

[6560-01-M]

[FRL 1031-6]

**TOTAL MAXIMUM DAILY LOADS UNDER  
CLEAN WATER ACT**

AGENCY: Environmental Protection Agency.

ACTION: Notice.

**SUMMARY:** The purpose of this notice is to finalize EPA's identification of pollutants suitable for total maximum daily load calculations pursuant to the Clean Water Act. EPA proposed an identification for public comment on September 20, 1978. This identification is being issued pursuant to the Act's requirement that EPA develop and publish information "on and the identification of pollutants suitable for maximum daily load measurements correlated with the achievement of water quality objectives." EPA is identifying all pollutants, under proper technical conditions, as being suitable for the calculation of total maximum daily loads. Within 180 days after publication of this notice, the Act requires each state to submit its first identification of waters requiring total maximum daily loads and its first load calculations.

**DATE:** This identification is effective December 28, 1978.

**FOR FURTHER INFORMATION CONTACT:**

Tim S. Stuart, Office of Water Planning and Standards, U.S. Environmental Protection Agency, 401 M Street SW., Washington, D.C. 20460, telephone 202-245-3042.

**SUPPLEMENTARY INFORMATION:** On September 20, 1978, EPA published a notice in the FEDERAL REGISTER (43 FR 42303) proposing an identification of pollutants suitable for total maximum daily load (TMDL) calculations pursuant to the Clean Water Act (33 U.S.C. § 1251 et seq.). The purpose of today's notice is to finalize EPA's identification of pollutants suitable for TMDL calculation. This notice is issued pursuant to section 304(a)(2)(D) of the Act. (33 U.S.C. § 1314(a)(2)(D).)

The legal basis, proposed identification and information on calculating TMDL's, priority ranking and content of State submissions were set out in the proposed notice. Interested persons were invited to submit written comments on the identification and information within 45 days from the date of publication. EPA received comments from 21 respondents including four State agencies, three local governmental organizations, 11 private concerns (industrial/consulting), and two attorneys. These written comments are available for public inspection at EPA headquarters.

EPA has carefully considered all of the comments received and a discussion of the significant comments with the Agency's response thereto follows. The discussion is based on the format of the original notice.

**(A) RESPONSES TO COMMENTS**

**BACKGROUND**

(1) Two State water quality agencies suggested that both past and present State and Federal water quality programs were sufficient to accomplish the purposes of the Act, and that wasteload allocation and other modeling efforts that had already occurred or that were already scheduled were sufficient. In their view, additional resources and efforts in this area would be misdirected.

Section 304(a)(2)(d) requires that EPA identify pollutants suitable for TMDL calculation. EPA is currently under an order of the United States District Court for the District of Columbia to comply with section 304(a)(2)(D). EPA is aware of ongoing programs, and therefore, the proposed identification of pollutants is not intended to require States to devote additional resources to TMDL and wasteload allocation development. Results of past or ongoing efforts, where adequate, can be submitted to initially satisfy the TMDL requirement. Specifics on timing, content and level of detail of future TMDL's will be negotiated by each State and the appropriate EPA Regional Office. EPA also believes that implementation and use of TMDL's can also serve as a tool for developing equitable and technically sound wasteload allocations.

(2) One commenter suggested that EPA's reference to the existing water quality management (WQM) regulations was not meaningful, since they will soon be superseded.

The proposed water quality management regulations also require the development of TMDL's as part of the water quality management planning process (40 CFR 35.1519, see 43 FR 40750, September 12, 1978).

(3) One commenter suggested that the court order pursuant to which EPA was proposing to identify pollutants suitable for TMDL calculation was mandatory only for the Patuxent River Basin.

The court order was not limited in its effect to the Patuxent River Basin. In any case, EPA believes that its identification should be made on a nationwide basis to encourage uniformity among the States and EPA regions for implementation of the TMDL program.

**PROPOSED IDENTIFICATION AND IMPLEMENTATION INFORMATION—IDENTIFICATION**

(1) Many commenters suggested that the phrase "under proper technical conditions" should be clarified.

"Proper technical conditions" refers to the availability of the analytical methods, modeling techniques and data base necessary to develop a technically defensible TMDL. These elements will vary in their level of sophistication depending on the nature of the pollutant and characteristics of the segment in question. They must be determined on a case-by-case basis. It is impossible to detail the proper technical conditions for all pollutants in all situations. Moreover, EPA does not want to preclude States from developing their own approaches.

(2) One commenter suggested that EPA's proposed identification evades the intent of § 304(a)(2)(D) since no specific identification of pollutants is made.

