

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 125

[1214-3]

Modification of Secondary Treatment Requirements for Discharges into Marine Waters

AGENCY: Environmental Protection Agency ("EPA").

ACTION: Final rule.

SUMMARY: This final rulemaking establishes the criteria which will be applied by EPA in acting upon applications for issuance of a National Pollutant Discharge Elimination System ("NPDES") permit which modifies the requirements of secondary treatment under section 301(h) of the Clean Water Act ("the Act"). 33 U.S.C. 1311(h).

EFFECTIVE DATE: 1:00 P.M. Eastern time on June 22, 1979.

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SUPPLEMENTARY INFORMATION: In 1972 the Federal Water Pollution Control Act (33 U.S.C. 1251 *et seq.*) was amended to require all publicly owned treatment works ("POTWs"), to achieve by July 1, 1977, secondary treatment as defined by EPA (see sections 301(b)(1)(B) and 304(d)(1) of the Act). In 1973, EPA defined secondary treatment in terms of four parameters—biochemical oxygen demand (BOD), suspended solids (SS), pH and fecal coliform bacteria—and established national uniform minimum effluent limitations for these pollutants to be attained by all POTWs by the 1977 deadline (38 FR 22298, August 17, 1973, as amended by 41 FR 30785, July 26, 1976 (deletion of fecal coliform bacteria limitations)).

Since the enactment of the 1972 amendments and the promulgation of EPA's secondary treatment regulations, a number of municipalities, primarily from the West Coast, argued to both Congress and EPA that secondary treatment of municipal ocean discharges is not necessary to protect the marine environment or to assure the attainment and maintenance of water quality in ocean waters.

Those same municipalities contended that secondary treatment traditionally has been defined in terms of pollutant parameters and levels of pollutant reduction which are important for

freshwater ecology where the discharge of oxygen-demanding wastes and sedimentation of suspended solids results in distinct environmental degradation, but which have little significance for oceanic and saline estuarine waters where wastes are rapidly assimilated and dispersed by strong currents and tidal action. POTW discharges located in West Coast estuaries exhibiting a high degree of flushing also argued that secondary treatment provides no significant environmental benefit because discharges are rapidly oxygenated, dispersed and carried into the open ocean. On this basis, these municipalities have maintained that they should be exempted from the Act's secondary treatment requirement, and the associated capital, maintenance, and operating costs. These municipalities also claimed that they had accumulated sufficient evidence to demonstrate the scientific basis for exemptions from secondary treatment requirements.

As a result of their testimony, Congress, in amending the Clean Water Act in 1977, added section 301(h), which allows a municipal marine discharger to present its case to EPA. Section 301(h) provides that the Administrator, upon application of a POTW and with the concurrence of the State, may issue an NPDES permit which modifies EPA's secondary treatment requirements if the applicant: (1) discharges into certain ocean and estuarine waters; and (2) demonstrates, to the satisfaction of the Administrator, that the modification will not result in any increase in the discharge of toxic pollutants or otherwise impair the integrity of the receiving waters.

EPA's proposed regulations governing both the criteria and procedures¹ to be used in implementing this provision were published on April 25, 1978 (43 FR 17484). On May 10, 1978, EPA announced public hearings, which were held on June 2, and June 3, 1978, in Washington, D.C. and Seattle, Washington, respectively, to receive comment on the proposal (43 FR 20024). Prior to publication of the proposal, EPA also solicited written comments and held a public meeting in San Francisco to receive oral and written comments on how it should implement the statutory criteria of section 301(h) prior to proposal of regulations (43 FR 4675, February 3, 1978). To the extent possible, pre-proposal comments were considered in developing the proposal. In response to these requests for public participation, EPA received

¹ The procedures governing section 301(h) decisionmaking are now found in 40 CFR Part 124.

written and oral comments on its proposal from over a hundred groups¹ and individuals. Based on these comments, a number of changes have been made to the proposal. A summary of the section 301(h) program is provided in Section I, below. Major generic changes, including EPA's response to comments, are discussed by topic in Section II below.

EPA also received a number of inquiries concerning various aspects of the section 301(h) program (e.g., the relationship between sections 301(h), 301(b)(2)(B) and 301(l), enforcement, and grant eligibility) which were not specifically addressed in the proposal. In response to these concerns, EPA has included Section III, which discusses how EPA intends to implement the section 301(h) program and how the section 301(h) program relates to other programs within EPA.

In response to requests that EPA provide justification for the key tests used in the section 301(h) process and to provide guidance to applicants, a draft Technical Support Document was developed and made available for public review and comment on March 21, 1979 (43 FR 17194). This document is discussed in Section IV.

The revisions and reorganization of individual sections are addressed in the section-by-section analysis in Section V. This section includes EPA's response to major comments received by EPA on the proposed regulations.

I. Program Summary

These regulations (40 CFR 125 Subpart G) establish the criteria and standards to be applied by EPA in acting upon section 301(h) applications for modifications to the requirements of secondary treatment for biochemical oxygen demand (BOD), suspended solids (SS), and pH. They also establish special permit conditions which must be imposed and terms and conditions required by the NPDES regulations under Part 122 of this Chapter. As explained in section III, A. of this preamble, these regulations were originally proposed as 40 CFR Part 233. Cross-references to the proposed regulation sections are provided throughout this preamble.

A. Scope

The opportunity to obtain a modification of applicable secondary treatment requirements is available only to publicly owned treatment works (POTWs), which do not include federal facilities. In order to be eligible for application, a POTW must have had an existing discharge into marine waters as

of December 27, 1977. Additionally, the POTW must have submitted a preliminary application to EPA by September 24, 1978. Preliminary applications postmarked no later than September 25, 1978 were accepted as September 24th was a Sunday (43 FR 39399, September 5, 1978). POTWs which submitted preliminary applications are eligible to submit final applications as required by this Subpart, no later than September 13, 1979.

Although POTWs in communities which are considered to be Native Alaskan Villages or small coastal communities in Puerto Rico and the U.S. Territorial Possessions in the Caribbean and Pacific may apply if they so desire, a special policy has been adopted with respect to these communities as an alternative to their submitting completed section 301(h) applications. This policy was adopted to provide a better means than the section 301(h) program to assist these communities in addressing their sanitary and public health priorities in a manner consistent with their more limited economic resources and different degree of development. The regulations contain no other special provisions or exemptions based on size, location, or economic activity, and will be applied equally to all other eligible applicants. Applicants should keep in mind, however, that the amount of data and analyses required to obtain and maintain a section 301(h) permit will very likely vary with the size of the discharge, the amount and kind of industrial waste in the effluent and the nature of the receiving waters into which the waste is discharged. Accordingly, small, purely domestic POTWs discharging into open coastal waters may need less data to establish the merits of their case than that required of larger POTWs with industrial waste in their influent.

B. Application Requirements

Eligible POTWs have up to 90 days to submit a final and complete application to EPA. The final application must consist of: (1) a signed, completed NPDES application Standard Form A, Parts I, II, and III; (2) a completed application which corresponds to EPA's Application Format for Modification of the Requirements of Secondary Treatment; and (3) certification in accordance with 40 CFR § 122.5 that the information contained in the application and Standard Form A is true, accurate, and correct. The final application must be signed by either a principal executive officer of the POTW or a ranking elected official of the municipality. EPA will, on a limited basis, extend the time for

submission of additional information, where the application is otherwise complete.

EPA has developed an Application Format, approved by the Office of Management and Budget, which, by establishing a specific and uniform information reporting system, will improve the review process and avoid unnecessary application expenses. Since a uniform format will enable the Agency to expedite its review of applications, applicants must adhere to this format.

EPA has prepared a Technical Support Document and has made it available for public review and comment. This document, which explains the technical rationale for certain requirements, is intended to provide guidance and background information on the regulation and application requirements. It is intended to be instructive, but will not serve as a substitute for meeting the requirements of these regulations; only the criteria in this Subpart will be used as the basis for final EPA decisions. Applicants must pass all "threshold" requirements (see discussion on "prohibitions", below) as a first step toward obtaining a modification.

An application may be based either on a current discharge or an improved discharge. A current discharge means the discharge as it exists (volume, composition and point of discharge) at the time the application is submitted. An improved discharge refers to a discharge as it is projected to exist at some future date following construction of planned improvements and/or implementation of operation and maintenance programs. In both cases applicants may submit only *one* proposal, not alternative proposals; and, most important, the discharge for which the modification is requested *must* be into ocean or saline estuarine waters.

C. Prohibitions on Issuance of a Section 301(h) Modified Permit

In addition to the eligibility requirements, a POTW must meet certain other requirements as a prerequisite for EPA issuing a modified permit under section 301(h). The applicant must meet all requirements set forth in this Subpart and applicable requirements of the NPDES Permit program as set forth in 40 CFR 122.

These requirements are "threshold" criteria which, if not met, will constitute grounds for denial of the modification. POTWs are advised to review these requirements and determine if one or more present a problem before undertaking the expense and time of preparing an application. EPA will not

issue a modified permit for any discharge for which the applicant proposes to apply less than primary treatment, nor for the discharge of sewage sludge. Applicants currently meeting effluent limitations based on secondary treatment will not be considered for a modified permit for less than secondary treatment. A modification will not be granted where: (1) a State or local law, regulation or ordinance requires, at a minimum, secondary treatment, unless the definition of secondary treatment is less stringent than the EPA definition; or (2) there is a conflict with applicable Federal laws and Executive Orders.

D. Application Review Criteria

Section 125.58 contains definitions of terms which are important for a clear understanding of the application requirements and criteria. Sections 125.60 through 125.67 contain the criteria and application requirements which will be the basis for EPA review of applications for modification of secondary treatment requirements. These sections implement the eight statutory requirements in section 301(h) (1)-(8) of the Act. A brief discussion of the contents of the sections which are major factors in approving or denying an application follows.

Section 125.60 (formerly section 233.12)—Section 301(h)(1) of the Act provides that there must be an applicable State water quality standard specific to the pollutant for which the modification is requested. Under § 125.60, the applicant must demonstrate not only the existence of, but compliance with such standard under section 301(b)(1)(C) of the Act. Only State water quality standards approved by EPA under section 303 of the Act are considered water quality standards for purposes of section 301(h)(1).

EPA currently defines the minimum level of effluent quality attainable by secondary treatment in terms of BOD, suspended solids and pH. If a State has no water quality standard for BOD, the applicant may satisfy the requirements of section 301(h)(1) by demonstrating compliance with an approved standard for dissolved oxygen. Similarly, if a State has no standard for suspended solids, that requirement may be met by a showing that the applicant meets an approved standard or standards for turbidity, light transmission, light scattering or maintenance of the photic zone. If a State has not promulgated and obtained EPA approval of a water quality standard for BOD, suspended solids or pH (on an appropriate surrogate or related parameter) at the

time the final application is submitted, no modification may be granted for those pollutants. For purposes of determining such dischargers' compliance with section 301(b)(1), EPA will accept State certification that its standards are applicable to the territorial seas and contiguous zone.

Section 125.61 (formerly §§ 233.13-15). An applicant must demonstrate that its modified discharge will not interfere with the attainment or maintenance of that water quality which assures protection of public water supplies and the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife, and which allows recreational activities in and on the water. This requirement may pose significant difficulties for some applicants because of the complexities of determining and assuring protection of a balanced, indigenous population (BIP).

Several sections of the Application Format deal with factors affecting the physical transport, dispersion, and impact of pollutants, including the physical and spatial characteristics of the discharge plume, recreational activities, water supply, and marine biology. Since the request for a modification is limited to BOD, suspended solids, and pH, an analysis of impacts on State and Federal water quality requirements for these pollutants is mandatory.

The test for maintenance of a balanced, indigenous population requires a comparison of the ecological characteristics between sites with no pollution with those of the current or planned discharge. The BIP test for any

biological parameter of concern is whether or not it falls within the range of natural variability found in comparable, but unpolluted habitats. Thus, the section 301(h) applicant must compare the biological conditions at the reference (control) site with those in the area immediately beyond the zone of initial dilution (ZID). The applicant must also survey conditions within the ZID. Certain ecological perturbations are not permissible within the ZID, e.g., destruction or reduction of coral reefs, kelp beds, etc. Some biological alterations such as increases in the density of opportunistic species can occur within the ZID.

The Application Format includes a questionnaire that addresses specific kinds of biological perturbations. All of the data necessary to answer the questions must be included in a Biological Conditions Summary. The questions concern the occurrence of mass mortalities, disease epicenters, and toxic phytoplankton blooms near the outfall; adverse effects on fisheries and distinctive habitats; bioaccumulation of toxic materials; and changes in the structure and function of benthic, planktonic, demersal and intertidal communities. The extent of documentation required to answer the questions is dependent on the quality and quantity of the discharge and the characteristics of the receiving environment.

There are special requirements concerning the BIP test for certain situations. For saline estuarine discharges additional restrictions are placed on impacts within the ZID. These restrictions concern bioaccumulation, interference with migratory pathways,

and alterations in benthic populations. For POTWs that plan to modify or relocate their discharge, an applicant must also show that any present, unacceptable impacts on the BIP will be alleviated by the proposed modification. For discharges into stressed waters, if environmental conditions are stressed by pollution from sources other than the applicant's discharge, the applicant must demonstrate that its discharge is not contributing to or enhancing the stressed condition and will not contribute to further degradation or retard recovery if the levels of pollution from other sources increase or decrease in the future.

The BIP test requirements are summarized in Table 1. The table divides applications into eight categories depending upon whether the applicant's discharge is into the ocean or an estuary, into stressed or unstressed waters, and whether the applicant's proposal is based on its current discharge or a planned improved discharge. The BIP test is least complicated for a current discharge through an ocean outfall into unstressed waters. The biological assessment necessary to support such an application is based on descriptive surveys within and beyond the zone of initial dilution and at the unstressed control sites. Additional requirements are placed on the other seven classes of applications. The most rigorous BIP test is placed on an applicant who proposes to modify his current discharge into stressed estuarine waters. Within each class of application the complexity of the BIP test is a function of effluent quantity and quality and the sensitivity of the receiving environment.

Table 1.—Balanced Indigenous Population Requirements Based on Classification and Location of Discharge and the Nature of the Receiving Waters

| BIP requirements | Ocean outfall | | | | Estuarine outfall | | | |
|--|-------------------|-----------------|--------------------|-----------------|-------------------|-----------------|--------------------|-----------------|
| | Current discharge | | Improved discharge | | Current discharge | | Improved discharge | |
| | Unstressed waters | Stressed waters | Unstressed waters | Stressed waters | Unstressed waters | Stressed waters | Unstressed waters | Stressed waters |
| BIP COMPARISONS | | | | | | | | |
| 1. ZID boundary and unstressed control | X | | X | | X | | X | |
| 2. ZID boundary and stressed control | | X | | X | | X | | X |
| 3. Stressed control and unstressed control | | X | | X | | X | | X |
| 4. New ZID boundary control | | | X | X | | | X | X |
| BIP PREDICTIONS | | | | | | | | |
| 1. Impact on recovery and degradation | | X | | X | | | X | X |
| 2. Improvements due to modifications | | | X | X | | | X | X |
| ZID RESTRICTIONS | | | | | | | | |
| 1. Major perturbations | X | X | X | X | X | X | X | X |
| 2. Migration, benthos, bioaccumulation | | | | | X | X | X | X |

"X" indicates balanced, indigenous population requirements that must be addressed in the application depending upon conditions at the outfall location(s).

Section 125.62 (formerly § 233.16). An applicant must submit a monitoring program for biological, water quality and toxic pollutant parameters. The overall monitoring system must satisfy, to the extent practicable, four objectives: (1) to monitor effluent quality; (2) to assure compliance with pretreatment standards and programs to control the introduction of toxic pollutants from non-industrial sources; (3) to assure compliance with water quality standards; and (4) to measure the impact of the discharge upon indigenous populations of marine biota.

Since implementation of the monitoring program will be necessary only if a modified permit is issued under section 301(h), an applicant need not show that the program is in place at the time of application, but instead that it has the capability to implement the proposed program at the time a modified permit is issued.

The data generated by the biological monitoring program will be used by EPA to determine: (1) whether modification of the requirements of secondary treatment has adverse impacts on marine biota and ecosystems in ocean or estuarine waters; (2) whether, in any case where such adverse impacts are demonstrated, the discharger's modification should be revoked; and (3) whether upon its expiration, the discharger's modification should be extended. Similarly, the modification would be revoked if the water quality standards or toxic pollutant control requirements were violated. The monitoring program must focus on critical events (such as low flow conditions or periods of inadequate flushing, and spawning activity). The Biological Conditions Summary in the Application Format is a basis for identification and selection of the representative biota to be monitored.

An acceptable monitoring program must address not only the methods but also the frequency of monitoring and should be based on consideration of a number of factors, including the nature and volume of the wastes discharged, the nature of the receiving waters, and the nature of the ecosystem in the vicinity of the discharge. Thus a POTW which discharges toxic pollutants into an area where there are sensitive marine communities will be required to develop a more sophisticated monitoring program (requiring more frequent data gathering and analysis) than a POTW which discharges small amounts of purely domestic wastes into a relatively uninhabited area. In cases where toxic

pollutants are detected in the applicant's discharge, additional requirements such as *in situ* bioassays and bioaccumulation studies are imposed.

