standard

$C_{is}$ = Concentration of the internal standards in ug/L

$C_s$ = Concentration of the parameter to be measured in ug/L.

If the RF value over the working range is constant, less than 10% relative standard deviation, the RF can be assumed to be invariant and the average RF may be used for calculations. Alternatively, the results may be used to plot a calibration curve of response rations, $A_s/A_{is}$ against RF.

7.3.3 The working calibration curve or RF must be verified on each working shift by the measurement of one or more calibration standards. If the response for any parameter varies from the predicted response by more than ±10%, the test must be repeated using a fresh calibration standard. Alternatively, a new calibration curve must be prepared for that compound.

7.4 Before using any cleanup procedure, the analyst must process a series of calibration standards through the procedure to validate elution patterns and the absence of interference from the reagents.

*8. Quality Control*

8.1 Each laboratory using this method is required to operate a formal quality control program. The minimum requirements of this program consist of an initial demonstration of laboratory capability and analysis of spiked samples as a continuing check or performance. The laboratory is required to maintain performance records to define the quality of data that is generated.

8.1.1 Before performing any analyses, the analyst must demonstrate the ability to generate acceptable accuracy and precision with this method. This ability is established as described in Section 8.2.

8.1.2 In recognition of the rapid advances occurring in chromatography, the analyst is permitted certain options to improve the separations or lower the cost of measurements. Each time such modifications to the method are made, the analyst is required to repeat the procedure in Section 8.2.

8.1.3 The laboratory must spike and analyze a minimum of 10% of all samples to monitor continuing laboratory performance. This procedure is described in Section 8.4.

8.2 To establish the ability to generate acceptable accuracy and precision, the analyst must perform the following operations.

8.2.1 Select a representative spike concentration for each compound to be measured. Using stock standards, prepare a quality control check sample concentrate in acetone 1000 times more concentrated than the selected concentrations.

8.2.2 Using a pipet, add 1.00 mL of the check sample concentrate to each of a minimum of four 1000-mL aliquots or reagent

water. A representative wastewater may be used in place of the reagent water, but one or more additional aliquots must be analyzed to determine background levels, and the spike level must exceed twice the background level for the test to be valid. Analyze the aliquots according to the method beginning in Section 10.

8.2.3 Calculate the average percent recovery (R), and the standard deviation of the percent recovery (s), for the results. Wastewater background corrections must be made before R and s calculations are performed.

8.2.4 Table 2 provides single operator recovery and precision for isopropalin, profluralin, and trifluralin. Similar results should be expected for benfluralin and ethalfluralin. Compare these results to the values calculated in Section 8.2.3.

8.3 The analyst must calculate method performance criteria and define the performance of the laboratory for each spike concentration and parameter being measured.

8.3.1 Calculate upper and lower control limits for method performance as follows:

Upper Control Limit (UCL) = R + 3 s
Upper Control Limit (LCL) = R + 3 s

where R and s are calculated as in Section 8.2.3. The UCL and LCL can be used to construct control charts [8] that are useful in observing trends in performance.

8.3.2 The laboratory must develop and maintain separate accuracy statements of laboratory performance for wastewater samples. An accuracy statement for the method is defined as R + 2*s*. The accuracy statement should be developed by the analysis of four aliquots of wastewater as described in Section 8.2.2, followed by the calculation of R and s. Alternatively, the analyst may use four wastewater data points gathered through the requirement for continuing quality control in Section 8.4. The accuracy statement should be updated regularly.

8.4 The laboratory is required to collect in duplicate a portion of their samples to monitor spike recoveries. The frequency of spike sample analysis must be at least 10% of all samples or one spiked sample per month, whichever is greater. One aliquot of the sample must be spiked and analyzed as described in Section 8.2. If the recovery for a particular parameter does not fall within the control limits for method performance, the results reported for that parameter in all samples processed as part of the same set must be qualified as described in Section 13.3. The laboratory should monitor the frequency of data so qualified to ensure that it remains at or below 5%.

8.5 Before processing any samples, the analyst must demonstrate through the analysis of a 1-liter aliquot of reagent water that all glassware and reagents interferences are under control. Each time a set of samples is extracted or there is a change in reagents, a laboratory reagent blank must be processed as a safeguard against laboratory contamination.

8.6 It is recommended that the laboratory adopt additional quality assurance practices for use with this method. The specific practices that are most productive depend upon the needs of the laboratory and the nature of the samples. Field duplicates may be analyzed to monitor the precision of the sampling technique. When doubt exists over the identification of a peak on the chromatogram, confirmatory techniques such as gas chromatography with a dissimilar column, specific element detector, or mass spectrometer must be used. Whenever possible, the laboratory should perform analysis of quality control materials and participate in relevant performance evaluation studies.

*9. Sample Collection, Preservation, and Handling*

9.1 Grab samples must be collected in glass containers. Conventional sampling practices [9] should be followed; however, the bottle must not be prerinsed with sample before collection. Composite samples should be collected in refrigerated glass containers in accordance with the requirements of the program. Automatic sampling equipment must be as free as possible of plastic and other potential sources of contamination.

9.2 The samples must be iced or refrigerated at 4°C from the time of collection until extraction.

9.3 All samples must be extracted within seven days and completely analyzed within 40 days of extraction.

*10. Sample Extraction*

10.1 Mark the water meniscus on the side of the sample bottle for later determination of sample volume. Pour the entire sample into a 2-liter separatory funnel.

10.2 Add 60 mL methylene chloride to the sample bottle, seal, and shake 30 s to rinse the inner walls. Transfer the solvent to the separatory funnel and extract the sample by shaking the funnel for 2 min with periodic venting to release excess pressure. Allow the organic layer to separate from the water phase for a minimum of 10 min. If the emulsion interface between layers is more than one third the volume of the solvent layer, the analyst must employ mechanical techniques to complete the phase separation. The optimum technique depends upon the sample, but may include stirring, filtration of the emulsion through glass wool, centrifugation, or other physical methods. Collect the methylene chloride extract in a 250-mL Erlenmeyer flask.

10.3 Add a second 60-mL volume of methylene chloride to the sample bottle and repeat the extraction procedure a second time, combining the extracts in the Erlenmeyer flask. Perform a third extraction in the same manner.

10.4 Assemble a Kuderna-Danish (K-D) concentrator by attaching a 10-mL concentrator tube to a 500-mL evaporative flask. Other concentration devices or techniques may be used in place of the K-D if the requirements of Section 8.2 are met.

10.5 Pour the combined extract through a drying column containing about 10 cm of anyhdrous sodium sulfate, and collect the extract in the K-D concentrator. Rinse the Erlenmeyer flask and column with 20 to 30 mL of methylene chloride to complete the quantitative transfer.

10.6 Add 1 or 2 clean boiling chips to the evaporative flask and attach a three-ball Snyder column. Prewet the Snyder column by adding about 1 mL methylene chloride to the top. Place the K-D apparatus on a hot water bath, 60 to 65°C, so that the concentrator tube is partially immersed in the hot water, and the entire lower rounded surface of the flask is bathed with hot vapor. Adjust the vertical position of the apparatus and the water temperature as required to complete the concentration in 15 to 20 min. At the proper rate of distillation, the balls of the column will actively chatter but the chambers will not flood with condensed solvent. When the apparent volume of liquid reaches 1 mL, remove the K-D apparatus and allow it to drain and cool for at least 10 min.

10.7 Increase the temperature of the hot water bath to about 80°C. Momentarily remove the Snyder column, add 50 mL of hexane and a new boiling chip, and reattach the Snyder column. Pour about 1 mL of hexane into the top of the Snyder column and concentrate the solvent extract as before. Elapsed time of concentration should be 5 to 10 min. When the apparent volume of liquid reaches 1 mL, remove the K-D apparatus and allow it to drain and cool for at least 10 min.

10.8 Remove the Snyder column and rinse the flask and its lower joint into the concentrator tube with 1 to 2 mL of hexane and adjust the volume to 10 mL. A 5-mL syringe is recommended for this operation. Stopper the concentrator tube and store refrigerated if further processing will not be performed immediately. If the extracts will be stored for longer than two days, they should be transferred to TFE-fluorocarbon-sealed screw-cap vials. If the sample extract requires no further cleanup, proceed with gas chromatographic analysis. If the sample requires cleanup, proceed to Section 11.

10.9 Determine the original sample volume by refilling the sample bottle to the mark and transferring the water to a 1000-mL graduated cylinder. Record the sample volume to the nearest 5 mL.

*11. Cleanup and Separation*

11.1 Cleanup procedures may not be necessary for a relatively clean sample matrix. If particular circumstances demand the use of a cleanup procedure, the analyst must determine the elution profile and demonstrate that the recovery of each compound of interest for the cleanup procedure is not less than 85%.

*12. Gas Chromatography*

12.1 Table 1 summarizes the recommended operating conditions for the gas chromatograph. Included in this table are estimated retention times and method detection limits that can be achieved by this method. An example of the separation achieved by Column 1 is shown in Figure 1. Other packed columns, chromatographic conditions, or detectors may be used if the requirements of Section 8.2 are met. Capillary (open-tabular) columns may also be used if the relative standard deviations of responses for replicate injections are demonstrated to be less than 6% and the requirements of Section 8.2 are met.

12.2 Calibrate the system daily as described in Section 7. Since the gas chromatographic conditions provided do not

adequately separate benfluralin, ethalfluralin, and trifluralin, calibrate with trifluralin if more than one of these materials may be present in a sample.

12.3 If the internal standard approach is being used, add the internal standards to sample extracts immediately before injection into the instrument. Mix thoroughly.

12.4 Inject 1 to 5 uL of the sample extract using the solvent-flush technique.[10] Record the volume injected to the nearest 0.05 uL, and the resulting peak size in area or peak height units. An automated system that consistently injects a constant volume of extract may also be used.

12.5 The width of the retention time window used to make identifications should be based upon measurements of actual retention time variations of standards over the course of a day. Three times the standard deviation of a retention time can be used to calculate a suggested window size for a compound. However, the experience of the analyst should weigh heavily in the interpretation of chromatograms.

12.6 If the response for the peak exceeds the working range of the system, dilute the extract and reanalyze.

12.7 If the measurement of the peak response is prevented by the presence of interferences, further cleanup is required.

*13. Calculations*

13.1 Determine the concentration of individual compounds in the sample.

13.1.1 If the external standard calibration procedure is used, calculate the amount of material injected from the peak response using the calibration curve or calibration factor in Section 7.2.2. The concentration in the sample can be calculated as follows:

$$\text{Concentration, } \mu g/L = \frac{(A)(V_t)}{(V_i)(V_s)}$$

where:

$A$ = Amount of material injected, in nanograms
$V_i$ = Volume of extracted injected in uL
$V_t$ = Volume of total extract in uL
$V_s$ = Volume of water extracted in mL.

13.1.2 In the internal standard calibration procedure was used, calculate the concentration in the sample using the response factor (RF) determined in Section 7.3.2 as follows:

$$\text{Concentration, } \mu g/L = \frac{(A_s)(I_s)}{(A_{is})(RF)(V_o)}$$

where:

$A_s$ = Response for the parameter to be measured
$A_{is}$ = Response for the internal standard
$I_s$ = Amount of internal standard added to each extract in $\mu g$
$V_o$ = Volume of water extracted, in liters.

13.2 Report results in micrograms per liter without correction for recovery data. When duplicate and spiked samples are analyzed, report all data obtained with the sample results. Results for benfluralin and ethalfluralin must be reported as trifluralin unless the sample has been characterized beyond the capabilities provided in this method.

13.3 For samples processed as part of a set where the laboratory spiked sample recovery falls outside of the control limits in Section 8.3, data for the affected parameters must be labeled as suspect.

*14. GC/MS Confirmation*

14.1 It is recommended that GC/MS techniques be judiciously employed to support qualitative compound identifications made with this method. The mass spectrometer should be capable of scanning the mass range from 35 amu to a mass 50 amu above the molecular weight of the compound. The instrument must be capable of scanning the mass range at a rate to produce at least 5 scans per peak but not to exceed 7 s per scan utilizing a 70 V (nominal) electron energy in the electron impact ionization mode. A GC to MS interface constructed of all-glass or glass-lined materials is recommended. A computer system should be interfaced to the mass spectrometer that allows the continuous acquisition and storage on machine readable media of all mass spectra obtained throughout the duration of the chromatographic program.

14.2 Gas chromatographic columns and conditions should be selected for optimum separation and performance. The conditions selected must be compatible with standard GC/MS operating practices. Chromatographic tailing factors of less than 5.0 must be achieved.[11]

14.3 At the beginning of each day that confirmatory analyses are to be performed, the GC/MS system must be checked to see that all decafluorotriphenyl phosphine (DFTPP) performance criteria are achieved.[12]

14.4 To confirm an identification of a compound, the background corrected mass spectrum of the compound must be obtained from the sample extract and compared with a mass spectrum from a stock or calibration standards analyzed under the same chromatographic conditions. It is recommended that at least 25 nanograms of material be injected in to the GC/MS. The criteria below must be met for qualitative confirmation.

14.4.1 All ions that are present above 10% relative abundance in the mass spectrum of the standard must be present in the mass spectrum of the sample with agreement to plus or minus 10%. For example, if the relative abundance of an ion is 30% in the mass spectrum of the standard, the allowable limits for the relative abundance of that ion in the mass spectrum for the sample would be 20% to 40%.

14.4.2 The retention time of the compound in the sample must be within 6 seconds of the same compound in the standard solution.

14.4.3 Compounds that have very similar mass spectra can be explicitly identified by GC/MS only on the basis of retention time data.

14.5 Where available, chemical ionization mass spectra may be employed to aid in the qualitative identification process.

14.6 Should these MS procedures fail to provide satisfactory results, additional steps may be taken before reanalysis. These may include the use of alternate packed or capillary GC columns or additional cleanup (Section 11).

*15. Method Performance*

15.1 The method detection limit (MDL) is defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the value is above zero.[13] The MDL concentrations listed in Table 1 were obtained using reagent water.[1]

15.2 In a single laboratory (West Coast Technical Services, Inc.), using reagent water and effluents from pesticide manufacturers, the average recoveries presented in Table 2 were obtained.[1] The standard deviations of the percent recoveries of these measurements are also included in Table 2.

*References*

1. "Pesticide Methods Evaluation," Letter Report #5 for EPA Contract No. 68-03-2697. Available from U.S. Environmental Protection Agency, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio 45268.

2. ASTM Annual Book of Standards, Part 31 D3694, "Standard Practice for Preparation of Sample Containers and for Preservation," American Society for Testing and Materials, Philadelphia, PA, p. 679, 1980.

3. Giam, D.S., Chan, H.S., and Nef, G.S., "Sensitive Method for Determination of Phthalate Ester Plasticizers in Open-Ocean Biota Samples," *Analytical Chemistry, 47* 2225, 1975.

4. Giam, S.C., Chan, H.S., "Control of Blanks in the Analysis of Phthalates in Air and Ocean Biota Samples," National Bureau of Standards (U.S.), Special Publication 442, pp. 701-708, 1976.

5. "Carcinogens—Working with Carcinogens," Department of Health, Education, and Welfare, Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health, Publication No. 77-206, August 1977.

6. "OSHA Safety and Health Standards, General Industry," (29 CFR 1910), Occupational Safety and Health Administration, OSHA 2206 (Revised, January 1976).

7. "Safety in Academic Chemistry Laboratories," American Chemical Society Publication, Committee on Chemical Safety, 3rd Edition, 1979.

8. "Handbook for Analytical Quality Control in Water and Wastewater Laboratories," EPA-600/4-79-019, U.S. Environmental Protection Agency, Environmental Monitoring and Support Laboratory—Cincinnati, Ohio 45268, March 1979.

9. ASTM Annual Book of Standards, Part 31, D3370, "Standard Practice for Sampling Water," American Society for Testing and Materials, Philadelphia, PA, p. 76, 1980.

10. Burke, J.A., "Gas Chromatography for Pesticide Residue Analysis; Some Practical Aspects," *Journal of the Association of Official Analytical Chemists, 48,* 1037, 1965.

11. McNair, H.M. and Bonelli, E.J., "Basic Chromatography," Consolidated Printing, Berkeley, California, p. 52, 1969.

12. Eichelberger, J.W., Harris, L.E., and Budde, W.L., "Reference Compound to Calibrate Ion Abundance Measurement in Gas Chromatography—Mass Spectrometry," *Analytical Chemistry, 47,* 995 1975.

13. Glaser, J.A., et. al., "Trace Analysis for Wastewaters," *Environmental Science & Technology, 15* 1426, 1981.

14. "Determination of Dinitroaniline in Industrial and Municipal Wastewater," Method 627, EPA No. 600/4-82-009, NTIS No. PB82-156035, January 1982, National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22165.

15. 40 CFR Part 136, Appendix B.

TABLE 1.—GAS CHROMATOGRAPHY AND METHOD DETECTION LIMITS OF DINITROANILINES

| Parameter | Retention time (minutes) | | Method detection limit (µg/L) |
|---|---|---|---|
| | Column 1 | Column 2 | |
| Trifluralin | 1.6 | 2.2 | 0.03 |
| Benfluralin | 1.6 | 2.3 | ND |
| Ethalfluralin | 1.6 | 2.3 | ND |
| Profluralin | 2.3 | 3.4 | 0.14 |
| Isopropalin | 6.4 | 6.3 | 0.02 |

ND = Not determined.

Column 1 conditions: Gas Chrom Q (100/200 mesh) coated with 1.5% OV-17/1.95% OV-210 packed in a 1.8 m long × 2 mm ID glass column with 95% argon/5% methane carrier gas at a flow rate of 30 mL/min. Column temperature: isothermal at 190°C.

Column 2 conditions: Ultrabond 20*M* (100/120 mesh) packed in a 1.8 m long × 2 mm ID glass column with nitrogen carrier gas at a flow rate of 30 mL/min. Column temperature: held at 160°C for 2 min, then programmed to 200°C at 10°C/min.

TABLE 2.—SINGLE OPERATOR ACCURACY AND PRECISION

| Parameter | Sample type | Spike range (µg/L) | Number of replicates | Average percent recovery | Standard deviation (percent) |
|---|---|---|---|---|---|
| Benfluralin | IW | 2.0 | 2 | 93 | |
| Isopropalin | DW | 0.5 | 7 | 93 | 1.1 |
| | IW | 2.2 | 7 | 88 | 13.2 |
| Profluralin | DW | 0.5 | 7 | 99 | 9.0 |
| | IW | 2.04 | 7 | 73 | 5.8 |
| Trifluralin | DW | 0.5 | 7 | 97 | 1.8 |
| | IW | 2.08 | 7 | 77 | 20.0 |

IW = Industrial wastewater, pesticide manufacturing.
DW = Reagent water.

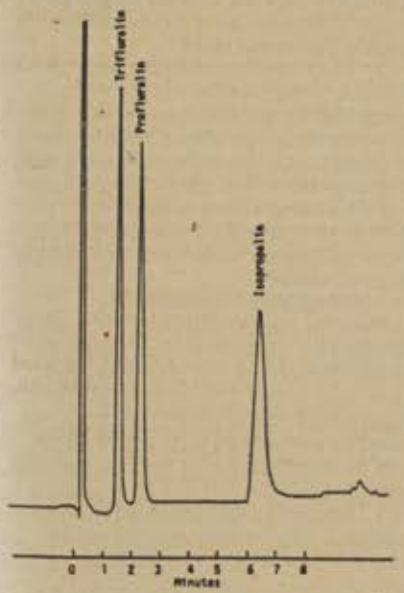


FIGURE 1
M OF DINITROANILINE PESTICIDES ON COLUMN 1. FOR CONDITIONS, SEE TABLE 1.

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## Method 629—Cyanazine

### *1. Scope and Application*

1.1 This method covers the determination of cyanazine. The following parameter can be determined by this method:

| Parameter | Storet No. | CAS No. |
|---|---|---|
| Cyanazine | | 21725-46-2 |

1.2 This is a high performance liquid chromatographic (HPLC) method applicable to the determination of the compound listed above in industrial and municipal discharges. Any modification of this method beyond those expressly permitted, shall be considered a major modification subject to application and approval of alternate test procedures under 40 CFR 136.4 and 136.5.

1.3 The estimated method detection limit (MDL, defined in Section 14) for cyanazine is 6 µg/L. The MDL for a specific wastewater may differ from those listed, depending upon the nature of interferences in the sample matrix.

1.4 This method is restricted to use by or under the supervision of analysts experienced in the use of liquid chromatography and in the interpretation of liquid chromatograms. Each analyst must demonstrate the ability to generate acceptable results with this method using the procedure described in Section 8.2.

1.5 When this method is used to analyze unfamiliar samples for cyanazine, compound identifications should be supported by at least one additional qualitative technique.

### *2. Summary of Method*

2.1 A measured volume of sample, approximately 1-liter, is solvent extracted with methylene chloride using a separatory funnel. The methylene chloride extract is dried and exchanged to methanol during concentration to a volume of 10 mL or less. HPLC conditions are described which permit the separation and measurement of cyanazine in the extract by HPLC with a UV detector.[1]

2.2 This method provides an optional Florisil column cleanup procedure to aid in the elimination or reduction of interferences which may be encountered.

### *3. Interferences*

3.1 Method interferences may be caused by contaminants in solvents, reagents, glassware, and other sample processing apparatus that lead to discrete artifacts or elevated baselines in gas chromatograms. All reagents and apparatus must be routinely demonstrated to be free from interferences under the conditions of the analysis by running laboratory reagent blanks as described in Section 8.5.

3.1.1 Glassware must be scrupulously cleaned.[2] Clean all glassware as soon as possible after use by thoroughly rinsing with the last solvent used in it. Follow by washing with hot water and detergent and thorough rinsing with tap and reagent water. Drain, dry, and heat in an oven or muffle furnace at 400°C for 15 to 30 min. Do not heat volumetric glassware. Thermally stable materials such as PCBs might not be eliminated by this treatment. Thorough rinsing with acetone and pesticide quality hexane may be substituted for the heating. After drying and cooling, seal and store glassware in a clean environment to prevent any accumulation of dust or other contaminants. Store inverted or capped with aluminum foil.

3.1.2 The use of high purity reagents and solvents helps to minimize interference problems. Purification of solvents by distillation in all-glass systems may be required.

3.2 Matrix interferences may be caused by contaminants that are coextracted from the sample. The extent of matrix interferences will vary considerably from source to source, depending upon the nature and diversity of the industrial complex or municipality sampled. The cleanup procedure in Section 11 can be used to overcome many of these interferences, but unique samples may require additional cleanup approaches to achieve the MDL listed in Table 1.

### *4. Safety*

4.1 The toxicity or carcinogenicity of each reagent used in this method has not been precisely defined; however, each chemical compound must be treated as a potential health hazard. From this viewpoint, exposure to these chemicals must be reduced to the lowest possible level by whatever means available. The laboratory is responsible for maintaining a current awareness file of

OSHA regulations regarding the safe handling of the chemicals specified in this method. A reference file of material data handling sheets should also be made available to all personnel involved in the chemical analysis. Additional references to laboratory safety are available and have been identified [2-5] for the information of the analyst.

*5. Apparatus and Materials*

5.1 Sampling equipment for discrete or composite sampling.

5.1.1 Grab sample bottle—Amber borosilicate or flint glass, 1-liter or 1-quart volume fitted with screw caps lined with TFE-fluorocarbon. Aluminim foil may be substituted for TFE if the sample is not corrosive. If amber bottles are not available, protect samples from light. The container and cap liner must be washed, rised with acetone or methylene chloride, and dried before use to minimize contamination.

5.1.2 Automatic sampler (optional)—Must incorporate glass sample containers for the collection of a minimum of 250 mL. Sample containers must be kept refrigerated at 4 °C and protected from light during compositing. If the sampler uses a peristaltic pump, a minimum length of compressible silicone rubber tubing may be used. Before use, however, the compressible tubing must be throroughly rinsed with methanol, followed by repeated rinsings with reagent water to minimize the potential for contamination of the sample. An integrating flow meter is required to collect flow proportional composites.

5.2 Glassware (All specifications are suggested. Catalog numbers are included for illustration only.)

5.2.1 Separatory funnel—2000-mL, with TFE-fluorocarbon, stopcock, ground glass or TFE stopper.

5.2.2 Drying column—Chromatographic column 400 mm long x 19 mm ID with coarse fritted disc.

5.2.3 Chromatographic column—400 mm long x 19 mm ID with coarse fritted disc at bottom and TFE-fluorocarbon stopcock (Kontes K-420540-0224 or equivalent).

5.2.4 Concentrator tube, Kuderna-Danish—10-mL, graduated (Kontes K-570050-1025 or equivalent). Calibration must be checked at volumes employed in the test. Ground glass stopper is used to prevent evaporation of extracts.

5.2.5 Evaporative flask, Kuderna-Danish—500-mL (Kontes K-570001-0500 or equivalent). Attach to concentrator tube with springs.

5.2.6 Snyder column, Kuderna-Danish—three-ball macro (Kontes K-503000-0121 or equivalent).

5.2.7 Vials—Amber glass, 10 to 15 mL capacity with TFE-fluorocarbon lined screw cap.

5.3 Boiling chips—approximately 10/40 mesh. Heat at 400 °C for 30 min or Soxhlet extract with methylene chloride.

5.4 Water bath—Heated, with concentric ring cover, capable of temperature control (±2 °C). The bath should be used in a hood.

5.5 Balance—Analytical, capable of accurately weighing to the nearest 0.0001 g.

5.6 Filtration apparatus—As needed to filter chromatographic solvents prior to HPLC.

5.7 Liquid chromatograph—High performance analytical system complete with high pressure syringes or sample injection loop, analytical column, detector and strip chart recorder. A guard column is recommended for all applications.

5.7.1 Gradient pumping system, constant flow.

5.7.2 Column—25 cm long x 2.6 mm ID stainless steel packed with Spherisorb ODB (10 um) or equivalent. This column was used to develop the method performance statements in Section 14. Alternative columns may be used in accordance with the provisions described in Section 12.1.

5.7.3 Detector—Ultraviolet, 254 nm. This detector has proven effective in the analysis of wastewaters for cyanazine and was used to develop the method performance statement in Section 14. Alternative detectors may be used in accordance with the provisions described in Section 12.1.

*6. Reagents*

6.1 Reagent water—Reagent water is defined as a water in which an interferent is not observed at the method detection limit of each parameter of interest.

6.2 Acetone, hexane, methylene chloride—Pesticide quality or equivalent.

6.3 Ethyl ether—Nanograde, redistilled in glass if necessary. Must be free of peroxides as indicated by EM Quant test strips. (Available from Scientific Products Co., Cat. No. P1126-8, and other suppliers.) Procedures recommended for removal of peroxides are provided with the test strips. After cleanup, 20 mL ethyl alcohol preservative must be added to each liter of ether.

6.4 Methanol—HPLC/UV quality.

6.5 Sodium sulfate—(ACS) Granular, anhydrous. Heat treat in a shallow tray at 400 °C for a minimum of 4 h to remove phthalates and other interfering organic substances. Alternatively, heat 16 h at 450-500 °C in a shallow tray or Soxhlet extract with methylene chloride for 48 h.

6.6 Florisil—PR grade (60/100 mesh). Purchase activated at 1250 °F and store in dark in glass container with ground glass stopper or foil-lined screw cap. Before use activate each batch at least 16 h at 130° in a foil covered glass container.

6.7 Stock standards solutions (1.00 μg/μL)—A Stock standard solution may be prepared from pure standard material or purchased as a certified solution.

6.7.1 Prepare a stock standard solution by accurately weighing approximately 0.0100 g of pure cyanazine. Dissolve the material in UV quality methanol and dilute to volume in a 10-mL volumetric flask. Larger volumes may be used at the convenience of the analyst. If compound purity is certified at 96% or greater, the weight may be used without correction to calculate the concentration of the stock standard. Commercially prepared stock standards may be used at any concentration if they are certified by the manufacturer or by an independent source.

6.7.2 Transfer the stock standard solutions into TFE-fluorocarbon-sealed screw cap vials. Store at 4 °C and protect from light. Frequently check stock standard solutions for signs of degradation or evaporation, especially just prior to preparing calibration standards from it.

6.7.3 The stock standard solution must be replaced after six months or sooner if comparison with a check standard indicates a problem.

*7. Calibration*

7.1 Establish HPLC operating parameters equivalent to those indicated in Table 1. The HPLC system may be calibrated using either the external standard technique (Section 7.2) or the internal standard technique (Section 7.3).

7.2 External standard calibration procedure:

7.2.1 Prepare calibration standards at a minimum of three concentration levels by adding accurately measured volumes of stock standards to volumetric flasks and diluting to volume with methanol. One of the external standards should be representative of a concentration near, but above, the method detection limit. The other concentrations should correspond to the range of concentrations expected in the sample concentrates or should define the working range of the detector.

7.2.2 Using injections of 10 uL of each calibration standard, tabulate peak height or area responses against the mass injected. The results can be used to prepare a calibration curve for cyanazine. Alternatively, the ratio of the response to the mass injected, defined as the calibration factor (CF), may be calculated for each parameter at each standard concentration. If the relative standard deviation of the calibration factor is less than 10% over the working range, the average calibration factor can be used in place of a calibration curve.

7.2.3 The working calibration curve or calibration factor must be verified on each working shift by the measurement of one or more calibration standards. If the response for any parameter varies from the predicted response by more than ±10%, the test must be repeated using a fresh calibration standard. Alternatively, a new calibration curve or calibration factor must be prepared for that parameter.

7.3 Internal standard calibration procedure. To use this approach, the analyst must select an internal standard similar in analytical behavior to the cyanazine. The analyst must further demonstrate that the measurement of the internal standard is not affected by method or matrix interferences. Due to these limitations, no internal standard applicable to all samples can be suggested.

7.3.1 Prepare calibration standards at a minimum of three concentration levels by adding volumes of stock standards to volumetric flasks. To each calibration standard, add a known constant amount of internal standard, and dilute to volume with methanol. One of the standards should be representative of a concentration near, but above, the method detection limit. The other concentrations should correspond to the range of concentrations expected in the sample concentrates, or should define the working range of the detector.

7.3.2 Using the injections of 10 uL of each calibration standard, tabulate the peak height or area responses against the concentration for each compound and internal standard. Calculate response factors (RF) as follows:

$RF = (A_s C_{is})/(A_{is} C_s)$

where:

$A_s$ = Response for cyanazine

$A_{is}$ = Response for the internal standard

$C_{is}$ = Concentration of the internal standards in ug/L

$C_s$ = Concentration of cyanazine in µg/L.

If the RF value over the working range is constant, less than 10% relative standard deviation, the RF can be assumed to be invariant and the average RF may be used for calculations. Alternatively, the results may be used to plot a calibration curve of response ratios, $A_s/A_{is}$ against RF.

7.3.3 The working calibration curve or RF must be verified on each working shift by the measurement of on or more calibration standard. If the response for any parameter varies from the predicted response by more than ±10%, the test must be repeated using a fresh calibration standard. Alternatively, a new calibration curve must be prepared.