The statute does not require the Agency to specify by name every pollutant suitable for TMDL calculation. Since EPA's identification includes all pollutants, it would be unreasonable and unnecessary to list all chemicals and other pollutants by name.

(3) One commenter recommended that only actual pollutants be identified and not the parameters which merely indicate the presence of pollutants without identifying them.

EPA believes that the determination of TMDL's for parameters which indicate the presence of pollutants (e.g., total dissolved solids, suspended solids) can be useful in certain situations and should not be excluded from consideration.

**INFORMATION—CALCULATION OF TMDL'S**

(1) One comment requested a definition of TMDL.

A TMDL can generally be defined as the pollutant loading for a segment of water that results in an ambient concentration equal to the numerical concentration limit required for that pollutant by the numerical or narrative criteria in the water quality standards.

(2) A few commenters felt that some pollutants are not suitable for TMDL calculations because adequate analytical methods or modeling techniques do not yet exist.

The Agency believes that TMDL's can be determined for any pollutant. EPA recognizes that proper techniques do not exist for all pollutants in all situations; however, proper techniques can be developed for any pollutant given adequate resources. A limited list of specific pollutants would be too restrictive because it might preclude the States from determining TMDL's for other pollutants for

which proper techniques can be developed.

(3) A number of commenters stated that the notice does not provide adequate technical information and guidance for the States to use in the calculation of TMDL's for specific pollutants, and suggested that EPA provide additional guidance on this subject.

Most States already have some experience with the wasteload allocation process, and generally have the knowledge needed to determine the proper techniques and conditions for TMDL's. Those States which do not have the knowledge have easy access to it in the technical literature, EPA guidance, and contractor expertise. EPA recognizes the desirability of additional technical guidance for the calculation of TMDL's and is developing such guidance.

(4) Several commenters felt that TMDL's could not be developed in the absence of numerical criteria in water quality standards.

Where numerical water quality criteria do not now exist, States may use information published by EPA under section 304(a) of the Act (e.g., "Red Book" criteria) or may use available information in the technical literature for developing TMDL's.

(5) A few commenters expressed dissatisfaction over how conservative and nonconservative pollutants are defined, and how conservative TMDL's (C-TMDL's) are distinguished from nonconservative TMDL's (N-TMDL's). Two commenters felt that the definitions of conservative and nonconservative pollutants are not flexible enough to allow for variations in locations and conditions which affect the behavior of many pollutants. One commenter believed that the manner in which N-TMDL is discussed does not adequately distinguish it from C-TMDL, and suggested that the major difference between the two classes of pollutants is that the N-TMDL is affected by chemical and biological processes in the aquatic environment and not just by flow or volume.

As noted above, a TMDL can be defined as the pollutant loading for a segment of water that results in an ambient concentration equal to the numerical concentration limit required for that pollutant by the numerical or narrative criteria in the water quality standards. The means for determining the TMDL will depend on the classification of the given pollutant (i.e., conservative or nonconservative). As indicated in the September notice, EPA recognizes that the dividing line between conservative and nonconservative pollutants is not sharp and the classification of a given pollutant may vary according to the situation (e.g., the location of discharges and other conditions in the segment). Since

TMDL calculations are made on a case-by-case basis, the States are free to use their judgment in classifying a pollutant as either conservative or nonconservative, based on its characteristics of the segment in question. Also, EPA recognizes that N-TMDL's are affected by a number of factors including chemical and biological processes in the aquatic environment, and the States will be free to use their judgment in weighing these factors.

(6) One commenter questioned the applicability of "Red Book" criteria to local conditions.

This issue was also raised in EPA's advanced notice of proposed rulemaking for water quality standards (43 FR 29588, July 10, 1978), and is now under consideration by EPA.

#### INFORMATION—PRIORITY RANKING

(1) One commenter suggested that we use the criteria contained in the existing WQM regulation (40 CFR 130/131) to determine priorities, rather than the criteria in the proposal.

Currently, 40 CFR 130.20(a)(2) simply requires a ranking of segments based on a statewide assessment of water quality problems. The criteria in the notice provides more guidance. EPA feels that more detailed guidance is necessary because this identification triggers the States' requirements to develop TMDL's.

(2) Another commenter stated that EPA's proposed criteria for determining priorities were not necessarily conducive to environmental improvement, and suggested that efforts be concentrated on establishing water quality standards.

This notice is not intended to establish, on a nationwide basis, the appropriate level of resources to be devoted to water quality standards revisions but was intended to address the development of TMDL's as required by the Act.