Water quality and toxic pollutant monitoring programs must be designed in conjunction with the biological monitoring program. The purpose of the water quality monitoring program is to collect data on characteristics of the discharge and receiving water quality in order to ascertain compliance with effluent and water quality standards. The toxic pollutant monitoring program focuses on the chemical composition of the applicant's discharge during both wet and dry weather conditions. Its purpose is to aid in establishing cause and effect relationships regarding impacts on marine biota, as revealed by the biological monitoring program, and also to measure the effectiveness of all industrial pretreatment and non-industrial toxic pollutant reduction measures required by the applicant's toxic control program.

Section 125.63 (formerly § 233.17). An applicant must demonstrate that the modified discharge, by itself, will not result in additional requirements for pollutant reductions on any other point or non-point sources. This demonstration must be made by obtaining written certification from the State agency which establishes wasteload allocations, and also other agencies which advise the State agency in the wasteload allocation process.

Section 125.64 (formerly §§ 233.14(b), 233.18 and 233.19). A section 301(h) applicant must submit a program for the control of toxic pollutants from industrial and non-industrial sources. Industrial sources refer only to those sources of pollutants regulated under section 307 (b) or (c) of the Act which discharge into a POTW. Non-industrial sources means all other sources of toxic pollutants. Toxic pollutants refer to the specific list of pollutants published by the Administrator under section 307(a) of the Act.

The objective of the toxic control program is to control toxic pollutants and provide for their elimination from the applicant's discharge. It consists of a chemical analysis, an industrial pretreatment program, and a schedule of activities for the reduction and elimination of non-industrial sources of toxic pollutants.

All applicants must submit a chemical analysis, under wet and dry weather conditions, of their current discharge. Since this data is a basis for design and review of the industrial and non-

industrial source control programs at least a preliminary analysis of the sources of toxic pollutants must accompany data resulting from the chemical analysis.

The industrial and non-industrial source control submissions are the main elements of the toxic control program. Because of the relationship between suspended solids and toxic pollutants, applicants who receive a section 301(h) modification may be required to implement a more rigorous pretreatment program than POTWs with secondary or greater treatment. Applicants who, on the basis of their chemical analysis and preliminary source identification, certify that they have no industrial sources of toxic pollutants, do not have to submit an industrial pretreatment program; however, all applicants are required to submit a program for the development of non-industrial source controls, to the extent practicable.

EPA will require an accelerated eighteen month schedule for implementing a pretreatment program for POTWs qualifying for a section 301(h) modification. This is because Federal pretreatment standards assume that toxic pollutants introduced into POTWs by industrial sources will receive at least secondary treatment before being discharged. In addition, secondary biological treatment systems normally provide an early warning of the discharge of many toxic pollutants by exhibiting upsets and inhibitions. Unlike such secondary treatment systems, less than secondary or primary treatment may allow discharges (accidental or otherwise) of highly toxic pollutants to go unnoticed and to cause significant stress to the marine environment; thus an accelerated schedule is required.

The schedule of compliance submitted by an applicant should include, as necessary to conform with 40 CFR Part 403, identification of industrial contributors, notification of pretreatment standards, submission of an industrial discharger inventory, or a quantitative and qualitative characterization of undesignated sources of toxic pollutants. It is critical that the completion date not extend beyond eighteen (18) months from the date of approval of the section 301(h) modification.

As part of the toxic control program, an applicant for a modified permit must demonstrate that it has a schedule of activities designed to eliminate, to the extent practicable, the entrance of toxic pollutants from non-industrial sources

into its facility. To assure compliance with this requirement, the applicant must furnish a schedule of activities for identifying and monitoring toxic pollutants from non-industrial sources and their potential impacts, along with an effective control program.

Additionally, the applicant must demonstrate that it has the necessary technical capability and the necessary personnel and institutional arrangements to assure that these activities and programs are fully implemented according to schedule. The program period, like that for the pretreatment schedule, is eighteen months from the issuance of the modified permit.

The applicant must ascertain the practicability of implementing certain best management practices to control toxic pollutants which may be carried into combined sewers by stormwater runoff, including street and catch basin cleaning and trash pickup. The applicant must also initiate programs to control pesticide runoff, which may include diking, banning the sale and use of certain pesticides or requiring the adoption of non-chemical pest management practices.

Section 125.65 (formerly § 233.20). An applicant must demonstrate that there will be no new or substantially increased discharges of the pollutant to which the modification applies, above the volume of discharge specified in the modified permit. Since increases in either the volume of effluent discharged or in pollutant loadings may affect the impact of the discharge upon the quality of the receiving waters and marine biota or ecosystems, both volume of effluent and mass emission limitations are addressed in this section.

Effluent volumes and mass pollutant loadings will be limited to the applicant's projected five year discharge, only if those volumes and loadings are approved by EPA for a section 301(h) modified permit. There are no restrictions on service area or system configuration.

To assure that pollutant loadings from combined sewer overflows are adequately controlled, a POTW with combined storm and sanitary sewers should submit as part of its application an analysis of its combined sewer overflow situation. The analysis should, among other things, identify the corrective measures which will be taken to eliminate or minimize these discharges in the event a modification is granted.

Section 125.66 (formerly § 233.21). Under section 301(h)(8), any funds available to a POTW under Title II of

the Act are to be used to achieve the degree of effluent reduction required by sections 201(b) and 201(g)(2)(A) or to carry out the requirements of section 301(h).

Under § 125.66, an applicant with an active grant under section 201 must submit a program which delineates the manner in which funds will be used to comply with the requirements of section 301(h). In order to be eligible for construction funding under 40 CFR Part 35, an applicant must have a plan based on secondary treatment, or greater if required under the existing permit, in order to assure that any works constructed for less than secondary treatment will be compatible with a cost-effective, secondary configuration. This will enable an applicant to complete secondary treatment construction with minimal additional problems, if secondary treatment proves necessary after reviewing monitoring data obtained by the applicant during the period of the permit.

The applicant's revised funding program must include provisions which assure that alternative waste management techniques will be studied and evaluated and that the works proposed for grant assistance will be cost-effective and will provide for application of Best Practicable Wastewater Treatment Technology (BPWTT) especially reclamation and recycling of wastewater, and confined pollutant disposal. An applicant will be eligible for Title II funds in developing monitoring, pretreatment, and toxic pollutant source control programs and other activities necessary to assure compliance with the requirements of section 301(h). Operation and maintenance costs for pretreatment, non-industrial source control, biomonitoring, and other programs, however, will not be federally funded.

Section 125.67. This is a new provision which lists the special conditions which may be required in a section 301(h) permit, but are not generally found in other section 402 permits, including compliance schedules, monitoring requirements and reporting requirements. These permit terms and conditions will be based on data contained in an applicant's submission for a section 301(h) modified permit.

E. 301(h) Decision Making

Permitting under section 301(h) will follow the procedures set forth in 40 CFR Part 124. (See section III.A., below).

II. Major Issues

A. Existing Discharge

1. Definition of "existing discharge." Section 301(h) states that an NPDES permit modifying EPA's secondary treatment requirements may be issued only "with respect to the discharge of any pollutant in an existing discharge from a publicly owned treatment works into marine waters." In its proposed regulations, EPA construed "existing discharge" not only to limit section 301(h) eligibility to POTWs with an existing marine discharge as of the December 27, 1977, enactment date of the provision, but also to require those dischargers to demonstrate compliance based on the nature, volume, and location of the discharge as of the September 24, 1978, statutory application date.

The "existing discharge" definition was the subject of more comment than any other aspect of the proposed regulations. Some commenters took the position that the proposed definition represented the only legally acceptable interpretation of the Act. Others, by contrast, argued that this definition was contrary to the legislative history and would, in effect, nullify section 301(h), in that virtually no coastal discharger would be able to meet the requirements for a modification without some improvement to its current treatment system, relocation of its outfall, or both.

In response to these comments, EPA has re-examined the legislative history on this point. It seems clear, on the one hand, that Congress did intend to limit section 301(h) eligibility to existing coastal dischargers. *e.g.*, 1977 Leg. Hist. at 257, 1047.² It is not as clear whether Congress meant to allow EPA to take into consideration future outfall and treatment system improvements in determining whether a permit modification should be granted. The communities which sought the modification provision had planned for and studied a less than secondary treatment alternative—in some cases for five or ten years—and had accumulated the data to make their case. In making the studies, many of these communities built in the assumption of improvements in their current systems which would allow them to utilize less than secondary treatment with minimal environmental impact.

In light of the foregoing, EPA believes that the most reasonable way to construe the term "existing discharge" is

² Citations are to the legislative history of the Clean Water Act of 1977, as reprinted in the Committee Print for the Committee on Environment and Public Works, Serial No. 95-24 (October 1978).

to allow consideration of thoroughly studied and planned outfalls and/or treatment system improvements in evaluating a section 301(h) application. Accordingly, EPA has revised the definition of "existing discharge" as follows. No POTW will be eligible for a section 301(h) modification unless, on December 27, 1977, it was an existing discharger into waters of the territorial sea, contiguous zone, or saline estuarine waters, as defined in § 125.58. Such an eligible POTW may base its application on either (1) the existing volume, nature, and location of its discharger; or (2) a proposed outfall and/or treatment improvement (e.g., upgrading treatment from primary to advanced primary or relocating an outfall which has been thoroughly planned and studied by the applicant).

This revised two-part definition implements Congressional intent in a more reasonable manner than would have been the case under the proposed definition. As Congress intended, it will limit eligibility for section 301(h) modifications to existing coastal dischargers, since it requires that an applicant have had an actual marine discharge as of December 27, 1977. In contrast to the proposed definition, it will not be so inflexible as to bar permit modifications for large categories of existing dischargers—a result Congress could hardly have intended.

For example, the proposed definition was so rigid that it would have excluded even dischargers making only minor treatment or outfall improvements necessary to meet statutory requirements; those POTWs would have been required, instead, to go to secondary treatment. Additionally, many coastal communities were on NPDES permit compliance schedules for construction of improvements necessary to meet State water quality standards or other requirements at the time that section 301(h) was enacted. Congress could not have ignored—or meant to exclude—these communities.

Many POTWs simply were not able to construct planned improvements in time to meet the September 24, 1978, deadline. It would serve no purpose to penalize these communities, especially where there had been some delay on the part of EPA in providing promised funds. Finally, it makes no sense to exclude any community which has thoroughly planned and studied a less than secondary alternative, regardless of the stage of construction. The real concern of section 301(h) is that dischargers have accumulated sufficient information to make their case to the Agency.

The revised definition of "existing discharge" removes one barrier to applying for a modification. It does not, however, relax the criteria to be applied in either granting a modification or complying with the requirements of the Act once a permit is issued. EPA believes that this course of action which offers communities an opportunity to present their case for a modification based on either existing systems or thoroughly studied and planned outfall and/or treatment system improvements, is more reasonable than completely eliminating these POTWs from consideration based on a less than unequivocal Congressional mandate.

EPA's two-part construction of the term "existing discharge" is based on its conviction that the most reasonable interpretation of the term should include preliminary studies, facilities planning, design, or construction in progress at the time the final section 301(h) regulations were promulgated. Thus applicants seeking a section 301(h) modification on the basis of a thoroughly studied and planned outfall or treatment system improvement will be expected to show, first, that there was an existing discharge as of December 27, 1977, and second, that such an improvement was in the planning, design or construction stage as of the publication date of these final regulations. This demonstration may be made in a number of ways, for example, by showing: (1) that the improvement was actually under construction; (2) that it was considered or being considered under a Step 1 grant under Title II; (3) that it was necessary to meet a condition in the applicant's existing NPDES permit (e.g., a State water quality standard); or (4) that it was part of staged construction consistent with secondary treatment facilities.

As a practical matter, it is highly unlikely that applicants which have not already undertaken extensive studies of less than secondary treatment options will be able to complete a section 301(h) application or make the showings required by this Subpart.

A number of commenters suggested that EPA's proposed definition of "existing discharge" be broadened to include planned outfall/treatment system improvements, but only those which have been proposed and approved under Step 1, 2, or 3 grants issued under Title II of the Act. Since the Act does not require a section 301(h) determination to be based solely on data generated as part of a Title II grant, and since there may be communities which have undertaken to collect such data with their own funds, EPA has not

placed such a limitation in the second part of the broadened "existing discharge" definition.

A few commenters suggested that EPA's definition of "existing discharge" be revised to allow POTWs which currently discharge into inland waters, but which are considering constructing, or now have under construction, an ocean or estuarine outfall, to apply for section 301(h) modifications. While the legislative history does not unequivocally define the term "existing discharge," it does state that Congress intended that section 301(h) modifications be limited to POTWs who were discharging into *marine* waters as of December 27, 1977. *e.g.*, 1977 Leg. Hist., at 257, 639. Therefore, the suggested definition is not consistent with Congressional intent.

In the preamble to the proposed regulations, EPA was concerned about the practical ramifications of constraining the statutory term "existing discharge" to include outfall and treatment system improvements. In this connection, EPA requested commenters to address several issues, set out below. The following summarizes the comments received and EPA's responses.

2. The difficulty of predicting the impacts of future outfalls or treatment system improvements. EPA received numerous comments on the issue of whether it was possible to make an accurate predictive judgment as to whether future construction would enable an applicant to meet the stringent water quality, physical, chemical and biological criteria set forth in Subpart B of the regulations. Some commenters felt that the predictive judgments which would be associated with assessing section 301(h) applications based on proposed improvements would be no more difficult than those required to be made in other aspects of the NPDES permit program or EPA's construction grant program. Others felt that making predictions would be difficult, but that techniques such as modeling, extrapolation, and simulation could be utilized to predict impacts. Still others expressed the view that it would be extremely difficult, if not impossible, to accurately predict the impacts of future discharges on the marine environment.

A number of commenters suggested that the accuracy of predictive judgments would vary according to the specific assessment being made (e.g., physical, chemical or biological) and the volume and composition of wastes being discharged, the nature of the receiving waters, and the nature of the affected ecosystem. Some commenters felt, for

example, that it would be fairly easy to calculate the chemical composition of the effluent from a proposed treatment system, and others felt that reasonably accurate assessments of waste dispersion and other physical impacts could be made using appropriate plume and dispersion models. On the other hand, there seemed to be some agreement that making accurate predictions of biological impact could be extremely difficult.

While it is more difficult to predict the effects of a proposed discharge on the marine environment, a certain amount of predictive judgment is required for assessing the effects of an existing as well as proposed discharge; both depend on several factors such as the amount of data available, the nature of the discharge, the receiving water, and the affected biota. For this reason, EPA has concluded that the difficulty of making accurate predictive judgments of environmental impacts does not, in itself, warrant exclusion of applications for section 301(h) modifications which are based on proposed outfall and treatment system improvements.

However, applicants seeking section 301(h) modifications based on future improvements should be aware that, as a result of greater difficulty in making predictive judgments of environmental impact, they bear an additional burden in demonstrating that their proposed discharge will meet the requirements of section 301(h) of the Act and § 125.61 of these regulations. EPA cannot, as suggested by some commenters, resolve questionable assessments of future impact in favor of issuing a permit, while allowing a more accurate assessment of impacts to be developed on the basis of monitoring data compiled during the life of the permit. The Act clearly requires that the necessary showings under section 301(h) be made at the time of application. Accordingly, if a section 301(h) applicant fails to demonstrate that its improved discharge will meet these requirements, its application will be denied.

3. Effect of pretreatment and non-industrial source control programs. EPA also received a large number of comments on the question of the extent to which EPA should consider the effect of pretreatment and non-industrial source control programs in evaluating an applicant's section 301(h) application. Many commenters felt that both existing and future source control efforts should be evaluated by EPA, especially where the discharge of toxic pollutants could pose a problem.

EPA recognizes that the implementation of effective source control programs will reduce the amount of toxic pollutants in POTW effluent, and may therefore lessen the impact of the discharge on the marine environment. To the extent such programs are now in place and are causing an actual, measurable reduction of pollutants in the applicant's discharge, they will be considered in EPA's evaluation of the section 301(h) application. Where such programs are not operational, however, EPA believes that it is very difficult, if not impossible, to predict their effect on the chemical composition of a POTW's waste stream. Since most major Federal pretreatment standards will not be promulgated for several years (See consent decree entered in *Natural Resources Defense Council, Inc. v. Train*, 8 ERC 2120 (D.D.C. 1976) as modified by *Natural Resources Defense Council v. Costle*, 12 ERC 1833 (D.D.C. March 9, 1979), the Agency is unable at the present time, to predict the effect of Federal pretreatment standards on the composition of individual POTW effluent. Similarly, it is impossible to assess the impact of a non-industrial source control program on a municipal discharge until non-industrial sources of pollutants have been located, their contribution to the POTW has been ascertained, the degree to which they can be controlled has been determined, and an enforceable control program has been developed.