7.4 The cleanup procedure in Section 11 utilizes Florisil chromatography. Florisil from different batches or sources may vary in adsorptive capacity. To standardize the amount of Florisil which is used, the use of lauric acid value is suggested. This procedure[6] determines the adsorption from hexane solution of lauric acid, in mg, per g of Florisil. The amount of Florisil to be used for each column is calculated by dividing this factor into 110 and multiplying to 20 g.

7.5 Before using any cleanup procedure, the analyst must process a series of calibration standards through the procedure to validate elution patterns and the absence of interference from the reagents.

*8. Quality Control*

8.1 Each laboratory using this method is required to operate a formal quality control program. The minimum requirements of this program consist of an initial demonstration of laboratory capability and the analysis of spiked samples as a continuing check on performance. The laboratory is required to maintain performance records to define the quality of data that is generated.

8.1.1 Before performing any analyses, the analyst must demonstrate the ability to generate acceptable accuracy and precision with this method. This ability is established as described in Section 8.2.

8.1.2 In recognition of the rapid advances occurring in chromatography, the analyst is permitted certain options to improve the separations or lower the cost of measurements. Each time such modifications to the method are made, the analyst is required to repeat the procedure in Section 8.2.

8.1.3 The laboratory must spike and analyze a minimum of 10% of all samples to monitor continuing laboratory performance. This procedure is described in Section 8.4.

8.2 To establish the ability to generate acceptable accuracy and precisions, the analyst must perform the following operations.

8.2.1 Select a representative spike concentration. Using stock standard, prepare a quality control check sample concentrate in methanol 1000 times more concentrated than the selected concentrations.

8.2.2 Using a pipet, add 1.00 mL of the check sample concentrate to each of a minimum of four 1000-mL aliquots of reagent water. A representative wastewater may be used in place of the reagent water, but one or more additional aliquots must be analyzed to determine background levels, and the spike level must exceed twice the background level for the test to be valid. Analyze the aliquots according to the method beginning in Section 10.

8.2.3 Calculate the average percent recovery (R), and the standard deviation of the percent recovery (s), for the results. Wastewater background corrections must be made before R and s calculations are performed.

8.2.4 Using the appropriate data from Table 2, determine the recovery and single operator precision expected for the method, and compare these results to the values calculated in Section 8.2.3. If the data are not comparable, review potential problem areas and repeat test.

8.3 The analyst must calculate method performance criteria and define the performance of the laboratory for each spike concentration and parameter being measured.

8.3.1 Calculate upper and lower control limits for method performance as follows:

Upper Control Limit (UCL) = R + 3 s

Lower Control Limit (LCL) = R − 3 s

where R and s are calculated as in Section 8.2.3. The UCL and LCL can be used to construct control charts 7 that are useful in observing trends in performance.

8.3.2 The laboratory must develop and maintain separate accuracy statements of laboratory performance for wastewater samples. An accuracy statement for the method is defined as R ± 2s. The accuracy statement should be developed by the analysis of four aliquots of wastewater as described in Section 8.2.2, followed by the calculation of R and s. Alternatively, the analyst may use four wastewater data points gathered through the requirement for continuing quality control in Section 8.4. The accuracy statement should be updated regularly.[7]

8.4 The laboratory is required to collect in duplicate a portion of their samples to monitor spike recoveries. The frequency of spike sample analysis must be at least 10% of all samples or one spiked sample per month, whichever is greater. One aliquot of the sample must be spiked and analyzed as described in Section 8.2. If the recovery of cyanazine does not fall within the control limits for method performance, the results reported for cyanazine in all samples processed as part of the same set must be qualified as described in Section 13.3. The laboratory should monitor the frequency of data so qualified to ensure that it remains at or below 5%.

8.5 Before processing any samples, the analyst must demonstrate through the analysis of a 1-liter aliquot of reagent water that all glassware and reagents interferences are under control. Each time a set of samples is extracted or there is a change in reagents, a laboratory reagent blank must be processed as a safeguard against laboratory contamination.

8.6 It is recommended that the laboratory adopt additional quality assurance practices for use with this method. The specific practices that are most productive depend upon the needs of the laboratory and the nature of the samples. Field duplicates may be analyzed to monitor the precision of the sampling technique. When doubt exists over the identification of a peak on the chromatogram as cyanazine, confirmatory techniques such as chromatography with a dissimilar column, or ratio of absorbance at two or more wavelengths, must be used. Whenever possible, the laboratory should perform analysis of quality control materials and participate in relevant performance evaluation studies.

*9. Sample Collection, Preservation, and Handling*

9.1 Grab samples must be collected in glass containers. Conventional sampling practices[8] should be followed; however, the bottle must not be prerinsed with sample before collection. Composite samples should be collected in refrigerated glass containers in accordance with the requirements of the program. Automatic sampling equipment must be as free as possible of plastic and other potential sources of contamination.

9.2 The samples must be iced or refrigerated at 4°C from the time of collection until extraction.

9.3 All samples must be extracted within seven days and completely analyzed within 40 days of extraction.

*10. Sample Extraction*

10.1 Mark the water meniscus on the side of the sample bottle for later determination of sample volume. Pour the entire sample into a 2-liter separatory funnel.

10.2 Add 60 mL methylene chloride to the sample bottle, seal, and shake 30 s to rinse the inner walls. Transfer the solvent to the separatory funnel and extract the sample by shaking the funnel for 2 min with periodic venting to release excess pressure. Allow the organic layer to separate from the water phase for a minimum of 10 min. If the emulsion interface between layers is more than one third the volume of the solvent layer, the analyst must employ mechanical techniques to complete the phase separation. The optimum technique depends upon the sample, but may include stirring, filtration of the emulsion through glass wool, centrifugation, or other physical methods. Collect the methylene chloride extract in a 250-mL Erlenmeyer flask.

10.3 Add a second 60-mL volume of methylene chloride to the sample bottle and repeat the extraction procedure a second time, combining the extracts in the Erlenmeyer flask. Perform a third extraction in the same manner.

10.4 It is necessary to exchange the extract solvent to hexane if the Florisil cleanup procedure is to be used. For direct HPLC analysis, the extract solvent must be changed to methanol. The analyst should only exchange a portion of the extract to

methanol if there is a possibility that cleanup may be necessary.

10.5 Assemble a Kuderna-Danish (K–D) concentrator by attaching a 10-mL concentrator tube to a 500-mL evaporative flask. Other concentration devices or techniques may be used in place of the K–D if the requirements of Section 8.2 are met.

10.6 Pour a measured fraction or all of the combined extract through a drying column containing about 10 cm of anhydrous sodium sulfate, and collect the extract in the K–D concentrator. Rinse the Erlenmeyer flask and column with 20 to 30 mL of methylene chloride to complete the quantitative transfer.

10.7 Add 1 or 2 clean boiling chips to the evaporative flask and attach a three-ball Snyder column. Prewet the Snyder column by adding about 1 mL methylene chloride to the top. Place the K–D apparatus on a hot water bath, 60 to 65°C, so that the concentrator tube is partially immersed in the hot water, and the entire lower rounded surface of the flask is bathed with hot vapor. Adjust the vertical position of the apparatus and the water temperature as required to complete the concentration in 15 to 20 min. At the proper rate of distillation, the balls of the column will actively chatter but the chambers will not flood with condensed solvent. When the apparent volume of liquid reaches 1 mL, remove the K–D apparatus and allow it to drain and cool for at least 10 min.

10.8 Increase the temperature of the hot water bath to about 80°C. Momentarily remove the Snyder column, add 50 mL of hexane and a new boiling chip, and reattach the Snyder column. Pour about 1 mL of hexane into the top of the Snyder column and concentrate the solvent extract as before. Elapsed time of concentration should be 5 to 10 min. When the apparent volume of liquid reaches 1 mL, remove the K–D apparatus and allow it to drain and cool for at least 10 min.

10.9 Remove the Snyder column and rinse the flask and its lower joint into the concentrator tube with 1 to 2 mL of hexane or methanol and adjust the volume to 10 mL. A 5-mL syringe is recommeded for this operation. Stopper the concentrator tube and store refrigerated if further processing will not be performed immediately. If the extracts will be stored for longer than two days, they should be transferred to TFE-fluorocarbon-sealed screw-cap vials. If the sample extract requires no further cleanup, proceed with HPLC analysis. If the sample requires cleanup, proceed to Section 11.

10.10 Determine the original sample volume by refilling the sample bottle to the mark and transferring the water to a 1000-mL graduated cylinder. Record the sample volume to the nearest 5 mL.

*11. Cleanup and Separation*

11.1 Cleanup procedures may not be necessary for a relatively clean sample matrix. The cleanup procedure recommended in this method has been used for the analysis of various industrial and municipal effluents. If particular circumstances demand the use of a cleanup procedure, the analyst must determine the elution profile and demonstrate that the recovery of cyanazine for the cleanup procedure is not less than 85%.

11.2 The following Florisil column cleanup procedure has been demonstrated to be applicable to cyanazine.

11.2.1 Add a weight to Florisil (nominally 20 g) predetermined by calibration (Section 7.4 and 7.5), to a chromatographic column. Settle the Florisil by tapping the column. Add anhydrous sodium sulfate to the top of the Florisil to form a layer 1 to 2 cm deep. Add 60 mL to hexane to wet and rinse the sodium sulfate and Florisil. Just prior to exposure of the sodium sulfate to air, stop the elution of the hexane by closing the stopcock on the chromatography column. Discard the eluate.

11.2.2 Adjust the sample extract volume to 10 mL with hexane and transfer it form the K-D concentrator tube to the Florisil column. Rinse the tube twice with 1 to 2 mL hexane, adding each rinse to the column.

11.2.3 Drain the column until the sodium sulfate layer is nearly exposed. Elute the column with 200 mL of 6% ethyl ether in hexan (V/V) (Fraction 1) and with 200 mL of 15% ethyl in hexane (V/V) (Fraction 2) using a drip rate of about 5 mL/min. These fractions may be discarded. Place a 500-mL K-D flask and clean concentrator tube under the chormatography column. Elute the column with 200 mL of 50% ethyl ether in hexane (V/V) (Fraction 3), into the K–D flask. Cyanazine elutes quantitatively in Fraction 3.

11.2.4 Concentrate the eluate by standard K–D techniques (Section 10.7), exchanging the solvent to methanol. Adjust final volume to 10 mL with methanol. Analyze by HPLC.

*12. Gas Chromatography*

12.1 Table 1 summarizes the recommended operating conditions for the liquid chromatograph. Included in this table are estimated retention times and method detection limits that can be achieved by this method. An example of the separation achieved by Column 1 is shown in Figure 1. Other HPLC columns, chromatographic conditions, or detectors may be used if the requirements of Section 8.2 are met.

12.2 Calibrate the system daily as described in Section 7.

12.3 If the internal standard approach is being used, add the internal standards to sample extracts immediately before injection into the instrument. Mix thoroughly.

12.4 Inject 1 to 5 μL of the sample extract. Record the volume injected to the nearest 0.05 μL, and the resulting peak size in area or peak height units.

12.5 The width of the retention time window used to make identifications should be based upon measurements of actual retention time variations of standards over the course of a day. Three times the standard deviation of a retention time can be used to calculate a suggested window size for a compound. However, the experience of the analyst should weigh heavily in the interpretation of chromatograms.

12.6 If the response for the peak exceeds the working range of the system, dilute the extract and reanalyze.

12.7 If the measurement of the peak response is prevented by the presence of interferences, further cleanup is required.

*13. Calculations*

13.1 Determine the concentration of individual compounds in the sample.

13.1.1 If the external standard calibration procedure is used, calculate the amount of material injected from the peak response using the calibration curve or calibration factor in Section 7.2.2. The concentration in the sample can be calculated as follows:

$$\text{Concentration, } \mu g/L = \frac{(A)(V_t)}{(V_i)(V_s)}$$

where:

$A$ = Amount of material injected, in nanograms

$V_i$ = Volume of extract injected in μL

$V_t$ = Volume of total extract in μL

$V_s$ = Volume of water extracted in mL.

13.1.2 If the internal standard calibration procedure was used, calculate the concentration in the sample using the response factor (RF) determined in Section 7.3.2 as follows:

$$\text{Concentration, } \mu g/L = \frac{(A_s)(I_s)}{(A_{is})(RF)(V_o)}$$

where:

$A_s$ = Response for cyanazine

$A_{is}$ = Response for the internal standard

$I_s$ = Amount of internal standard added to each extract in μg

$V_o$ = Volume of water extracted, in liters.

13.2 Report results in micrograms per liter without correction for recovery data. When duplicate and spiked samples are analyzed, report all data obtained with the sample results.

13.3 For samples processed as part of a set where the laboratory spiked sample recovery falls outside of the control limits in Section 8.3, data for the cyanazine must be labeled as suspect.

*14. Method Performance*

14.1 The method detection limit (MDL) is defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the value is above zero. [8,11] The MDL concentration listed in Table 1 was estimated from the response of a 254 nm UV detector to the compound. The estimate is based upon the amount of material required to yield a signal five times the HPLC background noise, assuming a 10-uL injection from 10-mL, final extract of a 1-liter sample.

14.2 In a single laboratory (West Coast Technical Services, Inc.), using effluents from pesticide manufacturers and publicly owned treatment works (POTW), the average

recoveries presented in Table 2 were obtained.[1] The standard deviations of the percent recoveries of these measurements are also included in Table 2.

## References


1. "Pesticide Methods Evaluation." Letter Report for EPA Contract No. 68-03-2697. Available from U.S. Environmental Protection Agency, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio 45268.

2. ASTM Annual Book of Standards, Part 31, D3694, "Standard Practice for Preparation of Sample Containers and for Preservation," American Society for Testing and Materials, Philadelphia, PA, p. 679, 1980.

3. "Carcinogens—Working with Carcinogens," Department of Health, Education, and Welfare, Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health, Publication No. 77-206, August 1977.

4. "OSHA Safety and Health Standards, General Industry," (29 CFR 1910), Occupational Safety and Health Administration, OSHA 2206 (Revised, January 1976).

5. "Safety in Academic Chemistry Laboratories," American Chemical Society Publication, Committee on Chemical Safety, 3rd Edition, 1979.

6. ASTM Annual Book of Standards, Part 31, D3086, Appendix X3, "Standardization of Florisil Column by Weight Adjustment Based on Adsorption of Lauric Acid," American Society for Testing and Materials, Philadelphia, PA, p. 765, 1980.

7. "Handbook for Analytical Quality Control in Water and Wastewater Laboratories," EPA-600/4-79-019, U.S. Environmental Protection Agency, Environmental Monitoring and Support Laboratory—Cincinnati, Ohio 45268, March 1979.

8. ASTM Annual Book of Standards, Part 31, D3370, "Standard Practice for Sampling Water," American Society for Testing and Materials, Philadelphia, PA, p. 76, 1980.

9. Glaser, J.A., et al., "Trace Analysis for Wastewaters," *Environmental Science & Technology, 15* 1426, 1981.

10. "Determination of Cyanazine in Industrial and Municipal Wastewater," Method 629, EPA No. 600/4-82-010, NTIS No. PB82-256043, January 1982, National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22165.

11. 40 CFR Part 136, Appendix B.


TABLE 1.—CHROMATOGRAPHIC CONDITIONS AND ESTIMATED DETECTION LIMIT

| Parameter | Retention time (min) | Estimated MDL (µg/L) |
|---|---|---|
| Cyanazine | 10.0 | 6 |

Column conditions: Spherisorb ODS (10 µm) packed in a 25 cm long x 2.6 mm ID stainless steel column with a mobile phase flow rate of 1.0 mL/min. Mobil phase: linear gradient from 50% solvent B to 100% solvent B in 2 min, where solvent A is 25% methanol in water and solvent B is 50% methanol in water.

TABLE 2.—SINGLE OPERATOR ACCURACY AND PRECISION

| Parameter | Sample type | Spike (ug/L) | Number of replicates | Average percent recovery | Standard deviation (percent) |
|---|---|---|---|---|---|
| Cyanazine | DW | 121 | 7 | 100.0 | 8.9 |
| | MW | 60.8 | 7 | 85.5 | 3.9 |
| | PW | 10100 | 3 | 94.3 | ..... |
| | IW | 10100 | 2 | 78.0 | ..... |

DW = Reagent water.
MW = Municipal wastewater.
PW = Process water, pesticide manufacturing.
IW = Industrial wastewater, pesticide manufacturing.

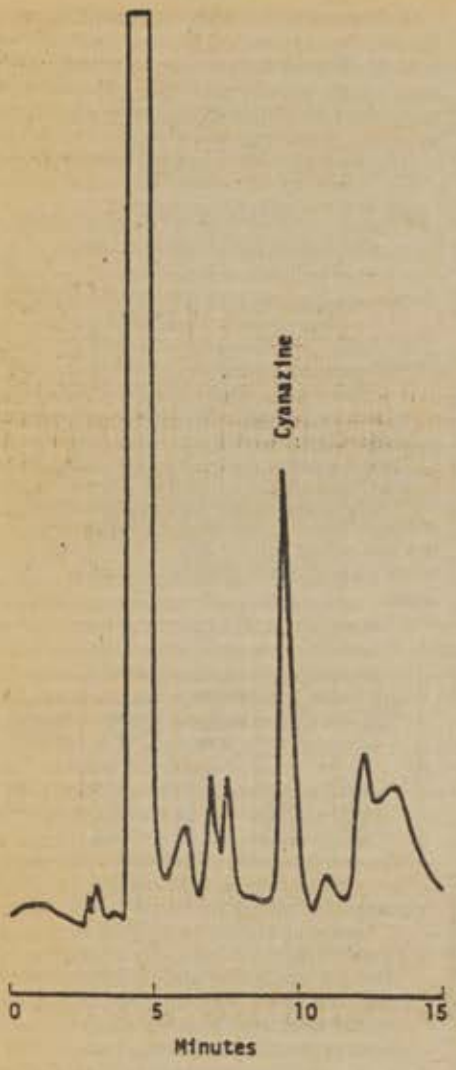


Figure 1.—Liquid chromatogram Of Cyanazine In Process Water Extract On Column 1. For Conditions, See Table 1.

## Method 630—Dithiocarbamate Pesticides

### 1. Scope and Application

1.1 This method covers the determination of dithiocarbamate pesticides. The following parameters can be determined by this method:

| Parameter | Storet No. | CAS No. |
|---|---|---|
| AOP | | |
| Busan 40 | | |
| Busan 85 | | |
| Ferbam | | 14484-64-1 |
| KN Methyl | | |
| Mancozeb | | 8065-67-6 |
| Maneb | | 12327-38-2 |
| Metham | | 137-42-8 |
| Nabam | | 142-59-6 |
| Niacide | | 8011-66-3 |
| ZAC | | |
| Zineb | | 12122-67-7 |
| Ziram | | 137-30-4 |

1.2 This method fails to distinguish between the individual dithiocarbamates. The compounds above are reduced to carbon disulfide and the total dithiocarbamate concentration is measured. Unless the sample can be otherwise characterized, all results are reported as Ziram. Carbon disulfide is a known interferent.

1.3 This is a colorimetric method applicable to the determination of the compounds listed above in industrial and municipal discharges. Any modification of this method beyond those expressly permitted, shall be considered a major modification subject to application and approval of alternate test procedures under 40 CFR 136.4 and 136.5.

1.4 The method detection limit (MDL, defined in Section 12) for maneb, metham and ziram are listed in Table 1. The MDL for a specific dithiocarbamate or wastewater may differ from those listed, depending upon the nature of interferences in the sample matrix.

1.5 This method is restricted to use by or under the supervision of analysts experienced in trace organic analyses. Each analyst must demonstrate the ability to generate acceptable results with this method using the procedure described in Section 8.2.

*2. Summary of Method*

2.1 A measured volume of sample, approximately 1-liter, is digested with acid to yield carbon disulfide by hydrolysis of the dithiocarbamate moiety. The evolved $CS_2$ is purged from the sample and absorbed by a color reagent. The absorbance of the solution is measured at 380 and 435 mm using a UV-visible spectro-photometer.[1]

*3. Interferences*

3.1 Method interferences may be used by contaminants in reagents, glassware and other sample processing apparatus that lead to high blank values and biased results. All of these materials must be routinely demonstrated to be free from interferences under the conditions of the analysis by running laboratory reagent blanks as described in Section 8.5.

3.1.1 Glassware must be scrupulously cleaned.[2] After each use, rinse the decomposition flask and condenser with 4N NaOH and reagent water. Overnight soaking in 4N NaOH may be necessary. Clean the $H_2S$ scrubber between each use with 0.1N HCl in methanol, rinse three times with methanol and bake at 200 °C for 15 min. Rinse the $CS_2$ trap with methanol three times between each use and follow by heating for 15 min at 200 °C. Should it become difficult to force the color reagent through the glass frit of the $CS_2$ trap, clean in the same manner as the $H_2S$ scrubber. After cooling, store glassware sealed to prevent any accumulation of dust or other contaminants.

3.1.2 The use of high purity reagents and solvents helps to minimize interference problems.

3.2 Carbon disulfide may be a significant direct interferent in wastewaters. Its elimination or control is not addressed in this method. If correction for background carbon disulfide is required, the $CS_2$ should be measured by an independent procedure, such as direct aqueous injection gas chromatography.

3.3 Additional matrix interferences may be caused by contaminants that are codistilled from the sample. The extent of matrix interferences will vary considerably from source to source, depending upon the nature and diversity of the industrial complex or municipality being sampled. The cleanup provided by the $H_2S$ trap will eliminate or reduce some of these interferences, but unique samples may require additional cleanup approaches to achieve the MDL listed in Table 1.

*4. Safety*

4.1 The toxicity or carcinogencity of each reagent used in this method has not been precisely defined; however, each chemical compound must be treated as a potential health hazard. From this viewpoint, exposure to these chemicals must be reduced to the lowest possible level by whatever means available. The laboratory is responsible for maintaining a current awareness file of OSHA regulations regarding the safe handling of the chemicals specified in this method. A reference file of material data handling sheets should also be made available to all personnel involved in the chemical analysis. Additional references to the laboratory safety are available and have been identified [3-5] for the information of the analyst.

*5. Apparatus and Materials*

5.1 Sampling equipment, for discrete or composite sampling.

5.1.1 Grab sample bottle—Amber borosilicate or flint glass, 1-liter or 1-quart volume, fitted with screw caps lined with TFE-fluorocarbon. Aluminum foil may be substituted for TFE if the sample is not corrosive. If amber bottles are not available, protect samples from light. The container and cap liner must be washed, rinsed with acetone or methylene chloride, and dried before use to minimize contamination.

5.1.2 Automatic sampler (optional)—Must incorporate glass sample containers for the collection of a minimum of 250 mL. Sample containers must be kept refrigerated at 4 °C and protected from light during compositing. If the sampler uses a peristaltic pump, a minimum length of compressible silicone rubber tubing may be used. Before use, however, the compressible tubing must be thoroughly rinsed with methanol, followed by repeated rinsings with reagent water to minimize the potential for contamination of the sample.

An integrating flow meter is required to collect flow proportional composites.

5.2 Dithiocarbamate hydrolysis apparatus (Figure 1)—(Available from Southern Scientific Inc., Box 83, Micanopy, Florida

32267). Apparatus includes the following or equivalent components:

5.2.1 Hot plate with magnetic stirrer.

5.2.2 Hydrolysis flask—2 L, flat bottom with ground glass joints, 2 necks.

5.2.3 Condenser—low internal volume, ground glass joints, Liebig (Kontes K–447000, 100 mm or equivalent).

5.2.4 Gas washing bottles—125 mL, with extra-coarse porosity (Kontes K–657750 or equivalent).

5.2.5 Addition funnel—60 mL, ground glass joint to fit hydrolysis flask, with long stem to reach at least 2 cm below the liquid level in the hydrolysis flask.

5.2.6 Dust trap (Adapter)—to fit top of addition funnel (Kontes K–174000 or equivalent).

5.2.7 Vacuum source—stable pressure with needle valve for control.

5.3 UV—Visible spectrophotometer—Double beam with extended cell path length capability of 1.0 and 4.0 cm cells.

5.4 Balance—Analtical, capable of accurately weighing to the nearest 0.0001 gram. The preparation of calibration standards for some dithiocarbamates (e.g., metham) requires the use of a balance capable of weighing 10 ug.

*6. Reagents*

6.1 Reagent water—Reagent water is defined as a water in which an interferent is not observed at the method detection limit of each parameter of interest. Prepare by boiling distilled water 15 min immediately before use.

6.2 Acetonitrile, diethanolamine, methanol—ACS grade.

6.3 Ethanol—95%.

6.4 Cupric acetate—Monohydrate, ACS grade.

6.5 Hydrochloric acid—Concentrated.

6.6 Hydrochloric acid, 0.1 N in methanol—Slowly add 8.3 mL conc. HCl to methanol and dilute to 100 mL.

6.7 Sodium hydroxide, 4 N—Dissolve 16 g ACS grade NaOH pellets in reagent water and dilute to 100 mL.

6.8 Stannous chloride—$SnCl_2 \cdot 2H_2O$, ACS grade.

6.9 Zinc acetate solution, 20%—Dissolve 20 g ACS grade ($Zn(C_2H_3O_2)_2 \cdot 2H_2O$ in reagent water and dilute to 100 mL.

6.10 Color reagent—Add 0.012 g cupric acetate monohydrate to 25 g diethanolamine. Mix thoroughly while diluting to 250 mL with ethanol. Store in amber bottle with TFE-fluorocarbon-linee cap.

6.11 Decomposition reagent—Dissolve 9.5 g stannous chloride in 300 mL conc. hydrochloric acid. Prepare fresh daily.

6.12 Stock standard solutions (1.00 μg/uL)—Stock standard solutions may be prepared from pure standard materials or purchased as certified solutions.

6.12.1 Prepare a stock standard solution for ziram by accurately weighing approximately 0.0100 g of pure material. Dissolve the material in acetonitrile and dilute to volume in a 10-mL volumetric flask. Larger volumes may be used at the convenience of the analyst. If compound purity is certified at 96% or greater, the weight may be used without correction to calculate the concentration of the stock standard. Commercially prepared stock standards may be used at any concentration if they are certified by the manufacturer or by an independent source.

61.12.2 Transfer the stock standard solution into TFE-fluorocarbon sealed screw cap vials. Store at 4 °C and protect from light. Frequently check stock standard solutions for signs of degradation or evaporation, especially just prior to preparing calibration standards from them.

6.12.3 Stock standard solutions must be replaced after six months or sooner if comparison with check standards indicates a problem.

6.12.4 When using other dithiocarbamates for calibration, such as maneb or metham, it may be necessary to weigh microgram amounts of the pure material into small aluminum foil boats and place them directly in the hydrolysis flask.

*7. Calibration*

7.1 Use ziram as the standard for total dithiocarbamates when a mixture of dithiocarbamates is likely to be present. Use the specific dithiocarbamate as a standard when only one pesticide is present and its identity has been established.

7.2 With the apparatus assembled and reagents in place, Section 10, pour 1500 mL of reagent water into each decomposition flask, add 30 mL of decomposition reagent and start aspiration.

7.3 Spike the water in each flask with an accurately known weight of dithiocarbamate standard. Use a series of weights equivalent to 5–200 μg of $CS_2$. Follow the procedure outlined Section 10.

7.4 Prepare calibration curves at a minimum of three concentrations, plotting absorbance vs. weight of dithiocarbamate. A separate curve is prepared from readings taken at 435 mm and at 380 mm for each cell path length used. Normally the 435 mm curve is used for calibration above 30 μg ziram (4 cm cell), and the 380 mm curve is used for calibration below 30 μg ziram. The choice of which curve to use is left to the discretion of the analyst. It is recommended that the curves be transformed into mathematical equations using linear least squares fit for the data from 435 mm and quadratic least squares fit for data from the 380 mm.

7.5 The working calibration curve must be verified on each working shift by the measurement of one or more calibration standards. If the response varies from the predicted response by more than ±10%, the test must be repeated using a fresh calibration standard. Alternatively, a new calibration curve must be prepared.

*8. Quality Control*

8.1 Each laboratory using this method is required to operate a formal quality control program. The minimum requirements of this program consist of an initial demonstration of laboratory capability and the analysis of spiked samples as a continuing check on performance. The laboratory is required to maintain performance records to define the quality of data that is generated.

8.1.1 Before performing any analyses, the analyst must demonstrate the ability to generate acceptable accuracy and precision with this method. This ability is established as described in Section 8.2.

8.1.2 The laboratory must spike and analyze a minimum of 10% of all samples to monitor continuing laboratory performance. This procedure is described in Section 8.4.

8.2 To establish the ability to generate acceptable accuracy and precision, the analyst must perform the following operations.

8.2.1 Select a representative spike concentration for each compound to be measured.

8.2.2 Add the known amount of dithiocarbamate standard to each of a minimum of four 1000-mL aliquots of reagent water. A representative wastewater may be used in place of the reagent water, but one or more additional aliquots must be analyzed to determine background levels, and the spike level must exceed twice the background level for the test to be valid. Analyze the aliquots according to the method beginning in Section 10.

8.2.3 Calculate the average percent recovery (R), and the standard deviation of the percent recovery (s). Wastewater background corrections must be made before R and s calculations are performed.

8.2.4 Using the appropriate data from Table 1, determine the recovery and single operator precision expected for the method, and compare these results to the values calculated in Section 8.2.3. If the data are not comparable, review potential problem areas and repeat the test.

8.3 The analyst must calculate method performance criteria and define the performance of the laboratory for each spike concentration and parameter being measured.

8.3.1 Calculate upper and lower control limits for method performance as follows:

Upper Control Limit (UCL) = R + 3 s

Lower Control Limit (LCL) = R − 3 s

where R and s are calculated as in Section 8.2.3. The UCL and LCL can be used to construct control charts[6] that are useful in observing trends in performance.

8.3.2 The laboratory must develop and maintain separate accuracy statements of laboratory performance for wastewater samples. An accuracy statement for the method is defined as R ± 2 s. The accuracy statement should be developed by the analysis of four aliquots of wastewater as described in Section 8.2.2, followed by the calculation of R and s. Alternatively, the analyst may use four wastewater data points gathered through the requirement for continuing quality control in Section 8.4. The accuracy statements should be updated regularly.[6]

8.4 The laboratory is required to collect in duplicate a portion of their samples to monitor spike recoveries. The frequency of spiked sample analysis must be at least 10% of all samples or one spiked sample per month, whichever is greater. One aliquot of the sample must be spiked and analyzed as described in Section 8.2. If the recovery for a particular parameter does not fall within the control limits for method performance, the results reported for that parameter in all samples processed as part of the same set

must be qualified as described in Section 11.3. The laboratory should monitor the frequency of data so qualified to ensure that it remains at or below 5%.

8.5 Before processing any samples, the analyst must demonstrate through the analysis of a 1-liter aliquot of reagent water that all glassware and reagents interferences are under control. Each time a set of samples is extracted or there is a change in reagents, a laboratory reagent blank must be processed as a safeguard against laboratory contamination.