(3) One commenter suggested that priority rankings should reflect availability of State resources.

EPA agrees that resources must be considered in deciding where to develop TMDL's. The proposed water quality management regulations provide for this consideration (See 40 CFR 35.1515-2 State Strategy).

(4) Another commenter proposed that projected costs and benefits of attaining water quality standards be considered in ranking segments for TMDL's.

The existing regulations governing establishment of water quality standards (40 CFR 130.17(c)) allow consideration of economic factors. The benefits of attaining water quality standards should be considered in the water quality standard setting process itself.

(5) One commenter suggested that factors other than (1) the severity of pollution, and (2) the uses to be made of the waters (§ 303(d)(1)(A)) may not be considered in establishing priority rankings for waters.

Section 303(d)(1)(A) is not exclusive of other factors. While States must consider the severity of pollution and uses to be made of the waters in establishing priority rankings, the statute does not preclude consideration of additional relevant factors such as timing, resource needs and level of technical detail.

(6) One commenter noted that while § 303(d)(1)(C) requires that TMDL's be *calculated* for waters in which the effluent limitations are not stringent enough to implement the applicable water quality standard, § 303(d)(3) requires TMDL's be *estimated* "for the specific purpose of developing information" for all other waters.

The proposed identification did fail to make this distinction clear. The proposal primarily deals with the States' obligations under section 303(d)(1)(C). All elements of the proposal, including recommendations for prioritization of TMDL calculations related to the States' obligations under section 303(d)(1)(C). These elements of the proposal would also apply to the States' obligations under § 303(d)(3) although EPA considers this requirement of the Act less significant than the requirement of section 303(d)(1)(C). Section 303(d)(3) deals with waters other than those identified in section 303(d)(1)(A) and (B) and requires TMDL's be estimated for informational purposes. While States should identify all water segments within their boundaries, TMDL's need be *calculated* only for pollutants for which the segments are water quality limited.

(7) One commenter requested a clarification of EPA's policy towards TMDL's in segments without existing water quality problems.

EPA's notice was intended to indicate that States are not limited to performing TMDL's in water quality limited segments but may also calculate TMDL's in segments which are not water quality limited. The draft has been revised accordingly.

(8) One commenter suggested that municipal dischargers be in compliance with effluent limitations before TMDL's are developed and wasteload allocations are made.

This is not a required prerequisite in the Act for development of TMDL's or wasteload allocations.

(9) One commenter suggested that the required date for pollutant identification should be deferred until after compliance with best available technology economically achievable (BAT).

effluent limits under section 301 of the Act.

The identification is required by court order. In fact, the Act required identification within one year of the enactment of the 1972 Amendments. In any case, the stream quality that would be achieved through compliance with BAT effluent limitations can usually be modeled prior to date of actual compliance. This makes it unnecessary to wait until after BAT compliance is achieved to see if the water quality standards will be met.

(10) One commenter requested a clarification of the issue of point and nonpoint source loadings.

We have eliminated the reference to nonpoint source contributions in establishing priorities for TMDL development, since the relative significance of point and nonpoint source contributions will in some cases not be determined until TMDL's are developed.

(11) Some commenters expressed concern that the proposal appeared to downgrade the role that TMDL's play in setting of effluent limits and criticized what they described as the EPA's lack of a sense of urgency in setting TMDL's. In their opinion this could lead to discharge limitations more stringent than necessary to meet water quality standards.

As stated in the proposal, EPA has not considered the development of TMDL's as a high priority since many of the practical results are being achieved through State water quality management processes. EPA does not consider the establishment of TMDL's as essential to setting of water quality based effluent limits. Development of TMDL's pursuant to section 303(d) is not a necessary prerequisite to adoption or enforcement of water quality standards, and therefore, will not determine the validity of existing, revised or new water quality standards. EPA believes that its identification and information provide a phased approach to establishment of TMDL's consistent with the intent of Congress, and also ensure that current State water quality management programs will not be disrupted. EPA's identification also provides needed flexibility in the development of TMDL's.

(12) One commenter suggested that the notice should require calculation of TMDL's for all water quality limited segments by 1983.

While EPA encourages the establishment of TMDL's at the earliest date practicable, calculation of TMDL's will be an evolving and time consuming process which does not lend itself to imposition of a deadline date. This should not be a problem since, as stated in the notice, development of TMDL's is not a necessary prerequisite to adoption or enforcement of water quality standards.