EPA recognizes, however, that some section 301(h) applicants may now be in a position to demonstrate that a given effluent limitation will in fact be achieved by a source control program which is based on their existing pretreatment rules and regulations. In order to make this showing, the applicant is required to provide evidence of its record of enforcement and the effectiveness of existing programs. In addition, an applicant must define and demonstrate that it has the ability to enforce additional control programs which will reduce, to a specified level, the amount of the pollutant introduced by each such source into the POTW. For example, if an applicant intends to demonstrate that it would meet a State water quality standard for cadmium through source control, it is required to identify all industrial and non-industrial sources of cadmium, to determine what volumes of cadmium they contributed to the POTW, to set specific limitations on the amount of cadmium which can be introduced by each source into the POTW (based on the final effluent limitations needed to

comply with the water quality standard), and to develop a program for enforcing those limitations. These requirements are contained in revised sections 125.62 thru 125.64, and are discussed in the section-by-section analysis in Section V of this preamble.

4. Completion of modifications. EPA received virtually no comments concerning schedules for completion of improvements under a section 301(h) permit. Congress has directed that the section 301(h) process not delay the attainment of required pollution control objectives, H.R. Rep. 95-830, 95th Cong., 1st Sess. at 74, 79 (1977); S. Rep. 95-370, 95th Cong., 1st Sess. at 1, 50 (1977). Additionally, section 301(h) provides only for the modification of the requirements of section 301(b)(1)(B), and not the requirements of section 301(b)(2)(B). Given these considerations, section 125.59 requires that section 301(h) applicants demonstrate that they can complete such improvements as expeditiously as possible.

To assure that applicants provide sufficient information to allow EPA to determine whether improvements will be completed in a timely manner, § 125.59 has been revised to more clearly address construction schedules and Part G has been added to EPA's application format. This requires that the applicant set forth its proposed facilities planning, design and construction schedule (if any), an analysis of its ability to fund any necessary planning, design and construction according to the proposed schedule, and a history of its compliance or noncompliance with planning, design and/or construction schedules in its existing NPDES permit or an enforcement compliance schedule letter.

B. September 24, 1978 Application Deadline.

EPA received numerous comments on proposed § 233.32(b), which required applicants to submit a complete application for a modified permit (including all required supporting data) no later than September 24, 1978 (43 FR 17498) (Preliminary applications, postmarked no later than September 25, 1978, were accepted as September 24th was a Sunday (see 43 FR 39399)). Most of these comments suggested that the deadline for submission of applications should be relaxed to allow communities additional time to complete the physical, chemical and biological studies and to develop the source control programs required to comply with sections 301(h)(2), (5) and (6) of the Act.

The September 24, 1978 application date is imposed by section 301(j)(1)(A)

of the Act, and EPA is powerless to change this deadline. However, since section 301(h) criteria were not promulgated as of September 24, 1978, it would have been unreasonable to require a complete application by that date. Therefore, both the Notice of Application Filing Deadline (43 FR 39398, September 5, 1978) and these regulations provide that only a preliminary application must have been submitted by September 24, while a complete application must be submitted three months from the date of the publication of this Subpart. This two-phase application process is consistent with the approach used by EPA for other variance and modification provisions with a statutory application deadline (e.g., sections 301 (g) and (c) of the Act, 33 U.S.C. 1311 (g) and (c)).

The three month requirement for submission of a complete section 301(h) application is based on section 304(a)(5)(B), of the Act, which requires EPA to publish regulations implementing section 301(h)(2) no later than June 27, 1978. Since that date is approximately three months before September 24, 1978, EPA has concluded that Congress intended section 301(h) applicants to have at least three months to prepare their applications after EPA published final regulations describing the nature of the data required.

Accordingly, section 301(h) applicants are required to submit, on or before September 13, 1979 a full application which, on its face, demonstrates that the applicant complies with section 301(h) and these regulations. Obviously an application which includes all the information requested by EPA in an appropriate level of detail will be considered adequate for this purpose. Where an application submitted on September 13, 1979 conclusively demonstrates that the applicant qualifies for a section 301(h) permit, EPA will issue a modified permit. On the other hand, if the application demonstrates on its face, that the applicant does not meet the requirements of section 301(h) and this Subpart, its application will be denied. In some cases an application may appear to indicate on its face that the requirements of section 301(h) can be met, but EPA will require some minimal additional information before a final decision can be made (e.g., information on matters peculiar to the applicant's outfall/treatment system configuration, discharge, or receiving waters, which are identified during the review process). In that event, the Agency may request that the necessary information be submitted, as expeditiously as

practicable, as a supplement to the application. See generally § 124.55.

This limited opportunity to submit additional information following initial EPA review should not be construed as providing all POTWs submitting incomplete applications with an automatic extension of time in which to submit more data. The process described above is designed to be used only where an applicant submits a complete or substantially complete application, but where some small amount of additional data would be required to assure conclusively that the requirements of the Act and of this Subpart would be met. EPA expects that, as a practical matter, it will be used fairly infrequently.

EPA is aware that the time limitations set forth in these regulations may make it difficult for those applicants who have not previously assembled the required technical data to submit a complete section 301(h) application. However, the legislative history of the Act makes it clear that the relief afforded by section 301(h) was intended for those communities which had accumulated, or could accumulate on a timely basis, the information necessary to make their case for a modification. Additionally, applicants are reminded that section 301(h) was enacted on December 27, 1977, that EPA distributed a pre-proposal preliminary concept paper setting forth draft regulations implementing section 301(h) on March 16, 1978, and that the regulations were formally proposed on April 25, 1978; both the preliminary concept paper and the proposed regulations encouraged applicants to begin assembling the data necessary to support a section 301(h) application immediately, if they had not already done so. The unanticipated extension which resulted from the delay in promulgating this Subpart has also provided applicants with almost one year to gather and develop the information required by the application which has not substantially changed from what appeared in the proposal.

C. Small Communities, Native Alaskan Villages and U.S. Territorial Possessions and Puerto Rico

1. *Small communities.* In its proposal, EPA expressly requested comment on the general issue of whether small dischargers or dischargers which have no known or suspected sources of toxic pollutants should be treated differently than larger dischargers with significant sources of toxic substances with respect to the extent or nature of the information which they must submit to EPA in applying for a modified permit. A

number of commenters expressed the concerns that smaller communities, unlike larger municipalities, would be unable to accumulate the data required by the proposed regulations within the time required by the Act, would be unable to finance the collection of such data, or, in some cases, would be unable to "wade through (EPA's) regulations." These commenters suggested: (1) that EPA develop a separate, shorter application format for small dischargers; (2) that small dischargers be allowed to "piggyback" section 301(h) applications submitted by larger communities discharging into similar types of waters, or (3) that EPA categorically relieve small POTWs of some of the information requirements of the proposed regulations. On the other hand, other commenters felt that all applications should be subject to the same requirements and evaluated by the same standards.

Section 301(h) does not authorize EPA to categorically exempt dischargers from any statutory requirement on the basis of size or volume. By omitting such an exemption, Congress recognized that the volume of a discharge in and of itself is not an indicator either of its toxicity or of its actual or potential effect on the marine environment.

However, as noted by several commenters, the inherent characteristics of many small POTWs or POTWs without sources of toxic pollutants will, as a practical matter, reduce the burden that section 301(h) places on them. For example, section 301(h)(5) of the Act and § 125.66 are not applicable to POTWs with no industrial sources of toxic pollutants (generally only small communities). Certain sections of the regulations, such as §§ 125.65(c) "Biological Assessment" and 125.61 "Monitoring Programs", recognize that the nature and volume of the applicant's discharge will affect the extent and type of showing which must be made to demonstrate compliance with this Subpart.

As noted above, applicants will be required to submit by September 13, 1979 an application which demonstrates, on its face, that the applicant's current discharge complies with (or that its improved discharge will comply with) section 301(h) and these regulations. Here, too, the characteristics of small POTWs and POTWs without sources of toxic pollutants may give them an inherent advantage over larger POTWs with major sources of toxic pollutants, since the failure to provide even minor portions of the required data is likely to be far more critical for a large applicant

than a small one with a non-toxic discharge.

Section 301(h), it should be noted, was enacted in response to Congressional testimony from a number of large West Coast POTWs which indicated that they had already accumulated the data necessary to demonstrate that a less than secondary treated discharge would not adversely affect the environment. As a result, the needs of many small communities for extended time and financial assistance to collect the data necessary to submit a complete application for modification have not been incorporated into the statutory scheme. EPA has attempted to accommodate these needs in its regulations insofar as possible within the confines of the statute.

2. Native Alaskan Villages, U.S. Territorial Possessions and Puerto Rico. In its proposed regulations, EPA solicited comments on how it should deal with 301(h) applications from coastal native villages in Alaska, and small communities in Puerto Rico and the U.S. territories in the Caribbean and Pacific. Generally, these communities generate very low volumes of wastewater, consisting mainly of domestic waste. Discharges, where they exist, are generally far apart; receiving waters are either very deep or subject to substantial dilution and flushing from tides, currents, or both.

Many of these native villages and territorial communities are not eligible for a modification even under EPA's revised regulations because they did not discharge into marine waters on December 27, 1977. In many cases, they have no existing collection and treatment systems, and wastes are transported from individual homes to beaches or tundra; in other cases, primitive collection systems which deposit sewage on beaches or in streams which flow into the ocean. Other communities, which *do* have ocean outfalls in place, may be limited in terms of available background data and their ability to acquire technical expertise needed to develop a section 301(h) application.

Additionally, as a practical matter, many of these communities operate on near subsistence economics and do not have the economic or technological ability to either build or maintain secondary treatment facilities. As noted, existing sewage treatment facilities are either non-existent or very primitive. In some areas, raw sewage is transported through the streets in open sewers directly to beaches or to the ocean; in others, over-the-water toilets are used to dispose of human wastes. In tropical

climates, these open sewers and latrines serve as a breeding ground for disease vectors and intestinal parasites which afflict significant portions of the population, and they contaminate ground and surface waters and near-shore bathing areas. In many cases, the construction of secondary treatment facilities would divert funds away from projects (such as the construction of covered sewers) necessary to provide the basic public health protection which exists in most of the United States.

EPA received numerous comments on how it should handle this difficult issue. Some commenters suggested relaxing the amount and type of data which would be required from such communities in their section 301(h) applications. Other commenters suggested that no NPDES permits of any kind be issued to villages of less than 100 families with subsistence lifestyles. Many small communities simply urged the Agency to recognize their special status and to develop an intelligent solution to their wastewater treatment problems.

In response to these comments, EPA has adopted the following policy with respect to these communities. As an alternative to their submitting completed section 301(h) applications, the Agency will use its discretion in scheduling secondary treatment for Native Alaskan Villages and communities in Puerto Rico and the U.S. territorial possessions in the Caribbean and Pacific where industrial toxic wastes are not a factor, in cases where such course of action is determined to be in the interest of providing basic public health protection, and where any such delays will not result in unreasonable adverse water quality impacts. In such cases, attention will be given to planning wastewater treatment facilities for these communities with the objective of assuring that inadequacies in sewage collection or treatment which result in public health problems are remedied, and to examining alternatives to traditional secondary treatment, including individual systems and BPWTT options (including land treatment). Any of the Native Alaskan Villages and small communities in Puerto Rico and the U.S. territorial possessions in the Caribbean and Pacific that submitted preliminary applications and meet the requirements of § 125.59 may submit completed section 301(h) applications; however, it may be very difficult for these communities to adequately meet all of the applicable section 301(h) criteria for modifications as presented in this regulation.

The policy described above applies only to coastal native villages in the Trust Territory of the Pacific Islands, the Northern Mariana Islands, Guam, American Samoa, the Virgin Islands, Puerto Rico and Native Alaskan Villages. Congress has indicated its concern for the particular problems of the insular territories (particularly in the context of Federal regulatory and funding programs) in the Territories Omnibus Act, 35 U.S.C. 600, February 0, 1909 and of Alaskan native villages in the Clean Water Act (section 113, 33 U.S.C. 1263). For this reason, and because these communities have unique economic and public health problems, the policy announced in this section will not be extended either to other coastal communities in the United States or to communities which generate large volumes of domestic and industrial wastes.

III. Other Issues

A. Incorporation Into NPDES Regulations

After the section 301(h) regulations were proposed as 40 CFR Part 233, on April 25, 1978, EPA proposed extensive revisions to the NPDES permit program regulations. (43 FR 37078, August 21, 1978). The NPDES proposal established four new Parts (40 CFR Parts 122, 123, 124 and 125). Part 125 established criteria and standards for the NPDES program and reserved Subpart H for section 301(h) criteria. The revised NPDES regulations were published in final form on June 7, 1979 (44 FR 32854) and reserved Part 125, Subpart G for section 301(h) criteria. Part 124 of the final NPDES regulations establish NPDES decisionmaking procedures and contain some sections which were originally proposed as Subpart C to Part 233, i.e., the appeal provisions for section 301(h) determinations.

EPA decided to incorporate section 301(h) permit procedures into Part 124 of the final NPDES regulations for the following reasons: (1) to consolidate all NPDES permit decisionmaking into one Part of 40 CFR; (2) to reduce possible confusion which could result in having two separate regulatory parts which deal with NPDES procedures; and (3) to respond to the concerns of some commenters by indicating, when, where and how section 301(h) permit modifications fit into the overall NPDES permitting process. Thus, by indicating that these regulations would be incorporated into reserved Subpart G of Part 125, the final NPDES regulations set the stage for today's section 301(h) regulations. Since these regulations are

part of the entire NPDES "package" (40 CFR Parts 121-125), other sections in these Parts may be applicable to section 301(h) decisionmaking and permit issuance, e.g. §§ 122.3 (definitions not otherwise covered by § 125.5), 122.5 (signatories), 122.14 (conditions applicable to all permits), etc. Today's regulation, therefore, must be read together with the recently published final NPDES regulations. Since section 301(h) is a federally run permit program, however, Part 123, *State Permit Program Requirements* is not applicable. For a further discussion of the final NPDES regulations as they may relate to section 301(h), see the preamble discussion on Parts 122 and 124.

B. Multiple Applications

A number of POTWs which submitted preliminary applications to EPA indicated that they intended to apply for a section 301(h) modification based on several alternatives (e.g., several possible outfall locations or treatment systems), raising the issue of how decisions should be made where an applicant presents several treatment or discharge alternatives, more than one of which may meet the requirements of the Act and this part. A related issue is whether EPA will consider alternatives to the treatment/outfall system proposed in an application if the Agency finds that the proposed system does not meet the requirements of section 301(h) or this part.

EPA will not consider alternatives to the treatment system included in a POTW's application, nor will it allow applicants to submit other options. The Act and its legislative history make it clear that the applicant must have thoroughly planned and studied the alternatives and must demonstrate that it is entitled to a modification. This can only be achieved by a showing in its application that the proposal meets the requirements of the Act and these regulations. The Agency can either make this demonstration for the applicant nor consider multiple proposals or untimely applications. Accordingly each 301(h) applicant must submit a complete application containing its proposal not later than September 13, 1979.

C. Relationship of Section 301(h) and BPWTT.

A number of commenters suggested that a section 301(h) modified discharge should automatically be considered "Best Practicable Wastewater Treatment Technology" (BPWTT) for purposes of section 301(b)(2)(B) of the Act, which requires that POTWs comply with BPWTT by July 1, 1983. The

legislative history of section 301(h) and the Act itself, however, make it clear that section 301(h) only authorizes a modification of the requirements of section 301(b)(1)(B) of the Act, and not of the BPWTT requirements of section 301(b)(2)(B). Furthermore, as noted in both the House Conference and Senate Reports on the 1977 Amendments, Congress clearly recognized that BPWTT may "require a degree of effluent reduction which is greater than that required under (Section 301(h)) of the Act." H.R. Rep. 95-830, 95th Cong., 1st Sess. 74 (1977); S. Rep. 95-370, 95th Cong., 1st Sess. 45 (1977).

At present, BPWTT is considered equivalent to secondary treatment. The Agency, however, is now considering expanding the definition of BPWTT to include specific effluent limitations for toxic pollutants and also to provide for the recycle and reuse of wastewater as required under section 201(g)(2)(A) of the Act and confined disposal of pollutants.

D. Section 301(i)(1) and Section 301(h) Permit Compliance Schedules

EPA received a number of inquiries during the comment period concerning compliance schedules in section 301(h) permits. Some commenters wanted to know what kinds of compliance schedules would be included in Section 301(h) permits and what action would be taken by EPA in the event of noncompliance. Others sought a clarification of the relationship between section 301(i)(1) municipal time extensions and the modification afforded by section 301(h). Still others raised more general questions concerning the legal basis for including compliance schedules extending beyond July 1, 1977 in section 301(h) permits.

1. *Sections 301(i)(1) and 301(h).* Sections 301(h) and 301(i) are independent provisions. Section 301(i)(1) authorizes EPA (or a State, where it has an approved NPDES permit program) to extend an existing municipal NPDES permit compliance schedule for achieving EPA's secondary treatment requirements. It does not address the issue of setting revised compliance schedules in section 301(h) permits.