8.6 It is recommended that the laboratory adopt additional quality assurance practices for use with this method. The specific practices that are most productive depend upon the needs of the laboratory and the nature of the samples. Field duplicates may be analyzed to monitor the precision of the sampling technique. Whenever possible, the laboratory should perform analysis of quality control materials and participate in relevant performance evaluation studies.

*9. Sample Collection, Preservation, and Handling*

9.1 Grab samples must be collected in glass containers. Conventional sampling practices[7] should be followed; however, the bottle must not be prerinsed with sample before collection. Composite samples should be collected in refrigerated glass containers in accordance with the requirements of the program. Automatic sampling equipment must be as free as possible of plastic and other potential sources of contamination.

9.2 The samples must be iced or refrigerated at 4°C from the time of collection until extraction.

9.3 All samples must be extracted within seven days of collection.

*10. Sample Extraction*

10.1 Assemble the hydrolysis apparatus as follows (see Figure 1):

10.1.1 Place the hydrolysis flask on the hot plate.

10.1.2 Place the addition funnel in one of the necks of the hydrolysis flask and the dust trap in the top of the funnel.

10.1.3 Place the condenser in the other neck and attach two gas washing bottles in succession to the condenser outlet.

10.1.4 Attach a vaccum line with a flow valve to the second scrubber.

10.2 Allow the sample to warm to room temperature. Mark the water meniscus on the side of the sample bottle for later determination of sample volume. Pour the entire sample into the 2-liter hydrolysis flask. Rinse the bottle four times with 100-mL aliquots of reagent water, adding the washes to the hydrolysis flask. Bring the volume in the hydrolysis flask to approximately 1,500 mL with reagent water.

10.3 Place 15.0 mL of color reagent into the $CS_2$ trap (second gas washing bottle). Place 9 mL of zinc acetate solution into the $H_2S$ scrubber (first gas washing bottle). Add 2 mL of ethanol to the $H_2S$ scrubber. Place a magnetic stirring bar in the hydrolysis flask and place the flask on the hot plate/magnetic stirrer (ambient at this time). Assemble the apparatus providing adequate support for all glassware. The addition funnel stem opening must be below the water level. Ground glass joints may be slightly coated with silicone grease.

10.4 Start the stirrer, begin water flow through the condenser, and turn on hot plate and begin heating the flask. Open the needle valve slightly and start the aspirator. By closing the needle valve, adjust the airflow through the absorption train until the proper flow is attained. (The column of bubbles extends to the bottom of the spherical expansion chamber at the top of the $CS_2$ trap.) Add 30 mL of decomposition reagent to the flask. (Note: The analyst must ensure that the sample pH is less than 2 during hydrolysis.)

10.5 Bring the liquid in the flask to a gentle boil. Continue the boiling for 60 minutes, then remove the heat. Continue aspiration until boiling ceases.

10.6 Transfer the contents of the $CS_2$ trap into a 25.0 mL volumetric flask by forcing the liquid through the glass frit and out of the inlet arm with pressure from a large pipet bulb. Ensure quantitative transfer by rinsing the trap three times with ethanol. Bring the colored solution to volume with ethanol. Mix thoroughly and allow the color to develop for at least 15 min but not more than two h before determining the absorbance.

10.7 Determine the absorbance of the sample at 435 mm and 380 mm using a 1-cm cell or a 4-cm cell as necessary. Determine the weight of dithiocarbamate from the appropriate calibration curve prepared in 7.4.

10.8 Determine the original sample volume by refilling the sample bottle to the mark and transferring the water to a 1000-mL graduated cylinder. Record the sample volume to the nearest 5-mL. If a smaller measured aliquot of sample was used to remain within the range of the color reagent, this step may be omitted.

*11. Calculations*

11.1 Determine the concentration of total dithiocarbamates in the sample as ziram directly from the calibration curve. When a specific dithiocarbamate is being measured, quantitate in terms of the selected pesticide.

11.2 Report results in micrograms per liter without correction for recovery data. When duplicate and spiked samples are analyzed, report all data obtained with the sample results.

11.3 For samples processed as part of a set where the laboratory spiked sample recovery falls outside the control limits in 8.3, data for the affected parameters must be labeled as suspect.

*12. Method Performance*

12.1 The method detection limit (MDL) is defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the value is above zero.[8, 10] The MDL concentration listed in Table 1 were determined using wastewater, and are expressed in concentration units of the spiked materials.[1]

12.2 In a single laboratory, Environmental Science and Engineering, using spiked wastewater samples, the average recoveries presented in Table 1 were obtained. The percent standard deviation of the recovery is also included in Table 1.[1] All recoveries are based on calibrations using the specific dithiocarbamate instead of ziram.

**References**

1. "Pesticide Methods Development." Report for EPA Contract 68-03-2897. Available from U.S. Environmental Protection Agency, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio 45268.

2. ASTM Annual Book of Standards, Part 31, D3694, "Standard Practice for Preparation of Sample Containers and for Preservation, "American Society for Testing and Materials, Philadelphia, PA, p. 679, 1980.

3. "Carcinogens—Working with Carcinogens," Department of Health, Education, and Welfare, Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health, Publication No. 77-206, Aug. 1977.

4. "OSHA Safety and Health Standards, General Industry," (29 CFR 1910), Occupational Safety and Health Administration, OSHA 2206, (Revised, January 1976).

5. "Safety in Academic Chemistry Laboratories," American Chemical Society Publication, Committee on Chemical Safety, 3rd Edition, 1979.

6. "Handbook for Analytical Quality Control in Water and Wastewater Laboratories," EPA-600/4-79-019, U.S. Environmental Protection Agency, Environmental Monitoring and Support Laboratory—Cincininati, Ohio 45268, March 1979.

7. ASTM Annual Book of Standards, Part 31, D3370, "Standard Practice for Sampling Water," American Society for Testing and Materials, Philadelphia, PA, p. 76, 1980.

8. Glaser, J.A. et al., "Trace Analysis for Wastewaters," *Environmental Science & Technology*, 15, 1426 (1981).

9. "Determination of Dithiocarbamate in Industrial and Municipal Wastewater," Method 630, EPA No. 600/4-82-011, NTIS No. PB82-156050, January 1982, National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22165.

10. 40 CFR Part 136, Appendix B.

TABLE 1.—METHOD PERFORMANCE

| Parameter | Method detection limit (µg/L) | Sample type [1] | Number of replicates | Spike (µg/L) | Mean recovery (percent) | Standard deviation (percent) |
|---|---|---|---|---|---|---|
| Maneb | 15.3 | 1 | 7 | 31.5 | 97.1 | 15.5 |
| Metham | 3.7 | 2 | 7 | 20.1 | 94.5 | 5.9 |
| | | 3 | 7 | 250 | 65.2 | 2.8 |
| Ziram | 1.9 | 4 | 8 | 32.2 | 100 | 2.0 |
| | | 5 | 8 | 1050 | 96.2 | 10.0 |

[1] Sample type:
1 = Municipal wastewater.
2 = Mixture of 13% industrial (pesticide manufacturing) wastewater and 87% municipal wastewater.
3 = Industrial wastewater, pesticide manufacturing.
4 = Mixture of 40% industrial and 60% municipal wastewater.
5 = 7% industrial process water, 7% industrial wastewater, 86% municipal wastewater.

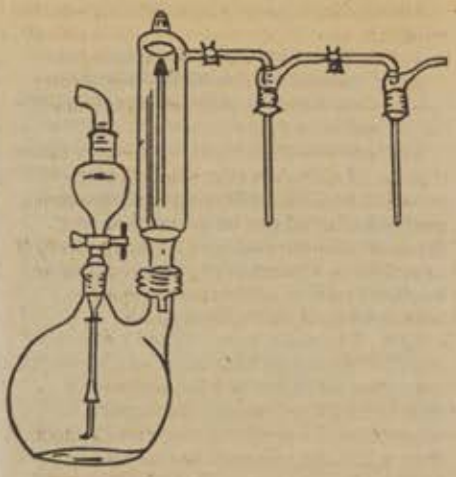

Figure 1.—Dithiocarbamate Hydrolysis Apparatus

**Method 631—Benomyl and Carbendazim**

*1. Scope and Application*

1.1 This method covers the determination of benomyl and carbendazim. The following parameters can be determined by this method:

| Parameter | Storet No. | CAS No. |
|---|---|---|
| Benomyl | | 17804-35-2 |
| Carbendazim | | 10605-21-7 |

1.2 Benomyl cannot be determined directly by this method. Benomyl is hydrolyzed to carbendazim, and both compounds are measured and reported as carbendazim.

1.3 This is a high performance liquid chromatographic (HPLC) method applicable to the determination of the compounds listed above in industrial and municipal discharges. Any modification of this method beyond those expressly permitted, shall be considered a major modification subject to application and approval of alternate test procedures under 40 CFR 136.4 and 136.5.

1.4 The method detection limit (MDL, defined in Section 14) for each parameter is 8.7 µg/L. The MDL for a specific wastewater may differ from those listed, depending upon the nature of interferences in the sample matrix.

1.5 This method is restricted to use by or under the supervision of analysts experienced in the use of liquid chomatography and in the interpretation of liquid chromatograms. Each analyst must demonstrate the ability to generate acceptable results with this method using the procedure described in Section 8.2.

1.6 When this mthod is used to analyze unfamiliar samples for either of the compounds above, compound identifications should be supported by at least one additional qualitative technique.

*2. Summary of Method*

2.1 A measured volume of sample, approximately 1 liter, is acidified if necessary to hydrolyze benomyl to carbendazim. The total carbendazim is extracted with methylene chloride using a separatory funnel. The extract is dried and exchanged to methanol during concentration to a volume of 10 mL or less. HPLC conditions are described which permit the separation and measurement of total carbendazim in the extract by HPLC with a UV detector.[1,2]

*3. Interferences*

3.1 Method interferences may be caused by contaminants in solvents, reagents, glassware, and other sample processing apparatus that lead to discrete artifacts or elevated baselines in liquid chromatograms. All reagents and apparatus must be routinely demonstrated to be free from interferences under the conditions of the analysis by running laboratory reagent blanks as described in Section 8.5.

3.1.1 Glassware must be scrupulously cleaned.[3] Clean all glassware as soon as possible after use by thoroughly rinsing with the last solvent used in it. Follow by washing with hot water and detergent and thorough rinsing with tap and reagent water. Drain dry, and heat in an oven or muffle furnace at 400 °C for 15 to 30 min. Do not heat volumetric glassware. Thermally stable materials such as PCBs might not be eliminated by this treatment. Thorough rinsing with acetone and pesticide quality hexane may be substituted for the heating. After drying and cooling, seal and store glassware in a clean environment to prevent any accumulation of dust or other contaminants. Store inverted or capped with aluminum foil.

3.1.2 The use of high purity reagents and solvents helps to minimize interference problems. Purification of solvents by distillation in all-glass systems may be required.

3.2 Matrix interferences may be caused by contaminants that are coextracted from the sample. The extent of matrix interferences will vary considerably from source to source, depending upon the nature and diversity of the industrial complex or municipality sampled. Unique samples may require cleanup approaches to achieve the MDL listed in Section 1.

*4. Safety*

4.1 The toxicity or carcinogenicity of each reagent used in this method has not been precisely defined; however, each chemical compound must be treated as a potential health hazard. From this viewpoint, exposure to these chemicals must be reduced to the lowest possible level by whatever means available. The laboratory is responsible for maintaining a current awareness file of OSHA regulations regarding the safe handling of the chemicals specified in this method. A reference file of material data handling sheets should also be made available to all personnel involved in the chemical analysis. Additional references to laboratory safety are available and have been identified[4-6] for the information of the analyst.

*5. Apparatus and Materials*

5.1 Sampling equipment, for discrete and composite sampling

5.1.1 Grab sample bottle—Amber borosilicate or flint glass, 1-liter or 1-quart volume, fitted with screw caps lined with TFE-fluorocarbon. Aluminum foil may be substituted for TFE if the sample is not corrosive. If amber bottles are not available, protect samples from light. The container and cap liner must be washed, rinsed with acetone or methylene chloride, and dried before use to minimize contamination.

5.1.2 Automatic sampler (optional)—Must incorporate glass sample containers for the collection of a minimum of 250 mL. Sample containers must be kept refrigerated at 4 °C and protected from light during compositing. If the sampler uses a peristaltic pump, a minimum length of compressible silicone rubber tubing may be used. Before use, however, the compressible tubing must be thoroughly rinsed with methanol, followed by repeated rinsings with reagent water to minimize the potential for contamination of the sample. An integrating flow meter is required to collect flow proportional composites.

5.2 Glassware (All specifications are suggested. Catalog numbers are included for illustration only.)

5.2.1 Separatory funnel—250 mL, with TFE-fluorocarbon stopcock, ground glass or TFE stopper.

5.2.2 Drying column—Chromatographic column 400 mm long x 19 mm ID with coarse fritted disc.

5.2.3 Concentrator tube, Kuderna-Danish—10 mL, graduated (Kontes K-570050-1025 or equivalent). Calibration must be checked at the volumes employed in the test. Ground glass stopper is used to prevent evaporation of extracts.

5.2.4 Evaporative flask, Kuderna-Danish—500-mL (Kontes K-570001-0500 or equivalent). Attach to concentrator tube with springs.

5.2.5 Snyder column, Kuderna-Danish—three-ball macro (Kontes K-503000-0121 or equivalent).

5.2.6 Vials—Amber glass, 10 to 15 mL capacity with TFE-fluorocarbon lined screw cap.

5.3 Boiling chips—approximately 10/40 mesh. Heat at 400 °C for 30 min. or Soxhlet extract with methylene chloride.

5.4 Water bath—Heated, with concentric ring cover, capable of temperature control (±2°C). The bath should be used in a hood.

5.5 Balance—Analytical, capable of accurately weighing to the nearest 0.0001 g.

5.6 Liquid chromatograph—High performance analytical system complete with high pressure syringes or sample injection loop, analytical columns, detector and strip chart recorder. A guard column is recommended for all applications.

5.6.1 Column—30 cm long x 4 mm ID stainless steel, packed with μ Bondapak $C_{18}$ (10 μm) or equivalent. This column was used to develop the method performance statements in Section 14. Alternative columns may be used in accordance with the provisions described in Section 12.1.

5.6.2 Detector—Ultraviolet, 254 nm. This detector has proven effective in the analysis of wastewaters and was used to develop the method performance statements in Section 14. Alternative detectors may be used in accordance with the provisions described in Section 12.1.

*6. Reagents*

6.1 Reagent water—Reagent water is defined as a water in which an interferent is not observed at the method detection limit of each parameter of interest.

6.2 Methylene chloride, methanol—Pesticide quality or equivalent.

6.3 Sodium sulfate—(ACS) Granular, anhydrous. Heat treat in a shallow tray at 400 °C for a minimum of 4 h to remove phthalates and other interfering organic substances. Alternatively, heat 16 h at 450–500 °C in a shallow tray or Soxhlet extract with methylene chloride for 48 h.

6.4 Sodium hydroxide solution (10N)—Dissolve 40g NaOH in reagent water and dilute to 100 mL.

6.5 Sulfuric acid solution (1+1)—Slowly add 50 mL $H_2SO_4$ (sp. gr. 1.84) to 50 mL of reagent water.

6.6 Mobile phase—Methanol/water (1+1). Mix equal volumes of HPLC/UV quality methanol and reagent water.

6.7 Stock standard solution (1.00 ug/ul)—The stock standard solution may be prepared from a pure standard material or purchased as a certified solution.

6.7.1 Prepare the stock standard solution by accurately weighing approximately 0.0100 g of pure carbendazim. Dissolve the material in HPLC/UV quality methanol and dilute to volume in a 10-mL volumetric flask. Larger volumes may be used at the convenience of the analyst. If compound purity is certified at 96% or greater, the weight may be used without correction to calculate the concentration of the stock standard. Commercially prepared stock standards may be used at any concentration if they are certified by the manufacturer or by an independent source.

6.7.2 Transfer the stock standard solution into a TFE-fluorocarbon-sealed screw cap vial. Store at 5 °C and protect from light. Frequently check stock standard solutions for signs of degradation or evaporation, especially just prior to preparing calibration standards from them.

6.7.3 The stock standard solution must be replaced after six months or sooner if comparison with a check standard indicates a problem.

*7. Calibration*

7.1 Establish HPLC operating parameters equivalent to those indicated in Table 1. The HPLC system may be calibrated using either the external standard technique (Section 7.2) or the internal standard technique (Section 7.3).

7.2 External standard calibration procedure:

7.2.1 Prepare calibration standards at a minimum of three concentration levels by adding accurately measured volumes of carbendazim stock standard to volumetric flasks and diluting to volume with methanol. One of the external standards should be representative of a concentration near, but above, the method detection limit. The other concentrations should correspond to the range of concentrations expected in the sample concentrates or should define the working range of the detector.

7.2.2 Using injections of 10 uL of each calibration standard, tabulate peak height or area responses against the mass injected. The results can be used to prepare a calibration curve for carbendazim. Alternatively, the ratio of the response to the mass injected, defined as the calibration factor (CF), may be calculated for carbendazim at each standard concentration. If the relative standard deviation of the calibration factor is less than 10% over the working range, the average calibration factor can be used in place of a calibration curve.

7.2.3 The working calibration curve or calibration factor must be verified on each working shift by the measurement of one or more calibration standards. If the response for any parameter varies from the predicted response by more than ±10%, the test must be repeated using a fresh calibration standard. Alternatively, a new calibration curve or calibration factor must be prepared.

7.3 Internal standard calibration procedure. To use this approach, the analyst must select an internal standard similar to carbendazim in analytical behavior. The analyst must further demonstrate that the measurement of the internal standard is not affected by method or matrix interferences. Due to these limitations, no internal standard applicable to all samples can be suggested.

7.3.1 Prepare calibration standards at a minimum of three concentration levels of carbendazim by adding volumes of stock standard to volumetric flasks. To each calibration standard, add a known constant amount of internal standard, and dilute to volume with methanol. One of the standards should be representative of a concentration near, but above, the method detection limit. The other concentrations should correspond to the range of concentrations expected in the sample concentrates, or should define the working range of the detector.

7.3.2 Using injections of 10 uL of each calibration standard, tabulate the peak height or area responses against the concentration for each compound and internal standard. Calculate response factors (RF) for each compound as follows:

$$RF = (A_s C_{is})/(A_{is} C_s)$$

where:

$A_s$ = Response for carbendazim.

$A_{is}$ = Response for the internal standard.

$C_{is}$ = Concentration of the internal standard in μg/L.

$C_s$ = Concentration of carbendazim in μg/L.

If the RF value over the working range is constant, less than 10% relative standard deviation, the RF can be assumed to be invariant and the average RF may be used for calculations. Alternatively, the results may be used to plot a calibration curve of response ratios, $A_s/A_{is}$ against RF.

7.3.3 The working calibration curve or RF must be verified on each working shift by the measurement of one or more calibration standards. If the response for carbendazim varies from the predicted response by more than ±10%, the test must be repeated using a fresh calibration standard. Alternatively a new calibration curve must be prepared.

7.4 Before using any cleanup procedure, the analyst must process a series of calibration standards through the procedure to validate elution patterns and the absence of interference from the reagents.

*8. Quality Control*

8.1 Each laboratory using this method is required to operate a formal quality control program. The minimum requirements of this program consist of an initial demonstration of laboratory capability and the analysis of spiked samples as a continuing check on performance. The laboratory is required to maintain performance records to define the quality of data that is generated.

8.1.1 Before performing any analyses, the analyst must demonstrate the ability to generate acceptable accuracy and precision with this method. This ability is established as described in Section 8.2.

8.1.2 In recognition of the rapid advances occurring in chromatography, the analyst is permitted certain options to improve the separations or lower the cost of measurements. Each time such modifications to the method are made, the analyst is required to repeat the procedure in Section 8.2.

8.1.3 The laboratory must spike and analyze a minimum of 10% of all samples to monitor continuing laboratory performance. This procedure is described in Section 8.4.

8.2 To establish the ability to generate acceptable accuracy and precision, the analyst must perform the following operations.

8.2.1 Select a representative spike concentration for each compound to be measured. Using stock standards, prepare a quality control check sample concentrate of either benomyl or carbendazim in methanol 1000 times more concentrated than the selected concentrations.

8.2.2 Using a pipet, add 1.00 mL of the check sample concentrate to each of a minimum of four 1,000-mL aliquots of reagent water. A representative wastewater may be used in place of the reagent water, but one or more additional aliquots must be analyzed to determine background levels, and the spike level must exceed twice the background level for the test to be valid. Analyze the aliquots

according to the method beginning in Section 10.

8.2.3 Calculate the average percent recovery (R) and the standard deviation of the percent recovery (s) for the results. Wastewater background corrections must be made before R and s calculations are performed.

8.2.4 Using the appropriate data from Table 2, determine the recovery and single operator precision expected for the method, and compare these results to the values calculated in Section 8.2.3. If the data are not comparable, review potential problem areas and repeat the test.

8.3 The analyst must calculate method performance criteria and define the performance of the laboratory for each spike concentration and parameter being measured.

8.3.1 Calculate upper and lower control limits for method performance as follows:

Upper Control Limit (UCL) = R + 3 s
Lower Control Limit (LCL) = R − 3 s

where R and s are calculated as in Section 8.2.3. The UCL and LCL can be used to construct control charts [7] that are useful in observing trends in performance.

8.3.2 The laboratory must develop and maintain separate accuracy statements of laboratory performance for wastewater samples. An accuracy statement for the method is defined as R ± 2s. The accuracy statement should be developed by the analysis of four aliquots of wastewater as described in Section 8.2.2, followed by the calculation of R and s. Alternatively, the analyst may use four wastewater data points gathered through the requirement for continuing quality control in Section 8.4. The accuracy statements should be updated regularly.[7]

8.4 The laboratory is required to collect in duplicate a portion of its samples to monitor spike recoveries. The frequency of spiked sample analysis must be at least 10 percent of all samples or one spiked sample per month, whichever is greater. One aliquot of the sample must be spiked and analyzed as described in Section 8.2. If the recovery for benomyl or carbendazim does not fall within the control limits for method performance, the results reported for that parameter in all samples processed as part of the same set must be qualified as described in Section 13.3. The laboratory should monitor the frequency of data so qualified to ensure that it remains at or below 5%.

8.5 Before processing any samples, the analyst must demonstrate through the analysis of a 1-liter aliquot of reagent water that all glassware and reagents interferences are under control. Each time a set of samples is extracted or there is a change in reagents, a laboratory reagent blank must be processed as a safeguard against laboratory contamination.

8.6 It is recommended that the laboratory adopt additional quality assurance practices for use with this method. The specific practices that are most productive depend upon the needs of the laboratory and the nature of the samples. Field duplicates may be analyzed to monitor the precision of the sampling technique. When doubt exists over the identification of a peak on the chromatogram as carbendazim, confirmatory techniques such as chromatography with a dissimilar column, or ratio of absorbance at two or more wavelengths may be used. Whenever possible, the laboratory should perform analysis of standard reference materials and participate in relevant performance evaluation studies.

*9. Sample Collection, Preservation, and Handling*

9.1 Grab samples must be collected in glass containers. Conventional sampling practices [8] should be followed; however, the bottle must not be prerinsed with the sample before collection. Composite samples should be collected in refrigerated glass containers in accordance with the requirements of the program. Automatic sampling equipment must be as free as possible of plastic and other potential sources of contamination.

9.2 The samples must be iced or refrigerated at 4 °C from the time of collection until extraction.

9.3 All samples must be extracted within seven days and completely analyzed within 40 days of extraction.

*10. Sample Extraction*

10.1 Using a 250-mL graduated cylinder, measure 150 mL of well-mixed sample into a 250-mL Erlenmeyer flask. If benomyl is potentially in the sample, continue with Section 10.2. If only carbendazim is to be measured, proceed directly to Section 10.3.

10.2 Carefully add 2 mL of 1 + 1 sulfuric acid and TFE-fluorocarbon covered magnetic stirring bar to the sample. Check the sample with wide-range pH paper to ensure that the pH is less than 1.0. Stir at room temperature for 16 to 24 h.

10.3 Adjust the sample pH to within the range of 6 to 8 with sodium hydroxide. Pour the entire sample into a 250-mL separatory funnel

10.4 Add 60 mL methylene chloride to the separatory funnel and extract the sample by shaking the funnel for 2 min with periodic venting to release excess pressure. Allow the organic layer to separate from the water phase for a minimum of 10 min. If the emulsion interface between layers is more than one-third the volume of the solvent layer, the analyst must employ mechanical techniques to complete the phase separation. The optimum technique depends upon the sample, but may include stirring, filtration of the emulsion through glass wool, centrifugation, or other physical methods. Collect the methylene chloride extract in a 250-mL Erlenmeyer flask.

10.5 Add a second 60-mL volume of methylene chloride to the separatory funnel and repeat the extraction procedure a second time, combining the extracts in the Erlenmeyer flask. Perform a third extraction in the same manner.

10.6 Assemble a Kuderna-Danish (K-D) concentrator by attaching a 10-mL concentrator tube to a 500-mL evaporative flask. Other concentration devices or techniques may be used in place of the K-D if the requirements of Section 8.2 are met.

10.7 Pour the combined extract through a drying column containing about 10 cm of anhydrous sodium sulfate, and collect the extract in the K-D concentrator. Rinse the Erlenmeyer flask and column with 20 to 30 mL of methylene chloride to complete the quantitative transfer.

10.8 Add 1 or 2 clean boiling chips to the evaporative flask and attach a three-ball Snyder column. Prewet the Snyder column by adding about 1 mL methylene chloride to the top. Place the K-D apparatus on a hot water bath, 60 to 65 °C, so that the concentrator tube is partially immersed in the hot water, and the entire lower rounded surface of the flask is bathed with hot vapor. Adjust the vertical position of the apparatus and the water temperature as required to complete the concentration in 15 to 20 min. At the proper rate of distillation, the balls of the column will actively chatter but the chambers will not flood with condensed solvent. When the apparent volume of liquid reaches 1 mL, remove the K-D apparatus and allow it to drain and cool for at least 10 min.

10.9 Increase the temperature of the hot water bath to 85 to 90 °C. Momentarily remove the Snyder column, add 50 mL of methanol and a new boiling chip and reattach the Snyder column. Pour about 1 mL of methanol into the top of the Snyder column and concentrate the solvent extract as before. Elapsed time of concentration should be 5 to 10 min. When the apparent volume of liquid reaches 1 mL, remove the K-D apparatus and allow it to drain and cool for at least 10 min.

10.10 Remove the Snyder column and rinse the flask and its lower joint into the concentrator tube with 1 to 2 mL of methanol and adjust the volume to 10 mL. A 5-mL syringe us recommended for this operation. Stopper the concentrator tube and store refrigerated if further processing will not be performed immediately. If the extracts will be stored longer than two days, they should be transferred to TFE-fluorocarbon-sealed screw-cap vials. Proceed with HPLC analysis.

*11. Cleanup and Separation*

11.1 Cleanup procedures may not be necessary for a relatively clean sample matrix. If particular circumstances demand the use of a cleanup procedure, the analyst must determine the elution profile and demonstrate that the recovery of each compound of interest for the cleanup procedure is no less than 85%.

*12. Liquid Chromotography*

12.1 Table 1 summarizes the recommended operating conditions for the liquid chromatograph. Included in this table are the estimated retention time and method detection limit that can be achieved by this method. An example of the separation achieved by this column is shown in Figure 1. Other HPLC columns, chromatographic conditions, or detectors may be used if the requirements of Section 8.2 are met.

12.2 Calibrate the system as described in Section 7.

12.3 If the internal standard approach is being used, add the internal standard to sample extracts immediately before injection into the instrument. Mix thoroughly.

12.4 Inject 10 µL of the sample extract. Record the volume injected to the nearest 0.05 µL, and the resulting peak size in area or peak height units.

12.5 The width of the retention time window used to make identifications should be based upon measurements of actual retention time variations of standards over the course of a day. Three times the standard deviation of a retention time can be used to calculate a suggested window size for a compound. However, the experience of the analyst should weight heavily in the interpretation of chromatograms.

12.6 If the response for the peak exceeds the working range of the system, dilute the extract and reanalyze.

12.7 If the measurement of the peak response is prevented by the presence of interferences, further cleanup is required.

*13. Calculations*

13.1 Determine the concentrations of carbendazim in the sample.

13.1.1 If the external standard calibration procedure is used, calculate the amount of material injected from the peak response using the calibration curve or calibration factor in Section 7.2.2. The concentration in the sample can be calculated as follows:

$$\text{Concentration, } \mu g/L = \frac{(A)(V_t)}{(V_i)(V_s)}$$

where:

A = Amount of carbendazim injected, in nanograms.

$V_i$ = Volume of extract injected in µL.

$V_t$ = Volume of total extract in µL.

$V_s$ = Volume of water extracted in µL.

13.1.2 If the internal standard calibration procedure was used, calculate the concentration in the sample using the response factor (RF) determined in the Section 7.3.2 as follow:

$$\text{Concentration, } \mu g/L = \frac{(A_s)(I_s)}{(A_{is})(RF)(V_s)}$$

where:

$A_s$ = Response for carbendazim.

$A_{is}$ = Response for the internal standard.

$I_s$ = Amount of internal standard added to each extract in µg.

$V_s$ = Volume of water extracted, in liters.

13.2 If the sample was treated to hydrolyze benomyl, report the results as benomyl (measured as carbendazum). If the hydrolysis step was omitted, report results as carbendazim. Report results in micrograms per liter without correction for recovery data. When duplicate and spiked samples are analyzed, report all data obtained with the sample results.

13.3 For samples processed as part of a set where the laboratory spiked sample recovery falls outside of the control limits in Section 8.3, data for the affected parameters must be labeled as suspect.

*14. Method Performance*

14.1 The method detection limit (MDL) is defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the value is above zero.[8, 11] The MDL concentrations listed in Table 1 were determined by extracting 1000-mL aliquots of reagent water with three 350 mL volumes of methylene chloride.[1]

14.2 In a single laboratory (West Coast Technical Services, Inc.), using reagent water and effluents from publicly owned treatment works (POTW), the average recoveries presented in Table 2 were obtained.[1] The standard deviations of the percent recoveries of these measurements are also included in Table 2. All results were obtained using the same experimental scale described in Section 14.1.

**References**

1. "Pesticide Methods Evaluation," Letter Report #17 for EPA Contract No. 68-03-2697. Available from U.S. Environmental Protection Agency, Environmental Monitoring and Supporting Laboratory, Cincinnati, Ohio 45268.

2. "Development of Analytical Test Procedures for Organic Pollutants in Wastewater—Application to Pesticides," EPA Report 600/4-81-017, U.S. Environmental Protection Agency, Cincinnati, Ohio 45268. PB #82 132507, National Technical Information Service, Springfield, VA.

3. ASTM Annual Book of Standards, Part 31, D3694, "Standard Practice for Preparation of Sample Containers and for Preservation," American Society for Testing and Materials, Philadelphia, PA, p. 679, 1980.

4. "Carcinogens—Working with Carcinogens," Department of Health, Education, and Welfare, Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health, Publication No. 77-206, Aug. 1977.