#### STATE SUBMISSIONS

One commenter maintained that it would be difficult for States to submit their first TMDL calculation within six months of EPA's final identification, particularly in light of the fact that prior to performing these calculations, segment identification and priority ranking should also be accomplished.

The identification of one or more segments, and a TMDL for one or more segments, are the only items required within six months. Priority rankings should be submitted as part of the State/EPA agreement. EPA recognizes the problems in developing TMDL's within six months, and therefore reiterates that results of past or ongoing efforts can be submitted.

#### OTHER COMMENTS

(1) Several commenters suggested that EPA modify its proposal to encourage public participation, particularly in establishing priorities and calculating TMDL and wasteload allocations.

The proposed water quality management regulations require compliance with the forthcoming public participation regulations. (43 FR 40750, September 12, 1978). The WQM regulations also specifically require the public with an opportunity to review and comment on proposed plans (TMDL's would be a part of these plans). (40 CFR 35.1533-3). These regulations also provide the public with an opportunity to participate in the development of the State/EPA agreements which will determine priorities for completing TMDL's.

(2) One commenter asked whether existing NPDES permits will have to be modified once a TMDL is completed.

NPDES permits are generally issued for a five year period. In most cases, permit conditions based on TMDL's will be incorporated into permits only upon reissuance.

(3) One commenter suggested that there should be a weighing of cost and benefits for determining which dischargers should have their permits based on TMDL's.

This notice is not intended to provide guidance on how States should allocate the total maximum daily load among individual point sources.

#### (b) REVISIONS TO THE PROPOSED NOTICE

As a result of public comments and continuing review of the proposed notice by EPA, the following changes have been made in the final notice:

(1) The notice has been revised to reflect the distinction of the States' obligations under sections 303(d)(1)(C) and 303(d)(3) of the Act. As discussed

above, both sections 303(d)(1)(C) and 303(d)(3) require States to perform TMDL's, but EPA considers the requirements of section 303(d)(1)(C) to be of greater importance toward achieving the goals of the Act. The final notice reflects this position.

(2) The reference in the priority section to nonpoint source contributions in establishing priorities for TMDL development has been deleted. The reasoning supporting this revision was that the relative significance of point and nonpoint contributions will in some cases not be determined until TMDL's are developed.

(3) Section 304(a)(2)(D) requires the Administrator to both publish an identification of and information on pollutants suitable for TMDL calculation. The information provided in the proposed notice is not being revised significantly (with the exception of (1) and (2) above), but should be considered supplemented by EPA's response to the comments. Additional information in the responses is consistent with the information in the proposal and merely explains or elaborates on the information in the proposal.

#### (c) FINAL NOTICE

This notice is being issued pursuant to an order of the U.S. District Court for the District of Columbia in *Board of County Commissioners of Calvert County, et al. v. Costle, et al.* (No. 78-0572).

Under section 304(a)(2)(D) EPA was required to publish an identification of pollutants suitable for total maximum daily load calculation within one year of the enactment of the 1972 Amendments to the Act. On October 26, 1973, EPA published a notice of availability (38 FR 29646) of a two-volume document containing a draft identification of pollutants potentially suitable for TMDL calculations. The draft identification was never finalized.

EPA did not consider such finalization a matter of high priority because many of the practical results of such an action are being accomplished in any event through the required State water quality management planning process under sections 208 and 303(e) of the Act. In particular, EPA's regulations at 40 CFR § 131.11 (f) and (g) include TMDL calculations and wasteload allocations as part of State water quality management plans.

However, on June 20, 1978, the Court issued an order requiring EPA to publish a final identification under section 304(a)(2)(D). EPA is, accordingly, issuing this final notice of identification today. Final identification under section 304(a)(2)(D) triggers the requirement under section 303(d) that States, or in certain instances EPA, calculate TMDL's for all segments in which water quality standards are not

expected to be met through the implementation of technology-based effluent limitations. EPA has carefully considered these requirements in issuing its identification, and we believe that the identification published today will have the least disruptive effect on ongoing State programs designed to meet water quality objectives.

EPA's identification will make the requirement for establishment of TMDL's part of the States' ongoing section 208 and section 303 planning processes. The identification should therefore not require States which are carrying out their functions under sections 208 and 303 to devote additional resources to wasteload allocations and TMDL development. Priority ranking systems will be established to keep the development of TMDL's within available resources.

This identification shall be effective as of December 28, 1978.

Dated: December 22, 1978.

THOMAS C. JORLING,  
Assistant Administrator for  
Water and Waste Management.