Because sections 301(h) and 301(i)(1) are independent provisions, section 301(h) applicants which require a section 301(i)(1) extension in order to comply with the requirements of section 301(b)(1) (B) or (C) will not be deemed to have applied for such an extension merely by having submitted a section 301(h) application. There is no reason for applicants to be confused on this point, since in the interim final

regulations implementing section 301(i), EPA expressly advised 301(h) applicants to apply for a section 301(i) extension if they felt they also met the criteria of section 301(h). (40 FR 21266, 21268 (May 16, 1978)).

As a general matter, EPA expects that most section 301(i) extension requests from section 301(h) applicants will be acted upon following EPA decision on the applicant's section 301(h) application, since a POTW which qualifies for a section 301(h) modification will not require a section 301(i) extension as well. Where a section 301(h) request is denied, the applicant may be eligible for a section 301(i)(1) extension, a section 309(a)(5)(A), administrative order, or be subject to possible enforcement action.

2. *Compliance schedules in section 301(h) permits.* EPA will establish revised compliance schedules for construction of improvements and for the implementation of source control programs necessary to meet the requirement of section 301(h). Accordingly, it will not be necessary for a section 301(h) applicant whose request for a modification is based on an outfall and/or treatment system improvement to demonstrate that it would also qualify for a section 301(i) time extension in order to be eligible for a section 301(h) permit. However, as noted above, in determining whether to grant a section 301(h) permit, EPA will consider (as it does under section 301(i)(1)) the applicant's record of compliance with its existing NPDES permit in determining whether it is likely to comply with requirements of section 301(h) on a timely and responsible basis.

One commenter suggested that EPA has no authority to issue a permit allowing compliance with section 301(h) after the July 1, 1977, date for achieving compliance with the secondary treatment requirements of section 301(b)(1)(B). This is an incorrect interpretation of the Act, since section 301(h) authorizes EPA to issue a permit which modifies the requirements of section 301(b)(1)(B) including the July 1, 1977 compliance deadline. Given that section 301(h) was not enacted until December 27, 1977, the commenter's interpretation would prevent EPA from issuing any section 301(h) permits.

E. Enforcement Policy

1. *Enforcement during section 301(h) decisionmaking process.* A number of commenters expressed concern that some section 301(h) applicants may attempt to utilize the section 301(h) application and decisionmaking process as a means of delaying any needed

Subpart H (44 FR 32854). The decision to incorporate these regulations into the NPDES regulations was based on the conclusion that placing all procedures for decision-making regarding NPDES permits in one Part provides for greater clarity and consistency.

Section 125.56 also points out that permits received under this Subpart must contain special conditions and terms and conditions required under 40 CFR Part 122. These terms and conditions are discussed in this section-by-section analysis under section 125.67.

Section 125.57 Law authorizing issuance of a section 301(h) Modified permit (formerly § 233.3). This section is self-explanatory in that it simply restates the applicable legal authority under which these regulations are promulgated.

Section 125.58 Definitions (formerly § 233.1). Two major changes have been made in this section. First, all definitions which duplicate those contained in EPA's revised NPDES permit regulations (40 CFR 122.3) have been deleted. Second, as a result of public comment on this section and modifications which have been made in other parts of the regulations, a number of the remaining definitions have been clarified and several new definitions have been added.

EPA received numerous comments on its proposed definition of "balanced, indigenous population." Both the proposed and final regulations require applicants to demonstrate the existence of a balanced, indigenous population (BIP) of shellfish, fish and wildlife immediately beyond the boundary of the zone of initial dilution (ZID) of an outfall discharge. This demonstration is to be based on evidence that the composition, structure and function of the marine communities beyond the boundary of the zone of initial dilution and within the area potentially affected by the outfall discharge are comparable to (1) those of healthy marine communities existing in comparable but unpolluted waters, or (2) those of communities reasonably expected to become re-established in the polluted area from unpolluted waters if the source of pollution were removed. The second part of the definition which concerns re-establishment of communities is necessary because of its pertinence to proposed improved discharges and to discharges into waters that are stressed by sources of pollution other than the applicants discharge. In the final regulations, the definition of balanced, indigenous population has been adjusted for clarification, but the content, which is discussed further in

§ 125.61(c), remains essentially the same.

The new definitions which have been added to this section include "current discharge," "improved discharge," "preliminary application," "final application," "ocean," "primary treatment," and "stressed waters."

The definitions of "current" and "improved discharge" have been added as a result of EPA's revising its proposed construction of the statutory term "existing discharge." The definitions of "preliminary" and "final application" have been added as a result of the Agency's decision that preliminary, rather than final applications must have been filed by September 24, 1978. The term "ocean" has been defined to clarify an issue raised during the comment period, which is discussed below in this section. The definition of "stressed waters" was necessitated by the Agency's re-evaluation of this concept along with the test for a balanced, indigenous population; a discussion of this term is included in the Technical Support Document.

In response to comments from the public and EPA's regional offices, EPA has also provided a definition of the term "publicly owned treatment works." Consistent with the legislative history of the Act and other EPA regulations defining "POTW," it does not encompass Federal facilities. (See, e.g., EPA's General Pretreatment Regulations, 40 CFR 403.3(m), (43 FR 27733, 27747, June 26, 1978); EPA's Wastewater Treatment Pond Regulations, 40 CFR 133.103 [43 FR 54464, October 7, 1977] (Preamble)). Accordingly, such facilities will not be eligible for a section 301(h) modifications.

A number of commenters suggested that EPA should delineate the types of "saline estuarine waters" into which a POTW must discharge in order to be eligible for a section 301(h) modification. The legislative history of the Act indicates that strong currents and tidal movement, high flushing efficiency and thorough water circulation which insure adequate dispersion and seaward transport of wastewater are the key phenomena in defining applicable estuarine waters (1977 Leg. Hist. 259). Therefore, the definition of saline estuarine waters has been expanded to require a free connection with the ocean, net seaward exchange with ocean waters (i.e., freshwater inflow) and salinities comparable to those of the ocean. This definition reflects the rapid dynamic exchange of wastewater with ocean waters which Congress indicated should be found in estuarine waters in order for an applicant to be considered

for a section 301(h) modification. Generally, the only waters which can meet these requirements are located near the mouth of estuaries and have cross-sectional, annual mean salinity greater than or equal to 80‰ of ocean salinity (approximately 25 parts per thousand).

During the comment period, it came to EPA's attention that a number of open coastal waters inside the baseline of the territorial seas may have the characteristics of well-flushed open ocean waters and may therefore be appropriate receiving waters for a less-than-secondary discharge under section 301(h). Under the statutory definition of "territorial seas" (section 502(8) of the Act), dischargers into these areas would not be eligible for a modification for a "discharge into deep waters of the territorial seas." They also would not be eligible for a modification under the Agency's proposed definition of "saline estuarine waters" because that definition encompassed only "semi-enclosed" coastal waters. Because it may be possible to meet the requirements of section 301(h) in these waters, and because the legislative history of the Act indicates that Congress intended dischargers into these areas to be considered for modified permits, the regulations have been revised to make it clear that such dischargers will be eligible for a modification upon a showing that they can meet the requirements of this subpart.

Rather than revising its definition of "saline estuarine waters" to include open coastal waters inside the baseline, EPA has incorporated them in a new definition, "ocean waters." This term also includes the deep waters of the territorial seas and the waters of the contiguous zone, to emphasize that these waters have hydrological, ecological and geological characteristics much more akin to ocean than estuarine waters (primarily because of the absence of freshwater flow). This definition should not be confused with the definition of "ocean" in section 502(1) of the Act.

In response to public comment that EPA had not identified the "shellfish, fish and wildlife" for which a balanced, indigenous population must be shown to exist under section 301(h)(2), EPA has added a definition of this term in these final regulations.

One commenter suggested that EPA's proposed definition of "toxic pollutant" conflicted with the definition of "toxic pollutant" in section 502(13) of the Act. While section 502(13) provides a generic definition of "toxic pollutant", section

307(a) of the Act clearly states that the specific "list of toxic pollutants or combinations of pollutants subject to this Act shall consist of those toxic pollutants listed in Table 1 of Committee Print Numbered 95-30 of the Committee on Public Works and Transportation of the House of Representatives." That list was reprinted to identify the "toxic pollutants" under § 233.1(w) of the proposed regulations, and is expressly incorporated by reference in the final version of § 125.57 promulgated today.

Because there were a few pesticides identified in proposed § 233.1(w) which were not included in Table 1 of Committee Print Number 95-30, those substances have been defined in these final regulations as "pesticides". See § 125.57(j). Other sections of the regulations have been changed to reflect this distinction.

The same commenter also suggested that the Agency's definition of "pollutant" as BOD, suspended solids and pH, was inconsistent with the definition of the term in section 502(6) of the Act. Since some commenters apparently felt that the use of the general term "pollutant" caused some confusion in the regulations, EPA is using the term "traditional pollutant" to refer to BOD, suspended solids, and pH both in the definition section and in other sections of the regulations. This should not be confused with the definition of "conventional pollutant" as used in section 301(b)(2)(E), 304(b)(4), or 304(a)(4) of the Act.

Several commenters noted that there were some inconsistencies in both the regulations and the preamble concerning which State water quality standards EPA would consider applicable to a particular discharger for purposes of demonstrating compliance with proposed sections 233.12 through 233.15 and section 233.20. The definition of "water quality standards" has been revised to clarify that applicants will be required to show that they presently meet (or will meet on the basis of an improved outfall or treatment system) those State water quality standards in effect as of (3 months after date of promulgation). However, if during the section 301(h) decisionmaking period, EPA approves either State water quality standards for additional pollutants or more stringent State water quality standards, an applicant will be required to supplement its original application to show that it meets or will meet such new or revised standards.

Finally, one commenter suggested that the term "zone of initial dilution" was unnecessarily broad and should be revised to parallel "initial dilution" as

calculated in the application form. EPA agrees that an applicant's zone of initial dilution could be inconsistent with the initial dilution achieved at any one time. To remedy this problem, the term "zone of initial dilution" has been redefined as "the region surrounding or adjacent to the end of the outfall pipe or diffuser parts as calculated according to instructions in the application format."

Section 125.59. General. This new section has been added to the regulations in order to consolidate in a single place the basic criteria which must be met by a section 301(h) applicant. A few of the criteria contained in this section appeared in the proposed regulations in other sections, or are required by Federal statutes other than the Clean Water Act. Others were suggested by comments or legislative history. Still others have been added as a result of EPA's revision of its proposed definition of "existing discharge."

In addition to meeting these threshold criteria, a section 301(h) applicant will, of course, be required to meet all other applicable requirements of the Act and 40 CFR 125.21. Thus no modification will be issued under this Subpart where, for example, the discharge for which a modification is requested would violate State water quality or treatment standards or other State requirements within the meaning of section 301(b)(1)(C), or where the applicant's discharge or outfall would impair anchorage and navigation under section 402(b)(6).

Paragraph (a). This new paragraph has been added as a result of EPA's revision of its proposed definition of the term "existing discharge". It provides that a section 301(h) permit application may be based on a current or an improved discharge into ocean or saline estuarine waters. A POTW applying on the basis of an improved discharge must still meet the threshold criteria, including having a discharge into marine waters as of December 27, 1977.

POTWs applying for section 301(h) permits should carefully consider whether or not to grant revisions to categorical pretreatment standards under section 307(b) of the Act and 40 CFR 403.7 since such revisions may significantly contribute to adverse impacts on the marine environment which would disqualify such POTWs from receiving a section 301(h) permit.

Paragraph (b). These provisions delineate grounds for denial of a modified permit under section 301(h). These grounds are referred to as "threshold criteria" in that an applicant should determine whether it complies with these "criteria" before undertaking

the more costly process of compiling the information necessary for a complete application. The paragraph incorporates a number of provisions from the proposed regulations, along with several new provisions which have been added in response to comments on the proposal.

Subparagraph (b)(1). This provision restates the general premise of these regulations, that is, that a modified permit under section 301(h) may not be issued unless the applicant shows in its application that it meets all the requirements of these regulations.

Subparagraph (b)(2). This provision incorporates the requirements of EPA's National Pollutant Discharge Elimination System (NPDES) program found in 40 CFR Part 122.

Subparagraph (b)(3). This provision originally appeared in § 233.11(b)(2) of EPA's proposed section 301(h) regulations and remains essentially unchanged in these final regulations. The basis for this provision has been discussed above.

Subparagraph (b)(4). The requirement that section 301(h) applicants demonstrate that they will provide at least primary treatment of their wastewater is a new provision which, while suggested in the preamble to EPA's proposed regulations (43 FR 17485), was not actually included in the proposed regulations themselves. To make it clear that no modifications will be granted for the discharge of untreated, raw sewage, EPA has added this provision to the final regulations.

This requirement is based on a number of grounds. First, the legislative history provides clear evidence that section 301(h) was intended to allow municipal marine dischargers to provide less-than-secondary treatment, but was not intended to allow discharges with no treatment. Testimony during Congressional hearings on various proposed secondary treatment modification amendments further supports this position, since no POTW or other witness urged that a modification from secondary treatment requirements should be issued for a less-than-primary discharge.

Secondly, EPA believes, that primary treatment which removes up to 40% of suspended solids, plus floatables and oil and grease, is the absolute minimum level of municipal wastewater treatment which will adequately protect water quality.

Finally, the State of California, in response to extensive studies conducted in the waters off the coast of California on the effect of discharging municipal wastewater into marine waters, requires

that municipal ocean dischargers remove 75% of suspended solids, as well as floatables and oil and grease. 1978 Water Quality Control Plan for Ocean Waters of California, Chapters IIB, IIIB, and IV (Table A). This would require POTWs to provide more than primary treatment. While the Agency has not required, as a minimum, either advanced primary treatment (i.e., primary with chemical or polymer addition) or a combination of secondary and primary treatment, EPA like the State of California, considers that primary treatment alone, with its minimal suspended solids removal—even with a source control program—is environmentally inadequate for most municipal marine dischargers. Thus, a section 301(h) applicant seeking a modification based on only primary treatment will bear a particularly heavy burden in demonstrating to EPA that such treatment is sufficient to protect marine waters.

Subparagraph (b)(5). One commenter on EPA's proposed regulations suggested that the regulations be revised to clarify that a sewage sludge discharge would be eligible for a permit. EPA agrees that some clarification concerning the status of sewage sludge under section 301(h) is desirable; however, contrary to the commenter's suggestion, the appropriate clarification, stated in subparagraph (b)(5) of this section, is that EPA will not issue modified permits for the discharge of sewage sludge.

The commenter's suggestion that section 301(h) permits may be issued for the discharge of sewage sludge apparently stems from the June 1977 holding in *Pacific Legal Foundation v. Quarles*, 440 F. Supp. 316 (C.D. Cal. 1977), that because sewage sludge could not meet EPA secondary treatment requirements under section 301(b)(1)(B), it could not be discharged into ocean waters. Apparently, the commenter believes that Congress, in amending the Act in December 1977 to allow POTWs to seek to modify secondary treatment requirements for municipal wastewater, also intended to lift its 1972 prohibition on the discharge of sewage sludge by POTWs, by allowing the discharge of any sewage sludge which would meet the requirements of section 301(h).

The legislative history of the Act emphatically negates such an intent, for the following reasons:

(1) Section 301(h) was enacted to relieve ocean dischargers of the cost of building and maintaining land and energy intensive secondary wastewater treatment facilities where they could demonstrate that a less-than-secondary

discharge would have no adverse impact on the marine environment. There is no evidence in the legislative history that the provision was enacted to reduce sludge handling or disposal costs for marine dischargers by permitting them to discharge sewage sludge.

(2) As discussed above, Congress under section 301, has prohibited the discharge of untreated sewage. Since sewage sludge is, basically, the material which is removed from raw sewage during the treatment process, allowing a POTW to discharge both treated effluent and sewage sludge, or sewage sludge alone, would be equivalent to allowing it to discharge untreated sewage.

(3) The National Commission on Water Quality Report to Congress, which was the basis for many of the 1977 Amendments to the Act, including section 301(h), speaks solely of municipal "wastewaters", and not municipal sludges, in recommending a secondary treatment modification for coastal dischargers. Similarly, references in the legislative history of section 301(h) to treatment, primary treatment, and the need for toxic pollutant removal, indicate that, in enacting section 301(h), Congress was concerned solely about municipal wastewater, not municipal sludge.

(4) A December 7, 1977 letter from EPA's Assistant Administrator for Water and Waste Management discussing the secondary treatment modification, reprinted in the Congressional Record of the floor debate on the conference bill on the 1977 Amendments, expressly sets forth EPA's understanding that the modification was applicable only to "sewage effluent", not sludge. This interpretation was neither rebutted nor contradicted during Congressional debate.

(5) During various Congressional hearings on secondary treatment modifications for marine dischargers, no witness testified that the 1972 Act should be amended to permit the discharge of sewage sludge, as opposed to less-than-secondary effluent.

(6) Approximately one month before the enactment of section 301(h), Congress amended the Marine Protection, Research and Sanctuaries Act of 1972, 33 U.S.C. 1301 *et seq.*, to prohibit the ocean dumping of sewage sludge which cannot meet EPA ocean dumping criteria—i.e., sewage sludge which contains toxic pollutants, and, as a practical matter, all sewage sludge which is currently being dumped in the ocean—after December 31, 1981. It would be incongruous for Congress to

ban dumping of such sewage sludge at dumpsites anywhere from twelve to more than one hundred miles from shore, while, at the same time, to allow it to be discharged through outfalls in nearshore coastal waters.