5. "OSHA Safety and Health Standards, General Industry," (29 CFR 1910), Occupation Safety and Health Administration, OSHA 2206, (Revised, January 1976).

6. "Safety in Academic Chemistry Laboratories," American Chemical Society Publication, Committee on Chemical Safety, 3rd Edition, 1979.

7. "Handbook for Analytical Quality Control in Water and Wastewater Laboratories," EPA-600/4-79-019, U.S. Environmental Protection Agency, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio 45268, March 1979.

8. ASTM Annual Book of Standards, Part 31, D3370, "Standard Practice for Sampling Water," American Society for Testing and Materials, Philadelphia, PA, p. 76, 1980.

9. Glaser, J.A. et al, "Trace Analysis for Wastewaters," *Environmental Science & Technology, 15,* 1426 (1981).

10. "Determination of Benomyl and Carbendazim in Industrial and Municipal Wastewater," Method 631, EPA No. 600/4-82-012, NTIS No. PB82-156068, January 1982. National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22165.

11. 40 CFR Part 136, Appendix B.

TABLE 1.—CHROMATOGRAPHIC CONDITIONS AND METHOD DETECTION LIMITS

| Parameter | Retention time (min) | Method detection limit (ug/L) |
|---|---|---|
| Benomyl (as carbendazim) | | 25.0 |
| Carbendazim | 8.1 | 8.7 |

Column conditions: U Bondapak $C_{18}$ (10 um) packed in a 30 cm long × 4 mm ID stainless steel column with a mobile phase flow rate of 2.0 mL/min at ambient temperature.
Mobil phase: methanol/water (1 + 1).

TABLE 2.—SINGLE OPERATOR ACCURACY AND PRECISION

| Parameter and sample type | Number of replicates | Spike (ug/L) | Average percent recovery | Standard Deviation (%) |
|---|---|---|---|---|
| Benomyl (as carbendazim): | | | | |
| DW | 7 | 51.5 | 70 | 15.5 |
| MW | 7 | 51.5 | 76 | 8.8 |
| MW | 7 | 103 | 99 | 6.4 |
| Carbendazim: | | | | |
| DW | 7 | 50 | 106 | 5.5 |
| MW | 7 | 50 | 117 | 18.5 |
| MW | 7 | 100 | 108 | 11.3 |

DW = Reagent water.
MW = Municipal Wastewater.

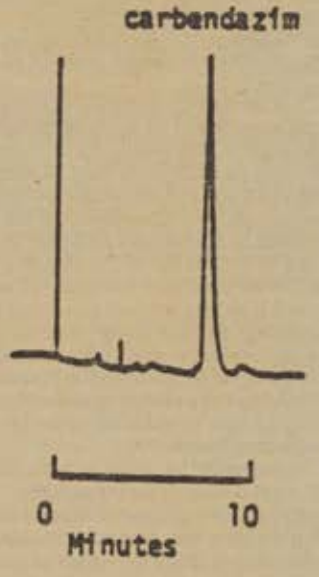


Figure 1.—Liquid chromatogram of carbendazim on column 1. For conditions, See table 1.

**Method 632—Carbamate and Urea Pesticides**

*1. Scope and Application*

1.1 This method covers the determination of certain carbamate and urea pesticides. The following parameters can be determined by this method:

| Parameter | Storet No. | CAS No. |
|---|---|---|
| Carboluran | 81405 | 1563-66-2 |
| Fluometuron | | 2164-17-2 |
| Methomyl | 39051 | 16752-77-5 |
| Oxamyl | | 23135-22-0 |

1.2 This is a high performance liquid chromatographic (HPLC) method applicable to the determination of the compounds listed above in industrial and municipal discharges. Any modification of this method beyond those expressly permitted, shall be considered a major modification subject to application and approval of alternate test procedures under 40 CFR 136.4 and 136.5.

1.3 The method detection limit (MDL, defined in Section 14) for many of the parameters are listed in Table 1. The MDL for a specific wastewater may differ from those listed, depending upon the nature of interferences in the sample matrix.

1.4 This method is restricted to use by or under the supervision of analysts experienced in the use of liquid chromatography and in the interpretation of liquid chromatograms. Each analyst must demonstrate the ability to generate acceptable results with this method using the procedure described in Section 8.2.

1.5 When this method is used to analyze unfamiliar samples for any or all of the compounds above, compound identifications should be supported by at least one additional qualitative technique.

*2. Summary of Method*

2.1 A measured volume of sample, approximately 1-liter, is solvent extracted with methylene chloride using a separatory funnel. The methylene chloride extract is dried and concentrated to a volume of 10 mL or less. HPLC chromatographic conditions are described which permit the separation and measurement of the compounds in the extract by HPLC with a UV detector.[1,2]

2.2 This method provides an optional Florisil column cleanup procedure to aid in the elimination or reduction of interferences which may be encountered.

*3. Interferences*

3.1 Method interferences may be caused by contaminants in solvents, reagents, glassware and other sample processing apparatus that lead to discrete artifacts or elevated baselines in liquid chromatograms. All reagents and apparatus must be routinely demonstrated to be free from interferences under the conditions of the analysis by running laboratory reagent blanks as described in Section 8.5.

3.1.1 Glassware must be scrupulously cleaned.[3] Clean all glassware as soon as possible after use by thoroughly rinsing with the last solvent used in it. Follow by washing with hot water and detergent and thorough rinsing with tap and reagent water. Drain dry, and heat in an oven or muffle furnace at 400°C for 15 to 30 min. Do not heat volumetric glassware. Thermally stable materials such as PCBs might not be eliminated by this treatment. Thorough rinsing with acetone and pesticide quality hexane may be substituted for the heating. After drying and cooling, seal and store glassware in a clean environment to prevent any accumulation of dust or other contaminants. Store inverted or capped with aluminum foil.

3.1.2 The use of high purity reagents and solvents helps to minimize interference problems. Purification of solvents by distillation in all-glass systems may be required.

3.2 Matrix interferences may be caused by contaminants that are coextracted from the sample. The extent of matrix interferences will vary considerably from source to source, depending upon the nature and diversity of the industrial complex or municipality sampled. The cleanup procedure in Section 11 can be used to overcome many of these interferences, but unique samples may require additional cleanup approaches to achieve the MDL listed in Table 1.

*4. Safety*

4.1 The toxicity or carcinogenicity of each reagent used in this method has not been precisely defined; however, each chemical compound must be treated as a potential health hazard. From this viewpoint, exposure to these chemicals must be reduced to the lowest possible level by whatever means available. The laboratory is responsible for maintaining a current awareness file of OSHA regulations regarding the safe handling of the chemicals specified in this method. A reference file of material data handling sheets should also be made available to all personnel involved in the chemical analysis. Additional references to laboratory safety are available and have been identified [4-6] for the information of the analyst.

*5. Apparatus and Materials*

5.1 Sampling equipment, for discrete or composite sampling.

5.1.1 Grab sample bottle—Amber borosilicate or flint glass, 1-liter or 1-quart volume, fitted with screw caps lined with TFE-fluorocarbon. Aluminum foil may be substituted for TFE if the sample is not corrosive. If amber bottles are not available, protect samples from light. The container and cap liner must be washed, rinsed with acetone or methylene chloride, and dried before use to minimize contamination.

5.1.2 Automatic sampler (optional)—Must incorporate glass sample containers for the collection of a minimum of 250 mL. Sample containers must be kept refrigerated at 4°C and protected from light during compositing. If the sampler uses a peristaltic pump, a minimum length of compressible silicone rubber tubing may be used. Before use, however, the compressible tubing must be thoroughly rinsed with methanol, followed by repeated rinsings with reagent water to minimize the potential for contamination of the sample. An integrating flow meter is required to collect flow proportional composites.

5.2 Glassware (All specifications are suggested. Catalog numbers are included for illustration only.)

5.2.1 Separatory funnels—2000-mL, with TFE-fluorocarbon stopcock, ground glass or TFE stopper.

5.2.2 Drying column—Chromatographic column 400 mm long x 19 mm ID with coarse fritted disc.

5.2.3 Chromatographic column—400 mm long x 19 mm ID with coarse fritted disc at bottom and TFE-fluorocarbon stopcock (Kontes K-420540-0224 or equivalent).

5.2.4 Flask, round bottom—500-mL, with standard taper to fit rotary evaporator.

5.2.5 Vials—Amber glass, 10 to 15 mL capacity with TFE-fluorocarbon lined screw cap.

5.3 Rotary evaporator.

5.4 Water bath—Heated, with concentric ring cover, capable of temperature control (±2 °C). The bath should be used in a hood.

5.5 Balance—Analytical, capable of accurately weighing to the nearest 0.0001 g.

5.6 Filtration apparatus—As needed to filter chromatographic solvents prior to HPLC.

5.7 Liquid chromatograph—High performance analytical system complete with high pressure syringes or sample injection loop, analytical columns, detector and strip chart recorder. A guard column is recommended for all applications.

5.7.1 Gradient pumping system, constant flow.

5.7.2 Column—30 cm long x 4 mm ID stainless steel packed with u Bondapak $C_{18}$ (10 μm) or equivalent. This column was used to develop the method performance statements in Section 14. Alternative columns may be used in accordance with the provisions described in Section 12.1.

5.7.2 Detector—Ultraviolet, capable of monitoring at 254 nm and 280 nm. This detector has proven effective in the analysis of wastewaters and was used to develop the method performance statements in Section 14. Alternative detectors may be used in accordance with the provisions described in Section 12.1.

*6. Reagents*

6.1 Reagent water—Reagent water is defined as a water in which an interferent is not observed at the method detection limit of each parameter of interest.

6.2 Acetone, acetonitrile, hexane, methylene chloride, methanol—Pesticide quality or equivalent.

6.3 Ethyl ether—Nanograde, redistilled in glass if necessary. Must be free of peroxides as indicated by EM Quant test strips. (Available from Scientific Products Co., Cat. No. P1126-8, and other suppliers.) Procedures recommended for removal of peroxides are provided with the test strips. After cleanup, 20 mL ethyl alcohol preservative must be added to each liter of ether.

6.4 Sodium sulfate—(ACS) Granular, acidified, anhydrous. Heat treat in a shallow tray at 400 °C for a minimum of 4 h to remove phthalates and other interfering organic substances. Alternatively, heat 16 h at 450-500 °C in a shallow tray or Soxhlet extract with methylene chloride for 48 h.

6.5 Florisil—PR grade (60/100 mesh). Purchase activated at 1250 °F and store in dark in a glass container with ground glass stopper or foil-lined screw cap. Before use activate each batch at least 16 h at 130 °C in a foil covered glass container.

6.6 Acetic acid—Glacial.

6.7 Stock standard solutions (1.00 μg/μl)—Stock standard solutions may be

prepared from pure materials or purchased as certified solutions.

6.7.1 Prepare stock standard solutions by accurately weighing approximately 0.0100 g of pure material. Dissolve the material in pesticide quality acetonitrile or methanol and dilute to volume in a 10-mL volumetric flask. Larger volumes may be used at the convenience of the analyst. If compound purity is certified at 96% or greater, the weight may be used without correction to calculate the concentration of the stock standard. Commercially prepared stock standards can be used at any concentration if they are certified by the manufacturer or by an independent source.

6.7.2 Transfer the stock standard solutions into TFE-fluorocarbon-sealed screw-cap vials. Store at 4 °C and protect from light. Frequently check stock standard solutions for signs of degradation or evaporation, especially just prior to preparing calibration standards from them.

6.7.3 Stock standard solutions must be replaced after six months or sooner if comparison with check standards indicates a problem.

*7. Calibration*

7.1 Establish HPLC operating parameters equivalent to those indicated in Table 1. The HPLC system must be calibrated using either the external standard technique (Section 7.2) or the internal standard technique (Section 7.3).

7.2 External standard calibration procedure:

7.2.1 For each parameter of interest, prepare calibration standards at a minimum of three concentration levels by adding accurately measured volumes of one or more stock standards to a volumetric flask and diluting to volume with acetonitrile or methanol. One of the external standards should be representative of a concentration near, but above, the method detection limit. The other concentrations should correspond to the range of concentrations expected in the sample concentrates or should define the working range of the detector.

7.2.2 Using injections of 10 µL of each calibration standard, tabulate peak height or area responses against the mass injected. The results can be used to prepare a calibration curve for each parameter. Alternatively, the ratio of the response to the mass injected, defined as the calibration factor (CF), can be calculated for each parameter at each standard concentration. If the relative standard deviation of the calibration factor is less than 10% over the working range, the average calibration factor can be used in place of a calibration curve.

7.2.3 The working calibration curve or calibration factor must be verified on each working shift by the measurement of one or more calibration standards. If the response for any parameter varies from the predicted response by more than ±10%, the test must be repeated using a fresh calibration standard. Alternatively, a new calibration curve or calibration factor must be prepared for that parameter.

7.3 Internal standard calibration procedure. To use this approach, the analyst must select one or more internal standards similar in analytical behavior to the compounds of interest. The analyst must further demonstrate that the measurement of the internal standard is not affected by method or matrix interferences. Due to these limitations, no internal standard applicable to all samples can be suggested.

7.3.1 Prepare calibration standards at a minimum of three concentration levels for each parameter of interest by adding volumes of one or more stock standards to a volumetric flask. To each calibration standard, add a known constant amount of one or more internal standards, and dilute to volume with acetonitrile or methanol. One of the standards should be representative of a concentration near, but above, the method detection limit. The other concentrations should correspond to the range of concentrations expected in the sample concentrates, or should define the working range of the detector.

7.3.2 Using injections of 10 µL of each calibration standard, tabulate the peak height or area responses against the concentration for each compound and internal standard. Calculate response factors (RF) for each compound as follows:

$$RF = (A_s C_{is})/(A_{is} C_s)$$

where:

$A_s$ = Response for the parameter to be measured.

$A_{is}$ = Response for the internal standard.

$C_{is}$ = Concentration of the internal standard in µg/L.

$C_s$ = Concentration of the parameter to be measured in µg/L.

If the RF value over the working range is constant, less than 10% relative standard deviation, the RF can be assumed to be invariant and the average RF may be used for calculations. Alternatively, the results may be used to plot a calibration curve of response ratios, $A_s/A_{is}$ against RF.

7.3.3 The working calibration curve of RF must be verified on each working shift by the measurement of one or more calibration standards. If the response for any parameter varies from the predicted response by more than ±10%, the test must be repeated using a fresh calibration standard. Alternatively, a new calibration curve must be prepared for that compound.

7.4 The cleanup procedure in Section 11 utilizes Florisil chromatography. Florisil from different batches or sources may vary in adsorptive capacity. To standardize the amount of Florisil which is used, the use of lauric acid value is suggested. This procedure [7] determines the adsorption from hexane solution of lauric acid, in mg. per g of Florisil. The amount of Florisil to be used for each column is calculated by dividing this factor into 110 and multiplying by 20 g.

7.5 Before using any cleanup procedure, the analyst must process a series of calibration standards through the procedure to validate elution patterns and the absence of interference from the reagents.

*8. Quality Control*

8.1 Each laboratory using this method is required to operate a formal quality control program. The minimum requirements of this program consist of an initial demonstration of laboratory capability and the analysis of spiked samples as a continuing check on performance. The laboratory is required to maintain performance records to define the quality of data that is generated.

8.1.1 Before performing any analyses, the analyst must demonstrate the ability to generate acceptable accuracy and precision with this method. This ability is established as described in section 8.2.

8.1.2 In recognition of the rapid advances occurring in chromatography, the analyst is permitted certain options to improve the separations or lower the cost of measurements. Each time such modifications to the method are made, the analyst is required to repeat the procedure in Section 8.2.

8.1.3 The laboratory must spike and analyze a minimum of 10% of all samples to monitor continuing laboratory performance. This procedure is described in Section 8.4.

8.2 To establish the ability to generate acceptable accuracy and precision, the analyst must perform the following operations.

8.2.1 Select a representative spike concentration for each compound to be measured. Using stock standards, prepare a quality control check sample concentrate in acetonitrile or methanol 1000 times more concentrated than the selected concentrations.

8.2.2 Using a pipet, add 1.00 mL of the check sample concentrate to each of a minimum of four 1000-mL aliquots of reagent water. A representative wastewater may be used in place of the reagent water, but one or more additional aliquots must be analyzed to determine background levels, and the spike level must exceed twice the background level for the test to be valid. Analyze the aliquots according to the method beginning in Section 10.

8.2.3 Calculate the average percent recovery (R), and the standard deviation of the percent recovery (s), for the results. Wastewater background correction must be made before R and s calculations are performed.

8.2.4 Table 2 provides single operator recovery and precision for most of the carbamate and urea pesticides. Similar results should be expected from reagent water for all compounds listed in the method. Compare these results to the values calculated in Section 8.2.3. If the data are not comparable, review potentfal problem areas and repeat the test.

8.3 The analyst must calcuate method performance criteria and define the performance of the laboratory for each spike concentration and parameter being measured.

8.3.1 Calculate upper and lower control limits for method performance as follows:

Upper Control Limit (UCL) = R + 3 s

Lower Control Limit (LCL) = R − 3 s

where R and s are calculated as in Section 8.2.3. The UCL and LCL can be used to construct control charts [8] that are useful in observing trends in performance.

8.3.2 The laboratory must develop and maintain separate accuracy statements of laboratory performance for wastewater samples. An accuracy statement for the

method is defined as R ± 2s. The accuracy statement should be developed by the analysis of four aliquots of wastewater as described in Section 8.2.2, followed by the calculation of R and s. Alternatively, the analyst may use four wastewater data points gathered though the requirement for continuing quality control in Section 8.4. The accuracy statements should be updated regularly.[8]

8.4 The laboratory is required to collect in duplicate a portion of their samples to monitor spike recoveries. The frequency of spiked sample analysis must be at least 10% of all samples or one spiked sample per month, whichever is greater. One aliquot of the sample must be spiked and analyzed as described in Section 8.2. If the recovery for a particular parameter does not fall within the control limits for method performance, the results reported for that parameter in all samples processed as part of the same set must be qualified as described in Section 13.3. The laboratory should monitor the frequency of data so qualified to ensure that it remains at or below 5%.

8.5 Before processing any samples, the analyst must demonstrate through the analysis of a 1-liter aliquot of reagent water that all glassware and reagents interferences are under control. Each time a set of samples is extracted or there is a change in reagents, a laboratory reagent blank must be processed as a safeguard against laboratory contamination.

8.6 It is recommended that the laboratory adopt additional quality assurance practices for use with this method. The specific practices that are most productive depend upon the needs of the laboratory and the nature of the samples. Field duplicates may be analyzed to monitor the precision of the sampling techinque. When doubt exists over the identification of a peak on the chromatogram, confirmatory techniques such as chromatography with a dissimilar column, or ratio of absorbance at two or more wavelengths may be used. Whenever possible, the laboratory should perform analysis of quality control materials and participate in relevant performance evaluating studies.

*9. Sample Collection, Preservation, and Handling*

9.1 Grab samples must be collected in glass containers. Conventional sampling practices[9] should be followed; however, the bottle must not be prerinsed with sample before collection. Composite samples should be collected in refrigerated glass containers in accordance with the requirements of the program. Automatic sampling equipment most be as free as possible of plastic and other potential sources of contamination.

9.2 The samples must be iced or refrigerated at 4 °C from the time of collection until extraction.

9.3 All samples must be extracted within seven days and completely analyzed within 40 days of extraction.

*10. Sample Extraction*

10.1 Mark the water meniscus on the side of the sample bottle for later determination of sample volume. Pour the entire sample into a 2-liter separatory funnel.

10.2 Add 60 mL methylene chloride to the sample bottle, seal, and shake 30 s to rinse the inner walls. Transfer the solvent to the separatory funnel and extract the sample by shaking the funnel for 2 min with periodic venting to release excess pressure. Allow the organic layer to separate from the water phase for a minimum of 10 min. If the emulsion interface between layers is more than one third the volume of the solvent layer, the analyst must employ mechanical techniques to complete the phase separation. The optimum technique depends upon the sample, but may include stirring, filtration of the emulsion through glass wool, centrifugation or other physical methods. Collect the methylene chloride extract in a 250-mL Erlenmeyer flask.

10.3 Add a second 60-mL volume of methylene chloride to the sample bottle and repeat the extraction a second time, combining the extracts in the Erlenmeyer flask. Perform a third extraction in the same manner.

10.4 It is necessary to exchange the extract solvent to hexane if the Florisil cleanup procedure is to be used. For direct HPLC analysis the extract solvent must be exchanged to a solvent (either methanol or acetonitrile) that is compatible with the mobile phase. The analyst should only exchange a portion of the extract to HPLC solvent if there is a possibility that cleanup may be necessary.

10.5 Pass a measurd fraction or all of the combined extract through a drying column containing about 10 cm of anhydrous sodium sulfate and collect the extract in a 500-mL round bottom flask. Rinse the Erlenmeyer flask and column with 20 to 30 mL of methylene chloride to complete the quantitative transfer.

10.6 Attach the 500-mL round bottom flask containing the extract to the rotary evaporator and partially immerse in the 50°C water bath.

10.7 Concentrate the extract to approximately 5 mL in the rotary evaporator at a temperature of 50°C. Other concentration techniques may be used if the requirements of Section 8.2 are met.

10.8 Add 50-mL of hexane, methanol, or acetonitrile to the round botton flask and concentrate the solvent extract as before. When the apparent volume of liquid reaches approximately 5 mL remove the 500-mL round bottom flask from the rotary evaporator and transfer the concentrated extract to a 10-mL volumetric flask, quantitatively washing with 2 mL of solvent. Adjust the volume to 10 mL.

10.9 Stopper the volumetric flask and store refrigerated at 4 °C if further processing will not be performed immediately. If the extracts will be stored longer than two days, they should be transferred to TFE-fluorocarbon-sealed screw-cap bottles.

10.10 Determine the original sample volume by refilling the sample bottle to the mark and transferring the water to a 1000-mL graduated cylinder. Record the sample volume to the nearest 5 mL.

*11. Cleanup and Separation*

11.1 Cleanup procedures may not be necessary for a relatively clean sample matrix. The cleanup procedure recommended in this method has been used for the analysis of various industrial and municipal effluents. If particular circumstances demand the use of an alternative cleanup procedure, the analyst must determine the elution profile and demonstrate that the recovery of each compound of interest for the cleanup procedure is no less than 85%.

11.2 The following Florisil column cleanup procedure has been demonstrated to be applicable to the five pesticides listed in Table 3. It should also be applicable to the cleanup of extracts for the other carbamate and urea pesticides listed in the scope of this method.

11.2.1 Add a weight of Florisil (nominally 20 g) predetermined by calibration (Section 7.4 and 7.5), to a chromatographic column. Settle the Florisil by tapping the column. Add anhydrous sodium sulfate to the top of the Florisil to form a layer 1 to 2 cm deep. Add 60 mL of hexane to wet and rinse the sodium sulfate and Florisil. Just prior to exposure of the sodium sulfate to air, stop the elution of the hexane by closing the stopcock on the chromatography column. Discard the eluate.

11.2.2 Adjust sample extract volume to 10 mL with hexane and transfer it from the volumetric flask to the Florisil column. Rinse the flask twice with 1 to 2 mL hexane, adding each rinse to the column.

11.2.3 Drain the column until the sodium sulfate layer is nearly exposed. Elute the column with 200 mL of 20% ethyl ether in hexane (V/V) (Fraction 1) using a drip rate of about 5 mL/min. Place a 500-mL round botton flask under the chromatography column. Elute the column again, using 200 mL of 6% acetone in hexane (V/V) (Fraction 2), into a second flask. Perform a third elution using 200 mL of 15% acetone in hexane (V/V) (Fraction 3), and a final elution with 200 mL of 50% acetone in hexane (V/V) (Fraction 4), into separate flasks. The elution patterns for five of the pesticides are shown in Table 3.

11.2.4 Concentrate the eluates to 10 mL with a rotary evaporator as described in Section 10.7, exchanging the solvent to acetonitrile or methanol as required.

*13. Liquid Chromatography*

12.1 Table 1 summarizes the recommended operating conditions for the liquid chromatograph. Included in this table are estimated retention times and method detection limits tht can be achieved by this method. An example of the separations achieved by this column is shown in Figure 1. Other HPLC columns, chromatographic conditions, or detectors may be used in the requirements of Section 8.2 are met.

12.2 Calibrate the system daily as described in Section 7. The standards and extracts must be in the solvent (acetonitrile or methanol) compatible with the mobile phase.

12.3 If the internal standard approach is being used, add the internal standard to sample extracts immediately before injection into the instrument. Mix thoroughly.

12.4 Inject 10 µL of the sample extract. Record the volume injected to the nearest 0.05 µL, and the resulting peak size in area or peak height units.

12.5 The width of the retention time window used to make identifications should be based upon measurements of actual retention time variations of standards over the course of a day. Three times the standard deviation of a retention time can be used to calculate a suggested window size for a compound. However, the experience of the analyst should weigh heavily in the interpretation of chromatograms.

12.6 If the response for the peak exceeds the working range of the system, dilute the extract and reanalyze.

12.7 If the measurement of the peak response is prevented by the presence of interferences, further cleanup is required.

*13. Calculations*

13.1 Determine the concentration of individual compounds in the sample.

13.1.1 If the external standard calibration procedure is used, calculates the amount of material injected from the peak response using the calibration curve or calibration factor in Section 7.2.2. The concentration in the sample can be calculated as follows:

$$\text{Concentration, } \mu g/L = \frac{(A)(V_t)}{(V_i)(V_s)}$$

where:

$A$ = Amount of material injected, in nanograms.
$V_i$ = Volume of extract injection in µL.
$V_t$ = Volume of total extract in µL.
$V_s$ = Volume of water extracted in mL.

13.1.2 If the internal standard calibration procedure was used, calculate the concentration in the sample using the response factor (RF) determined in Section 7.3.2 as follows:

$$\text{Concentration, } \mu g/L = \frac{(A_s)(I_s)}{(A_{is})(RF)(V_o)}$$

where

$A_s$ = Response for the parameter to be measured.
$A_{is}$ = Response for the internal standard.
$I_s$ = Amount of internal standard added to each extract in µg.
$V_o$ = Volume of water extracted, in liters.

13.2 Calculate and report fenuron-TCA as fenuron and monuron-TCA as monuron. Report results in micrograms per liter without correction for recovery data. When duplicate and spiked samples are analyzed, report all data obtained with the sample results.

13.3 For samples processed as part of a set where the laboratory spiked sample recovery falls outside of the control limits in Section 8.3, data for the affected parameters must be labeled as suspect.

*14. Method Performance*

14.1 The method detection limit (MDL) is defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the value is above zero.[10,13] the MDL concentrations listed in Table 1 were obtained using reagent water with an electron capture detector.[2,11]

14.2 In a single laboratory, the average recoveries presented in Table 2 were obtained using this method.[2,11] The standard deviations of the percent recoveries of these measurements are also included in Table 2.

*References*

1. "Development of Analytical Test Procedures for Organic Pollutants in Wastewater-Application to Pesticides," EPA Report 600/4-81-017, U.S. Environmental Protection Agency, Cincinnati, Ohio 45268. PB#82 132507, National Technical Information Service, Springfield, VA.

2. Farrington, D.S., Hopkins, R.G. and Ruzicka, J.H.A. "Determination of Residues of Substituted Phenylurea Herbicides in Grain, Soil, and River Water by Use of Liquid Chromatography," *Analyst, 102*, 377-381 (1977).

3. ASTM Annual Book of Standards, part 31, D3694, "Standard Practice for Preparation of Sample Containers and for Preservation," American Society for Testing and Materials, Philadelphia, PA, p. 679, 1980.

4. "Carcinogens—Working with Carcinogens," Department of Health, Education, and Welfare, Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health, Publication No. 77-206, Aug. 1977.

5. "OSHA Safety and Health Standards, General Industry," (29 CFR 1910), Occupational Safety and Health Administration, OSHA 2206, (Revised, January 1976).

6. "Safety in Academic Chemistry Laboratories," American Chemical Society Publication, Committee on Chemical Safety, 3rd Edition, 1979.

7. ASTM Annual Book of Standards, Part 31, D3086, Appendix X3, "Standardization of Florisil Column by Weight Adjustment Based on Adsorption of Lauric Acid," American Society for Testing and Materials, Philadelphia, PA, p 765, 1980.

8. "Handbook for Analytical Quality Control in Water and Wastewater Laboratories," EPA-600/4-79-019, U.S. Environmental Protection Agency, Environmental Monitoring and Support Laboratory—Cincinnati, Ohio 45268, March 1979.

9. ASTM Annual Book for Standards, Part 31, D3370, "Standard Practice for Sampling Water," American Society for Testing and Materials, Philadelphia, PA, p. 76, 1980.

10. Glaser, J.A. et. al, "Trace Analysis for Wastewaters," *Environmental Science & Technology, 15*, 1426 (1981).

11. "Pesticide Methods Evaluation," Letter Reports #12B, 18, 19, 20, 22 and 23 for EPA Contract No. 68-03-2697, Available from U.S. Environmental Protection Agency, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio 45268.

12. "Determination of Carbamate and Urea Pesticides in Industrial and Municipal Wastewater," Method 632, EPA No. 600/4-82-014, NTIS No. PB82-156084, January 1982, National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22165.

13. 40 CFR Part 136, Appendix B.

TABLE 1.—CHROMATOGRAPHIC CONDITIONS AND METHOD DETECTION LIMITS

| Parameter | Mobile phase* | Retention time (min) | UV wavelength (nm) | Method detection limit (ug/L) |
|---|---|---|---|---|
| Carboturan | C | 3.5 | 280 | 3.2 |
| Fluorometuron | C | 3.6 | 254 | 11.1 |
| Oxamyl | D | 3.2 | 254 | 9.2 |

*Mobile Phase:
A Methanol/1% acetic acid, programmed linearly from 5 to 95% methanol at 2.0 mL/min flow rate and at ambient temperature.
B Acetonitrile/water, programmed linearly from 10% to 100% acetonitrile in 30 min at a flow rate of 2.0 mL/min.
C 50% acetonitrile in water at a flow rate of 2.0 mL/min.
D 35% methanol in water at a flow rate of 2.0 mL/min.
Column: u Bondapak $C_{18}$ (10 um) packed in a 30 cm long × 4 mm ID stainless steel column, with a Whatmann Co. PELL ODS (30-38 um) guard column, 7 cm long × 4 mm ID.

TABLE 2.—SINGLE OPERATOR ACCURACY AND PRECISION

| Parameter | Sample Type* | Spike (ug/L) | No. of analyses | Average percent recovery | Standard deviation (percent) |
|---|---|---|---|---|---|
| Fluorometuron | 1 | 50 | 7 | 93.9 | 7.0 |
| | 2 | 50 | 7 | 80.0 | 7.2 |
| | 4 | 1,724 | 7 | 99.0 | 11.6 |
| Oxamyl | 1 | 100 | 7 | 87.0 | 8.4 |
| | 2 | 53 | 7 | 84.9 | 5.5 |
| | 2 | 1,060 | 7 | 89.8 | 2.7 |
| Methomyl | 1 | 100 | 4 | 74.4 | 2.4 |
| | 3 | 30,660 | 4 | 48.2 | 2.8 |
| | 2 | 100 | 7 | 91.8 | 2.8 |
| | 2 | 1,960 | 7 | 94.4 | 1.5 |
| Carboturan | 1 | 37 | 7 | 87.8 | 2.7 |
| | 4 | 148 | 7 | 99.3 | 1.4 |

*=Sample Type.
1=Reagent Water.
2=Municipal Wastewater.
3=Industrial process water, pesticide manufacturing.