#### IDENTIFICATION AND IMPLEMENTATION INFORMATION

##### A. IDENTIFICATION

EPA's identification is as follows: *All pollutants, under the proper technical conditions, are suitable for the calculation of total maximum daily loads.*

The Agency believes that under the proper technical conditions total maximum daily loads (TMDL's) and wasteload allocations can be developed for all pollutants. The requirements to perform TMDL's will be adjusted according to a priority ranking as envisioned by section 303(d) of the Clean Water Act (33 U.S.C. 1251 *et seq.*) to avoid over-loading either the States or EPA during the phased development of TMDL's.

##### B. INFORMATION—CALCULATION OF TMDL'S

1. *Water Quality Standards.* Section 303(d)(1)(C) of the Clean Water Act provides that TMDL's will be calculated in order to establish an upper limit on pollution loading which will still allow meeting applicable water quality standards for the particular body of water. The water quality standard for each body of water consists of the designated use (classification) of the body of water, the associated numerical and non-numerical water quality criteria necessary to protect the designated use, and antidegradation requirements. See 43 FR 29588-92 (July 10, 1978) for a recent detailed statement on water quality standards.

TMDL's can only be calculated for water bodies and pollutants with a specified numerical limit based upon approved or promulgated ambient

water quality standards. Such numerical limits may be specified in the water quality standards or may be based upon the level of control necessary to prevent the violation of a quantitative or nonquantitative water quality criterion. For example, a TMDL could be calculated for a certain concentration limit for a toxic substance, when this particular pollutant is not specifically addressed in the numerical criteria, if the concentration limit used is necessary to prevent the violation of a general prohibition against the discharge of toxic substances in toxic amounts.

Since TMDL's must be established at levels necessary to implement the applicable water quality standards, any change in numerical criteria for pollutants contained in water quality standards will impact the TMDL's calculated for such a pollutant. Therefore, TMDL's should be reviewed each time the corresponding water quality standards are revised.

Finally, EPA recognizes that State development of TMDL's and wasteload allocations for all water quality limited segments will be a lengthy process. Water quality standards will continue to be enforced during this process. Development of TMDL's pursuant to section 303(d) is not a necessary prerequisite to adoption or enforcement of water quality standards, and, therefore, will not determine the validity of existing, revised or new water quality standards.

2. *Methods for TMDL Calculation.* Water pollutants can generally be classified as either conservative or nonconservative. Technical conditions for calculation of TMDL's and wasteload allocations vary with the type of pollutant, with one method of calculation for pollutants which are generally classified as conservative and another method for pollutants generally classified as nonconservative. Conservative pollutants (such as certain dissolved solids) are those pollutants which persist in the water column of the aquatic environment. The amount of a conservative pollutant in a given segment will remain essentially constant over time. Nonconservative pollutants (such as many organic compounds) decay or are otherwise removed over time. This decrease in concentration may be due to a number of factors including chemical breakdown and biodegradation.

EPA recognizes that the dividing line between conservative and nonconservative pollutants is not sharp and the classification of a given pollutant may vary depending upon the level of sophistication required in a particular analytical situation. The classification is helpful, however, in determining which method of calculation should be used. See *Simplified Mathematical*

*Modeling of Water Quality*, EPA, March 1971, and *Addendum to Simplified Mathematical Modeling of Water Quality*, EPA, May 1972.

a. *Conservative Pollutant TMDL (C-TMDL).* The C-TMDL of a body of water is that pollutant loading which, by simple dilution with the receiving body of water, results in an ambient concentration equal to the specified numerical concentration limit for that pollutant, i.e., the concentration limit based upon the applicable water quality standards. Since the C-TMDL depends upon simple dilution, the C-TMDL varies directly with the volumes or flows of dischargers and the receiving body of water, with a larger flow providing a larger C-TMDL.

b. *Nonconservative Pollutant TMDL (N-TMDL).* The N-TMDL is not an intrinsic property of a body of water, since the N-TMDL varies with a number of factors, e.g., flow or volume of the receiving body of water, flow from dischargers, and the configuration of discharge locations on the body of water. Therefore, the N-TMDL can only be calculated with fairly sophisticated techniques such as mathematical modeling, which takes these factors into account. As with the C-TMDL, the N-TMDL results in an ambient concentration of the pollutant equal to the specified numerical concentration limit for that pollutant, i.e., the concentration limit based upon the applicable water quality standards.

##### C. INFORMATION—PRIORITY RANKING

EPA's proposed identification of pollutants is not designed to require States to devote additional resources to wasteload allocations and TMDL development. As stated previously, it is envisioned that establishment of TMDL's would be part of States' ongoing sections 208 and 303(e) planning processes funded under sections 106 and 208 of the Act. To keep the requirements of developing TMDL's within available resources and to meet statutory schedules for preparing TMDL's, States must establish priority rankings.