In light of these considerations, the Agency is unable to attribute to Congress, in enacting section 301(h), an intent to reverse its 1972 prohibition on the discharge of sewage sludge by POTWs.

EPA also notes that the marine environment has been significantly degraded in the two EPA sites currently used for the ocean dumping of sewage sludge. The State of California, which, as noted above, has studied extensively the impact of municipal discharges on coastal waters, not only requires 75% removal of solids from such discharges (which would have the practical effect of prohibiting the discharge of sewage sludge), but also expressly bans sewage sludge discharges into ocean waters. 1979 Water Quality Control Plan for Ocean Waters of California Chapter IV (Table A). For these additional reasons, EPA believes that a blanket prohibition against issuing section 301(h) permits for sewage sludge discharges is appropriate.

Subparagraph (b)(6). This new provision has been added to the regulations to clarify the status of State secondary treatment laws, regulations and ordinances under section 301(h). The Act and its legislative history make it clear that while Congress has authorized EPA to modify Federal secondary treatment requirements under section 301(h) of the Act, it has not authorized EPA to modify State secondary treatment requirements. Because a POTW must meet such requirements under section 301(b)(1)(C) of the Act, EPA will not issue a modified permit under this Subpart where a State has adopted a secondary treatment requirement (or more stringent effluent limitations as well as a treatment standard), unless such requirement is less stringent than existing Federal requirements.

Subparagraph (b)(7). This is, essentially, a new provision which prohibits the issuance of a permit in those instances where the applicant's discharge would violate the requirements of a Federal statute other than the Clean Water Act or an Executive Order. The list of potentially applicable statutes included in these regulations is intended to be illustrative, not exhaustive.

Applicants will be required to demonstrate in their section 301(h) applications that, as a minimum, their discharge will comply with the specific

statutes listed. Applicants in States with approved coastal zone management programs should consult Office of Coastal Zone Management Federal consistency regulations (43 FR 10517, March 13, 1978), for information on the proper form of certification and procedures for submission of the certification to the State or its designated coastal zone management agency.

For a discharge which occurs within a designated marine sanctuary, applicants should consult the regulations governing that sanctuary to determine whether the discharge is likely to be consistent with the procedures for certification. Regulations governing the Monitor and Key Largo Coral Reef Marine Sanctuaries are found in 15 CFR 924 and 929, respectively.

The Application Format, which is discussed in Section VI of this preamble, also requires that applicants provide information pertaining to requirements of the Endangered Species Act of 1973, as amended, 16 USC 1531 *et seq.* This information is necessary to assist EPA in determining whether the discharge of effluent pursuant to a modified permit may affect a threatened or endangered species or modify the critical habitat of such species.

Subparagraph (b)(8). This provision emphasizes the basic requirement that a section 301(h) applicant must have submitted a preliminary application and must submit a final application which demonstrates, on its face, that the applicant is entitled to a section 301(h) modified permit. The preliminary and final application requirements are delineated in detail in paragraphs (c) and (d) of this section.

Subparagraph (b)(9). In response to the question whether dischargers which are currently achieving effluent limitations based on secondary treatment may apply for a section 301(h) permit, this provision makes clear that such dischargers are ineligible for modified permits. Extensive discussion in the legislative history emphasizes that section 301(h) is a narrowly drafted provision which allows certain dischargers who meet the statutory criteria to obtain permits which modify the requirements of secondary treatment. There is no indication that Congress intended to enable dischargers who have attained effluent limitations based on secondary treatment to relax their efforts, in clear contradiction of the goals and policies stated in section 101 of the Act.

Former Section 233.11. Existing discharge into marine waters. This section has been deleted from the final

regulation, primarily for organizational reasons. In reviewing comments on its proposed criteria under paragraph (a)(2)(ii) of this section, EPA determined that they were largely duplicative of requirements contained in proposed § 233.14(c) (now § 125.61), and therefore unnecessary. As discussed above, the requirements of proposed paragraph (b) have been modified in response to public comment and shifted to new § 125.59. Finally, the "stressed waters" concept of paragraph (a)(2)(ii) has been incorporated in § 125.61. The reason for this shift and the changes made in this concept in response to public comment are discussed in the section-by-section analysis of § 125.61 below.

Section 125.60. Existence and compliance with applicable water quality standards. (formerly § 233.12) Section 301(h)(1) requires, as a prerequisite to EPA granting any modified permit, that the applicant demonstrate that there is a water quality standard for the pollutant for which the modification is requested. This section is meant to assure that the pollutant for which a modification is granted is covered by a specific State water quality standard which adequately regulates such pollutant.

EPA's April 25, 1978, proposed regulations provided that applicants must demonstrate that their less-than-secondary discharge would comply with a State water quality standard for BOD, suspended solids (or their surrogates) and pH. The Agency also proposed to extend State water quality standards for the territorial seas to the contiguous zone for purposes of determining compliance with section 301(h)(1). The latter proposal was designed to overcome an apparent Congressional oversight; under section 303, State water quality standards may be adopted or promulgated only for interior waters and the territorial seas.

Public comment on this section reflected a general misunderstanding of both the statutory requirement and the Agency's proposed regulation. Several commenters, for example, stated it was inappropriate to evaluate modification requests based on BOD, suspended solids and pH, and that, instead, the proper basis for assessment was the impact of the discharge on marine biota. The statute requires both. Analyses of physical and biological factors in revised § 125.62 will be used as the basis for further evaluation of compliance with water quality standards.

Another commenter suggested that section 301(h) applicants should not be required to meet either State water

quality standards for BOD, suspended solids (or their surrogates) and pH or any other State water quality standards. EPA disagrees. Although section 301(h) modifies the requirements of section 301(b)(1)(B) of the Act, it does not authorize any relaxation of section 301(b)(1)(C). Section 301(b)(1)(C) requires compliance with any limitation more stringent than that required by section 301(b)(1) (A) and (B), including limitations based on State water quality standards.

Another commenter suggested that only those State water quality standards which assure compliance with section 301(h)(2) should be considered applicable State water quality standards within the meaning of section 301(h)(1). The statute clearly imposes no such requirement. A more reasonable conclusion is that section 301(h)(2) has been included in this provision to assure that public water supplies, recreational interests and the marine environment would be adequately protected in cases where State water quality standards may not adequately protect (or were not adopted to protect) such water uses. Conversely, if States have adopted water quality standards or other water pollution control requirements which are more stringent than those required under section 301(h)(2), dischargers receiving modified permits are still subject to those standards and requirements.

The same commenter claimed that EPA failed to publish information identifying marine water quality standards, as required under section 304(a)(8). In fact, prior to proposal of the section 301(h) regulations, EPA published a notice of availability of its State-by-State list of marine water quality standards under section 304(a)(6) (43 FR 13914, April 3, 1978).

The same commenter also charged that EPA had exceeded its statutory authority by allowing contiguous zone dischargers to demonstrate compliance with section 301(h)(1) by showing that they could meet a State water quality standard for discharges into the territorial seas. He urged that only section 403(c) ocean discharge guidelines could be used to demonstrate compliance with the requirements of section 301(h)(1) in the contiguous zone, where State water quality standards do not apply.

The term "water quality standard" is a term of art in the Act, referring only to State water quality standards adopted or promulgated under section 303. It does not refer to other water quality based pollution control requirements, such as section 302 water quality related

effluent limitations, section 403(c) ocean discharge guidelines, or section 404(b) dredged material disposal guidelines. Furthermore, the legislative history of the Act makes it clear that Congress, in using this statutory term of art in section 301(h), expressly intended to refer only to State water quality standards. H.R. Rep. 95-830, 95th Cong. 1st Sess. at 74, 98 (1977); S. Rep. 95-370, 95th Cong., 1st Sess. 45, 72 (1977). As noted in the April 25, 1978, regulatory preamble (43 FR 17488), EPA's proposed extension of State water quality standards to the contiguous zone for purposes of section 301(h)(1) was designed to resolve an internal inconsistency in the statute which would otherwise have prevented any contiguous zone discharger from qualifying for a section 301(h) modification. This construction is wholly consistent with the intent and purpose of the Act.

One commenter urged that a new paragraph be added to this section requiring applicants to demonstrate the existence of and compliance with a State water quality standard for coliform bacteria. Since fecal coliform bacteria is not a parameter used to define secondary treatment (41 FR 30785, July 26, 1976), such a requirement would not be within the scope of section 301(h)(1). However, if an applicable State water quality standard for coliform bacteria exists, section 301(h) permittees must meet any such standard; EPA issuance of a modified permit does not change the water quality standards requirements.

Section 125.61. Attainment or maintenance of water quality which assures protection of public water supplies, the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife, and allows recreational activities (formerly §§ 233.13 through 233.15.) This section consolidates in a single section the physical, biological, public water supply, recreational, and stressed waters criteria which were formerly contained in §§ 233.13 through 233.15 and 233.11(a)(iv) of EPA's proposed regulations. This organizational revision is intended to clarify the interrelationships between these requirements and eliminate unnecessary duplication of criteria.

Another organizational change has been made in these sections to alleviate apparent confusion during the comment period concerning the difference between regulatory criteria and application requirements, respectively. To clarify the distinction between these two parts of the regulation, the

application requirements have been shifted to the application format.

A. Physical Assessment. In its April 25, 1978 regulations, EPA proposed to require applicants for a section 301(h) permit to demonstrate that they met the following physical oceanographic criteria:

- (i) Initial dilution is of the order achieved by accepted designs of multiport ocean outfalls at 200 or more feet and is sufficient to meet applicable water quality standards necessary for the protection of marine communities in the environment affected by the discharge under the most demanding critical conditions which are likely to exist during the life of any modified permit issued under this part;
- (ii) Dilution water is continuously supplied in an amount equal to the wastewater flow times the dilution water (sic);
- (iii) Following initial dilution, the partially diluted wastewater is rapidly and permanently carried away from the outfall, nearshore water use areas, and areas of particular biological sensitivity; and
- (iv) Water quality at the edge of the zone of initial dilution will protect fish, shellfish, and wildlife.

Inclusion of these physical criteria was intended to reflect Congress' intent that section 301(h) modifications be granted only for those marine waters which, because of their unique hydrological and geological characteristics, provide a high degree of initial dilution, dispersion and transport of wastewater and other physical oceanographic conditions which are conducive to the attainment of water quality which assures protection of public water supplies, recreational activities, and a balanced, indigenous population of shellfish, fish and wildlife. Thus, while compliance with the physical criteria contained in the proposed regulation would not, in and of itself, guarantee protection of valuable water uses and marine life, it would indicate the presence of a water quality regime which is likely to be compatible with the attainment or maintenance of those water quality objectives. For example, if partially diluted wastewater was not carried away from the outfall site, the shoreline and sensitive biological areas, or if initial dilution was insufficient to reduce pollutant concentrations below water quality standards, indigenous populations could well suffer adverse effects.

In EPA's proposed regulations, compliance with the physical criteria was to be based on an assessment of the physical oceanographic conditions in the vicinity of the applicant's outfall and the physical impact of its discharge. This physical assessment requirement served two other major functions in the

proposed regulations. First, it identified the geographical area where water quality parameters and biological impacts should be measured (the edge of the "zone of initial dilution") under proposed § 233.14. Second, it provided an analysis of wastewater dispersion and transport which could be used to determine areas of potential public water supply, recreational, and biological impacts under proposed § 233.13.

The physical criteria and physical assessment contained in the regulations promulgated today are essentially unchanged from those in the proposed regulation. EPA has made certain minor changes in the physical criteria and assessment in response to public comment.

1. Well-designed outfall. In the proposed regulation, EPA required applicants to demonstrate that the initial dilution of their discharge was on the order of that achieved by accepted designs of multi-port ocean outfalls at 200 feet or more. The purpose of this provision was not to establish a minimum depth or a minimum dilution requirement. Rather, it was intended to require applicants to demonstrate, like the California communities which testified in support of section 301(h), that they had a well-designed outfall and diffuser system which provided initial dilution, dispersion and transport of wastewater appropriate to their discharge volume and site conditions. Because the proposed language apparently created confusion, it has been revised in these final regulations to better convey EPA's intent.

The requirement that an applicant have a "multi-port diffuser has been deleted because in some situations a single-port diffuser may be appropriate. In most waters, however, multiple port diffusers would be necessary to provide appropriate dilution, dispersion and transport of wastewater.

2. Initial dilution. The proposed regulation required that applicants demonstrate that their initial dilution, as calculated in the application format, would be sufficient to meet all applicable State water quality standards under the most demanding critical conditions likely to occur during the life of any modified permit. This provision was meant to require each applicant to demonstrate that, in addition to meeting State water quality standards under conditions dictated by the State, it would also meet applicable standards using a conservative dilution model and under assumed worst case conditions. This demonstration will provide additional assurance that physical

conditions at the outfall site are compatible with the attainment and maintenance of recreational water uses, public water supplies, and a balanced, indigenous population.

a. *Critical conditions.* In its proposed regulations, EPA identified the following three factors of principal importance in calculating initial dilution: ambient current, waste flow rate and ambient density stratification. The proposed regulation required applicants to predict initial dilution using a "worst case" assumption for each of these factors — i.e., zero current, maximum waste flow, and highest stratification.

Several commenters objected to the requirement that worst case or extreme critical conditions be used in making initial dilution calculations. One commenter suggested that normal or average conditions be used, as more representative of the day-to-day initial dilution actually achieved. Still other commenters contended that "critical conditions" for each of the three factors were not adequately defined in the proposed regulation.

EPA does not agree that normal or average conditions should be used to calculate initial dilution. Initial dilution is a process of rapid turbulent mixing between wastewater discharged at depth and ambient seawater, which results from the density differential between fresh and saline waters. Because the initial dilution actually achieved at a discharge site is highly variable (depending on discharge characteristics and environmental conditions), measuring compliance with water quality standards on the basis of average initial dilution would mean that those standards might be exceeded 50% of the time. Furthermore, this formulation would be inconsistent with Congress' intent that water uses and marine life be protected under "assumed worst conditions."

EPA does agree, however, that the proposed regulations did not fully define "critical conditions" in a statistical sense, and accordingly has provided a more precise definition of that term in the regulations promulgated today. The final regulations permit the applicant, in calculating both the dilution factor and the zone of initial dilution, to use the worst ten percentile on a representative cumulative frequency distribution of data describing densities and currents. Applicants should not use this value, however, if they are aware of any scientific evidence which indicates that more conservative values should be used to protect designated water uses or a balanced, indigenous population. Nor should this value be used if the density

and current data have not been obtained over a sufficient period of time to be representative of conditions which may occur during the life of the permit.

The use of ten percentile values will still result in a conservative prediction of initial dilution—i.e., a value which is exceeded most of the time. Because the regulations require initial dilution values to be based on several factors, each taken at the worst ten percentile, the probability that the predicted initial dilution will be exceeded is likely to be greater than 90%. For this reason, an initial dilution value computed in the manner required by these regulations will provide EPA with a reasonable indication of whether a water quality regime is likely to be compatible with the protection of marine life, recreational interests and public water supplies even during "worst case" environmental conditions. The latter include periods of high wastewater flow, low background water quality, exceptional biological activity, low flushing and extreme high and low density stratification. As a result of comments received, a number of changes have been made with respect to the critical conditions calculation required by these final regulations, including:

i. *Zero current.* EPA's proposed definition of critical conditions required applicants to calculate initial dilution assuming zero current. Several commenters criticized this requirement as too restrictive; others argued that it ignored site-specific conditions, and was therefore meaningless.

EPA has eliminated the zero current assumption in revising the definition of critical conditions. Since currents do affect the initial dilution achieved by a discharge, the Agency believes it is reasonable to allow a modest amount of current (the lowest ten percentile) in predicting initial dilution.

The effect of incorporating currents at the lowest ten percentile on calculations of initial dilution will generally be fairly small. For a site with persistent, strong current, for example, allowing currents at the worst ten percentile could double the initial dilution values calculated with zero current; in cases where the worst ten percentile is in fact zero, it obviously will have no effect. Most values will lie somewhere between these two extremes. As noted above, when coupled with other environmental conditions at the worst ten percentile, this will still result in a conservative prediction of initial dilution.

ii. *Wastewater flow.* The proposed regulations required applicants to calculate initial dilution based on a

range of wastewater flows, including minimum, average and maximum flow. This requirement was included to provide an estimate of the range of initial dilution values which might result from variations in flow rates.

In response to comment, EPA has re-examined this proposed requirement and has decided that since the maximum flow rate is the most critical flow condition for calculating initial dilution, initial dilution values based on average or minimum flows are not essential to an Agency determination of whether an applicant meets the physical criteria in this section. Accordingly, the final regulation requires that applicants calculate initial dilution using only the maximum flows representative of the worst two to three hours per day.

iii. *Vertical ambient density stratification.* A number of commenters requested that EPA more clearly define the vertical ambient density stratification conditions which will be considered critical for purposes of calculating initial dilution. In response to these comments, EPA has revised the final regulations to clarify that the most adverse stratification is the vertical density distribution which produces the largest difference in density over the height-of-rise of the wastewater plume.