4 Industrial wastewater, pesticide manufacturing.
5 River Water.

TABLE 3.—FLORISIL FRACTIONATION PATTERNS

| Parameter | Percent recovery by fraction | | | |
|---|---|---|---|---|
| | No. 1 | No. 2 | No. 3 | No. 4 |
| Methomyl | 0 | 0 | 0 | 84 |
| Oxamyl | 0 | 0 | 92 | 0 |

Florisil eluate composition by fraction.
Fraction 1—200 mL of 20% ethyl ether in hexane.
Fraction 2—200 mL of 6% acetone in hexane.
Fraction 3—200 mL of 15% acetone in hexane.
Fraction 4—200 mL of 50% acetone in hexane.

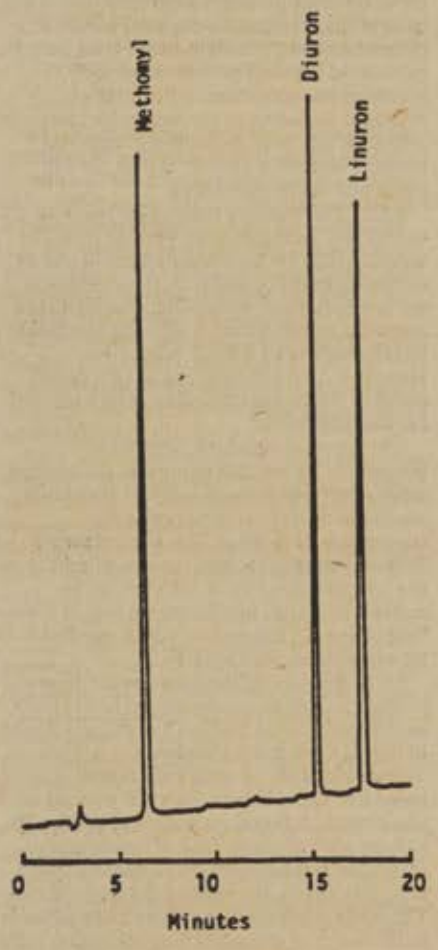


**Figure 1.—Liquid chromatogram of diuron, linuron and methomyl on column 1. For conditions, see table 1.**

## Method 633—Organonitrogen Pesticides

*1. Scope and Application*

1.1 This method covers the determination of certain organonitrogen pesticides. The following parameters can be determined by this method:

| Parameter | Storet No. | CAS No. |
|---|---|---|
| Bromacil | | 314-40-9 |
| Diuret | | 134-62-3 |
| Hexazinone | | 51235-04-2 |
| Metribuzin | 81408 | 21087-64-9 |
| Terbacil | | 5902-51-2 |
| Triadimefon | | 43121-43-3 |
| Tricyclazole | | 41814-78-2 |

1.2 This is a gas chromatographic (GC) method applicable to the determination of the compounds listed above in industrial and municipal discharges. Any modification of this method beyond those expressly permitted, shall be considered a major modification subject to application and approval of alternate test procedures under 40 CFR 136.4 and 136.5.

1.3 The estimated method detection limit (MDL, defined in Section 15) for five of the parameters are listed in Table 1. The MDL for a specific wastewater may differ from those listed, depending upon the nature of interferences in the sample matrix.

1.4 This method is restricted to use by or under the supervision of analysts experienced in the use of gas chromatography and in the interpretation of gas chromatograms. Each analyst must demonstrate the ability to generate acceptable results with this method using the procedure described in Section 8.2.

1.5 When this method is used to analyze unfamiliar samples for any or all of the compounds above, compound identifications should be supported by at least one additional qualitative technique. Section 14 provides gas chromatograph/mass spectrometer (GC/MS) criteria appropriate for the qualitative confirmation of compound identifications.

*2. Summary of Method*

2.1 A measured volume of sample, approximately 1-liter, is solvent extracted with methylene chloride using a separatory funnel. The methylene chloride extract is dried and exchanged to acetone during concentration to a volume of 10 mL or less. Gas chromatographic conditions are described which permit the separation and measurement of the compounds in the extract by gas chromatography with a thermionic bead detector.[1]

*3. Interference*

3.1 Method interferences may be caused by contaminants in solvents, reagents, glassware and other sample processing apparatus that lead to discrete artifacts or elevated baselines in gas chromatograms. All reagents and apparatus must be routinely demonstrated to be free from interferences under the conditions of the analysis by running laboratory reagent blanks as described in Section 8.5.

3.1.1 Glassware must be scrupulously cleaned.[2] Clean all glassware as soon as possible after use by thoroughly rinsing with the last solvent used in it. Follow by washing with hot water and detergent and thorough rinsing with tap and reagent water. Drain dry, and heat in an oven or muffle furnace at 400°C for 15 to 30 min. Do not heat volumetric glassware. Thermally stable materials such as PCBs, might not be eliminated by this treatment. Thorough rinsing with acetone and pesticide quality hexane may be substituted for the heating. After drying and cooling, seal and store glassware in a clean environment to prevent any accumulation of dust or other contaminants. Store inverted or capped with aluminum foil.

3.1.2 The use of high purity reagents and solvents helps to minimize interference problems. Purification of solvents by distillation in all-glass systems may be required.

3.2 Matrix interferences may be caused by contaminants that are coextracted from the sample. The extent of matrix interferences will vary considerably from source to source, depending upon the nature and diversity of the industrial complex or municipality sampled. Unique samples may require additional cleanup approaches to achieve the MDL listed in Table 1.

*4. Safety*

4.1 The toxicity or carcinogenicity of each reagent used in this method has not been precisely defined; however, each chemical compound must be treated as a potential health hazard. From this viewpoint, exposure to these chemicals must be reduced to the lowest possible level by whatever means available. The laboratory is responsible for maintaining a current awareness file of OSHA regulations regarding the safe handling of the chemicals specified in this method. A reference file of material data handling sheets should also be made available to all personnel involved in the

chemical analysis. Additional references to laboratory safety are available and have been identified [2-5] for the information of the analyst.

*5. Apparatus and Materials*

5.1 Sampling equipment, for discrete or composite sampling.

5.1.1 Grab sample bottle—Amber borosilicate or flint glass, 1-liter or 1-quart volume, fitted with screw caps lined with TFE-fluorocarbon. Aluminum foil may be substituted for TFE if the sample is not corrosive. If amber bottles are not available, protect sample from light. The container and cap liner must be washed, rinsed with acetone or methylene chloride, and dried before use to minimize contamination.

5.1.2 Automatic sample (optional)—Must incorporate glass sample containers for the collection of a minimum of 250 mL. Sample containers must be kept refrigerated at 4°C and protected from light during compositing. If the sample uses a peristaltic pump, a minimum length of compressible silicone rubber tubing may be used. Before use, however, the compressible tubing must be thoroughly rinsed with methanol, followed by repeated rinsings with reagent water to minimize the potential for contamination of the sample. An integrating flow meter is required to collect flow proportional composites.

5.2 Glassware (all specifications are suggested. Catalog numbers are included for illustration only.)

5.2.1 Separatory funnel—2000-mL, with TFE-fluorocarbon stopcock, ground glass or TFE stopper.

5.2.2 Drying column—Chromatographic column 400 mm long x 19 mm ID with coarse fritted disc.

5.2.3 Concentrator tube, Kuderna-Danish—10-mL, graduated (Kontes K-570050-1025 or equivalent). Calibration must be checked at the volumes employed in the test. Ground glass stopper is used to prevent evaporation of extracts.

5.2.4 Evaporative flask, Kuderna-Danish—500-mL (Kontes K-570001-0500 or equivalent). Attach to concentrator tube with springs.

5.2.5 Snyder column, Kuderna-Danish—three-ball macro (Kontes K-503000-0121 or equivalent).

5.2.6 Vials—Amber glass, 10 to 15 mL capacity with TFE-fluorocarbon lined screw cap.

5.3 Boiling chips—approximately 10/40 mesh. Heat at 400 °C for 30 min. or Soxhlet extract with methylene chloride.

5.4 Water bath—Heated, with concentric ring cover, capable of temperature control (±2 °C). The bath should be used in a hood.

5.5 Balance—Analytical, capable of accurately weighing to the nearest 0.0001 g.

5.6 Gas chromatograph—Analytical system complete with gas chromatograph suitable for on-column injection and all required accessories including syringes, analytical columns, gases, detector and strip-chart recorder. A data system is recommended for measuring peak areas.

5.6.1 Column 1—180 cm long x 2 mm ID glass, packed with 3% SP-2250DB on Supelcoport (100/120 mesh) or equivalent. Operation of this column at high temperatures will seriously reduce its useful period of performance. This column was used to develop the method performance statements in Section 15. Alternative columns may be used in accordance with the provisions described in Section 12.1.

5.6.2 Column 2—180 cm long x 2 mm ID glass, packed with 3% SP-2401 on Suplecoport (100/120 mesh) or equivalent.

5.6.3 Detector—Thermionic bead in the nitrogen mode. This detector has proven effective in the analysis of wastewaters for the parameters listed in the scope and was used to develop the method performance statements in Section 15. Alternative detectors, including a mass spectrometer, may be used in accordance with the provisions described in Section 12.1.

*6. Reagents*

6.1 Reagent water—Reagent water is defined as a water in which an interferent is not observed at the method detection limit of each parameter of interest.

6.2 Acetone, methylene chloride—Pesticide quality or equivalent.

6.3 Sodium sulfate—(ACS) Granular, anhydrous. Heat treat in a shallow tray at 400 °C for a minimum of 4 h to remove phthalates and other interfering organic substances. Alternatively, heat 16 h at 450–500 °C in a shallow tray or Soxhlet extract with methylene chloride for 48 h.

6.4 Stock standard solutions (1.00 ug/uL)—Stock standard solutions may be prepared from pure standard materials or purchased as certified solutions.

6.4.1 Prepare stock standard solutions by accurately weighing approximately 0.0100 g of pure material. Dissolve the material in pesticide quality acetone and dilute to volume in a 10-mL volumetric flask. Larger volumes may be used at the convenience of the analyst. If compound purity is certified at 96% or greater, the weight may be used without correction to calculate the concentration of the stock standard. Commercially prepared stock standards may be used at any concentration if they are certified by the manufacturer or by an independent source.

6.4.2 Transfer the stock standard solutions into TFE-fluorocarbon-sealed screw cap vials. Store at 4 °C and protect from light. Frequently check stock standard solutions for signs of degradation or evaporation, especially just prior to preparing calibration standards from them.

6.4.3 Stock standard solutions must be replaced after six months or sooner if comparison with check standards indicates a problem.

*7. Calibration*

7.1 Establish gas chromatographic operating parameters equivalent to those indicated in Table 1. The gas chromatographic system may be calibrated using either the standard technique (Section 7.2) or the internal standard technique (Section 7.3).

7.2 External standard calibration procedure:

7.2.1 For each parameter of interest, prepare calibration standards at a minimum of three concentration levels by adding accurately measured volumes of one or more stock standards to a volumetric flask and diluting to volume with acetone. One of the external standards should be representative of a concentration near, but above, the method detection limit. The other concentrations should correspond to the range of concentrations expected in the sample concentrates or should define the working range of the detector.

7.2.2 Using injections of 1 to 5 μL of each calibration standard, tabulate peak height or area responses against the mass injected. The results can be used to prepare a calibration curve for each parameter. Alternatively, the ratio of the response to the mass injected, defined as the calibration factor (CF), may be calculated for each parameter at each standard concentration. If the relative standard deviation of the calibration factor is less than 10% over the working range, the average calibration factor can be used in place of a calibration curve.

7.2.3 The working calibration curve or calibration factor must be verified on each working shift by the measurement of one or more calibration standards. If the response for any parameter varies from the predicted response by more than ±10%, the test must be repeated using a fresh calibration standard. Alternatively, a new calibration curve or calibration factor must be prepared for that parameter.

7.3 Internal standard calibration procedure. To use this approach, the analyst must select one or more internal standards similar in analytical behavior to the compounds of interest. The analyst must further demonstrate that the measurement of the internal standard is not affected by method or matrix interferences. Due to these limitations, no internal standard applicable to all samples can be suggested.

7.3.1 Prepare calibration standards at a minimum of three concentration levels for each parameter of interest by adding volumes of one or more stock standards to a volumetric flask. To each calibration standard, add a known constant amount of one or more internal standards, and dilute to volume with acetone. One of the standards should be representative of a concentration near, but above, the method detection limit. The other concentrations should correspond to the range of concentrations expected in the sample concentrates, or should define the working range of the detector.

7.3.2 Using injections of 1 to 5 μL of each calibration standard, tabulate the peak height or area responses against the concentration for each compound and internal standard. Calculate response factors (RF) for each compound as follows:

$$RF = (A_s C_{is})/(A_{is} C_s)$$

where:

$A_s$ = Response for the parameter to be measured.

$A_{is}$ = Response for the internal standard.

$C_{is}$ = Concentration of the internal standard in μg/L.

$C_s$ = Concentration of the parameter to be measured in μg/L.

If the RF value over the working range is constant, less than 10% relative standard

deviation, the RF can be assumed to be invariant and the average RF may be used for calculations. Alternatively, the results may be used to plot a calibration curve of response ratios, $A_s/A_{is}$ against RF.

7.3.3 The working calibration curve or RF must be verified on each working shift by the measurement of one or more calibration standards. If the response for any parameter varies from the predicted response by more than ±10%, the test must be repeated using a fresh calibration standard. Alternatively, a new calbration curve must be prepared for that compound.

7.4 Before using any cleanup procedure, the analyst must process a series of calibration standards through the procedure to validate elution patterns and the absence of interference from the reagents.

*8. Quality Control*

8.1 Each laboratory using this method is required to operate a formal quality control program. The minimum requirements of this program consists of an initial demonstraion of laboratory capability and the analysis of spiked samples as a continuing check on performance. The laboratory is required to maintain performance records to define the quality of data that is generated.

8.1.1 Before performing any analyses, the analyst must demonstrate the ability to generate acceptable accuracy and precision with this method. The ability is established as described in Section 8.2.

8.1.2 In recognition of the rapid advances occurring in chromatography, the analyst is permitted certain options to improve the separations or lower the cost of measurements. Each time such modifications to the method are made, the analyst is required to repeat the procedure in Section 8.2.

8.1.3 The laboratory must spike and analyze a minimum of 10% of all samples to monitor continuing laboratory performance. This procedure is described in Section 8.4.

8.2 To establish the ability to generate acceptable accuracy and precision, the analyst must perform the following operations.

8.2.1 Select a representative spike concentration for each compound to be measured. Using stock standards, prepare a quality control check sample concentrate in acetone 1000 times more concentrated than the selected concentrations.

8.2.2 Using a pipet, add 1.00 mL of the check sample concentrate to each of a minimum of four 1000-mL aliquots of reagent water. A representative wastewater may be used in place of the reagent water, but one or more additional aliquots must be analyzed to determine background levels, and the spike level must exceed twice the background level for the test to be valid. Analyze the aliquots according to the method beginning in Section 10.

8.2.3 Calculate the average percent recovery (R), and the standard deviation of the percent recovery (s), for the results. Wastewater background corrections must be made before R and s calculations are performed.

8.2.4 Using the appropriate data from Table 2, determine the recovery and single operator precision expected for the method, and compare these results to the values calculated in Section 8.2.3. If the data are not comparable, review potential problem areas and repeat the test.

8.3 The analyst must calculate method performance criteria and define the performance of the laboratory for each spike concentration and parameter being measured.

8.3.1 Calculate upper and lower control limits for method performance as follows:

Upper Control Limit (UCL) = R + 3s
Lower Control Limit (LCL) = R − 3s

where R and s are calculated as in Section 8.2.3. The UCL and LCL can be used to construct control charts [6] that are useful in observing trends in performance.

8.3.2 The laboratory must develop and maintain spearate accuracy statements of laboratory performance for wastewater samples. An accuracy statement for the method is defined as R ± 2s. The accuracy statement should be developed by the analysis of four aliquots of wastewater as described in Section 8.2.2, followed by the calculation of R and s. Alternatively, the analyst may use four wastewater data points gathered through the requirement for continuing quality control in Section 8.4. The accuracy statements should be updated regularly. [6]

8.4 The laboratory is required to collect in duplicate a portion of their samples to monitory spike recoveries. The frequency of spiked sample analysis must be at least 10% of all samples or one spiked sample per month, whichever is greater. One aliquot of the sample must be spiked and analyzed as described in Section 8.2. If the recovery for a particular parameter does not fall within the control limits for method performance, the results reported for the parameter in all samples processed as part of the same set must be qualified as described in Section 13.3 The laboratory should monitor the frequency of data so qualified to ensure that it remains at or below 5%.

8.5 Before processing any samples, the analyst must demonstrate through the analysis of a 1-liter aliquot of reagent water that all glassware and reagents interferences are under control. Each time a set of samples is extracted or there is a change in reagents, a laboratory reagent blank must be processed as a safeguard against laboratory contamination.

8.6 It is recommended that the laboratory adopt additional quality assurance practices for use with this method. The specific practices that are most productive depend upon the needs of the laboratory and the nature of the samples. Field duplicates may be analyzed to monitor the precision of the sampling technique. When doubt exists over the identification of a peak on the chromatogram, confirmatory techniques such as gas chromatography with a dissimilar column, specific element detector, or mass spectrometer must be used. Whenever possible, the laboratory should perform analysis of quality control materials and participate in relevant performance evaluation studies.

*9. Sample Collection, Preservation, and Handling*

9.1 Grab samples must be collected in glass containers. Conventional sampling practices [7] should be followed; however, the bottle must not be prerinsed with sample before collection. Composite samples should be collected in refrigerated glass containers in accordance with the requirements of the program. Automatic sampling equipment must be as free as possible of plastic and other potential sources of contamination.

9.2 The samples must be iced or refrigerated at 4°C from the time of collection until extraction.

9.3 All samples must be extracted within seven days and completely analyzed within 40 days of extraction.

*10. Sample Extraction*

10.1 Mark the water meniscus on the side of the sample bottle for later determination of sample volume. Pour the entire sample into a 2-liter separatory funnel.

10.2 Add 60 mL methylene chloride to the sample bottle, seal, and shake 30 s to rinse the inner walls. Transfer the solvent to the separatory funnel and extract the sample by shaking the funnel for 2 min with periodic venting to release excess pressure. Allow the organic layer to separate from the water phase for a minimum of 10 min. If the emulsion interface between layers is more than one third the volume of the solvent layer, the analyst must employ mechanical techniques to complete the phase separation. The optimum technique depends upon the sample, but may include stirring, filtration of the emulsion through glass wool, centrifugation, or other physical methods. Collect the methylene chloride extract in a 250-mL Erlenmeyer flask.

10.3 Add a second 60-mL volume of methylene chloride to the sample bottle and repeat the extraction procedure a second time, combining the extracts in the Erlenmeyer flask. Perform a third extraction in the same manner.

10.4 Assemble a Kuderna-Danish (K-D) concentrator by attaching a 10-mL concentrator tube to a 500-mL evaporative flask. Other concentration devices or techniques may be used in place of the K-D if the requirements of Section 8.2 are met.

10.5 Pour the combined extract through a drying column containing about 10 cm of anhydrous sodium sulfate, and collect the extract in the K-D concentrator. Rinse the Erlenmeyer flask and column with 20 to 30 mL of methylene chloride to complete the quantitative transfer.

10.6 Add 1 or 2 clean boiling chips to the evaporative flask and attach a three-ball Snyder column. Prewet the Snyder column by adding about 1 mL methylene chloride to the top. Place the K-D apparatus on a hot water bath, 60 to 65°C, so the concentrator tube is partially immersed in the hot water, and the entire lower rounded surface of the flask is bathed with hot vapor. Adjust the vertical position of the apparatus and the water temperature as required to complete the concentration in 15 to 20 min. At the proper rate of distillation, the balls of the column will actively chatter but the chambers will

not flood with condensed solvent. When the apparent volume of liquid reaches 1 mL, remove the K–D apparatus and allow it to drain and cool for at least 10 min.

10.7 Increase the temperature of the hot water bath to about 70 °C. Momentarily remove the Snyder column, add 50 mL of acetone and a new boiling chip and reattach the Snyder column. Pour about 1 mL of acetone into the top of the Snyder column and concentrate the solvent extract as before. Elapsed time of concentration should be 5 to 10 min. When the apparent volume of liquid reaches 1 mL, remove the K–D apparatus and allow it to drain and cool for at least 10 min.

10.8 Remove the Synder column and rinse the flask and its lower joint into the concentrator tube with 1 to 2 mL of acetone and adjust the volume to 10 mL. A 5-mL syringe is recommended for this operation. Stopper the concentrator tube and store refrigerated if further processing will not be performed immediately. If the extracts will be stored longer than two days, they should be transferred to TFE-fluorocarbon-sealed screw-cap vials. Analyze by gas chromatography.

10.9 Determine the original sample volume by refilling the sample bottle to the mark and transferring the water to a 1000-mL graduated cylinder. Record the sample volume to the nearest 5 mL.

*11. Cleanup and Separation*

11.1 Cleanup procedures may not be necessary for a relatively clean sample matrix. If particular circumstances demand the use of a cleanup procedure, the analyst must determine the elution profile and demonstrate that the recovery of each compound of interest for the cleanup procedure is no less than 85%.

*12. Gas Chromatography*

12.1 Table 1 summarizes the recommended operating conditions for the gas chromatograph. Included in this table are estimated retention times and method detection limits that can be achieved by this method. An example of the separations achieved by Column 1 is shown in Figure 1. Other packed columns, chromatographic conditions, or detectors may be used if the requirements of Section 8.2 are met. Capillary (open-tubular) columns may also be used if the relative standard deviations of responses for replicate injections are demonstrated to be less than 6% and the requirements of Section 8.2 are met.

12.2 Calibrate the system daily as described in Section 7.

12.3 If the internal standard approach is being used, add the internal standard to sample extracts immediately before injection into the instrument. Mix thoroughly.

12.4 Inject 1 to 5 μL of the sample extract using the solvent-flush technique.[9] Record the volume injected to the nearest 0.05 μL, and the resulting peak size in area or peak height units. An automated system that consistently injects a constant volume of extract may also be used.

12.5 The width of the retention time window used to make identifications should be based upon measurements of actual retention time variations of standards over the course of a day. Three times the standard deviation of a retention time can be used to calculate a suggested window size for a compound. However, the experience of the analyst should weigh heavily in the interpretation of chromatograms.

12.6 If the response for the peak exceeds the working range of the system, dilute the extract and reanalyze.

12.7 If the measurement of the peak response is prevented by the presence of interferences, cleanup is required.

*13. Calculations*

13.1 Determine the concentration of individual compounds in the sample.

13.1.1 If the external standard calibration procedure is used, calculate the amount of material injected from the peak response using the calibration curve or calibration factor in Section 7.2.2. The concentration in the sample can be calculated as follows:

$$\text{Concentration, } \mu g/L = \frac{(A)(Vt)}{(Vt)(V\sigma)}$$

where:

A = Amount of material injected, in nanograms.

Vt = Volume of extract injected in μL.

Vr = Volume of total extract in μL.

Vσ = Volume of water extracted in mL.

13.1.2 If the internal standard calibration procedure was used, calculate the concentration in the sample using the response factor (RF) determined in Section 7.3.2 as follows:

$$\text{Concentration, } \mu g/L = \frac{(A_s)(I_s)}{(A_{is})(RF)(V_o)}$$

where:

$A_s$ = Response for the parameter to be measured.

$A_{is}$ = Response for the internal standard.

$I_s$ = Amount of internal standard added to each extract in μg.

$V_o$ = Volume of water extracted, in liters.

13.2 Report results in micrograms per liter without correction for recovery data. When duplicate and spiked samples are analyzed, report all data obtained with the sample results.

13.3 For samples processed as part of a set where the laboratory spiked sample recovery falls outside of the control limits in Section 8.3, data for the affected parameters must be labeled as suspect.

*14. GC/MS Confirmation*

14.1 It is recommended that GC/MS techniques be judiciously employed to support qualitative compound identifications made with this method. The mass spectrometer should be capable of scanning the mass range from 35 amu to a mass 50 amu above the molecular weight of the compound. The instrument must be capable of scanning the mass range at a rate to produce at least 5 scans per peak but not to exceed 7 s per scan utilizing a 70 V (nominal) electron energy in the electron impact ionization mode. A GC to MS interface constructed of all-glass or glass-lined materials is recommended. A computer system should be interfaced to the mass spectrometer that allows the continuous acquisition and storage on machine readable media of all mass spectra obtained throughout the duration of the chromatographic program.

14.2 Gas chromatographic columns and conditions should be selected for optimum separation and performance. The conditions selected must be compatible with standard GC/MS operating practices. Chromatographic tailing factors of less than 5.0 must be achieved.[9]

14.3 At the beginning of each day that confirmatory analyses are to be performed, the GC/MS system must be checked to see that all decafluorotriphenyl phosphine (DFTPP) performance criteria are achieved.[10]

14.4 To conform an identification of a compound, the background corrected mass spectrum of the compound must be obtained from the sample extract and compared with a mass spectrum from a stock or calibration standard analyzed under the same chromatographic conditions. It is recommended that at least 25 nanograms of material be injected into the GC/MS. The criteria below must be met for qualitative confirmation.

14.4.1 All ions that are present above 10% relative abundance in the mass spectrum of the standard must be present in the mass spectrum of the sample with agreement to plus or minus 10%. For example, if the relative abundance of an ion is 30% in the mass spectrum of the standard, the allowable limits for the relative abundance of that ion in the mass spectrum for the sample would be 20% to 40%.

14.4.2 The retention time of the compound in the sample must be within 6 seconds of the same compound in the standard solution.

14.4.3 Compounds that have very similar mass spectra can be explicitly identified by GC/MS only on the basis of retention time data.

14.5 Where available, chemical ionization mass spectra may be employed to aid in the qualitative identification process.

14.6 Should these MS procedures fail to provide satisfactory results, additional steps may be taken before reanalysis. These may include the use of alternate packed or capillary GC columns or additional cleanup (Section 11).

*15. Method Performance*

15.1 The method detection limit (MDL) is defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the value is above zero.[11, 12] The MDL concentrations listed in Table 1 were obtained using reagent waste.

15.2 In a single laboratory (West Cost Technical Services, Inc.) using effluents from pesticide manufacturers and publicly owned treatment works (POTW), the average recoveries presented in Table 2 were obtained.[1] The standard deviations of the percent recoveries of these measurements are also included in Table 2.

**References**


1. "Pesticide Methods Evaluation," Letter Report #6 12A and 14 for EPA Contract No. 68-03-2697. Available from U.S. Environmental Protection Agency, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio 45268.
2. ASTM Annual Book of Standards, Part 31, D3694, "Standard Practice for Preparation of Sample Containers and for Preservation," American Society for Testing and Materials, Philadelphia, PA, p. 679, 1980.
3. "Carcinogens—Working with Carcinogens," Department of Health, Education, and Welfare, Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health, Publication No. 77-206, Aug. 1977.
4. "OSHA Safety and Health Standards, General Industry," (29 CFR 1910), Occupational Safety and Health Administration, OSHA 2206 (Revised, January 1976).
5. "Safety in Academic Chemistry Laboratories," American Chemical Society Publication, Committee on Chemical Safety, 3rd Edition, 1979.
6. "Handbook for Analytical Quality Control in Water and Wastewater Laboratories," EPA-600/4-79-019, U.S. Environmental Protection Agency, Environmental Monitoring and Support Laboratory—Cincinnati, Ohio 45268, March 1979.
7. ASTM Annual Book of Standards, Part 31, D3370, "Standard Practice for Sampling Water," American Society for Testing and Materials, Philadelphia, PA, p. 76; 1980.
8. Burke, J.A., "Gas Chromatography for Pesticide Residue Analysis; Some Practical Aspects," *Journal of the Association of Official Analytical Chemists, 48,* 1037 (1965).
9. McNair, H.M. and Bonelli, E.J., "Basic Chromatography," Consolidated Printing, Berkeley, California, p. 52, 1969.
10. Eichelberger, J.W., Harris, L.E., and Budde, W.L., "Reference Compound to Calibrate Ion Abundance Measurement in Gas Chromatography-Mass Spectrometry," *Analytical Chemistry, 47* 995 (1975).
11. Glaser, J.A. et. al., "Trace Analysis for Wastewaters," *Environmental Science & Technology, 15,* 1426 (1981).
12. "Determination of Organonitrogen Pesticides in Industrial and Municipal Wastewater," Method 633, EPA No. 600/4-82-013, NTIS No. PB82-156076, January 1982, National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22185.
13. 40 CFR Part 136, Appendix B.


TABLE 1.—CHROMATOGRAPHIC CONDITIONS AND METHOD DETECTION LIMITS

| Parameter | GC column | Retention time (min.) | Method detection limit (µg/L) |
|---|---|---|---|
| Terbacil | 1a | 2.1 | ND |
| Bromacil | 1a | 3.7 | 2.38 |
| Hexazinone | 1a | 7.6 | 0.72 |
| Tricyclazole | 1b | 3.5 | ND |
| Metribuzin | 2a | 2.4 | 0.46 |
| Triadimefon | 2a | 4.1 | 0.78 |
| Deet | 2b | 4.6 | 3.39 |

ND = Not determined.

Column 1a conditions: Supelcoport (100/120 mesh) coated with 3% SP-2250DB packed in a 180 cm long x 2 mm ID glass column with nitrogen carrier gas at a flow rate of 30 mL/min. Column temperature, programmed: initial 210 °C, hold for 1 min, then program at 10 °C min to 250 °C and hold. A thermionic bead detector in the nitrogen mode was used to calculate the MDL.

Column 1b conditions: Same as Column 1a, except column temperature isothermal at 240 °C.

Column 2a conditions: Supelcoport (100/120 mesh) coated with 3% SP-2401 packed in a 180 cm long x 2 mm ID glass column with nitrogen carrier gas at a flow rate of 30 mL/min. Column temperature, programmed: initial 160 °C, programmed at injection at 10 °C/min to 230 °C.

Column 2b conditions: Same as Column 2a, except temperature programmed: initial 130 °C, hold for 1 min, then program at 12 °C/min to 200 °C.