1. *Statutory Requirements.* Section 303(d)(1)(A) requires States to identify waters where water quality standards will not be met by application of effluent limitations required under sections 301(b)(1) (A) and (B) of the Act. These waters are designated as water quality limited segments. The process of stream segment classification has been largely completed as part of basin planning under section 303(e) of the Act. Section 303(d)(2) requires States to submit their first segment identifications and TMDL calculations within 180 days of the Administrator's final identification pursuant to section 304(a)(2)(D). After the States' first submission, subsequent segment iden-

tifications and TMDL calculations must be submitted from "time to time." Section 303(d)(2). Priority rankings of waters will ensure compliance under a reasonable schedule with the Act's "time to time" requirement. In addition to State's obligations under section 303(d)(1)(C) to calculate TMDL's, section 303(d)(3) requires States to estimate TMDL's for informational purposes for all waters not identified in sections 303(d)(1)(A) and (B). This latter requirement may be assigned lower priority by the States in their TMDL programs.

Section 303(d)(1)(A) required the States to establish a priority ranking for those waters which States identify as water quality limited. In establishing the priority ranking, §303(d)(1)(A) requires the States to take into account (1) the severity of pollution and (2) the uses to be made of the waters identified. In assessing severity of pollution, States should consider the type of pollutants involved as well as the violations of water quality standards. In addition, States are not limited to addressing only segments with existing problems but may also take into account the need to protect existing high quality waters.

2. *Priority Ranking Agreements.* Since calculation of TMDL's will be part of State water quality management planning, priorities for TMDL's will be negotiated as part of the State/EPA agreement under the water quality management regulations. 40 CFR 130.11; see proposed 40 CFR 35.1507, 43 FR 40742 (September 12, 1978). EPA's recently proposed regulations would require States to establish priority ranking as part of the State strategy. The priority ranking, timing, resource needs, level of technical detail and other specifics of TMDL development will be negotiated by the States and EPA, and then set forth in the work program.

3. *Content of Priority Ranking.* In developing the priority ranking in the work programs for water quality segments on which TMDL's will be calculated during each following year, the States should consider at least the following factors.

First, section 303(d)(1)(A) requires States to take into account (1) the severity of pollution and (2) the uses to be made of the waters identified. (See discussion, part II.C.1).

Second, States should also consider other factors in establishing priority ranking of segments or priorities for calculation of TMDL's among the high ranking segments. Some of the factors for consideration in ranking may include the following:

(1) Calculation of TMDL's should be given higher priority when they are expected to result in effluent limitations in NPDES permits. If NPDES

permits are not scheduled for reissuance in the near future, the calculation of TMDL's for that segment may receive a low priority. Similarly, if implementation of national effluent limitation guidelines would eliminate water quality standards violations for certain stream segments, calculation of TMDL's may receive low priority. These considerations will avoid use of limited resources where implementation of the TMDL's would not be likely in the near future.

(2) Resources may be concentrated on segments and pollutants where acceptable models and adequate data are available at reasonable cost.

(3) Since the Act requires TMDL's to be established at levels necessary to implement water quality standards, TMDL's should be designed to result in the attainment of standards.

(4) States should also consider coordinating the development of TMDL's with other water quality analyses. These analyses include intensive surveys and fixed station analyses under the Basic Water Monitoring Program, water quality standard revisions, preparation of the section 305(b) report and advanced waste treatment reviews conducted under section 208.

(5) States should also consider any national priorities developed by EPA.

States may consider the above factors as well as additional factors they deem important to the priority ranking process for development of TMDL's. States will be required to set forth justification for the priority ranking of each stream segment but will not be required to develop a system which sets forth each factor considered and the weight given to each factor. States will be required to rank every water quality segment in the State. However, States need not reclassify segments already classified.

#### D. STATE SUBMISSIONS AND EPA APPROVAL

To comply with the requirements of the Act, States must submit the following information within 180 days of EPA's final identification of pollutants suitable for TMDL calculation.

(1) An identification of waters for which effluent limitations required by sections 301(b)(1)(A) and (B) are not stringent enough to implement applicable water quality standards. This requirement can be satisfied by referencing documents already submitted to EPA, e.g., section 305(b) reports.

(2) The TMDL established under section 303(d)(1)(A) for one or more of the above waters. This requirement can be satisfied by referencing documents already submitted to EPA or by submitting TMDL's based on information available in other water quality studies. States should indicate whether those loads previously submitted to EPA are still regarded as adequate.