For periods when the vertical density gradient is non-linear, the worst-case stratification may be difficult to estimate. Therefore, applicants should evaluate a substantial amount of data from both the discharge site and the nearby region before selecting a vertical density profile in predicting initial dilution.

(b) *Model for calculating initial dilution.* In its proposed regulations, EPA recommended that a specific mathematical plume model be used to calculate initial dilution. A number of commenters asked whether EPA would permit the use of other models and, if so, how the modeling results would be evaluated in the physical assessment.

There is no single model or set of models which is universally acknowledged as appropriate for making the computations required by these regulations. In recommending the use of a particular model in its proposed regulation, EPA was not suggesting that the Agency would not consider results obtained from using other methods. Rather EPA's intentions were (1) to provide applicants with the assurance that a particular method for computing initial dilution had Agency approval; (2) to establish a standard reference by which other models could be evaluated; and (3) to simplify and expedite EPA's application review process and

decision-making, since the Agency would not need to evaluate plume models, but only the results of those models.

In response to commenters' inquiries about other approved methods for calculating initial dilution, EPA in the section 301(h) Technical Support Document, has recommended two additional plume models. As noted above, applicants are not required to use those methods; if they use another method, however, they must describe that method in detail and demonstrate that the results are in general agreement with those which would be obtained through use of EPA's recommended methods.

(c) *Minimum initial dilution.* A number of commenters suggested that EPA establish a minimum dilution ratio to be met by all applicants (e.g. 50:1 or 100:1) in order to reduce what they characterized as the vagueness of this section.

The legislative history of section 301(h) indicates that Congress intended applicants to demonstrate that they would achieve "rapid dispersion (e.g., 45 seconds) of wastewater and wastewater constituents" (1977 Leg. Hist. at 259). In its April 25, 1978 regulations, EPA proposed that applicants fulfill this requirement by a showing that they could meet water quality standards after initial dilution—i.e., that wastewater dilution would be sufficiently rapid during the first minute or so of discharge to protect designated water uses.

Although EPA has taken initial dilution into account in developing its section 301(h) regulations, it has been unable to establish—either on the basis of legislative history or scientific considerations—a minimum dilution ratio which would allow all dischargers to meet State water quality standards or otherwise comply with sections 301(h)(2) and 101(a)(2) of the Act. For these reasons, EPA has not included a minimum dilution requirement in these final regulations.

d. *Zone of initial dilution.* In the proposed regulations, EPA required applicants to calculate, in the physical assessment section of the application format, the size, shape and location of the region encompassing all critical initial dilution configurations. This region, which EPA termed the "zone of initial dilution" (ZID), established a boundary beyond which State water quality standards and a balanced, indigenous population must be maintained. EPA received a number of comments on both the concept and method of calculation of the ZID.

One commenter expressed concerns that the calculation of the ZID does not take into account biological conditions within the ZID. EPA agrees that the methods it has proposed for calculating the ZID are strictly based upon physical characteristics of the discharge plume. Factors which affect the biological integrity of the immediate discharge site are not considered in ZID computation (except where State regulations require it).

In order to clarify the question of biological considerations, EPA has added criteria to the biological assessment section of the application format relating to (1) protection of a balanced, indigenous population and migratory pathways, and (2) the absence of ecologically significant bioaccumulation of toxic pollutants within the ZID of discharges into saline estuarine waters. Additional explanation has been provided in the case of ocean discharges, to point out that ecological alterations which might occur within the ZID of such discharges must not constitute major impacts affecting the balanced, indigenous population, nor may such impacts extend beyond the ZID. Therefore, applicants should be aware that while size and shape are important factors in the physical assessment of the ZID, biological conditions occurring within or beyond the ZID will be decisive in determining whether or not an application is approved.

In response to another commenter who suggested that any proposed ZID should conform to State requirements, the final regulations now require that the proposed ZID be no larger than that allowed by State regulations on mixing zones or initial dilution zones.

A number of commenters also suggested that EPA establish a maximum size for the zone of initial dilution. As noted above, the zone of initial dilution can only be calculated on a case-by-case basis, considering site-specific conditions, if it is to be useful to EPA in evaluating section 301(h) applications.

One commenter suggested that unless EPA established a maximum zone of initial dilution, dischargers, in an attempt to maximize the use of a zone of initial dilution in order to assure compliance with water quality standards, would build enormous diffuser systems which would potentially disrupt large areas of the marine environment. As a practical matter, economics, maintenance problems, and physical stability of the outfall will place practical limits on length of both the pipeline and the

diffuser system. The requirements discussed in section 2.a.(ii), above, and required by § 125.61 of the regulations should similarly remove any incentive to create an abnormally large outfall and diffuser system simply to maximize the use of a ZID for purposes of these regulations.

In response to public comment, the Agency has clarified how EPA-recommended methods are to be used in calculating the ZID and has added an alternative, simplified method for computing the size and shape of the zone. This latter method will yield a technically sound estimate of the size of the zone of initial dilution which would otherwise be obtained by making the detailed calculations which are set forth in the application format. This alternative will simplify the application requirements for those POTWs which choose not to make the detailed calculations. However, applicants should note that in some cases (e.g., where there are strong, persistent currents), the simplified method may result in a smaller estimated ZID than that which would be arrived at through the detailed calculations. This simplified method sets the width of the ZID as approximately twice the depth of the water plus the width of the diffuser, and the length of the ZID as twice the depth plus the length of the diffuser.

3. *Wastewater/dilution water exchange.* EPA has made two changes in the proposed requirement that dilution water be "continuously supplied in an amount equal to the wastewater flow times the dilution water." First, the term "dilution water" in the proposed regulation should have read "dilution factor." This has been corrected in the final regulation. (See § 125.61(a)(1)(iii)). Second, because it is virtually impossible to demonstrate, as a statistical matter, that dilution water will be "continuously" supplied in the volumes specified, the final regulation has been revised to require applicants to show that the required wastewater/dilution water exchange will be achieved for a very large percentage of time.

4. *Transport and dispersion.* This section has been revised to clarify that applicants must demonstrate that solids, as well as other wastewater constituents, will be transported away from water use and biologically sensitive areas.

Some commenters questioned the level of detail and purpose of the questions in the physical assessment relating to this requirement. In response, EPA has made minor revisions to

provide more flexibility in data requirements.

5. *Protection of fish, shellfish and wildlife.* Because proposed § 233.14(c)(1)(iv) contained requirements which overlapped with those in other sections of the regulations, this section has been deleted from the final regulations.

6. *Other issues. a. Minimum depth limitation.* A number of commenters suggested that EPA establish a minimum depth criterion for ocean dischargers to reflect the fact that section 301(h) limits the availability of modified permits to dischargers into "deep" ocean waters (or other waters with hydrological and geological characteristics which are necessary to "allow compliance with sections 301(h)(2) and 101(a)(2)."

There is no minimum depth limitation, short of a very shallow one, which would conclusively preclude the attainment of these statutory objectives in every case. For example, a POTW with a low volume, essentially domestic flow might be able to meet these objectives in fifty feet of swiftly moving, well flushed ocean waters; for a larger discharger, two hundred feet might be required. As a result, EPA has been unable to establish a scientifically defensible minimum depth limitation for inclusion in the final regulations.

One commenter suggested that the term "deep" should be given a significance apart from designating ocean waters in which the requirements of sections 301(h)(2) and 101(a)(2) could be achieved. This commenter apparently believes that Congress had a specific minimum depth limitation in mind when it enacted section 301(h).

The only depth figure which appears in the legislative history of section 301(h) is "two hundred feet", (see, e.g., 1977 Leg. Hist. at 259 and 322), the approximate depth of the outfalls of the California POTWs which testified in support of a modification of secondary treatment requirements for marine dischargers. However, there is no evidence that Congress intended this figure to establish a minimum depth for ocean discharges. Furthermore, such a limitation would automatically preclude all but approximately half a dozen ocean dischargers from even being considered for a modification.

Moreover, any minimum depth requirement which was not related to the objectives of sections 301(h)(2) and 101(a)(2) would lead to absurd results. For example, it would require EPA to deny a modified permit to POTWs which could demonstrate that their discharges would fully protect designated water user and marine life

simply because they were not located in the requisite depth of water. POTWs with outfalls located in waters which were a few feet short of the requirement would be barred at the threshold even though, all other factors being equal, the depth differential would have no environmental significance. Some dischargers would have to relocate their outfalls, at substantial expense, even though the additional depth, *per se*, would not afford any additional environmental benefits. It is unlikely that Congress could have intended such results. Furthermore, there is considerable scientific knowledge to suggest that depths greatly in excess of two hundred feet may be unsatisfactory for purposes of sections 301(h)(2) and 101(a)(2), because they exhibit geophysical features which prevent adequate dispersion and transport of wastewater following initial dilution.

b. *Other requirements.* One commenter suggested that EPA (1) identify in its regulations those specific geological or hydrological conditions known to prevent effective wastewater dilution, transport, and dispersion (e.g., sills, fjords) and (2) prohibit modified discharges into waters with these characteristics. EPA has not adopted this approach because the effect of these various conditions—which are discussed in the Technical Support Document—must be determined on a case-by-case basis. Where such characteristics do prevent circulation and flushing adequate to protect designated water uses and marine life, the discharge will be unable to meet the requirements of this section and no modified permit will be granted.

B. *Public Water Supply Impact Assessment.* EPA's proposed regulations also required applicants to demonstrate that their discharge would not adversely affect public water supplies, based on an assessment of the effect of the discharge on desalination plants with intakes located within a ten mile radius of the applicant's outfall.

Because of the limited applicability of this requirement, it was the subject of very few comments. One commenter did question EPA's use of a ten mile limit for identifying potential impacts on public water supplies. Although EPA believes that, as a general matter, a discharge will have no impact on public water supplies outside this limit, it is possible that under some hydrological or meteorological circumstances, wastewater components could be identified as far as ten miles from the discharge. Accordingly, in the final regulations published today, EPA is requiring applicants to assess the impact

of their discharge on public water supplies based on the analysis of actual or projected wastewater transport and dispersion required by the physical assessment.

Except for this modification, and a few other clarifying changes, this section is essentially unchanged from the way it appeared in the proposed regulations.

C. *Biological Assessment.* Section 233.14(d) of EPA's proposed regulations required applicants to demonstrate the existence of a balanced, indigenous population of shellfish, fish, and wildlife, as defined in proposed § 233.1(h), immediately beyond the boundary of the zone of initial dilution. This demonstration was to be made by means of a biological assessment, consisting of a biological impact questionnaire supported by a thorough summary of biological conditions at the applicant's existing outfall site and appropriate control sites.

The showing that less than secondary treatment will not interfere with the attainment or maintenance of a balanced indigenous population is perhaps the most important and most difficult requirement under section 301(h)(2). EPA received extensive comments on this section, especially its definition of balanced, indigenous population, and the biological assessment requirement. In response to comment, the definition of balanced, indigenous population has been clarified; impact criteria have been established for the area within the ZID; and the questionnaire and biological conditions summary have been expanded and clarified. These changes, as well as EPA's responses to other comments, are discussed below.

1. *Definition of "balanced, indigenous population".* In its April 25, 1978 regulations, EPA proposed that an applicant demonstrate the presence of a balanced, indigenous population based on evidence indicating that the structure, composition and function of marine communities near the applicant's outfall were comparable to (1) those of healthy marine communities existing in nearby unpolluted waters; or (2) those of communities reasonably expected to repopulate the polluted area from unpolluted areas if the source of pollution were removed.

The first part of this definition reflected Congress' expectation that the existence or non-existence of a balanced, indigenous population would be demonstrated based on "comparative ecosystems . . . in nearby waters (and) evidence . . . (that) the ecosystems which exist in the areas of these outfalls

are identical to those which live in unpolluted environments" (1977 Leg. Hist. at 448). The second part of the definition incorporated Congress' intent that:

... the interim water quality standards be that condition of aquatic life which existed in the absence of pollution . . . Restoration of aquatic ecosystems which existed prior to the introduction of pollution from man's activities is an important element of the restoration and maintenance of the biological, physical and chemical integrity of receiving waters. (*Id.*)

Although EPA received numerous comments on its proposed definition, none warranted substantive revision of the proposed regulations. Although the definition of balanced, indigenous population has been reworded for purposes of clarity in these final regulations, the content remains the same.

A number of commenters suggested that the balanced, indigenous population test be based on a comparison between the marine populations which would exist in the vicinity of the applicant's modified discharge and a secondary discharge, respectively. The Act clearly does not require such a comparison and the legislative history indicates that Congress did not intend such a comparison. See e.g., 1977 Leg. Hist. at 448, 1052.

Other commenters objected to the requirement that the populations at the outfall site be measured against populations existing in an unpolluted environment. As discussed in section F, below, where applicants discharge into waters where adverse biological impacts are caused by sources of pollution other than the applicant's discharge, EPA believes it is appropriate to compare marine communities at the outfall site with those at a reference site under comparable environmental (and pollution conditions), but absent the applicant's discharge, to determine whether the applicant's discharge in any way contributes to the adverse impact. In those situations where the applicant's discharge is the sole source of the impact, however, the legislative history is clear that the applicant must demonstrate that "the ecosystems which exist in the areas of these outfalls are identical to those which live in unpolluted environments."

One commenter urged EPA to establish a deadline by which repopulation or re-establishment of natural communities would have to occur following the improvement of an applicant's discharge. EPA believes that existing data are inadequate to specify a

time frame which would be appropriate for all discharges.

Still another commenter suggested that marine ecosystems at the outfall site be compared not to ecosystems which "might have existed since the beginning of time" but to ecosystems of more recent origin. Although no specific time period was suggested, the commenter apparently wanted EPA to date a balanced, indigenous population from some point in time after commencement of an applicant's discharge. As noted above, this would be contrary to Congress' intent that a balanced, indigenous population date from "prior to the introduction of pollution from man's activities."

2. Impacts within the zone of initial dilution. Neither section 301(h)(2) nor its legislative history specifies the location at which an applicant must demonstrate the existence of a balanced, indigenous population of marine life. If EPA had required that the demonstration were required to be made at the point of discharge, then it would be unlikely that any discharger could qualify for a modified permit. Therefore, in its April 25, 1978, regulations, EPA proposed to establish an area immediately surrounding the discharge in which some adverse biological impact would be allowable, but beyond which a balanced, indigenous population must be maintained. Because section 301(h) was enacted on the premise that the thorough flushing and dilution of wastewater provided by certain marine waters would allow assimilation of less-than-secondary discharges without adverse biological impact, the area chosen by EPA was the zone of initial dilution, that area of incomplete mixing between effluent and seawater.

A number of commenters criticized EPA for failing to establish any controls on biological impacts within the zone of initial dilution, no matter how severe. EPA agrees that although a certain impact within the zone of initial dilution in the case of ocean discharges is inevitable, it should not be extreme or extend beyond the ZID. For saline estuarine discharges, balanced, indigenous populations and migratory pathways, must be maintained both within and beyond the zone of initial dilution.

In the final regulations promulgated today, therefore, EPA is requiring all applicants to demonstrate that their discharge does not cause major adverse biological impacts within the ZID, particularly impacts which are likely to affect marine life outside the ZID. Examples of unacceptable impacts would include, but are not limited to, the

destruction of distinctive habitats of limited distribution (e.g., coral reefs, nursery and spawning grounds, and shellfish, grass and kelp beds); the presence of disease epicenters; and the occurrence of phytoplankton blooms that result in serious oxygen depletion in the water column, causing the death of fish, shellfish or other marine organisms, or resulting in the accumulation of toxins in commercially harvested fish and shellfish.

EPA does not believe that the restrictions applicable to ocean dischargers will be sufficient to adequately protect estuarine communities. Estuaries are semi-enclosed, highly productive ecosystems subject to finite limitations on wastewater exchange and dilution, which serve as spawning and nursery grounds to numerous species of fish and shellfish. Due to their uniqueness estuaries are considered a resource of relatively greater biological significance than open coastal waters. In fact, commenting on EPA's proposed regulations, the National Oceanic and Atmospheric Administration (NOAA) stated that it knew of no coastal estuarine waters where it could confidently predict that a modification of secondary treatment requirements would not cause serious adverse impact.

For these reasons, EPA is requiring estuarine dischargers to demonstrate not only that there will be no extreme impacts within the zone of initial dilution, but also that both the area within the zone of initial dilution and the estuarine system as a whole will be only minimally impacted by their discharge. Three criteria must be met. First, the health, structure and function of the benthic community within the ZID must not differ substantially from that outside the ZID. Second, the ZID must not interfere with migratory pathways. Finally, toxic pollutants and pesticides must not accumulate in either sediments or biota within the ZID at levels which would cause adverse impacts.

EPA expects that only dischargers of predominately domestic wastes will be able to meet these criteria.