TABLE 2.—SINGLE OPERATOR ACCURACY AND PRECISION

| Parameter and sample type | Spike (µg/L) | Number of replicates | Mean recovery (%) | Standard deviation (%) |
|---|---|---|---|---|
| Bromacil: | | | | |
| DW | 5 | 7 | 92.2 | 13.9 |
| MW | 11.1 | 7 | 89 | 3.9 |
| MW | 333 | 7 | 95 | 0.8 |
| Deet: | | | | |
| DW | 5.8 | 7 | 99.1 | 18.4 |
| MW | 5.2 | 7 | 92.6 | 5.9 |
| MW | 515 | 7 | 94.2 | 2.2 |
| Hexazinon: | | | | |
| DW | 4.9 | 7 | 86.6 | 4.1 |
| MW | 10.1 | 7 | 92.2 | 5.3 |
| MW | 369 | 7 | 94.0 | 1.9 |
| Metribuzin: DW | 5.2 | 6 | 98.2 | 2.7 |
| Terbacil: | | | | |
| MW | 32.8 | 7 | 106.7 | 3.6 |
| MW | 656 | 7 | 101 | 1.2 |
| Triadmefon: | | | | |
| DW | 5.2 | 6 | 126 | 6.0 |
| PW | 515 | 4 | 71.8 | 4.5 |
| IW | 154.5 | 7 | 70.4 | 3.8 |
| Tricyclazole: | | | | |
| MW | 12.3 | 7 | 69 | 1.9 |
| MW | 303 | 7 | 98 | 1.2 |

DW = Reagent water.
MW = Municipal wastewater.
PW = Process water, pesticide manufacturing.
IW = Industrial wastewater, pesticide manufacturing.

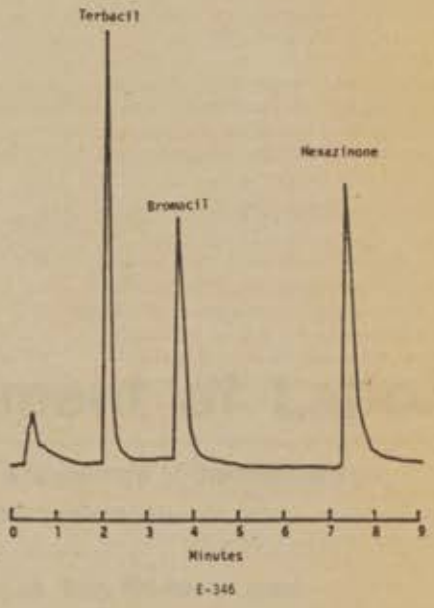


Figure 1.—Gas chromatogram of organonitrogen pesticides on column 1. For conditions, see table 1.

[FR Doc. 85-23111 Filed 10-3-85; 8:45 am]
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Federal Register

Friday
October 4, 1985

Part III

# Department of Labor

**Employment Standards Administration, Wage and Hour Division**

**Minimum Wages for Federal and Federally Assisted Construction; General Wage Determination Decisions, Notice**

## DEPARTMENT OF LABOR

### Employment Standards Administration, Wage and Hour Division

### Minimum Wages for Federal and Federally Assisted Construction; General Wage Determination Decisions

General wage determination decisions of the Secretary of Labor specify, in accordance with applicable law and on the basis of information available to the Department of Labor from its study of local wage conditions and from other sources, the basic hourly wage rates and fringe benefit payments which are determined to be prevailing for the described classes of laborers and mechanics employed on construction projects of the character and in the localities specified therein.

The determinations in these decisions of such prevailing rates and fringe benefits have been made by authority of the Secretary of Labor pursuant to the provisions of the Davis-Bacon Act of March 3, 1931, as amended (46 Stat. 1494, as amended 40 U.S.C. 276a) and of other Federal statutes referred to in 29 CFR 5.1 (including the statutes listed at 36 FR 306 (1970) following Secretary of Labor's Order No. 24–70) containing provisions for the payment of wages which are dependent upon determination by the Secretary of Labor under the Davis-Bacon Act; and pursuant to the provisions of part 1 of subtitle A of title 29 of Code of Federal Regulations, Procedure for Predetermination of Wage Rates, 48 FR 19533 (1983) and of Secretary of Labor's Orders 9–83, 48 FR 35736 (1983), and 6–84, 49 FR 32473 (1984). The prevailing rates and fringe benefits determined in these decisions shall, in accordance with the provisions of the foregoing statutes, constitute the minimum wages payable on Federal and federally assisted construction projects to laborers and mechanics of the specified classes engaged on contract work of the character and in the localities described therein.

Good cause is hereby found for not utilizing notice and public procedure thereon prior to the issuance of these determinations as prescribed in 5 U.S.C. 553 and not providing for delay in the effective date as prescribed in that section, because the necessity to issue construction industry wage determination frequently and in large volume causes procedures to be impractical and contrary to the public interest.

General wage determination decisions are effective from their date of publication in the **Federal Register** without limitation as to time and are to be used in accordance with the provisions of 29 CFR Parts 1 and 5. Accordingly, the applicable decision together with any modifications issued subsequent to its publication date shall be made a part of every contract for performance of the described work within the geographic area indicated as required by an applicable Federal prevailing wage law and 29 CFR, Part 5. The wage rates contained therein shall be the minimum paid under such contract by contractors and subcontractors on the work.

#### Modifications and Supersedeas Decisions to General Wage Determination Decisions

Modifications and supersedeas decisions to general wage determination decisions are based upon information obtained concerning changes in prevailing hourly wage rates and fringe benefit payments since the decisions were issued.

The determinations of prevailing rates and fringe benefits made in the modifications and supersedeas decisions have been made by authority of the Secretary of Labor pursuant to the provisions of the Davis-Bacon Act of March 3, 1931, as amended (46 Stat. 1494, as amended 40 U.S.C. 276a) and of other Federal statutes referred to in 29 CFR 5.1 (including the statutes listed at 36 FR 306 (1970) following Secretary of Labor's Order No. 24–70) containing provisions for the payment of wages which are dependent upon determination by the Secretary of Labor under the Davis-Bacon Act; and pursuant to the provisions of Part 1 of Subtitle A of Title 29 of Code of Federal Regulations, Procedure for Predetermination of Wage Rates, 48 FR 19533 (1983) and of Secretary of Labor's Order 6–84, 49 FR 32473 (1984). The prevailing rates and fringe benefits determined in foregoing general wage determination decisions, as hereby modified, and/or superseded shall, in accordance with the provisions of the foregoing statutes, constitute the minimum wages payable on Federal and federally assisted construction projects to laborers and mechanics of the specified classes engaged in contract work of the character and in the localities described therein.

Modifications and supersedeas decisions are effective from their date of publication in the **Federal Register** without limitation as to time and are to be used in accordance with the provisions of 29 CFR Parts 1 and 5.

Any person, organization, or governmental agency having an interest in the wages determined as prevailing is encouraged to submit wage rate information for consideration by the Department. Further information and self-explanatory forms for the purpose of submitting this data may be obtained by writing to the U.S. Department of Labor, Employment Standards Administration, Wage and Hour Division, Office of Program Operations, Division of Wage Determinations, Washington, D.C. 20210. The cause for not utilizing the rulemaking procedures prescribed in 5 U.S.C. 553 has been set forth in the original General Determination Decision.

#### New General Wage Determination Decision

Washington: WA85–5038.

#### Modification to General Wage Determination Decisions

The numbers of the decisions being modified and their dates of publication in the **Federal Register** are listed with each State.

| | |
|---|---|
| California: CA85–5035 | Sept. 6, 1985. |
| Illinois: IL84–5042 | Dec. 14, 1984. |
| Louisiana: LA85–4020 | Aug. 9, 1985. |
| Ohio: OH83–5125 | Dec. 23, 1983. |
| Texas: TX84–4047 | Aug. 10, 1984. |
| Virginia: | |
| VA85–3025 | May 3, 1985. |
| VA85–3051 | Sept. 13, 1985. |
| Wisconsin: WI84–5028 | Dec. 21, 1984. |

#### Supersedeas Decision to General Wage Determination Decisions

The numbers of the decisions being modified and their dates of publication in the **Federal Register** are listed with each State. Supersedeas decision numbers are in parentheses following the numbers of the decisions being superseded.

| | |
|---|---|
| Kentucky: | |
| KY84–1028 (KY85–1009) | Aug. 31, 1984. |
| KY84–1027 (KY85–1008) | Do. |
| KY84–1026 (KY85–1007) | Do. |
| KY84–1029 (KY85–1010) | Sept. 7, 1984. |
| Oklahoma: | |
| OK85–4035 (OK85–4041) | Aug. 23, 1985. |
| OK85–4034 (OK85–4042) | Do. |

Signed at Washington, DC This 27th Day of September 1985.

**James L Valin,**

*Assistant Administrator.*

BILLING CODE 4510-27-M

MODIFICATION P. 1

DECISION #WI84-5028-MOD#4
(49 FR 49827-December 21, 1984)
Bayfield & Douglas Counties, Wisconsin

OMIT:
Bayfield County from Decision as originally issued.

| | Basic Hourly Rates | Fringe Benefits |
|---|---|---|

DECISION NO. IL84-5042 - Mod#3
(49 FR 48881 - Dec 14, 1984)
Sangamon County, Illinois

ADD:
PAINTERS:
RESIDENTIAL CONSTRUCTION:

| | Basic Hourly Rates | Fringe Benefits |
|---|---|---|
| Brush | $12.00 | 2.20+c |
| Sandblasting | 12.50 | 2.20+c |
| Spray | 12.75 | 2.20+c |
| Rollers, Taping | 13.00 | 2.20+c |

DECISION NO. LA85-4022 - MOD. #1
(50 FR 32351 - 8/9/85)
Statewide Louisiana

CHANGE:
Painters:
Zone 1:

| | Basic Hourly Rates | Fringe Benefits |
|---|---|---|
| Work on apartments over 4 stories | $11.60 | .60 |
| All other work | 14.00 | .60 |

DECISION #OH83-5125-MOD#8
(48 FR 56898-December 23, 1983)
Ashtabula, Cuyahoga, Lake, Lorain, Portage, Stark, & Summit Cos., Ohio

OMIT:
Lorain County from Decision as originally issued.

DECISION NO. TX84-4047 - MOD. #4
(49 FR 32167 - 8/10/84)
Lubbock County, Texas

CHANGE:
Plumbers & steamfitters:

| | Basic Hourly Rates | Fringe Benefits |
|---|---|---|
| Projects where total mechanical contract is over $150,000 | $15.00 | 1.59 |
| Projects where total mechanical contract does not exceed $150,000 & apartments over 4 stories & motels without central heating & air conditioning | 10.50 | 1.59 |

DECISION NO. VA85-3025-MOD. #3
(50 FR 18966-May 3, 1985)
RADFORD ARMY AMMUNITION PLANT, VIRGINIA

CHANGE:
Change Modification #1 published on August 30, 1985 to read: Change Modification #2

| | Basic Hourly Rates | Fringe Benefits |
|---|---|---|
| CARPENTERS | 12.25 | 1.17 |
| LATHERS | 12.25 | 1.17 |
| MILLWRIGHTS | 16.10 | 1.17 |
| SPRINKLER FITTERS | 13.87 | 3.40 |

DECISION NO. VA85-3051
MOD. #1
(50 FR 37476-September 13, 1985)
The Cities of CHESAPEAKE, PORTSMOUTH, & VIRGINIA BEACH

CHANGE:

| | Basic Hourly Rates | Fringe Benefits |
|---|---|---|
| PILEDRIVERMEN AND DOCKBUILDERS | 12.35 | 2.11 |



MODIFICATIONS P. 2

DECISION NO. CA85-5035 - Mod. #2
(50 FR 36519 - September 6, 1985)
Imperial, Inyo, Kern, etc., Counties, CA

Change:
Line Construction:
Change Area Description for Area 2 to read as follows:
"Kern County (excluding Edwards Air Force Base and China Lake Naval Weapons Center)"
Change Area Description for Area 9 to read as follows:
"Edwards Air Force Base and China Lake Naval Weapons Center"
Plumbers; Steamfitters:
Area 1 Zone Definitions are shown on Page 11 of the Supersedeas Decision.
Change Zone Definition for Zone 2 to read as follows:
"Camp Roberts; Edwards Air Force Base in Los Angeles and San Bernardino Counties; George Air Force Base, and Vandenburg Air Force Base"
Change Area Description for Area 3 to read as follows:
"Edwards Air Force Base in Kern County, and China Lake Naval Weapons Center"

| | Basic Hourly Rates | Fringe Benefits |
|---|---|---|

DECISION NO. CA85-5035 (Cont'd):

| | Basic Hourly Rates | Fringe Benefits |
|---|---|---|

Omit:
Refrigeration and Air Conditioning:
Omit Area Description for Area 2.

NEW DECISION

STATE: WASHINGTON
DECISION NUMBER: WA85-5038
DESCRIPTION OF WORK: Building Projects (Does not include single-family homes and apartments up to and including four stories)

COUNTIES: Adams, Asotin, *Benton Columbia, *Douglas, Ferry, *Franklin, Garfield, Grant, Lincoln, *Okanogan Pend Oreille, Stevens, Walla Walla, and Whitman

*Includes the areas of Douglas and Okanogan Counties which lie East of the 120th Meridian and D.O.E. Hanford Site in Benton and Franklin Counties

| | Basic Hourly Rates | Fringe Benefits |
|---|---|---|
| ASBESTOS WORKERS: | | |
| Area 1 | $21.07 | $3.30 |
| BOILERMAKERS: | | |
| Area 1 | 19.67 | 4.25 |
| BRICKLAYERS: | | |
| Area 1 | 17.28 | 1.87 |
| Area 2 | 16.73 | 3.70 |
| Area 3 | 17.84 | 2.29 |
| CARPENTERS: | | |
| Area 1: | | |
| Carpenters | 16.57 | 3.42 |
| Piledriver, sawfiler, stationary power woodworking tool | 16.72 | 3.42 |
| Boom man, carpenter working with burned, charred, or similarly treated material | 16.82 | 3.42 |
| Piledriver, creosote | 16.93 | 3.42 |
| Millwright & Machine erector | 17.07 | 3.42 |
| Area 2: | | |
| Projects under $2,000,000 exclusive of mechanical and electrical subcontracts: | | |
| Carpenters | 13.37 | 3.67 |
| Piledrivers | 13.49 | 3.67 |
| Millwrights | 13.77 | 3.67 |
| All other work: | | |
| Carpenters & Lathers | 16.82 | 3.67 |
| Piledriver | 17.22 | 3.67 |
| Millwright | 17.32 | 3.67 |
| CEMENT MASONS: | | |
| AREA 1: | | |
| Group 1 | 15.88 | 3.20 |
| Group 2 | 16.38 | 3.20 |
| Group 3 | 16.88 | 3.20 |
| AREA 2: | | |
| Group 1 | 15.62 | 3.80 |
| Group 2 | 16.12 | 3.80 |
| Group 3 | 16.62 | 3.80 |
| ELECTRICIANS: | | |
| Area 1: | | |
| Electricians | 18.76 | 3%+3.61 |
| Cable Splicers | 19.70 | 3%+3.61 |
| Area 2: | | |
| Electricians | 18.00 | 3%+2.46 |
| Cable Splicers | 18.40 | 3%+2.46 |
| Area 3: | | |
| Electricians | 20.03 | 3%+2.56 |
| Cable Splicers | 22.03 | 3%+2.56 |

| | Basic Hourly Rates | Fringe Benefits |
|---|---|---|
| ELEVATOR MECHANICS: | | |
| Area 1: | | |
| Mechanics | 19.855 | a+3.29 |
| Helpers | 70% | a+3.29 |
| Probationary helpers | 50% | |
| GLAZIERS: | | |
| Area 1 | 17.11 | 2.76 |
| IRONWORKERS | 18.26 | 4.71 |
| PAINTERS: | | |
| Area 1: | | |
| Journeyman Painter | 15.97 | 2.46 |
| Taper, Finisher | 16.22 | 2.46 |
| Spray, Steel painter, Steam cleaning, acid etching | 16.47 | 2.46 |
| Swing Stage or high work over 30 ft | 16.67 | 2.46 |
| Bituminastic, Sandblast | 16.77 | 2.46 |
| PLASTERERS: | | |
| Area 1 | 15.88 | 3.20 |
| PLUMBERS: | | |
| Area 1 | 19.43 | 7.23 |
| Area 2 | 17.25 | 6.82 |
| Area 3 | 19.89 | 6.76 |
| ROOFERS: | | |
| Area 1 | 16.48 | 2.55 |
| Area 2 | 14.56 | 4.10 |
| SHEET METAL WORKERS: | | |
| Area 1 | 17.86 | 3%+3.07 |
| Area 2 | 17.46 | 3%+3.08 |
| SOFT FLOOR LAYERS: | | |
| Area 1 | 15.72 | 2.99 |
| Area 2 | 14.19 | 1.74 |
| Area 3 | 15.00 | 2.34 |
| SPRINKLER FITTERS: | | |
| Area 1 | 19.17 | 3.23 |
| LANDSCAPE CONSTRUCTION: | | |
| Laborers | 8.46 | 3.30 |
| Plumbers | 10.62 | 2.31 |
| Power Equipment Operators | 11.18 | 3.80 |
| LABORERS: | | |
| Area 1 (D.O.E. Hanford Site): | | |
| Group 1 | 14.10 | 3.12 |
| Group 2 | 14.35 | 3.12 |
| Group 3 | 14.60 | 3.12 |
| Group 4 | 14.85 | 3.12 |
| Group 5 | 15.10 | 3.12 |

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| | Basic Hourly Rates | Fringe Benefits |
|---|---|---|
| LABORERS (Cont'd): | | |
| Area 2: Asotin, Columbia, Garfield, Walla Walla and Whitman Counties (See Footnote "b" regarding cost of projects): | | |
| Group 1 | $13.72 | $3.37 |
| Group 2 | 13.97 | 3.37 |
| Group 3 | 14.22 | 3.37 |
| Group 4 | 14.47 | 3.37 |
| Area 3: Adams, Chelan, Douglas Ferry, Grant, Kittitas, Lincoln Okanogan, Pend Oreille, and Stevens Counties: | | |
| Laborers | 10.41 | 2.89 |
| POWER EQUIPMENT OPERATORS: | | |
| Area 1: D.O.E. Hanford Site in Benton & Franklin Cos.: | | |
| Group 1 | 14.28 | 4.10 |
| Group 2 | 14.58 | 4.10 |
| Group 3 | 15.13 | 4.10 |
| Group 4 | 15.28 | 4.10 |
| Group 5 | 15.43 | 4.10 |
| Group 6 | 15.68 | 4.10 |
| Group 7 | 15.93 | 4.10 |
| Group 8 | 16.93 | 4.10 |
| Group 9 | 18.68 | 4.10 |
| Area 2: Remaining Counties: | | |
| Group 1 | 14.70 | 4.35 |
| Group 2 | 15.00 | 4.35 |
| Group 3 | 15.55 | 4.35 |
| Group 4 | 15.70 | 4.35 |
| Group 5 | 15.85 | 4.35 |
| Group 6 | 16.10 | 4.35 |
| Group 7 | 16.35 | 4.35 |
| Group 8 | 17.35 | 4.35 |

| | Basic Hourly Rates | Fringe Benefits |
|---|---|---|
| TRUCK DRIVERS: | | |
| Area 1: D.O.E. Hanford Site in Benton & Franklin Cos. | | |
| Group 1 | 15.19 | 3.48 |
| Group 2 | 15.23 | 3.48 |
| Group 3 | 15.29 | 3.48 |
| Group 4 | 15.38 | 3.48 |
| Group 5 | 15.59 | 3.48 |
| Group 6 | 15.63 | 2.48 |
| Group 7 | 15.69 | 2.48 |
| Group 8 | 15.73 | 2.48 |
| Group 9 | 15.84 | 3.48 |
| Group 10 | 15.88 | 3.48 |
| Group 11 | 16.19 | 3.48 |
| Group 12 | 16.33 | 3.48 |
| Group 13 | 16.49 | 3.48 |
| Group 14 | 16.63 | 3.48 |
| Area 2: Remaining Counties (See Footnote "b" regarding cost of project) | | |
| Group 1 | 13.43 | 4.10 |
| Group 2 | 15.87 | 4.10 |
| Group 3 | 15.91 | 4.10 |
| Group 4 | 15.97 | 4.10 |
| Group 5 | 16.06 | 4.10 |
| Group 6 | 16.27 | 4.10 |
| Group 7 | 16.31 | 4.10 |
| Group 8 | 16.37 | 4.10 |
| Group 9 | 16.41 | 4.10 |
| Group 10 | 16.52 | 4.10 |
| Group 11 | 16.56 | 4.10 |
| Group 12 | 16.87 | 4.10 |
| Group 13 | 17.01 | 4.10 |
| Group 14 | 17.17 | 4.10 |
| Group 15 | 17.31 | 4.10 |

GROUP DESCRIPTIONS FOR CEMENT MASONS - AREAS 1 and 2

Group 1: Journeyman Cement Mason, includes but not limited to: Rodding, Tamping, Floating, Troweling, Patching, Stoning, Rubbing, Sack Rubbing; All exposed aggregate finishing, setting of Screeds, Screed Forms, Curb and gutter and sidewalk forms, Preparation of all concrete for caulking of the joints and the caulking of expansion joints, Preparation of concrete for the application of hardeners, sealers and curing compounds and their application; Grouting and dry packing of Machine Base; Removal of Snap Ties and She-Bolts prior to patching of concrete

Group 2: Power Troweling Machine Operator; Troweling of Magnesite, Terrazzo or material with epoxy base or erychloride base; All power Grinders, Brushing Hammer, Chipping Gun, Gunnite Nozzleman; All sandblasting for architectural finishes and exposing of aggregate for finish; Concrete sawing and cutting for expansion joints and scoring for decorative patterns; Operating of Clary-type Floats, Longitudinal Floats, Rodding Machines and Belting Machines; Scarifiers

Group 3: Grinding, Brushing or Chipping of Toxic materials or high density concrete; Operating power tools on a Scaffold

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AREA DESCRIPTIONS

ASBESTOS WORKERS:
Area 1: Hanford site in Benton & Franklin Counties
BOILERMAKERS:
Area 1: Hanford site in Benton & Franklin Counties
BRICKLAYERS:
Area 1: Hanford site in Benton & Franklin Cos. and Walla Walla County
Area 2: Adams County (Except City of Othello), Asotin, Columbia, Ferry, Garfield, Lincoln, Pend Oreille, Okanogan (Grand Coulee Dam Area), Stevens, and Whitman Counties
Area 3: Chelan, Douglas, Grant, Okanogan (Except Grand Coulee Dam), and the City of Othello in Adams County
CARPENTERS:
Area 1: Hanford site in Benton & Franklin Counties
Area 2: Remaining Counties
CEMENT MASONS:
Area 1: Hanford site in Benton & Franklin Counties
Area 2: Adams, Asotin, Chelan, Columbia, Douglas, Ferry, Garfield, Grant, Kittitas (except area one mile west of Easton), Lincoln, Okanogan, Pend Oreille, Stevens, Walla Walla, and Whitman
ELECTRICIANS:
Area 1: Hanford site in Benton & Franklin Cos., Asotin, Columbia, Garfield, Kittitas, and Walla Walla Counties
Area 2: Adams, Ferry, Lincoln, Pend Oreille, Stevens and Whitman Counties
Area 3: Chelan, Douglas, Grant, and Okanogan Counties
ELEVATOR MECHANICS:
Area 1: Hanford site in Benton & Franklin Counties
GLAZIERS:
Area 1: Hanford site in Benton & Franklin Counties
PAINTERS:
Area 1: Hanford site in Benton & Franklin Counties
PLASTERERS:
Area 1: Hanford site in Benton & Franklin Counties
PLUMBERS:
Area 1: Hanford site in Benton & Franklin Counties, Adams (Southern part), Asotin, (except Clarkston), Columbia, Garfield, Grant, Klickitat, Walla Walla, Douglas, Ferry (west of a line drawn from Creston in Lincoln County north to the Canadian Border), Lincoln (west of a line drawn from Schrag in Adams County northward to the Ferry County line), and Okanogan (South of 48° 30' North Latitude)
Area 2: Okanogan (North of 48° 30' N. Latitude),
Area 3: Adams (North part including Ritzville), Asotin (Clarkston only), Ferry (East of a line drawn from Creston in Lincoln Co. to the Canadian border), Lincoln (east of a line drawn from Schrag in Adams Co. northward to the Ferry Co. line), Pend Oreille, Stevens, and Whitman Counties
ROOFERS:
Area 1: Hanford site in Benton & Franklin Counties
Area 2: Remaining Counties
SHEET METAL WORKERS:
Area 1: Hanford site in Benton & Franklin Counties
Area 2: Remaining Counties
SOFT FLOOR LAYERS:
Area 1: Hanford site in Benton & Franklin Counties
Area 1: Adams (Northeastern part), Ferry, Lincoln (Eastern part), Pend Oreille, and Stevens
Area 3: Adams (Remainder), Douglas, Grant, Lincoln (Western part), Okanogan Counties
SPRINKLER FITTERS:
Area 1 Hanford site in Benton & Franklin Counties





LABORERS - AREA 1

DOE Hanford Site in Benton and Franklin Counties

Group 1: Brush Hog Feeder; Carpenter Tender; Concrete Crewman (to include: Stripping of forms, hand operating jacks on slip form construction, application of concrete curing compounds, Pumpcrete Machine, Signaling, handling the Nozzle of Squeezecrete or similar machine - 6 in. and smaller); Crusher Feeder; Demolition (to include: clean-up, burning, loading, wrecking and salvage of all material); Dumpman; Fence Erector (to include: Guard Rail, Guide and reference Post, Sign Posts, and Right-of-way Markers); General Laborer; Grout Machine Header Tender; Nippers; Riprap Man; Scaffold Erector, wood or steel; Scaleman; Stake Jumper; Structural Mover (to include: separating foundation, preparation, cribbing, shoring, jacking and unloading of structures); Tailhoseman (water nozzle); Timber Bucker and Faller (by hand); Truck Loader; Wellpoint Man; Window Cleaner; Miner Class "A" - Bull Gang, Pump Crete Crewman including Distribution Pipe, Assembling and Dismantle and Nipper

Group 2: Asphalt Raker; Asphalt Roller, walking; Cement Finisher Tender; Cement Handler; Concrete Saw, walking; Demolition Torch; Dope Pot Fireman, non-mechanical; Driller Tender (when required to move and position machine); Form Cleaning Machine Feeder; Stacker; Form Setter, paving; Grade Checker using level; Jackhammer Operator; Nozzleman (to include: Squeeze and Flow-crete Nozzle); Nozzleman, water, air or steam; Pavement Breaker; Pipelayer, corrugated metal culvert; Pipelayer, multi-section; Pot Tender; Powderman Tender; Power Buggy Operator; Power Tool Operator, gas, electric, pneumatic; Rodder and Spreader; Sandblast Tailhoseman; Tamper (to include: operation of Barco, Essex and similar Tampers, and Pavement Breakers); Trencher, Shawnee; Tugger Operator; Vibratot, under 4 inches; Wagon Drills; Water Pipe Liner; Wheelbarrow, power driven; Miner Class "B" - Brakeman, Finisher, Vibrator and Form Setter

Group 3: Air Track Drill; Brush Machine (to include: Horizontal Construction Joint Clean-up Brush Machine, power propelled); Caisson Worker, free air, Chain Saw Operator and Faller; Concrete Stack (to include: Laborers when 40 ft. high); Gunnite (to include: operation of machine and nozzle); High Scaler; Hod Carrier; Laser Beam Operator (to include: Grade Checkers and Elevation control); Monitor Operator (track or similar mounting); Mortar Mixer; Nozzleman (to include: Jet Blasting Nozzleman, over 1,200 lbs., Jet Blast Machine, power propelled, Sandblast Nozzle); Pipelayer (to include: working Topman, Caulker, Collarman, Jointer, Mortarman, Rigger, Jacker, Shorer, Valve or meter Installer) Pipewrapper; Vibrator, 4 inches and over; Miner Class "C" - Miner and Nozzleman for concrete and Laser Beam Operator in Tunnels

Group 4: Drills with dual masts; Miner Class "D" - Raise and Shaft Miner and Laser Beam Operator on Raises and Shafts

Group 5: Powderman

LABORERS - AREA 2

Group 1: Brush Hog Feeder; Carpenter Tender; Concrete Crewman (to include: Stripping of forms, hand operating jacks on slip form construction, application of concrete curing compounds, Pumpcrete Machine, Signaling, handling the nozzle of Squeezecrete or similar machine - 6 in. and smaller); Crusher Feeder; Demolition (to include: clean-up, burning, loading, wrecking and salvage of all material); Dumpman; Fence Erector (to include: Guard Rail, Guide and Reference Post, Sign Posts, and Right-of-way Markers); General Laborer; Grout Machine Header Tender; Nippers; Riprap Man; Scaffold Erector, wood or steel; Scaleman; Stake Jumper; Structural Mover (to include: separating foundation, preparation, cribbing, shoring, jacking and unloading of structures); Tailhoseman (water nozzle); Timber Bucker and Faller (by hand); Truck Loader; Well-point Man; Window Cleaner; Miner Class "A" - Bull Gang, Pump Crete Crewman including Distribution Pipe, Assembling and Dismantle and Nipper; Track Laborer; Railroad Equipment, power driven; Dual Mobile Power Spiker or Puller

Group 2: Asphalt Raker; Asphalt Roller, walking; Cement Finisher Tender; Cement Handler; Concrete Saw, walking; Demolition Torch; Dope Pot Fireman, non-mechanical; Driller Tender (when required to move and position machine); Form Cleaning Machine Feeder; Stacker; Form Setter, paving; Grade Checker using level; Jackhammer Operator; Nozzleman (to include: Squeeze and Flow-crete Nozzle); Nozzleman, water, air or steam; Pavement Breaker; Pipelayer, corrugated metal culvert; Pipelayer, multi-section; Pot Tender; Powderman Tender; Power Buggy Operator; Power Tool Operator, gas, electric, pneumatic; Rodder and Spreader; Sandblast Tailhoseman; Tamper (to include: operation of Barco, Essex and similar Tampers, and Pavement Breakers); Trencher, Shawnee; Tugger Operator; Vibrator, under 4 inches; Wagon Drills; Water Pipe Liner; Wheelbarrow, power driven; Miner Class "B" - Brakeman, Finisher, Vibrator and Form Setter

Group 3: Air Track Drill; Brush Machine (to include: Horizontal Construction Joint Clean-up Brush Machine, power propelled); Caisson Worker, free air, Chain Saw Operator and Faller; Concrete Stack (to include: Laborers when 40 ft. high); Gunnite (to include: operation of machine and nozzle); High Scaler; Hod Carrier; Laser Beam Operator (to include: Grade Checkers and Elevation control); Monitor Operator (track or similar mounting); Mortar Mixer; Nozzleman (to include: Jet Blasting Nozzleman, over 1,200 lbs., Jet Blast Machine, power propelled, Sandblast Nozzle); Pipelayer (to include: working Topman, Caulker, Collarman, Jointer, Mortarman, Rigger, Jacker, Shorer, Valve or meter Installer); Pipewrapper; Vibrator, 4 inches and over; Miner Class "C" - Miner and Nozzleman for concrete and Laser Beam Operator in Tunnels