Priority rankings are not required within 180 days. They will be submitted pursuant to schedules established in the State/EPA agreements. Subsequent submission of TMDL's shall also be submitted pursuant to State/EPA agreements.

Under section 303(d)(2), EPA must approve or disapprove State submissions. In reviewing State submissions, EPA may conditionally approve the submissions with the understanding that States will provide supplementary information within a reasonable time and according to a schedule established by the State/EPA agreement. After EPA approval, section 303(e) requires States to incorporate the TMDL's into their water quality management plans pursuant to section 303(e)(3)(C).

[FR Doc. 78-36206 Filed 12-27-78; 8:45 am]

[6560-01-M]

[FRL 1029-6; OPP-50397]

#### ISSUANCE OF AN EXPERIMENTAL USE PERMIT

The Environmental Protection Agency (EPA) has issued an experimental use permit to the following applicant. Such a permit is in accordance with, and subject to, the provisions of 40 CFR Part 172, which defines EPA procedures with respect to the use of pesticides for experimental purposes.

No. 11273-EUP-13. Sandoz, Incorporated, San Diego, California 92108. This experimental use permit allows the use of the remaining supply of approximately 240 pounds of the herbicide norflurazon in or on apples, pears, grapes, citrus crops, almonds and almond hulls to evaluate control of certain grassy and broadleaf weeds. A total of 74 acres is involved; the program is authorized only in the States of Arizona, California, Oregon, and Washington. The experimental use permit is effective from November 30, 1978 to November 30, 1979. Temporary tolerances for residues of the active ingredient in or on apples, pears, grapes, citrus crops, almonds and almond hulls have been established. (PM 23, Room: E-351, Telephone: 202-755-1397).

Interested parties wishing to review the experimental use permit are referred to the designated Product Manager (PM), Registration Division (TS-767), Office of Pesticide Programs, EPA, 401 M Street, S.W. Washington, D.C. 20460. The descriptive paragraph for the permit contains a telephone number and room number for information purposes. It is suggested that interested persons call before visiting the EPA Headquarters Office, so that the appropriate permit may be made

conveniently available for review purposes. The files will be available for inspection from 8:30 a.m. to 4:00 p.m. Monday through Friday.

(Section 5 of the Federal Insecticide, Fungicide, and Rodenticide Act, as amended in 1972, 1975, and 1978 (92 Stat. 819; 7 U.S.C. 136).)

Dated: December 18, 1978.

DOUGLAS D. CAMPT,  
*Acting Director,*  
*Registration Division.*

[FR Doc. 78-36031 Filed 12-27-78; 8:45 am]

[6560-01-M]

[FRL 1029-7; PP 7G1933/T180]

**NORFLURAZON**

**Renewal of Temporary Tolerances**

On April 13, 1978 the Environmental Protection Agency (EPA) gave notice (43 FR 15487) that in response to a pesticide petition (PP 7G1934) submitted to the Agency by Sandoz, Inc., PO Box 1489, Homestead, FL 33030, temporary tolerances were established for residues of the herbicide norflurazon (4-chloro-5-(methylamino)-2-( $\alpha,\alpha$ , $\alpha$ -trifluoro-m-tolyl)-3(2H)-pyridazinone) in or on the raw agricultural commodities almonds, almond hulls, apples, citrus crops, grapes, and pears at 0.1 part per million (ppm). These temporary tolerances expired November 10, 1978.

Sandoz, Inc., requested a one-year renewal of these temporary tolerances both to permit continued testing to obtain additional data and to permit the marketing of the above raw agricultural commodities when treated in accordance with the provisions of an experimental use permit (11273-EUP-13) that has been renewed under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended in 1972, 1975, and 1978 (92 Stat. 819; 7 U.S.C. 136).

The scientific data reported and all other relevant material were evaluated and it was determined that a renewal of the temporary tolerances would protect the public health. Therefore, the temporary tolerances have been renewed on condition that the pesticide is used in accordance with the experimental use permit with the following provisions:

1. The total amount of the pesticide to be used must not exceed the quantity authorized by the experimental use permit.

2. Sandoz, Inc., must immediately notify the EPA of any findings from the experimental use that have a bearing on safety. The firm must also keep records of production, distribution, and performance and on request make the records available to any authorized officer of employee of the EPA or the Food and Drug Administration.