3. Impacts outside the zone of initial dilution. In its proposed regulations, EPA required applicants to establish the existence of a balanced, indigenous population at the "edge" of the ZID. Several commenters were apparently confused by this requirement.

In using the term "edge", EPA did not intend to suggest that applicants should restrict their biological assessment to a narrow line separating the interior of the ZID from the exterior. Since marine communities inhabit a much broader

area than the line marking the perimeter of the ZID, such a definition would obviously preclude a thorough examination of all aspects of the ecosystem.

Rather, it was EPA's intent to have applicants assess biological impacts beginning immediately outside the ZID, and extending as far as necessary to establish that a balanced, indigenous population existed everywhere outside the ZID.

As discussed in the section-by-section analysis of the public water supply impact assessment, above, and the recreational assessment, below, a number of commenters correctly noted that, as a result of wastewater dispersion and transport, a marine discharge may have adverse biological impacts far beyond the edge of the ZID. The final regulation published today has been clarified to require applicants to demonstrate that a balanced, indigenous population will be maintained not only immediately beyond the ZID, but also in any other areas outside the ZID affected or potentially affected by the applicant's discharge. Thus, where an applicant's discharge permits the maintenance of a balanced, indigenous population immediately beyond the boundary of the ZID, but adversely impacts an area at some greater distance, the applicant would be denied a modified permit under these final regulations.

One commenter suggested that applicants be required to measure biological impacts not at the edge of the ZID but at a point five hundred meters from the edge. Because no justification was given for using this distance, and because it would have the effect of substantially increasing the area in which adverse impact would be permitted, EPA has rejected this approach.

4. Predicting biological impacts. EPA received numerous comments on the issue of whether the impact of proposed outfall improvements on marine communities could be accurately predicted, and, if so, how much and what type of data applicants must submit in order to carry their burden of proof under section 301(h).

Some commenters felt that it was possible to make a reasonable predictive judgment about the biological impact of a future discharge. One stated that near-field and far-field dispersion models would predict initial dilution under any modified discharge condition and that an assessment of probable environmental effects could be based on these modeling data. Another suggested that "reasonable projections of actual impacts (could be extrapolated from the)

large body of actual field data on outfalls of various capabilities and geographic areas." Other commenters, however, seriously questioned whether such predictions could be made with the degree of accuracy and certainty required by statute, and noted that, in any event, they would be less reliable than analyses of existing effects.

On the issue of data requirements and burden of proof, some commenters contended that applicants projecting future biological impacts should bear no greater burden of proof than applicants describing existing effects. Others suggested that applicants seeking a modified permit on the basis of proposed outfall improvements should be required only to make a general showing that adverse impact was improbable or unlikely. Still others observed that the applicant's burden of proof in these situations would be extraordinarily difficult.

EPA agrees that while the burden of proof for all dischargers is the same—i.e., all must demonstrate to EPA's satisfaction that they meet the criteria set forth in this section—the uncertainties inherent in predictive analyses will make it more difficult for POTWs seeking a modified permit based on outfall improvements to sustain this burden. As discussed in Section II.A.2., above, EPA believes that it is generally extremely difficult to make accurate predictive analyses of discharge impact.

Applicants seeking a modified permit based on treatment or outfall modifications should, therefore, be prepared to submit substantial additional data to compensate for the lack of direct, empirical evidence of impact (see section E below). As a general matter, this will require more than general extrapolations and comparisons, since the Act clearly requires detailed, site-specific analyses of biological impact.

5. Bioaccumulation. EPA received a number of comments urging that, since bioaccumulation might not be detected in field surveys, the Agency's regulations should require applicants to submit evidence that toxic pollutants and pesticides are not bioaccumulating in biota in the vicinity of their discharge. Some commenters urged simply that some type of bioaccumulation data be supplied. Others were more specific, suggesting that applicants be required to analyze representative aquatic organisms at the discharge site for tissue concentrations of toxic pollutants or for the levels of detoxifying enzyme systems.

In response to these comments, EPA has included a question in the marine biological assessment questionnaire requiring the applicant to determine if there is "... an abnormal body burden of any toxic material in marine organisms collected within or beyond the zone of initial dilution" (Question 7-8). The data necessary to support the applicant's response to this question will vary with the composition of the applicant's effluent. Where the chemical analysis required by section 125.64 indicates that the applicant's discharge contains no toxic pollutants or pesticides, or where the concentrations and mass emissions of such substances are extremely low, local environmental agencies should be contacted to ascertain whether bioaccumulation studies have been made for that biogeographic area and whether such studies have revealed any accumulation of toxic materials in the tissues of marine organisms. If bioaccumulation studies exist, the applicant should provide copies with its application, and include a comparison of the study populations with those present within and beyond the ZID. If no bioaccumulation studies exist, the applicant should provide a list of all laboratories, departments, and agencies which were contacted.

If the chemical assessment of the applicant's waste stream indicates that toxic materials are present, the applicant will be expected to conduct tissue analyses of marine organisms at the outfall site as part of its monitoring program if a modified permit is granted. The organisms should be examined for toxic pollutants and pesticides demonstrated to be present in the applicant's waste stream.

Given the extensive data already required in the biological assessment, combined with the lack of available standardized procedures for analysis of detoxifying enzyme systems, EPA does not find it necessary to require enzyme data, as suggested by one commenter.

EPA also disagrees with the implicit recommendation by certain commenters that all applicants, regardless of the characteristics of individual waste streams, be required to perform laboratory tissue analyses for all 65 toxic substances. Accordingly, EPA sees very little to be gained in requiring applicants to conduct tissue analyses for pollutants which do not show up in the chemical analysis. However, for applicants receiving modified permits, the biomonitoring program may include a requirement for tissue analysis.

Section 301(h) requires that applicants must establish a system for monitoring

the impact of their discharge on a representative sample of aquatic biota, to the extent practicable. Applicants who claim that in situ bioassays are not feasible must provide an alternate method of meeting this requirement.

6. Use of bioassays. In its proposed regulations, EPA required applicants to conduct a toxicity bioassay (96-hour LC_{50}) as part of a general wastewater characterization (43 FR 17506). During the comment period EPA received several inquiries as to how the results of the bioassay would be interpreted since its function in the decisionmaking process was not identified in the proposed regulation. Another commenter stated that "the only feasible way to determine the impact of pollutants on biota at this time is by the bioassay technique using a 96-hour TLM on a representative number of organisms."

In response to these comments, and suggestions that the bioassays be used for anything from an evaluative factor to a pass/fail criterion, EPA has re-examined its proposed bioassay requirements. There are two basic problems associated with running and interpreting bioassays on municipal waste discharged to the ocean, namely, conducting bioassays with fresh water effluents and marine organisms and correlating laboratory bioassay results with field impacts. EPA has developed procedures, using salts to adjust the salinity of the wastewater, which make it possible to run a bioassay which will accurately measure the acute toxicity of the wastewater. Nevertheless, EPA does not have sufficient information at the present time to correlate a particular laboratory bioassay result with the existence or non-existence of a balanced, indigenous population either within or immediately beyond the ZID. For this reason, and because other biological data requirements adequately provide the basis for evaluating ecological effects, the requirement that applicants run a 96-hour LC_{50} has been deleted from the wastewater characterization.

7. Other issues. Numerous commenters criticized the data required by EPA for the biological assessment as unnecessarily elaborate. One commenter contended that no biological assessment should be required where the applicant demonstrates compliance with applicable water quality standards. Other commenters characterized the proposed biological requirements as "extend(ing) beyond the realm of the standard outfall monitoring (and as) more relevant to a major research project." These commenters proposed

that biological assessment of outfall effects be limited to: (1) acute data (fish kills, algae blooms), (2) chronic data (disease, abnormalities and bioaccumulation of toxics), and (3) an evaluation of "seasonal patterns of distributions and abundance."

Limiting the biological assessment to a few biological parameters would not provide the information necessary to make a section 301(h) determination. The requirement does "extend beyond the realm of standard outfall monitoring" as this is necessary to meet the requirements of section 301(h)(2). Compliance with applicable State water quality standards is essential and required by the statute, but Congress clearly intended applicants to make additional, direct, site-specific demonstrations under section 301(h)(2) of the existence of a balanced, indigenous population of shellfish, fish and wildlife.

D. Recreational Impact Assessment. In its proposed regulations implementing section 301(h)(2), EPA required an applicant to demonstrate, based on a detailed analysis of the impact of its discharge on existing and potential recreational activities within a three-mile radius of the outfall, that the discharge would permit the attainment or maintenance of water quality which would allow recreational activities, and comply with State water quality standards designed to protect recreational water uses.

Two changes have been made in this section in response to public comment.

1. Impact area. Several commenters questioned EPA's proposed requirement that recreational impacts be analyzed within a three-mile radius of the outfall. One commenter recommended that "this be reduced to that distance required to reduce pollutants to ambient receiving water conditions by mixing and dilution." Another suggested that the three (3) mile radius "is far too short, given the ability of finfish to be contaminated by an outfall and then travel or migrate far more than three miles from the outfall in a matter of hours" and urged that consideration of recreational fisheries with a radius of at least ten (10) miles be required.

Although under most circumstances the Agency would not anticipate adverse recreational impact beyond a three-mile radius, the limitation is somewhat arbitrary since adverse recreational impacts may occur in some circumstances beyond the three-mile boundary. Accordingly, in these final regulations, EPA has eliminated the requirement that applicants evaluate recreational impacts within a uniform

geographical area, and instead will require applicants to analyze recreational impacts within the area of potential discharge impact, as identified in the analysis of wastewater dispersion and transport required by the physical assessment. This should provide a much better indicator of the actual areas where an applicant's discharge is likely to have an effect on recreational water uses.

2. Federal, State and local restrictions on recreational activities. EPA received conflicting comments on its proposed requirement that an applicant include in its recreational activities analysis a discussion of State, Federal or local restrictions on shellfishing and other recreational activities in the vicinity of its outfall. Some commenters felt that such restrictions (particularly shellfish closures) are routinely imposed on all sewage outfalls, irrespective of the degree of wastewater treatment provided, and should not be deemed a basis for denying a modification.

EPA agrees that it makes little sense to deny a modified permit on the basis of a shellfish closure, swimming ban or other recreational restriction which is imposed on an applicant's outfall simply because it is discharging municipal wastewater. However, there may be some circumstances where the level of treatment does affect the nature of the restriction. For example, a shellfish closure area for a raw discharge may be much larger than that imposed around a secondary discharge. In these cases, EPA believes it is appropriate to conclude that recreational restrictions are attributable to the applicant's level of treatment, that its less-than-secondary discharge has an adverse impact on recreational activities, and therefore that no modified permit should be granted. The proposed regulations have been revised to reflect this concept.

3. Other issues. Several commenters suggested that an applicant should not be required to submit a detailed inventory of recreational activities unless its discharge would violate State water quality standards. Since no modification will be issued for a discharge which does (or will) not comply with State water quality standards, the suggested approach makes little sense. Additionally, since the Act requires applicants to demonstrate that they will meet the requirements of section 301(h) in addition to water quality standards under section 301(b)(1)(C), Congress apparently meant that mere demonstration of compliance with State water quality standards would not

necessarily be sufficient to show compliance with sections 301(h)(2) and 102(a)(2). Accordingly, in the final regulations EPA has retained the requirement that all dischargers provide an in-depth analysis of the impact of their discharge on recreational activities.

E. Additional application requirements for improved discharges. As discussed in some detail in section II.A.2., above, these final regulations have been revised to allow POTWs to apply for a modified permit based on the projected impact of their discharge after completion of well-planned improvements in their outfall/diffuser system, in wastewater treatment, or both.

The regulations assume that proposed improvements are designed to alleviate adverse physical, recreational or biological impacts at the applicant's current site which would preclude granting a modified permit for its current discharge. They require applicants to (1) document those adverse impacts by completing a physical, biological, public water supply and recreational impact assessment for their current discharge; (2) provide final plans for all improvements and computations for any changes in discharge volume, flow rates, initial dilution or other factors which will result from such improvements and are likely to affect the impact of their discharge; and (3) demonstrate in detail how the completion of improvements will eliminate all identified impacts caused by their current discharge and assure compliance with the physical, biological, public water supply and recreational impact criteria contained in this section.

This analysis, however, should be tailored to site-specific conditions. Thus, for example, where natural conditions preclude certain recreational activities (e.g., extremely cold water temperature limiting swimming and diving), the applicant need supply only a brief explanation under this section. On the other hand, where a discharge is located in an area currently used for, or conducive to, recreational activities, a much more extensive demonstration will be required.

One commenter proposed that the demonstration required under this section be based on a comparison of the impact of the applicant's less-than-secondary discharge with a secondary effluent. EPA disagrees. Consistent with the Act, its legislative history, and other sections of these regulations, the regulations promulgated today, like the proposed regulations, require the assessment under section 301(h)(2) to be

made on the basis of the actual or projected impact of the applicant's discharge, not in comparison to the impact of a secondary discharge.

Where the improvements proposed by an applicant include outfall relocation, it should also prepare a physical, biological, public water supply and recreational assessment on its relocation site as well as its current site.

F. Stressed waters. In § 233.11(a)(iv) of its April 25, 1978 proposal, EPA proposed to prohibit modified discharges into marine waters which were already stressed. The theory was that where waters are already stressed by pollution, the need is for additional control, not less, for therefore, there should be no relaxation of secondary treatment requirements in such waters.

EPA received numerous comments on this section. Although several commenters supported EPA's approach, many criticized it as vague and illegal. Still other commenters charged that it was unfair because it could penalize applicants for pollution from sources over which they had no control.

In response to comment, EPA has fully re-evaluated its proposed regulation and its approach to the problem of stressed waters. The Agency has concluded that since the primary measurable indicator of whether waters are environmentally stressed is their inability to support a balanced, indigenous population, the existence or non-existence of stressed water conditions would be reflected in the biological assessment required by this section.

This approach does not, however, respond to the most difficult issue raised during the comment period—whether a modification should be issued for a discharge into waters which do not support a balanced, indigenous population, consistent with the objectives of section 301(h)(2) and 101(a)(2), as a result of sources of human perturbation other than the applicant's discharge (e.g., other municipal and industrial outfalls and non-point sources of pollution). EPA agrees that since section 301(h) focuses on the effect of the applicant's discharge, as opposed to other human perturbations, a modified permit should not be denied simply because an applicant discharges into polluted waters. However, where the applicant's discharge contributes to, increases, or perpetuates the pollution and associated adverse impacts on recreational activities or marine life, or where it would contribute to such impacts if the levels of pollution from other sources were increased, it "jeopardize(s) the goal of attaining water quality which will provide for the

protection (and) propagation of fish, shellfish and wildlife and allow recreation in and on the water". (1977 Leg. Hist. at 1052). Similarly, where the applicant's discharge would retard the recovery of marine life and water quality if the levels of pollution were reduced, it interferes with the "(r)estoration of aquatic ecosystems which existed prior to the introduction of pollution from man's activities...an essential aspect of assuring that future generations will have an adequate supply of basic life support resources." (1977 Leg. Hist. at 448). In such circumstances, the Act prohibits the issuance of a modified permit. These restrictions have been incorporated in paragraph (f) of § 125.61 of these regulations.

As a practical matter, it will be extremely difficult for most applicants discharging into stressed waters to demonstrate that their discharge will meet the requirements of section 125.61. As a factual matter, the discharge of additional pollutants into an already polluted marine environment virtually always increases or contributes to adverse impact; it is extremely difficult, as a practical matter, to demonstrate that it does not. Where, for example, an applicant claims that the failure to attain or maintain a balanced, indigenous population is due to pollution from other sources, it must (1) document the differences between the marine communities that currently exist in the vicinity of its outfall and the balanced, indigenous population that would exist in the absence of all sources of pollution; (2) demonstrate that its discharge is not contributing to the present biological degradation associated with stressed waters by comparing the marine populations at the outfall site with those at a similarly stressed control site (absent its discharge); and (3) demonstrate that its discharge will not contribute to further degradation of the biota if the level of pollution from other sources increases, and will not retard the recovery of the biota if the level of pollution from other sources decreases. This latter showing, which requires a predictive analysis of biological responses to future pollution, is so difficult that EPA is unable to provide specific guidance or suggested analytical procedures for making this demonstration.

In summary, while these final regulations do not prohibit the issuance of permits into stressed waters, and the criteria in § 233.11 of the proposed regulations have been deleted, the final regulations do require the applicant to make additional showings and may

require additional monitoring tasks regarding biological conditions if a permit is requested for discharge into stressed waters.

Section 125.62 Establishment of a monitoring system. (formerly § 233.16). EPA has adjusted its final regulations on monitoring to take into account improved discharges, new toxic control program requirements, and the approach for evaluating compliance with the balanced, indigenous population requirements. Plans for a monitoring program, along with a demonstration that it has the economic and technical resources and the personnel to implement the proposed programs immediately upon issuance of a section 301(h) permit, must accompany the application. Each monitoring program will depend on the specific site and discharge in question, and may be required to include: 1) field studies of the structure and function of the macrofaunal benthos and other biological communities that may be affected by the discharge; 2) if toxic pollutants or pesticides are identified in the applicant's discharge, *in situ* bioassays with caged organisms to establish effects on the survival and well-being of test specimens, and bioaccumulation of toxic substances; 3) studies of discharge effects on nearby fishery resources; 4) studies on biological effects of sediments heavily contaminated with toxic substances including pesticides; 5) water quality monitoring programs to establish compliance with applicable State water quality standards at the boundary of the zone of initial dilution and elsewhere; 6) chemical analyses of an applicant's discharge in order to measure effectiveness of its program in reducing toxic pollutants, including pesticides, in its discharge and to guide biological monitoring efforts.