Group 4: Drills with dual masts; Powderman; Miner Class "D" - Raise and Shaft Miner and Laser Beam Operator on Raises and Shafts; Powderman receives $0.25 an hour additional





POWER EQUIPMENT OPERATORS - AREA 1

DOE Hanford Site in Benton and Franklin Counties

Group 1: Bit Grinders; Bolt Threading Machine; Compressors (under 2,000 CFM, gas, diesel or electric power); Crusher Feeder (mechanical); Deck Hand; Driller Tender; Fireman and Heater Tender; Grade Checker; Mechanic or Welder, N.O.; Hydro-seeder, Mulcher, Nozzleman; Oiler; Oiler and Cable Tender, Mucking Machine; Pumpman; Rollers, all types on subgrade (farm type, Case, John Deere and similar, or Compacting Vibrator), except when pulled by Dozer with operable blade; Steam Cleaner; Welding Machine

Group 2: A-Frame Truck (single drum); Assistant Refrigeration Plant (under 1,000 ton); Assistant Plant Operator, Fireman or Pugmixer (asphalt); Bagley or Stationary Scraper; Belt Finishing Machine; Blower Operator (cement); Cement Hog; Compressor (2,000 CFM or over, 2 or more, gas, diesel or electric power); Concrete Saw (multiple cut); Distributor Leverman; Ditch Witch or similar; Elevator, hoisting materials; Dope Pots (power agitated); Fork Lift or Lumber Stacker, Hydra-lift and similar; Gin Trucks (pipeline); Hoist, single drum; Loaders (bucket, elevators and conveyors); Longitudinal Float; Mixer (portable - concrete); Pavement Breaker, Hydra-hammer and similar; Power Broom; Spray Curing Machine (concrete); Spreader Box (self-propelled); Straddle Buggy (Ross and similar on construction job only); Tractor (Farm type R/T with attachments, except Backhoe); Tugger Operator

Group 3: A-Frame Truck (2 or more drums); Assistant Refrigeration Plant and Chiller Operator (over 1000 ton); Backfillers (Cleveland and similar); Batch Plant and Wet Mix Operator, single unit (concrete); Belt-crete Conveyors with power pack or similar; Belt Loader (Kocal or similar); Bend Machine; Bob Cat; Boring Machine (earth); Boring Machine (rock under 8" bit) (Quarry Master, Joy or similar); Bump Cutter (Wayne, Saginau or similar); Canal Lining Machine (concrete); Cleaning and Doping Machine (pipeline); Deck Engineer; Elevating Belt-type Loader (Euclid, Barber Green and similar); Elevating Grader-type Loader (Dumot, Adams or similar); Generator Plant Engineers (diesel, electric); Gunite Combination Mixer and Compressor; Mixermobile; Posthole Auger or Punch; Pump (Grout or Jet); Soil Stabilizer (P & H or similar); Spreader Machine; Tractor (to D-6 or equivalent) and Trasscavator; Traverse Finish Machine; Turnhead Operator

Group 4: Blade Operator (Motor Patrol and attachments); Concrete Pumps (Squeeze-crete, Flow-crete, Pump-crete, Whitman and similar); Curb Extruder (asphalt or concrete); Drills (Churn, Core, Calyx, or Diamond); Equipment Serviceman, Greaser and Oiler; Hoist (2 or more drums or Tower Hoist); Loaders (Overhead and Front-end, under 4 yds. R/T); Refrigeration Plant Engineers (under 1000 ton); Rubber-tire Skidders (R/T with or without attachments); Screed Operator; Surface Heater and Planer Machine; Trenching Machines (under 7 ft. depth capacity); Turnhead (with re-screening); Vacuum Drill (Reverse Circulation Drill under 8" bit)

GROUP DESCRIPTIONS

POWER EQUIPMENT OPERATORS - AREA 1

(CONT'D)

Group 5: Drilling Equipment (8" bit and over) (Robbins, Reverse Circulation and similar); Hoe Ram; Paving (dual drum); Refrigeration Plant Engineer (1000 tons and over); Signalman (Whirleys, Highline, Hammerheads or similar)

Group 6: Automatic Subgrader (Ditches and Trimmers)(Autograde, ABC, R.A. Hansen and similar on grade wire); Backhoe (under 1 yd.); Batch Plant (over 4 units); Batch and Wet Mix Operator (multiple units, 2 and including 4); Boat Operator; Cableway Controller (Dispatcher); Cranes (25 tons and under); Derricks and Stifflegs (under 65 tons); Drill Doctor; Multiple Dozer Units with single blade; Paving Machine (asphalt and concrete); Piledriving Engineers; Quad-track or similar equipment; Rollerman (finishing pavement); Trenching Machines (7 ft. depth and over)

Group 7: Asphalt Plant Operator (Backhoes (1 yd. to 3 yds.); Blade (finish and Bluetop) Automatic, CMI, ABC and similar when used as automatic; Boom Cats (side); Cableway Operators; Clamshell Operators (under 3 yds.); Concrete Slip Form Paver; Cranes (over 25 tons, including 45 tons); Crusher, Grizzle and Screening Plant Operator; Draglines (under 3 yds.); Elevating Belt (Holland type); H.D. Mechanic; H.D. Welder; Loader Operator (Front-end and Overhead, 4 yards, including 8 yards); Mucking Machine; Quad-track or similar equipment; Rubber-tired Scrapers; Shovels (under 3 yds.); Tractors (D-6 and equivalent and over)

Group 8: Backhoes (3 yds. and over); Cranes (over 45 tons, to 85 tons); Cranes (85 tons and over, all climbing, rails and tower); Clamshell Operator (3 yds. and over); Derricks and Stifflegs (65 tons and over); Draglines (3 yds. and over); Loader (360 degrees revolving Koehring Scooper or similar); Loaders (Overhead and Front-end, over 8 yds.); Helicopter Pilot; Shovels (3 yds. and over); Whirleys and Hammerheads, all

Group 9: Transi-lift





GROUP DESCRIPTIONS

POWER EQUIPMENT OPERATORS - AREA 2

Group 1: Bit Grinder; Bolt Threading Machine; Compressor, under 2,000 cu. ft. per minute, gas, diesel or electric power; Crusher Feeder (mechanical); Deckhand; Driller's Tender; Fireman and Heater Tender; Grade Checker; Tender (Mechanic, H.D.); Oiler, Oiler and Cable Tender, Mucking Machine; Pumpman; Rollers, all types on subgrade (farm type, Case, John Deere and similar - or Compacting or Vibrator) except when pulled by Dozer with operable blade; Steam Cleaner; Welding Machine; Hydro-seeder

Group 2: A-Frame Truck (single-drum); Assistant Refrigeration Plant (under 1,000 tons); Assistant Plant Operator; Fireman or Pugmixer (asphalt); Bagley or Stationary Scraper; Belt Finishing Machine; Blower Operator (cement); Cement Hog; Compressor (2,000 cu. ft. or over, 2 or more, gas, diesel or electric power); Concrete Saw multiple cut); Distributor Leverman; Elevator hoisting materials; Dope Pots (power agitated); Fork lift or Lumber Stacker; Hydralift and similar; Gin Trucks (Pipeline); Hoist, single drum; Loader (Bucker, Elevator and Conveyors); Longitudinal Float; Mixer (portable - concrete); Pavement Breaker; Hydra Hammer and similar; Power Broom; Spray Curing Machine (concrete); Spreader Box (self-propelled); Straddle Buggy (Ross and similar on construction job site); Tractor (farm type R/T with attachments except Backhoe); Tugger Operator; Ditch Witch or similar

Group 3: A-Frame Truck (2 or more drums); Assistant Refrigeration Plant and Chiller Operator (over 1,000 tons); Backfillers (Cleveland and similar); Beltcrete Conveyors with power pack or similar; Belt Loader (Kocal or similar); Batch Plant and Wet Mix Operator, single unit (concrete); Bending Machine; Boring Machine (earth); Boring Machine (rock under 8" bit) (Quarry Master, Joy or similar); Bump Cutter (Wayne, Saginaw or similar); Canal Lining Machine (concrete); Chipper (without crane); Cleaning and Doping Machine (Pipeline); Elevating Belt-type Loader (Euclid, Barber Green or similar); Elevating Grader-type Loader (Dumor, Adams or similar); Generator Plant Engineers (diesel, electric); Gunite Combination Mixer and Compressor; Mixermobile; Mucking Machines; Soil Stabilizer (P & H or similar); Spreader Machine; Pump; Tractor to D-6 or equivalent and Traxcavator; Transverse Finish Machine, Turnhead Operator

Group 4: Blade Operator (Motor Patrol and attachments); Concrete Pump (Squeeze-crete, Flow-crete, Pump-crete, Whitman and similar); Drills (Churn, Core, Calyx, or Diamond); Equipment Serviceman, Greaser and Oiler; Hoist (2 or more drums or Tower Hoist); Loaders Overhead and Front-end, under 4 yds. R/T); Pave or Curb Extruders (asphalt or concrete); Refrigeration Plant Engineers (under 1,000 tons); Rubber-tired Skidders (R/T with or without attachments); Surface Heater and Planer Machine; Trenching Machines (under 7 ft. depth capacity); Turnhead (with re-screening); Vacuum Drill (Reverse Circulation Drill, under 5" bit)

GROUP DESCRIPTIONS

POWER EQUIPMENT OPERATORS - AREA 2

(CONT'D)

Group 5: Backhoe (under 1 yard); Crane (25 tons and under); Derrick and Stifflegs (under 65 tons); Drilling Equipment (8" bit and over) (Robbins, Reverse Circulation and similar); Hoe Ram; Piledriving Engineers; Paving (dual drum); Refrigeration Plant Engineer (1,000 tons and over); Signalman (Whirleys, Highline, Hammerheads or similar)

Group 6: Asphalt Plant Operator; Automatic Subgrader (Ditches and Trimmers (Autograde, ABC, R.A. Hansen and similar on grade wire); Backhoes (1 yard to 3 yards); Batch Plant (over 4 units); Batch and Wet Mix Operator (multiple units, 2 and including 4); Blade (finish and Bluetop) (Automatic, CMI, ABC, and similar when used as automatic); Boat Operator; Boom Cats (side); Cableway Controller (Dispatcher); Clamshell Operator (under 3 yds.); Concrete Slip Form Paver; Cranes (over 25 tons including 45 tons); Crusher, Grizzle and Screening Plant Operator; Draglines (under 3 yards); Drill Doctor; H.D. Mechanic; H.D. Welder; Loader Operator (Front-end and Overhead, 4 yards including 8 yards); Multiple Dozer Units with single blade; Quad-track or similar equipment; Rollerman (finishing pavement); Rubber-tired Scrapers (one motor with one scraper, under 40 yards); Rubber-tired Scrapers, Multi-engine power with one Scraper (Euclid, TS 24 and similar); Rubber-tired Scrapers, one motor with one scraper (40 yards and over); Rubber-tired Scraper, multiple engines with two scrapers; Scraper Operator; Shovels (under 3 yards); Tractors (D-6 and equivalent and over); Trenching Machines (7 feet depth and over, and screed operator

Group 7: Backhoe (3 yards and over); Cableway Operators; Clamshell Operator (3 yards and over); Cranes (over 45 tons to 85 tons); Derricks and Stifflegs (65 tons and over); Draglines (3 yards and over); Elevating Belt (Holland type); Loader 360 degrees revolving Koehring Scooper or similar; Loaders (Overhead and Front-end, over 8 yards to 10 yards); Rubber-tired Scrapers (multiple engine with three or more Scrapers); Shovels (3 yards and over); Whirleys and Hammerheads, all

Group 8: Cranes (85 tons and over, and all climbing, rail and tower); Loaders (Overhead and Front-end, 10 yards and over); Helicopter Pilot





GROUP DESCRIPTIONS

TRUCK DRIVERS - AREA 1

DOE Hanford Site in Benton and Franklin Counties

Group 1: Flat Bed Truck, single rear axle; Fork Lift, 3,000 lbs. and under; Tender and Swamper; Leverperson loading Trucks at Bunkers; Pick-up hauling material; Seeder and Mulcher; Stationary Fuel Operator; Team Driver; Tractor (small rubber tired Pulling trailer or similar equipment); Water Tank Truck, 1,800 gallons

Group 2: Bus Driver or Employeehaul Driver; Flat Bed Truck, dual rear axle; Power Boat hauling employees or material; Tireperson No. 1

Group 3: Buggy Mobile and similar; Bulk Cement Tanker; Oil Tank Driver; Power Operated Sweeper; Straddle Carrier (Ross Hyster and similar); Transit Mixers and Trucks hauling concrete (3 yds. and under); Trucks, side, end, and bottom dump (under 6 yds.); Water Tank Truck, 1,801 - 4,000 gallons

Group 4: Auto Crane, 2,000 lbs. capacity; Bulk Cement Spreader; Dumptor (6 yds. and under); Flat Bed Truck (with hydraulic system); Fork Lift (3,001 - 16,000 lbs.); Rubber-tired Tunnel Jumbo; Scissor Truck; Slurry Truck Driver; Transit Mixers and Trucks, 4,001 to 6,000 gallons; Wrecker and Tow Trucks; Fuel Truck Driver; Steam Cleaner and Washer; Flaherty Spreader

Group 5: Service Greaser; Tireperson No. 2; Truck, side, end, and bottom Dump (over 6 yds. to 12 yds.); Oil Distributor Driver (road, Boot Person, Lever Person, Tender)

Group 6: A-Frame; Water Tank Truck, 6,001 to 8,000 gallons

Group 7: Dumptor (over 6 yards); Transit Mixers and Trucks hauling concrete (6 yards to 10 yards); Trucks, side, end, and bottom dump (over 12 yards including 20 yards); Semi Truck and Trailer; Lowboy 50 tons and under

Group 8: Low Boy (over 50 ton); Water Tank Trucks, 8,001 to 10,000 gallons; Tractor with Steer Trailer; Truck mounted Crane with load bearing surface, either mounted or pulled

Group 9: Transit Mixer and Trucks hauling concrete (10 yds. to 15 yds.); Trucks, side, end, and bottom dump (over 20 yds. including 30 yds.); Water Tank Truck (10,001 to 12,000 gallons); Fork Lift, over 16,000 lbs.; Flaherty Spreader Box Driver; Flow Boys; Semi-end Dumps

TRUCK DRIVERS - AREA 1 (CONT'D)

Group 10: Mechanic, Field

Group 11: Tournarocker, D.W.'s and similar, with 2 or 4 wheel power tractor with trailer, gallonage or yardage scale, whichever is greater; Transit Mixers and Trucks hauling concrete (15 yds. to 20 yds.); Trucks, side, end, and bottom dump (over 30 yds. to 40 yds.); Water Tank Truck, 12,001 to 14,000 gallons

Group 12: Transit Mixers and Trucks hauling concrete (over 20 yds.); Trucks, side, end, and bottom dump (over 40 yds. to 50 yds.)

Group 13: Trucks, side, end, and bottom dumps (over 50 yds. to 100 yds.)

Group 14: Helicopter Pilot hauling employees or material; Trucks, side, end, and bottom dump (over 100 yards)

Drivers and Tenders (hauling sacked cement - add $.15 per hour)

Winch Truck - takes classification of Truck on which Winch is mounted.

TRUCK DRIVERS - AREA 2

Group 1: Escort Driver or Pilot Car, pickup hauling employees or material

Group 2: Flat Bed Truck, single rear axle; Fork Lift, 3,000 lbs. and under; Tender and Swamper; Leverperson loading Trucks at Bunkers; Pick-up hauling material; Seeder and Mulcher; Stationary Fuel Operator; Team Driver; Tractor (small rubber tired pulling trailer or similar equipment); Water Tank Truck, 1,000 gallons

Group 3: Bus Driver or Employeehaul Driver; Flat Bed Truck, dual rear axle; Power Boat hauling employees or material); Tireperson No. 1

Group 4: Buggy Mobile and similar; Bulk Cement Tanker; Oil Tank Driver; Power operated Sweeper; Straddle Carrier (Ross Hyster and similar); Transit Mixers and Trucks hauling concrete (3 yards and under); Trucks, side, end, and bottom dump (under 6 yards); Water Tank Truck, 1,001 - 4,000 gallons

Group 5: Auto Crane, 2,000 lbs. capacity; Bulk Cement Spreader; Dumptor (6 yds. and under); Flat Bed Truck (with hydarulic system); Fork Lift (3,001 - 16,000 lbs.); Rubber-tired Tunnel Jumbo; Scissor Truck; Slurry Truck Driver; Transit Mixers and Trucks, 4,001 to 6,000 gallons; Wrecker and Tow Trucks; Fuel Truck Driver; Steam Cleaner and Washer; Flaherty Spreader

Group 6: Service Greaser; Tireperson No. 2; Truck, side, end, and bottom Dump (over 6 yds. to 12 yds.); Oil Distributor Driver (Road, Boot Person, Lever Person, Tender)





TRUCK DRIVERS - AREA 2 (CONT'D)

Group 7: A-Frame; Water Tank Truck, 6,001 to 8,000 gallons

Group 8: Dumptor (over 6 yds.); Transit Mixers and Trucks hauling concrete (6 yds. to 10 yds.); Trucks, side, end, and bottom dump (over 12 yds. including 20 yds.); Semi Truck and Trailer 50 tons and under; Lowboy

Group 9: Low Boy (over 50 tons); Water Tank Trucks, 8,001 to 10,000 gallons; Tractor with Steer Trailer; Truck mounted Crane with load bearing surface, either mounted or pulled

Group 10: Transit Mixer and Trucks hauling concrete (10 yds. to 15 yds.); Trucks, side, end, and bottom dump (over 20 yds. including 30 yds.); Water Tank Truck (10,001 to 12,000 gallons); Fork Lift, over 16,000 lbs.; Flaherty Spreader Box Driver; Flow Boys; Semi-end Dumps

Group 11: Mechanic, Field

Group 12: Tournarocker, D. W.'s and similar, with 2 to 4 wheel power tractor with trailer, gallonage or yardage scale, whichever is greater; Transit Mixers and Trucks hauling concrete (15 yds. to 20 yds.); Trucks, side, end, and bottom dump (over 30 yds. to 40 yds.); Water Tank Truck, 12,001 to 14,000 gallons

Group 13: Transit Mixers and Trucks hauling concrete (over 20 yds.); Trucks, side, end, and bottom dump (over 40 yds. to 50 yds.)

Group 14: Trucks, side, end, and bottom dumps (over 50 yds. to 100 yds.)

Group 15: Helicopter Pilot hauling employees or material; Trucks, side, end, and bottom dump (over 100 yards)

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UNLISTED CLASSIFICATIONS NEEDED FOR WORK NOT INCLUDED WITHIN THE SCOPE OF THE CLASSIFICATIONS LISTED MAY BE ADDED AFTER AWARD ONLY AS PROVIDED IN THE LABOR STANDARDS CONTRACT CLAUSES 29 CFR, 5.5(a)(1)(ii)

FOOTNOTES:

a. Employer contributes 8% of basic hourly rate for over 5 years service and 6% for 6 months to 5 years service as vacation pay credit.

b. On all projects involving one or more of the components listed below, where the value of the component is less than the amounts shown, the rate to be paid for work on that component shall be 80% of the base rate plus full fringe benefits.

| | |
|---|---|
| Paving | $ 75,000 |
| Utilities (Storm, sanitary sewer, and facilities for the delivery of electricity, gas, communications and domestic water) | Unlimited |
| Buildings | 2,000,000 exclusive of mechanical and electrical subcontracts |

STATE: KENTUCKY COUNTIES: Anderson, Bath, Bourbon, Boyle, Bracken, Breckinridge, Bullitt, Carroll, Carter, Clark, Elliott, Fayette, Fleming, Franklin, Gallatin, Grayson, Grant, Greenup, Hardin, Harrison, Henry, Jefferson, Jessamine, Larue, Lewis, Madison, Marion, Meade, Mercer, Montgomery, Nelson, Nicholas, Oldham, Owen, Robertson, Rowan, Scott, Shelby, Spencer, Trimble, Washington, Boyd, Mason, and Woodford.

DECISION NUMBER: KY85-1009 DATE: Date of Publication

Supersedes Decision Number KY84-1028 dated August 31, 1984 in 49 FR 34642

DESCRIPTION OF WORK: HEAVY & HIGHWAY CONSTRUCTION PROJECTS .

| | Basic Hourly Rates | Fringe Benefits |
|---|---|---|
| CARPENTERS | $12.60 | $2.59 |
| CEMENT MASONS | 13.14 | 3.32 |
| CEMENT MASON on suspended scaffold | 13.39 | 3.32 |
| ELECTRICIANS | 16.14 | 13%% + 1.25 |
| IRONWORKERS | 13.75 | 4.72 |
| LABORERS: | | |
| Group I | 11.60 | 2.20 |
| Group II | 11.25 | 2.20 |
| Group III | 11.30 | 2.20 |
| Group IV | 11.90 | 2.20 |
| PAINTERS: | | |
| Spray, sandblast and waterblast | 11.62 | 1.28 |
| Brush | 11.17 | 1.28 |
| PILEDRIVERMEN | 12.85 | 2.59 |
| PIPEFITTERS | 17.25 | 3.22 |
| PLUMBERS | 15.98 | 3.55 |
| POWER EQUIPMENT OPERATORS | | |
| HIGHWAY CONSTRUCTION | | |
| Class A | 14.25 | 2.90 |
| Class B | 11.83 | 2.90 |
| Class C | 12.21 | 2.90 |
| Class D | 11.57 | 2.90 |
| POWER EQUIPMENT OPERATORS | | |
| HEAVY CONSTRUCTION | | |
| INCLUDING BRIDGES ACROSS | | |
| COMMERCIALLY NAVIGABLE | | |
| RIVERS: | | |
| Class A | 15.55 | 2.90 |
| Class B | 12.72 | 2.90 |
| Class C | 11.92 | 2.90 |
| Class D (50¢ above Class A rate) | | |

| | Basic Hourly Rates | Fringe Benefits |
|---|---|---|
| TRUCK DRIVERS: | | |
| Drivers - single axle dump and flat bed trucks | $13.71 | $84.75 +a |
| Drivers - Semi-trailer or pole trailer when used to pull building materials and equipment | 13.71 | 84.75 +a |
| Driver - dump truck, tandem axle | 13.71 | 84.75 +a |
| Driver - Euclid and other heavy earth moving equipment and low boy | 13.81 | 84.75 +a |
| Driver - Winch truck and A-Frame truck when used in transporting materials and Ross Carrier | 13.81 | 84.75 +a |
| Drivers - Fork lift truck when used to transport building materials | 13.81 | 84.75 +a |
| Truck mechanic | 13.71 | 84.75 +a |
| Truck helper | 13.42 | 84.75 +a |
| Greaser, tire changer and mechanic helper | 13.51 | 84.75 +a |
| Driver of distributors | 13.71 | 84.75 +a |
| Driver on pavement breakers | 13.81 | 84.75 +a |
| Driver on mixer trucks (all types) | 13.74 | 84.75 +a |
| Mobile batch truck helper | 13.42 | 84.75 +a |

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WELDERS: Receive rate prescribed for craft performing operation to which welding is incidental.

FOOTNOTE:
a - Per week per employee who has been employed a minimum of twenty (20) work days within any ninety (90) consecutive day period for that employer.

## CLASSIFICATION DEFINITIONS

LABORERS:

GROUP I - General Laborers; asphalt plant laborers; concrete laborers; asphalt laborers; storm and sanitary sewer laborers; carpenter tenders; cement mason tenders; mesh handlers and placers; landscaping and seeding; planters and treetrimmers; sign, guardrail, and fence installers; grade checkers; aging and curing of concrete; truck spotters and dumpers; batch truck dumpers; rip-rap and grouters; dredging laborers; right-of-way laborers; wrecking and demolition laborers; drill helpers and all hand digging and hand back filling, flagmen.

GROUP II - Wagon drills; jack hammers; paving breakers; chain saw; concrete saw; paving joint machine; vibrator operator; power driven Georgia buggy or wheelbarrow; sand blaster and concrete chippers; green concrete cutting; brickmasons tenders and motar mixer; pipe layers; joint makers; batter board man (sanitary and storm sewer); dry cement handlers; concrete rubbers; walk-behind tamper machine; walk-behind trenching machine; surface grinderman; hand-operated grouter and grinder machine operator; deck hand; scow man; burner and welder.

GROUP III - Powderman and blaster; side rail setters (including rail-paved ditches); tunnel laborers (free air); gunnite operator and mixer man; gunnite nozzleman; asphalt luteman and rakeman; air tract driller (all types); grout pump operator.

GROUP IV - Tunnel blasters; tunnel muckers (free air); miners and drillers (free air); caisson workers (free air).

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CLASSIFICATION DEFINITIONS

OPERATING ENGINEERS
(Highway Construction Projects):
CLASS A - Auto patrol; batcher plant; bituminous paver; cableway; central compressor plant operator; clamshell; concrete mixer (21 cu. ft. or over); truck-mounted concrete pump; crane; crusher plant; derrick; derrick boat; ditching and trenching machine; dragline; elevating grader and all types of loaders; hoe-type machine; hoisting engine (two or more drums); locomotive; motor scraper; bulldozer; mechanic; orangepeel bucket; piledriver; power blade; roller (bituminous); scarifier; shovel; tractor shovel; truck crane; push dozer; high lift; all types of boom cats; core drills; tow or push boat; A-Frame winch truck; concrete paver; grade-all; hoist (two or more drums); hyster; pumpcrete; sideboom; all rotary drills; mucking machine; rock spreader attached to equipment; scoopmobile; KeCal loader; tower cranes (French, German, and other types); hydro-crane; backfiller; gurries; subgrader; tailboom.

CLASS B - All air compressors (over 900 cu. ft. per min.); bituminous mixer; concrete mixer (under 21 cu. ft.); elevator (one drum or buck hoist); welding machine; form grader; roller (rock); tractor (50 HP or over); bull float; finish machine; outboard motor boat; electric vibrator; compactor/self-propelled compactor; boom-type tamping machine; truck crane oiler; switchman or brakeman; mechanic helper; whirley oiler; tractair and road widening trencher; joint sealing machine; throttle valve man; tugger; well points; flexplane; fireman and hoist (one drum); skid-mounted or trailer-mounted concrete pumps; fork lift (regardless of lift height); Ross carrier; dredge engineer and elevator (regardless of ownership when used to hoist building material).

CLASS C - Greaser on grease facilities servicing heavy equipment.

CLASS D - Bituminous distributor; cement gun; conveyor; grout pump; mud jack; paving joint machine; pump; roller (earth); tamping machine; tractors (under 50 HP); vibrator; oiler; concrete saw; burlap and curing machine; hydro seeder; power form handling equipment; deckhand oiler and hydraulic post driver.





CLASSIFICATION DEFINITIONS (CONT'D)

POWER EQUIPMENT OPERATORS - HEAVY CONSTRUCTION PROJECTS:

CLASS A - Auto patrol; batcher plant; bituminous paver; cableway; central compress plant operator; clamshell; concrete mixer (21 cu. ft. or over); truck-mounted concrete pump; crane; crusher plant; derrick; derrick boat; ditching and trenching machine; dragline; elevating grader and all types of loaders; hoe-type machine; hoisting engine; mechanic welder; locomotive; motor scraper; bulldozer; mechanic; orangepeel bucket; piledriver; power blade; roller (bituminous); scarifier; shovel; tractor shovel; truck crane; push dozer; high lift; all types of boom cats; core drills; tow or push boat; A-Frame winch truck; concrete paver; grade-all; hoist (two or more drums); hyster; pumpcrete; side boom; all rotary drills; mucking machine; rock spreader attached to equipment; scoopmobile; KeCal loader; tower cranes (French, German, and other types); hydrocrane; backfiller; gurries; subgrader; tailboom; Letourneau or carry-all scoop.

CLASS B - All air compressors (over 900 cu. ft. per min. or greater capacity); bituminous mixer; concrete mixer (under 21 cu. ft.); welding machine; form grader; roller (rock); tugger; tractor (50 HP and over); bull float; finish machine; outboard motor boat; well points; flexplane; fireman; boom-type tamping machine; truck crane oiler; greaser on grease facilities servicing heavy equipment; switchman or brakeman; joint sealing machine; mechanic helper; whirley oiler; tractair and road-widening trencher; electric vibrator compactor/self-propelled compactor; throttle valve; elevator (one drum or buck hoist); power sweeper (riding type); core drill and caisson drill helper (truck mounted); skid-mounted or trailer-mounted concrete pumps; forklift (regardless of lift height); Ross carrier; dredge engineer; elevator (regardless of ownership when used to hoist building material).

CLASS C - Bituminous distributor; cement gun; conveyor; group pump; mud jack; paving joint machine; pump; roller (earth); tamping machine; tractors (under 50 HP); vibrator; oiler; concrete saw; burlap and curing machine; hydro seeder; power form handling equipment; deckhand; steerman; hydraulic post driver; core drill; caisson drill helper (track or skid-mounted).

CLASS D - Operators on cranes with booms one hundred fifty feet (150) and over (including jib) shall receive fifty ($.50) cents above Class A rate.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contractclauses 29 CFR 5.5(a)(1)(ii)(A).

SUPERSEDEAS DECISION

STATE: KENTUCKY COUNTIES: Adair, Barren, Bell, Breathitt, Casey, Clay, Clinton, Cumberland, Estill, Floyd, Garrard, Green, Harlan, Hart, Jackson, Johnson, Knott, Knox, Lawrence, Laurel, Lee, Leslie, Letcher, Lincoln, McCreary, Magoffin, Martin, Menifee, Metcalfe, Monroe, Morgan, Owsley, Perry, Pike, Powell, Pulaski, Rockcastle, Russell, Taylor, Wayne, Whitley, & Wolfe

DECISION NO.: KY85-1008 DATE: Date of Publication

Supersedes Decision Number KY84-1027 dated August 31, 1984 in 49 FR 34641.