These temporary tolerances expire November 30, 1979. Residues not in excess of 0.1 ppm remaining in or on almonds, almond hulls, apples, citrus crops, grapes, and pears after this expiration date will not be considered actionable if the pesticide is legally applied during the term of and in accordance with the provisions of the experimental use permit and temporary tolerances. These temporary tolerances may be revoked if the experimental use permit is revoked or if any scientific data or experience with this pesticide indicate such revocation is necessary to protect the public health. Inquiries concerning this notice may be directed to Ms. Willa Garner, Product Manager 23, Registration Division (TS-767), Office of Pesticide Programs, 401 M St., SW., Washington DC 20460 (202/775-7012).

Dated: December 19, 1978.

(Section 408(j) of the Food, Drug, and Cosmetic Act (21 U.S.C. 346(j)).)

DOUGLAS D. CAMPT,  
*Acting Director,*  
*Registration Division.*

[FR Doc. 78-36030 Filed 12-27-78; 8:45 am]

[6730-01-M]

**FEDERAL MARITIME COMMISSION**

(Independent Ocean Freight Forwarder License No. 1008)

**FOX FORWARDING CO., MARIE G. FOX D.B.A.**

**Order of Revocation**

On November 30, 1978, Fox Forwarding Company, Marie G. Fox d/b/a 1617 Wrenford Road, Cleveland, Ohio 44121, requested the Commission to revoke its Independent Ocean Freight Forwarder License No. 1008.

Therefore, by virtue of authority vested in me by the Federal Maritime Commission as set forth in Manual of Orders, Commission Order No. 201.1 (Revised), section 5.01(c), dated August 8, 1977;

It is ordered, that Independent Ocean Freight Forwarder License No. 1008 issued to Fox Forwarding Company, Marie G. Fox d/b/a, be and is hereby revoked effective November 30, 1978 without prejudice to reapplication for a license in the future.

It is further ordered, that Independent Ocean Freight Forwarder License No. 1008, issued to Fox Forwarding Company, Marie G. Fox d/b/a be returned to the Commission for cancellation.

It is further ordered, that a copy of this Order be published in the FEDERAL REGISTER and served upon Fox For-

warding Company, Marie G. Fox, d/b/a.

ROBERT G. DREW,  
*Director, Bureau of*  
*Certification and Licensing.*

[FR Doc. 78-36128 Filed 12-27-78; 8:45 am]

[4110-89-M]

**DEPARTMENT OF HEALTH,  
EDUCATION, AND WELFARE**

Office of Education

HIGHER EDUCATION ACT (HEA) OF 1965;  
REAUTHORIZATION ISSUES

Public Hearings

AGENCY: Department of Health, Education, and Welfare.

ACTION: Notice of Public Hearing.

SUMMARY: This document establishes the times and dates for public hearings on the reauthorization of HEA of 1965. One public hearing will be held in each of the ten regions.

The purpose of the hearings is to assist the administration in developing its HEA proposals by providing public discussion of issues and proposals related to specific Federal programs being considered in the reauthorization of the HEA of 1965.

**REGION I**

DATE: February 1, 1979  
LOCATION: Boston University, George Sherman Union, Conference Auditorium  
TIME: 1:00-5:00 p.m.; 7:00-10:00 p.m.  
CONTACT: Dr. Thomas Burns, Regional Commissioner, (617) 223-7205

**REGION II**

DATE: February 1, 1979  
LOCATION: New York University, Schimmel Auditorium, Upper Concourse—Tisch Hall, 40 W. 4th Street, New York, N.Y.  
TIME: 1:00-5:00 p.m.; 7:00-10:00 p.m.  
CONTACT: Dr. William Green, Regional Commissioner, (212) 264-4370

**REGION III**

DATE: January 24, 1979  
LOCATION: Drexel University, Mandell Theater, 33rd & Chestnut Streets, Philadelphia, Pa. 19104  
TIME: 1:00-5:00 p.m.; 7:00-10:00 p.m.  
CONTACT: Dr. Albert C. Crambert, Regional Commissioner, (215) 596-1001

**REGION IV**

DATE: January 22, 1979  
LOCATION: Georgia State University, Urban Life Auditorium, University Plaza, Atlanta, Ga. 30303  
TIME: 1:00-5:00 p.m.; 6:00-10:00 p.m.  
CONTACT: Dr. William Lewis, Regional Commissioner, (404) 221-2063

**REGION V**

DATE: February 1, 1979  
LOCATION: University of Illinois, Chicago Circle Center, Conference Room 605, 750 South Halstead Street  
TIME: 1:00-5:00 p.m.; 7:00-10:00 p.m.