DESCRIPTION OF WORK: HEAVY AND HIGHWAY CONSTRUCTION PROJECTS.

| | Basic Hourly Rates | Fringe Benefits |
|---|---|---|
| CARPENTERS | $13.90 | 1.85 |
| CEMENT MASONS: | | |
| Cement Masons | 13.14 | 3.32 |
| Cement Masons on Suspended Scaffold | 13.39 | 3.32 |
| ELECTRICIANS | 15.66 | 3% + 1.00 |
| IRONWORKERS: | | |
| Structural | 13.25 | 1.85 |
| Reinforcing | 13.05 | 1.85 |
| LABORERS: | | |
| Laborers - general, Steam Jenny, Flagmen | 11.95 | 1.85 |
| Hand Blade Operator, Batch Truck Dumper, Deck Hand or Scow Man | 12.20 | 1.85 |
| Power Driven Tool Operator, of the following: Wagon Drill, Chain Saw, Jack Hammar, Concrete Saw, Sand Blaster, Concrete Chipper, Pavement Breaker, Vibrator, Power Wheel Barrow, Power Buggy | 12.30 | 1.85 |
| Sewer Pipe Layer, Bottom Man, Dry Cement Handler, Concrete Rubber, Mason Tender | 12.30 | 1.85 |
| Asphalt Lute & Rakeman, Side rail Setter | 12.35 | 1.85 |
| Gunnite Nozzleman, Gunnite Operator | 12.45 | 1.85 |
| Tunnel Laborer (free air) | 12.50 | 1.85 |
| Tunnel Mucker (free air) | 12.55 | 1.85 |
| Tunnel Miner, Blaster & Driller (free air) | 12.90 | 1.85 |
| Laborers (Cont'd): | | |
| Cassion Worker | $13.45 | 1.85 |
| Powderman | 13.55 | 1.85 |
| Drill Operator of percussion type drills which are both powered & propelled by an independent air supply | 14.75 | 1.85 |
| PAINTERS: | | |
| Guard Rail | 10.00 | 1.75 |
| Structural | 13.20 | 1.75 |
| PILEDRIVERMEN | 14.15 | 1.85 |
| PLUMBERS & PIPEFITTERS | 16.93 | 2.55 |
| TRUCK DRIVERS: | | |
| Drivers, 3 Tons & Under | 12.53 | 1.85 |
| Drivers, Over 3 Tons | 12.74 | 1.85 |
| Drivers, Truck Mounted Rotary Drill | 13.74 | 1.85 |
| Drivers, Semi-Trailer or Pole Trailer | 12.40 | 1.85 |
| Drivers, Dump Trucks, Tandem Axle | 12.40 | 1.85 |
| Driver, Euclid & other heavy earth moving equipment & Low Boy | 13.31 | 1.85 |
| Driver, Winch Truck & A-Frame when used in transporting material | 13.30 | 1.85 |
| Truck Mechanic | 13.50 | 1.85 |
| Truck Helper | 12.20 | 1.85 |
| Tire Changer & Truck Mechanic Helper | 12.53 | 1.85 |
| Driver of Distributors | 12.40 | 1.85 |
| Drivers on Pavement Breakers | 12.55 | 1.85 |
| Driver on Mixer Trucks (all types) | 12.45 | 1.85 |
| Greaser on greasing facilities | 13.40 | 1.85 |





| | Basic Hourly Rates | Fringe Benefits |
|---|---|---|
| POWER EQUIPMENT OPERATORS Highway Construction: | | |
| Class A | $15.30 | 1.85 |
| Class B | 13.05 | 1.85 |
| Class C | 13.40 | 1.85 |
| Class D | 12.81 | 1.85 |
| POWER EQUIPMENT OPERATORS Heavy Construction - including bridges across commercially navigable rivers: | | |
| Class A | 15.55 | 2.90 |
| Class B | 12.72 | 2.90 |
| Class C | 11.92 | 2.90 |
| Class D (50¢ above Class A rate) | | |

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR 5.5 (a)(1)(ii)).

WELDERS: Receive rate for craft performing operation to which welding is incidental.

CLASSIFICATION DEFINITIONS

POWER EQUIPMENT OPERATORS - HIGHWAY CONSTRUCTION PROJECTS

Class A - Auto patrol, batcher plant, bituminous paver, cableway, clamshell, concrete mixer (21 cu. ft. or over), concrete pump, crane, crusher plant, derrick, derrick boat, ditching and trenching machine, dragline, dredge engineer, elevator (regardless of ownership when used for hoisting any building material), elevating grader and all types of loaders, hoe-type machine, hoisting engine, locomotive, letourneau or carry-all scoop, bulldozer, mechanic, orangepeel bucket, piledriver, power blade, roller (bituminous), scarifier, shovel, tractor shovel, truck crane, well points, winch truck, push dozer, grout pump, big lift, fork lift, (regardless of lift height), all types of boom cats, multiple operator, core drill, tow or push boat, A-Frame winch truck, concrete paver, gradeall, hoist, hyster, material pump, pumpcrete, Ross Carrier, sheep foot, side boom, throttlevalve man, rotary drill, power generator, mucking machine, rock spreader attached to equipment, scoopmobile, KeCal loader, tower cranes (French, German and other types), hydrocrane, tugger, backfiller gurries, subgrader, electric vibrator compactor, welder burner.

Class B - All air compressors (200 cu. ft. per min. orgreater capacity), bituminous mixer, concrete mixer (under 21 cu. ft.), welding machine, form grader, roller (rock), tractor (50 H.P. and over), bull float, finish machine, outboard motor boat, flexplane, fireman, boom type tamping machine, truck crane oiler, switchman or brakeman, mechanic helper, whirley oiler, self-propelled compactor, tractair and road widening trencher.

Class C - Greaser on grease facilities servicing heavy equipment.

Class D - Bituminous distributor, cement gun, conveyor, mud jack, paving joint machine, pump, roller (earth), tamping machine, tractors (under 50 H.P.), vibrator, oiler, air compressors (under 200 cu. ft. per min. capacity), concrete saw, burlap and curing machine, hydro seeder, power form handling equipment, deckhand oiler, hydraulic post driver.

CLASSIFICATION DEFINITIONS (Cont'd)

**POWER EQUIPMENT OPERATORS - HEAVY CONSTRUCTION PROJECTS:**

CLASS A - Auto patrol; batcher plant; bituminous paver; cableway; central compress plant operator; clamshell; concrete mixer (21 cu. ft. or over); truck-mounted concrete pump; crane; crusher plant; derrick; derrick boat; ditching and trenching machine; dragline; elevating grader and all types of loaders; hoe-type machine; hoisting engine; mechanic welder; locomotive; motor scraper; bulldozer; mechanic; orangepeel bucket; piledriver; power blade; roller (bituminous); scarifier; shovel; tractor shovel; truck crane; push dozer; high lift; all types of boom cats; core drills; tow or push boat; A-Frame winch truck; concrete paver; grade-all; hoist (two or more drums); hyster; pumpcrete; side boom; all rotary drills; mucking machine; rock spreader attached to equipment; scoopmobile; KeCal loader; tower cranes (French, German, and other types); hydrocrane; backfiller; gurries; subgrader; tailboom; Letourneau or carry-all scoop.

CLASS B - All air compressors (over 900 cu. ft. per min. or greater capacity); bituminous mixer; concrete mixer (under 21 cu. ft.); welding machine; form grader; roller (rock); tugger; tractor (50 HP and over); bull float; finish machine; outboard motor boat; well points; flexplane; fireman; boom-type tamping machine; truck crane oiler; greaser on grease facilities servicing heavy equipment; switchman or brakeman; joint sealing machine; mechanic helper; whirley oiler; tractair and road-widening trencher; electric vibrator compactor/self-propelled compactor; throttle valve; elevator (one drum or buck hoist); power sweeper (riding type); core drill and caisson drill helper (truck mounted); skid-mounted or trailer-mounted concrete pumps; forklift (regardless of lift height); Ross carrier; dredge engineer; elevator (regardless of ownership when used to hoist building material).

CLASS C - Bituminous distributor; cement gun; conveyor; group pump; mud jack; paving joint machine; pump; roller (earth); tamping machine; tractors (under 50 HP); vibrator; oiler; concrete saw; burlap and curing machine; hydro seeder; power form handling equipment; deckhand; steerman; hydraulic post driver; core drill; caisson drill helper (track or skid-mounted).

CLASS D - Operators on cranes with booms one hundred fifty feet (150) and over (including jib) shall receive fifty ($.50) cents above Class A rate.



SUPERSEDEAS DECISION

STATE: KENTUCKY

COUNTIES: Allen Ballard, Butler, Caldwell, Calloway, Carlisle, Christian, Crittenden, Daviess, Edmonson, Fulton, Graves, Hancock, Henderson, Hickman, Hopkins, Livingston, Logan, McCracken, McLean, Marshall, Muhlenberg, Ohio, Simpson, Todd, Trigg, Union, Warren & Webster, & Lyon.

DECISION NUMBER: KY85-1007 DATE: Date of Publication

Supersedes Decision Number KY84-1026 dated August 31, 1984 in 49 FR 34639

DESCRIPTION OF WORK: HEAVY AND HIGHWAY CONSTRUCTION PROJECTS

| | Basic Hourly Rates | Fringe Benefits |
|---|---|---|
| BOILERMAKERS | $18.45 | 3.52 |
| CARPENTERS | 12.60 | 2.59 |
| CEMENT MASONS | 13.65 | 2.00 |
| ELECTRICIANS | 16.24 | 13-1/4% + 1.25 |
| IRONWORKERS | 19.10 | 2.71 |
| LABORERS: | | |
| Group I | 11.00 | 2.20 |
| Group II | 11.25 | 2.20 |
| Group III | 11.30 | 2.20 |
| Group IV | 11.90 | 2.20 |
| PAINTERS - BRIDGES: | | |
| Brush & Roller | 16.30 | 2.57 |
| Spray, Sandblast & Power Tools | 17.30 | 2.57 |
| PAINTERS - Other than Bridge: | | |
| Brush & Roller | 15.15 | 2.57 |
| Spray, Sandblast & Power Tools | 16.15 | 2.57 |
| PILEDRIVERMEN | 12.85 | 2.59 |
| PLUMBERS & PIPEFITTERS | 17.51 | 2.13 |
| POWER EQUIPMENT OPERATORS Highway Construction: | | |
| Class A | 14.25 | 2.90 |
| Class B | 11.83 | 2.90 |
| Class C | 12.21 | 2.90 |
| Class D | 11.57 | 2.90 |
| POWER EQUIPMENT OPERATORS Heavy Construction - including bridges across commercially navigable river: | | |
| Class A | 15.55 | 2.90 |
| Class B | 12.72 | 2.90 |
| Class C | 11.92 | 2.90 |
| Class D (50¢ above Class A rate) | | |

| | Basic Hourly Rates | Fringe Benefits |
|---|---|---|
| TRUCK DRIVERS: | | |
| Truck Helper | $12.60 | 1.85 |
| Drivers - 3 tons & under Greaser, Tire Changer, & Truck Mechanic Helper | 12.65 | 1.85 |
| Drivers - Winch Truck & A-Frame Truck when used in transporting material | 12.96 | 1.85 |
| Truck Mechanic | 12.88 | 1.85 |
| Drivers - Over 3 tons, Truck Mounted Rotary Drills, Semi-Trailers or Pole Trailers, Dump Trucks (tandem axle), Distributors, Mixer Trucks (all types) | 12.95 | 1.85 |
| Drivers - Euclid and other heavy earth moving equipment and Lowboy, Pavement Breakers | 12.96 | 1.85 |
| WELDERS - Receive rate for craft performing operation to which welding is incidental. | | |

CLASSIFICATION DEFINITIONS

LABORERS:
GROUP I - General Laborers; asphalt plant laborers; concrete laborers; asphalt laborers; storm and sanitary sewer laborers; carpenter tenders; cement mason tenders; mesh handlers and placers; landscaping and seeding; planters and treetrimmers; sign, guardrail, and fence installers; grade checkers; aging and curing of concrete; truck spotters and dumpers; batch truck dumpers; rip-rap and grouters; dredging laborers; right-of-way laborers; wrecking and demolition laborers; drill helpers and all hand digging and hand back filling, flagmen.

GROUP II - Wagon drills; jack hammers; paving breakers; chain saw; concrete saw; paving joint machine; vibrator operator; power driven Georgia buggy or wheelbarrow; sand blaster and concrete chippers; green concrete cutting; brickmasons tenders and motar mixer; pipe layers; joint makers; batter board man (sanitary and storm sewer); dry cement handlers; concrete rubbers; walk-behind tamper machine; walk-behind trenching machine; surface grinderman; hand-operated grouter and grinder machine operator; deck hand; scow man; burner and welder.

GROUP III - Powderman and blaster; side rail setters (including rail-paved ditches); tunnel laborers (free air); gunnite operator and mixer man; gunnite nozzleman; asphalt luteman and rakeman; air tract driller (all types); groot pump operator.

GROUP IV - Tunnel blasters; tunnel muckers (free air); miners and drillers (free air); caisson workers (free air).

OPERATING ENGINEERS
(Highway Construction Projects);
CLASS A - Auto patrol; batcher plant; bituminous paver; cableway; central compressor plant operator; clamshell; concrete mixer (21 cu. ft. or over); truck-mounted concrete pump; crane; crusher plant; derrick; derrick boat; ditching and trenching machine; dragline; elevating grader and all types of loaders; hoe-type machine; hoisting engine (two or more drums); locomotive; motor scraper; bulldozer; mechanic; orangepeel bucket; piledriver; power blade; roller (bituminous); scarifier; shovel; tractor shovel; truck crane; push dozer; high lift; all types of boom cats; core drills; tow or push boat; A-Frame winch truck; concrete paver; grade-all; hoist (two or more drums); hyster; pumpcrete; sideboom; all rotary drills; mucking machine; rock spreader attached to equipment; scoopmobile; KeCal loader; tower cranes (French, German, and other types); hydro-crane; backfiller; gurries; subgrader; tailboom.





CLASSIFICATION DEFINITIONS (CONT'D)

OPERATING ENGINEERS (CONT'D):
CLASS B - All air compressors (over 900 cu. ft. per min.); bituminous mixer; concrete mixer (under 21 cu. ft.); elevator (one drum or buck hoist); welding machine; form grader; roller (rock); tractor (50 HP or over); bull float; finish machine; outboard motor boat; electric vibrator; compactor/self-propelled compactor; boom-type tamping machine; truck crane oiler; switchman or brakeman; mechanic helper; whirley oiler; tractair and road widening trencher; joint sealing machine; throttle valve man; tugger; well points; flexplane; fireman and hoist (one drum); skid-mounted or trailer-mounted concrete pumps; fork lift (regardless of lift height); Ross carrier; dredge engineer and elevator (regardless of ownership when used to hoist building material).

CLASS C - Greaser on grease facilities servicing heavy equipment.

CLASS D - Bituminous distributor; cement gun; conveyor; grout pump; mud jack; paving joint machine; pump; roller (earth); tamping machine; tractors (under 50 HP); vibrator; oiler; concrete saw; burlap and curing machine; hydro seeder; power form handling equipment; deckhand oiler and hydraulic post driver.

POWER EQUIPMENT OPERATORS - HEAVY CONSTRUCTION PROJECTS:

CLASS A - Auto patrol; batcher plant; bituminous paver; cableway; central compress plant operator; clamshell; concrete mixer (21 cu. ft. or over); truck-mounted concrete pump; crane; crusher plant; derrick; derrick boat; ditching and trenching machine; dragline; elevating grader and all types of loaders; hoe-type machine; hoisting engine; mechanic welder; locomotive; motor scraper; bulldozer; mechanic; orangepeel bucket; piledriver; power blade; roller (bituminous); scarifier; shovel; tractor shovel; truck crane; push dozer; high lift; all types of boom cats; core drills; tow or push boat; A-Frame winch truck; concrete paver; grade-all; hoist (two or more drums); hyster; pumpcrete; side boom; all rotary drills; mucking machine; rock spreader attached to equipment; scoopmobile; KeCal loader; tower cranes (French, German, and other types); hydrocrane; backfiller; gurries; subgrader; tailboom; Letourneau or carry-all scoop.

CLASS B - All air compressors (over 900 cu. ft. per min. or greater capacity); bituminous mixer; concrete mixer (under 21 cu. ft.); welding machine; form grader; roller (rock); tugger; tractor (50 HP and over); bull float; finish machine; outboard motor boat; well points; flexplane; fireman; boom-type tamping machine; truck crane oiler; greaser on grease facilities servicing heavy equipment; switchman or brakeman; joint sealing machine; mechanic helper; whirley oiler; tractair and road-widening trencher; electric vibrator compactor/self-propelled compactor; throttle valve; elevator (one drum or buck hoist); power sweeper (riding type); core drill and caisson drill helper (truck mounted); skid-mounted or trailer-mounted concrete pumps; forklift (regardless of lift height); Ross carrier; dredge engineer; elevator (regardless of ownership when used to hoist building material).

CLASSIFICATION DEFINITIONS (CONT'D)

POWER EQUIPMENT OPERATOR (CONT'D):

CLASS C - Bituminous distributor; cement gun; conveyor; group pump; mud jack; paving joint machine; pump; roller (earth); tamping machine; tractors (under 50 HP); vibrator; oiler; concrete saw; burlap and curing machine; hydro seeder; power form handling equipment; deckhand; steerman; hydraulic post driver; core drill; caisson drill helper (track or skid-mounted).

CLASS D - Operators on cranes with booms one hundred fifty feet (150) and over (including jib) shall receive fifty ($.50) cents above Class A rate.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contractclauses 29 CFR 5.5(a)(1)(ii)(A).



SUPERSEDEAS DECISION

STATE: KENTUCKY COUNTIES: Boone, Campbell, Kenton, and Pendleton

DECISION NUMBER: KY85-1010 DATE: Date of Publication

Supersedes Decision Number KY84-1029 dated September 7, 1984 in 49 FR 35471.

DESCRIPTION OF WORK: HEAVY AND HIGHWAY CONSTRUCTION PROJECTS.

| | Basic Hourly Rates | Fringe Benefits |
|---|---|---|
| CARPENTERS | $17.00 | $2.725 |
| CEMENT MASONS | 16.51 | 2.87 |
| ELECTRICIANS | 16.00 | 3.30+ 3%% |
| IRONWORKERS: | | |
| Reinforcing | 15.93 | 4.27 |
| Structural | 16.03 | 4.33 |
| LABORERS: | | |
| Group 1 | 13.57 | 3.00 |
| Group 2 | 13.69½ | 3.00 |
| Group 3 | 13.77 | 3.00 |
| Group 4 | 13.92 | 3.00 |
| Group 5 | 14.22 | 3.00 |
| PAINTERS: | | |
| Brush | 16.90 | 1.00 |
| Spray | 17.40 | 1.00 |
| Sandblast, waterblast, and hopper tender | 17.65 | 1.00 |
| PAINTERS: | | |
| Bridges when highest point of clearance is 60 feet or more: | | |
| Brush | 17.90 | 1.00 |
| Spray | 18.40 | 1.00 |
| Sandblast, waterblast, and hopper tender | 18.65 | 1.00 |
| PILEDRIVERMEN | 17.00 | 2.725 |
| PLUMBERS | 16.15 | 4.32 |
| TRUCK DRIVERS: | | |
| Drivers - Single axle dump truck, flat bed truck, semi-trailer or pole trailer when used to pull building materials & equipment, Dump truck tanden axle, driver of distributors | 13.71 | 84.75a |
| TRUCK DRIVERS (CONT'D): | | |
| Drivers - Euclid and other heavy earth moving equipment and low boy, winch truck and A-Frame truck when used in transporting materials and Ross Carrier, fork lift truck when used to transport building materials, driver on pavement breakers | $13.81 | 84.75a |
| Truck mechanic | 13.71 | 84.75a |
| Truck helper & Mobile Batch Truck Helper | 13.42 | 84.75a |
| Greaser, tirechanger & mechanic helper | 13.53 | 84.75a |
| Driver - on mixer truck (all types) | 13.74 | 84.75a |
| POWER EQUIPMENT OPERATORS | | |
| CLASS A | 17.79 | 3.86 |
| CLASS B | 17.67 | 3.86 |
| CLASS C | 16.63 | 3.86 |
| CLASS D | 16.20 | 3.86 |
| CLASS E | 12.34 | 3.86 |
| WELDERS: Receive rate for craft performing operation to which welding is incidental. | | |

CLASSIFICATION DEFINITIONS

LABORERS:
Group 1 - Laborers (construction), plant laborers or yardmen, right-of-way laborers, landscape laborer, utility man or handyman, joint setter, carpenter helper, waterproofing laborer, slurry seal, seal coating, surface treatment or road mix laborer, rip-rap laborer or grouter, asphalt laborer, dump man (batch trucks), guard rail and fence installer, mesh handler and placers, concrete curing applicator, scaffold erector, flagmen.
Group 2 - Asphalt raker, concrete puddler, kettleman (pipeline), all machine driven tools (gas, electric, air), mason tenders, mortar mixer, sheeting and shoring man, surface grinder man, power buggy and wheelbarrow (power).
Group 3 - Form setter, bottom man, welder helper (pipeline), concrete saw man, cutting with burning torch, pipe layer, hand spiker (railroad), car pusher (without air), underground man (working in sewer and water line, cleaning and repairing and reconditioning), tunnel laborer (without air), and caisson, cofferdam (below 25 ft. deep), air track and wagon drill.
Group 4 - Blaster and powder man, muckers, wrencher (mechanical joint and utility pipeline), yarner, top lander.
Group 5 - Curb setter and cutter, miner (without air), concrete crew in tunnels, utility pipeline tapper, gunnite nozzleman, waterline caulker.

POWER EQUIPMENT OPERATORS:
CLASS A - Air compressor on steel erection, boiler operator on compressor or generator when mounted on a rig, cableways, combination concrete mixer and tower, concrete plants (over 4 yd. capacity), concrete pumps, cranes (all types, including A-Frame, boom trucks, cherry pickers), derricks, draglines, dredge (dipper, clam or suction), elevating grader or euclid loader, floating equipment (all types), helicopter crew (operator - hoist or winch), hoes (all types), hoisting engines on shaft or tunnel work, hoisting engines, industrial type tractors, jet engine dryer (D8 or D9), diesel tractor, locomotives (standard guage), maintenance operator Class A, mixer, paving (single or double drum), mucking machine, multiple scraper, piledriving machines (all types), power shovels, Quad 9 (double pusher), refrigerating machine (freezer operation), rotary drill on caisson work, slip-form paver, tower derricks, tree shredder, trench machines (over 24" wide), truck mounted concrete pumps, tug boat, tunnel machine, wheel excavator.
CLASS B - Aspahlt paver, automatic subgrade machine, self-propelled (CMI type), bulldozer, endloader, Kolman Loader (production type-dirt), lead grease man, maintenance operators Class B, power grader, power scoops and scrapers, push cat, trench machines (24" wide and under), boring machine operator (more than 48").
CLASS C - Air compressor on tunnel work (low pressure), asphalt plant, locomotive engineer (narrow gauge), mixers, concrete (more than one bag capacity), mixers (one bag capacity), side loader, power boilers over 15 lb. pressure, pump operator installing and operating well points, pumps (4" and over discharge), rollers (asphalt), utility operator (small equipment), welding machines and generators.





CLASSIFICATION DEFINITIONS

POWER EQUIPMENT OPERATORS (CONT'D):
CLASS D - Back fillers, bar joint and mesh installing machine, batch plant, bullfloats, burlap and curing machine, compressors (portable, sewer, heavy, and highway), concrete plant (capacity 4 yds. and under), concrete saw (multiple), conveyors (highway), crushers, deckhand, drill (highway - with integral power), farm type tractors with attachments (highway), finishing machines,fireman, floating equipment (all types), fork lift (highway), form trenchers, hydro seeders, plant mixers, post drivers, post hole diggers (power auger), power brush burner, power form handling equipment, road widening trenchers, rollers (brick,grade, macadam), self-propelled power spreaders, self-propelled power subgraders, steam fireman, tractor (pulling sheepfoot roller or grader), vibratory compactors (with integral power), boring machine operators (48" or less), hydro hammer, pavement breakers.
CLASS E - Drum fireman (asphalt plant), tenders, inboard-outboard motor boat launch, oil heaters (asphalt plant), oilers, power driven heaters, pumps (under 4" discharge), signalman, tire repairmen.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR 5.5 (a)(1)(ii)).

SUPERSEDEAS DECISION

STATE: OKLAHOMA COUNTY: RURAL COUNTIES (see below*)
DECISION NO: OK85-4041 DATE: DATE OF PUBLICATION
SUPERSEDEAS DECISION NO. OK85-4035 dated August 23, 1985 in 50FR 34360
DESCRIPTION OF WORK: Construction, alteration, and/or repair of streets, and highways, runways, erosion control structures, and water and sewer utilities (but does not include building structures on highway rest areas).

*All counties except Canadian, Cleveland, Creek, Comanche, Garfield, Logan McClain, Oklahoma, Osage, Pottawatomie, Rogers, Sequoyah, Tulsa and Wagoner Counties, Oklahoma, and also excluding heavy construction within the city limits of Muskogee.

| | Basic Hourly Rates | Fringe Benefits |
|---|---|---|
| Carpenters | $ 7.52 | |
| Carpenter helper | 6.38 | |
| Concrete finishers | 7.69 | |
| Concrete finisher helper | 6.00 | |
| Concrete rubber | 6.05 | |
| Electricians | 14.05 | |
| Electricians helper | 6.60 | |
| Form builder | 6.75 | |
| IRONWORKERS: | | |
| Reinforcing steel | 7.90 | |
| LABORERS: | | |
| Common laborers | 5.71 | |
| Air tool man | 6.05 | |
| Asphalt reker | 7.11 | |
| Asphalt shoveler | 5.71 | |
| Pipelayers | 6.95 | |
| Powderman | 6.20 | |
| Form setters | 7.17 | |
| Manhole builder | 7.06 | |
| Mechanic | 8.51 | |
| Mechanic helper | 7.10 | |
| Painter | 6.30 | |
| Piledriverman | 5.90 | |
| POWER EQUIPMENT OPERATORS: | | |
| Aspahlt distributor | 7.22 | |
| Aspahlt paving machine | 7.83 | |
| Asphalt plant operator | 7.86 | |
| Backhoe operator | 8.11 | |
| Bulldozer operator | 7.93 | |
| Concrete paving machine | 7.53 | |
| Concrete saw operator | 7.00 | |
| Crane operator | 7.50 | |
| Crusher and screening plant operator | 6.60 | |
| FRONT END LOADERS: | | |
| 1 CY and less | 7.48 | |
| Over 1 CY | 7.63 | |
| Hoist | 6.30 | |
| Mixer (over 16 C.F.) | 6.45 | |
| Mixer (16 C.F. and less) | 6.00 | |
| Mixer (concrete paving) | 6.60 | |
| POWER EQUIPMENT OP.(cont'd): | | |
| Motor grader operator | $8.53 | |
| Oiler | 7.83 | |
| Power broom operator | 6.64 | |
| Roller pneumatic | 6.06 | |
| Roller steel wheel | 7.26 | |
| Scrapers | 7.54 | |
| Tractor operator | 7.09 | |
| Trenching machine | 6.50 | |
| Traveling plant operator | 6.35 | |
| Wagon drill | 6.10 | |
| Traffic signal installer | 8.72 | |
| TRUCK DRIVERS: | | |
| Over 2 tons | 6.44 | |
| 2 tons and under | 6.20 | |
| Tandem axle & semitrailer | 6.77 | |
| Traveling mixer | 7.13 | |
| Winch | 5.90 | |
| WELDERS: Receive rate prescribed for craft performing operation to which welding is incidental. | | |
| Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards clauses (29 CFR, 5.5(a)(1)(ii). | | |

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SUPERSEDEAS DECISION

STATE: OKLAHOMA COUNTY: METROPOLITIAN COS.(see below*)
DECISION NO.: OK85-4042 DATE: DATE OF PUBLICATION
SUPERSEDEAS DECISION NO. OK85-4034 dated August 23, 1985 in 50FR 34360
DESCRIPTION OF WORK: Construction, alteration, and/or repair of streets, and highways, runways, erosion control structures, and water and sewer utilities (but does not include building structures on highway rest areas).

*Canadian, Cleveland, Comanche, Creek, Garfield, Logan, McClain, Oklahoma, Osage, Pottawatomie, Rogers, Sequoyah, Tulsa, and Wagoner Counties, Oklahoma.

| | Basic Hourly Rates | Fringe Benefits |
|---|---|---|
| Carpenters | $ 7.52 | |
| Carpenter helper | 6.38 | |
| Concrete finishers | 7.69 | |
| Concrete finisher helper | 6.00 | |
| Concrete rubber | 6.05 | |
| Electricians | 14.05 | |
| Plectricians helper | 6.60 | |
| Form builder | 6.75 | |
| IRONWORKERS: | | |
| Reinforcing steel | 7.90 | |
| LABORERS: | | |
| Common laborers | 5.71 | |
| Air tool man | 6.05 | |
| Asphalt raker | 7.11 | |
| Asphalt shoveler | 5.71 | |
| Pipelayers | 6.95 | |
| Powderman | 6.20 | |
| Form setters | 7.17 | |
| Manhole builder | 7.06 | |
| Mechanic | 8.51 | |
| Mechanic helper | 7.10 | |
| Painter | 6.30 | |
| Piledriverman | 5.90 | |
| POWER EQUIPMENT OPERATORS: | | |
| Aspahlt distributor | 7.22 | |
| Aspahlt paving machine | 7.83 | |
| Asphalt plant operator | 7.86 | |
| Backhoe operator | 8.11 | |
| Bulldozer operator | 7.93 | |
| Concrete paving machine | 7.53 | |
| Concrete saw operator | 7.00 | |
| Crane operator | 7.50 | |
| Crusher and screening plant operator | 6.60 | |
| FRONT END LOADERS: | | |
| 1 CY and less | 7.48 | |
| Over 1 CY | 7.63 | |
| Hoist | 6.30 | |
| Mixer (over 16 C.F.) | 6.45 | |
| Mixer (16 C.F. and less) | 6.00 | |
| Mixer (concrete paving) | 6.60 | |
| POWER EQUIPMENT OP.(cont'd): | | |
| Motor grader operator | $8.53 | |
| Oiler | 7.83 | |
| Power broom operator | 6.64 | |
| Roller pneumatic | 6.06 | |
| Roller steel wheel | 7.26 | |
| Scrapers | 7.54 | |
| Tractor operator | 7.09 | |
| Trenching machine | 6.50 | |
| Traveling plant operator | 6.35 | |
| Wagon drill | 6.10 | |
| Traffic signal installer | 8.72 | |
| TRUCK DRIVERS: | | |
| Over 2 tons | 6.44 | |
| 2 tons and under | 6.20 | |
| Tandem axle & semitrailer | 6.77 | |
| Traveling mixer | 7.13 | |
| Winch | 5.90 | |
| WELDERS: Receive rate prescribed for craft performing operation to which welding is incidental. | | |
| Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards clauses (29 CFR, 5.5(a)(1)(ii). | | |

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Friday, October 4, 1985

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**H.J. Res. 299 / Pub. L. 99-110**

Recognizing the accomplishments over the past 50 years resulting from the passage of the Historic Sites Act of 1935, one of this Nation's landmark preservation laws. (Oct. 1, 1985; 99 Stat. 483) Price: $1.00

**H.J. Res. 305 / Pub. L. 99-111**

To recognize both Peace Corps volunteers and the Peace Corps on the Agency's twenty-fifth anniversary, 1985-86. (Oct. 1, 1985; 99 Stat. 484) Price: $1.00

**S.J. Res. 67 / Pub. L. 99-112**

To designate the week of October 6, 1985, through October 12, 1985, as "Mental Illness Awareness Week". (Oct. 1, 1985; 99 Stat. 485) Price: $1.00

**S.J. Res. 111 / Pub. L. 99-113**

To designate the month of October 1985 as "National Spina Bifida Month". (Oct. 1, 1985; 99 Stat. 487) Price: $1.00

**H.R. 3454 / Pub. L. 99-114**

To extend temporarily certain provisions of law. (Oct. 1, 1985; 99 Stat. 488) Price: $1.00

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