Monitoring programs will vary in complexity depending on characteristics of the discharge and sensitivity of the receiving waters. For example, an applicant discharging into an estuary will be required to develop a more complex monitoring program, with more frequent sampling, than an applicant with a comparable discharge into the ocean. Though the regulations identify features common to all of the monitoring programs, the specific test procedures, organisms and sampling intervals must be chosen by applicants as appropriate for a particular waste stream and discharge site. EPA will review the monitoring program proposed in the application and determine whether it is adequate to assess discharge effects on the indigenous population. If the

proposed program is not adequate, EPA will recommend necessary changes or additional procedures which an applicant shall adopt into its monitoring program.

To evaluate the actual impact of a discharge on an indigenous population, applicants must design field studies of the outfall area. These field studies must: (1) produce data which indicate whether or not the biological communities in the area of the outfall are remaining healthy and balanced, and (2) monitor specifically any community reported to be perturbed at the time of application.

To monitor the health and balance of indigenous populations, field studies must address the same parameters as the biological conditions summary. In this regard, the structure and function of the macrofaunal benthos must be monitored by all applicants. As appropriate, the following communities should also be monitored: demersal and pelagic fishes, macrofaunal benthos, phytoplankton, zooplankton, macroalgae and intertidal assemblages. Characteristics of communities that should be monitored include species composition, abundance, dominance, diversity and spatial stratification, particularly along depth contours. Changes in size frequencies, reproductive condition or incidence of disease in populations also should be reported. Sampling must be sufficiently frequent to detect changes in community composition, structure or function, especially where perturbed situations are known to exist. In the latter case, increased sampling may be in order.

Proposals for monitoring programs should include a rationale for the choice of sampling and analytical methods; the selection of test species used for *in situ* bioassays and bioaccumulation studies; the selection of biological communities to be monitored in the field; the location and frequency of field surveys, bioaccumulation studies, and bioassays; and the methods to be used in monitoring fishery resources near the outfall. The section 301(h) Technical Support Document contains additional guidance for the design of the biomonitoring program.

If data generated by field studies indicate that disruption of the balanced, indigenous population has resulted from discharge of less than secondary treated effluent, the Agency will determine whether an immediate remedy is possible through increased pretreatment, source control or other means. If not, or if there is doubt that increased control short of secondary treatment would alleviate the situation,

the Agency must conclude that significant disruption of the population has occurred, and the modification will be revoked. Where the disruption can be relieved through additional controls, the permit holder will be required to design and implement these controls and to notify EPA of a time interval within which the disruption will cease. The permit holder also should increase monitoring activities. If at the end of the time interval the disruption still exists, the section 301(h) modification will be revoked.

The majority of comments received by EPA concerned the implementation date for biological monitoring and the details required for effective biological monitoring of various discharges. Commenters recommended a range of dates for implementation of monitoring programs. One commenter stated that "data from an EPA approved monitoring system must be available from at least five years" prior to the application. Another commenter suggested that monitoring programs be in effect by September 24, 1978. Another stated that a "firm commitment" to establish a monitoring system should be sufficient at time of application.

The commenter recommending five years of monitoring data as a prerequisite to any Agency decision on an application described several functions served by historical data. In the case of currently operating outfalls, such monitoring data would reveal actual impacts of the discharge on the marine environment. For new (and presumably improved) outfalls, past monitoring data would provide information about the water's flow characteristics, temperature and pH ranges and native marine life. EPA agrees that this type of information would be helpful in section 301(h) modification decisions but recognizes that such an extensive data base will not be available in many cases. Some of this information will be contained in the application in the Marine Biological Questionnaire, Biological Conditions Summary, and chemical assessment. This past data should be in a form suitable for scientific comparisons to data from planned studies.

Applicants need not install monitoring programs at the time of application since, for the purposes of section 301(h) monitoring, data are relevant only to those applicants actually receiving a section 301(h) modification. However, monitoring of the effects of modified secondary treatment requirements on the marine ecosystem must begin as soon as practicable after issuance of a section 301(h) modified permit. The mere

commitment to develop a monitoring program is insufficient to fulfill the statutory requirement for the demonstration that a monitoring program is established at the time of application.

EPA expects that the level of detail of the biological monitoring programs will reflect the specific nature of the applicant's discharge and the characteristics of the receiving marine ecosystem. Monitoring will be "continuous" in the sense that sampling will be conducted at regular intervals over the life of the project as dictated by the specific characteristics of the discharge and outfall site.

Several commenters suggested that a standardized monitoring program be conducted by all applicants at predefined intervals. EPA believes that so much variation exists among cases that adequate standardized monitoring requirements cannot be devised. Program design will be unique to each case.

Section 125.83. Effect of discharge on other point and nonpoint sources. (formerly § 233.17). EPA received two comments on this section. One stated that the regulation was vague. The other noted that the requirement that letters be obtained from agencies which have authority to *advise in the establishment*, as opposed to *establishing*, wasteload allocations would add additional delay and cost to the application process and would give advisory agencies a veto over State agencies which have authority to establish wasteload allocations. The latter commenter recommended that the OMB A-95 clearinghouse process be utilized to accommodate the input of advisory agencies.

While EPA believes that the regulations are sufficiently precise as written, the following narrative provides additional explanation. Section 301(h)(4) reflects Congress' concern that a relaxation of pollution control requirements for one or more dischargers in the same water body, particularly a partially enclosed water body such as an estuary, could force the remaining dischargers to utilize additional treatment, best management practices, or source controls to insure maintenance of water quality standards, uses, or compliance with other restrictions. Section 301(h)(4) is meant to assure that no modification will be granted which would have the effect of imposing additional pollution control requirements on other point and nonpoint sources discharging into the same water body.

Neither the statute nor this section should be construed as prohibiting EPA from imposing pretreatment or source control requirements on industrial or nonindustrial contributors to a POTW seeking a section 301(h) modification. Such a construction clearly would be inconsistent with sections 301(h)(2), 301(h)(5) and 301(h)(6) of the Act. Nor should section 301(h)(4) be interpreted as preventing EPA or a State from establishing additional or more stringent requirements for municipal or industrial dischargers independent of the section 301(h) process.

EPA's basic objective in requiring agencies which have an advisory role in the establishment of wasteload allocations to affirm that the issuance of a modified permit will meet the requirements of section 301(h)(4) is to assure that the diverse interests represented by such agencies are fully aired before the Agency. Since EPA must make the ultimate determination under section 301(h)(4), an adverse opinion of an advisory agency would not operate as an automatic veto of a favorable determination by a State agency with authority to establish wasteload allocations. It could, however, serve to point out deficiencies in the State agency's determination which might merit further investigation by EPA prior to making its final decision on issuance of a section 301(h) permit. EPA envisions that the agencies involved would include those which participate in a State's water quality management planning process, e.g., a designated State or areawide planning agency under section 208 of the Act.

EPA considers the OMB A-95 clearance process, which does not always adequately surface opposition to a lead agency's determination, to be somewhat unsatisfactory, and therefore elects to retain the provision with minor changes for clarification.

125.84 Toxic Control Program (formerly §§ 233.14(b), 233.18 and 233.19). This new section incorporates the requirements for a chemical analysis, an enforceable industrial pretreatment program, and a program of activities for non-industrial source controls previously contained in three separate sections.

Under proposed § 233.14(b), applicants were required to perform a chemical assessment of the POTW effluent. Applicants had to show that the more stringent of the following requirements would be met, either: (1) their existing discharge would not exceed EPA water quality criteria both in the effluent or following initial dilution, depending upon whether the

constituent criterion was for a synthetic organic chemical or a naturally occurring heavy metal; or (2) the toxic pollutant concentrations in their existing discharge are not greater than that achieved by secondary treatment (referred to as secondary equivalency).

After reviewing the public comments on the proposed regulation and re-evaluating the technical documentation, EPA determined that changes in the chemical assessment requirements were necessary. The above-mentioned requirement that the applicants meet EPA water quality criteria or secondary equivalency has been eliminated in the final regulation. Emphasis now is placed on implementation of toxics control programs by the applicant aimed at reducing toxic pollutant and pesticide concentrations in the POTW effluent after a section 301(h) modified permit is issued. However, the applicants still must submit the results of a chemical analysis with their application.

The toxic control program requirements are designed to reduce or eliminate the discharge of toxic pollutants into the applicant's wastewater collection system, develop and monitor toxic controls, and also monitor the discharge of toxic pollutants into the marine environment. The required control and monitoring programs in §§ 125.84 and 82, respectively, will be based on chemical analyses which identify toxic pollutants in the applicant's wastewater.

The toxic control program consists of the following general requirements:

1. Chemical analyses of the existing discharge effluent for the toxic pollutants and pesticides.
2. Analysis and identification of the sources of toxic pollutants in the wastewater, both industrial and non-industrial.
3. Development of source control programs to reduce or eliminate the discharge of toxic pollutants and pesticides from the wastewater.
4. Development of a monitoring program to determine the effectiveness of the source control program.
5. Development of a monitoring program to determine the impact of the identified toxic pollutants on the receiving water and marine environment.

The applicants shall submit in their final application a chemical analysis of the existing wastewater discharge (See Part E, section 1 of the Application Format). Analysis of 24-hour composite wastewater samples for wet and dry weather flows must be provided. Some municipalities have performed chemical analyses for toxic pollutants,

particularly heavy metals and pesticides, on existing effluents for some time. As a result, a data base may be available that characterizes some POTW effluents (in terms of types and concentrations of toxic pollutants) better than could be done with two 24-hour composite samples. Thus, applicants may supplement such data for those pollutants requested for the 24-composite sample, but must demonstrate that the alternate samples from which the concentrations are derived are representative of both wet and dry flow conditions.

All toxic pollutants and pesticides which are detected by the chemical analysis, even though the measurable concentrations are below the recognized limits of detection, must be incorporated in the toxic control program. These are referred to as "identified toxic pollutants." All applicants shall identify known and possible sources of the identified toxic pollutants, including industrial and non-industrial sources. At the same time, applicants shall submit programs (including implementation schedules) for the control of toxics from those sources.

The final element of the toxic control program is the applicant's monitoring program. The monitoring program should be able to determine: (1) if additional toxic pollutant coverage is needed; (2) the effectiveness of the source control programs; and (3) the impact of the discharge of toxic pollutants on the receiving waters. The chemical analysis requirements have been incorporated into the monitoring program (§ 125.62).

The toxic control program replaces compliance with EPA water quality criteria as a basis for evaluating applications. It does not prevent EPA from denying a section 301(h) permit if monitoring data shows that, because of the discharge of toxic pollutants, unacceptable bioaccumulation of toxics has occurred in the marine benthos and other organisms outside the zone of initial dilution (see Biological Assessment, § 125.61(c)). Also, it should be noted that revisions to the chemical assessment requirements will not allow an applicant to exceed either water quality standards for toxic pollutants or other substances, or federally promulgated water quality standards.

The Agency's review of applications will consider the quality of the toxics control program submitted by the applicant and its ability to implement it. The decision on whether or not to continue the section 301(h) modified permit will be based on the applicant's performance in operating the source

control and monitoring programs, plus the reported results of the monitoring program. A more detailed discussion of comments made and EPA responses to previous individual sections now comprising the toxic control program requirements follows.

(A) *Chemical analysis* (formerly § 233.14(b)). In addition to a biological and physical assessment, the proposed regulations required applicants to perform a chemical assessment for toxic pollutants to show compliance with § 233.14. This assessment was required for a list of 65 toxic substances published by EPA under section 307(a) of the Act (43 FR 4108, January 21, 1978), plus six pesticides in EPA's *Quality Criteria for Water* that are not included in the list of 65 toxic substances. When generic classes of toxics are specified by compound, the list of 65 expands to 129 toxic substances.

For compliance purposes, the list was divided into two categories: (1) naturally occurring substances, such as metals; and (2) persistent organic compounds, such as PCBs. Regarding the first category, the proposed regulations required that no discharge could exceed the EPA-recommended criteria following initial dilution. For persistent organic compounds, EPA-recommended criteria were to be met in the sewage effluent with no allowance for dilution. In both cases, applicants were required to show that the effluent concentrations were equivalent to that achieved by secondary treatment. Under the proposed requirements, applicants would have had to meet the more stringent of the above limitations.

No chemical analysis was required for substances that the applicant could certify would not be in the POTW effluent. This provision was intended to provide relief to dischargers with little or no industrial inputs.

The secondary equivalency requirement was included in the proposed regulations based on Congressional statements that there should be no increase in the discharge of toxic pollutants as a result of the 301(h) modification. By including the secondary equivalency requirement, the Agency required applicants to show that the amount of toxic pollutants discharged would be no greater than that which would occur if secondary treatment was employed. The Agency recognized that this determination would be difficult since little information currently is available on the fate of many toxic pollutants when subjected to various secondary treatment technologies. Because of this, the proposed regulations stated that if

the toxic pollutants removal efficiency of secondary treatment could not be determined, only compliance with EPA-recommended criteria would be required. Acknowledging the uncertainty of the proposed secondary equivalency requirements, EPA specifically solicited comments on this issue in the proposed regulations.

During the public comment period, EPA received many comments on the chemical assessment portion of the proposed regulation. Some commenters responded to specific issues raised in the proposed regulations, including: (1) secondary treatment equivalency for toxic pollutants; (2) predictive chemical analysis for proposed facilities; and (3) use of proposed pretreatment and nonindustrial source control programs in predicting the reduction in the toxic pollutants.

Additional comments on this section addressed the following issues: (1) use of an initial dilution concept to distinguish between heavy metals and synthetic organics; (2) the relationship of suspended solids discharge levels to toxic pollutants concentrations; (3) the development of water quality criteria by EPA; (4) the chemical assessment of bottom sediments; (5) analytical methods to measure toxic pollutant concentrations; (6) whether technology-based limitations are replaced by ambient water quality standards in the chemical assessment section; (7) whether dischargers have to meet State water quality standards for toxic pollutants or EPA-recommended water quality criteria; (8) the significance of pollutants not on the section 307(a) list of 65 toxic substances; and (9) whether toxic control programs should be applied to all dischargers, not just those applying for a section 301(h) modified permit.

The specific and general issues raised by commenters will be addressed in three broad categories: (1) secondary equivalency; (2) water quality criteria; and (3) general toxic pollutant issues.

(1) *Secondary equivalency*. As noted above, § 233.14(b) of the proposed regulation required applicants to show that: (1) their existing discharge would not exceed EPA water quality criteria either in the effluent following initial dilution or depending upon the nature of the toxic; or (2) toxic pollutant concentrations in their existing discharge would be equivalent to that attained by secondary treatment, whichever is more stringent.

Some commenters supported EPA's proposed secondary equivalency approach regarding toxic pollutant removal. In fact, they believed that more

stringent toxic pollutants limitations should be imposed in section 301(h) modified permits. However, the majority of comments were opposed to this part of the proposed regulation. They maintained that the legislative history of section 301(h) would not support EPA's position that toxic pollutant concentrations in less-than-secondary treatment facilities could never exceed that achieved by the application of secondary treatment. They believed that in no case would an applicant be able to meet the proposed requirements with anything less than secondary treatment technology.

Two principal arguments were presented against the secondary equivalency requirement as published in the proposed regulation. First, dischargers maintained they would still have to comply with State water quality standards, regardless of the treatment processes employed or whether the applicant received a section 301(h) modified permit. Thus, the secondary equivalency requirement would be unnecessary from the standpoint of environmental impact. Second, preliminary monitoring data submitted by some commenters indicated that toxic pollutant concentrations in chemical primary treatment process effluent were only 10-15 percent greater than in secondary treated effluent. Commenters believed this increase would not result in environmental degradation.

EPA proposed this requirement because it inferred from the legislative history that there should be no increase in the discharge of toxic pollutants as a result of section 301(h) modified permits. However, EPA agrees that requiring secondary equivalency would not have allowed any modification of secondary treatment requirements for many section 301(h) applicants. This clearly was not the outcome envisioned by Congress when they added section 301(h) to the Act. Therefore, EPA has decided not to apply the secondary equivalency requirement in the final regulations. However, under other parts of the final regulations, applicants still will be required to measure toxic pollutant concentrations in the treated sewage effluent and develop a program to prevent any adverse effects of toxic pollutants.

The proposed regulation required chemical analyses for toxic pollutants and pesticides in both settled and unsettled samples of the treated effluent. EPA anticipated that the results of both analyses could be used to estimate secondary equivalency. Some commenters said that, based on the

settled sample analysis, secondary equivalency would be difficult to determine and impossible to verify. One commenter presented an alternate method for making the secondary equivalency determination, based on suspended solids analysis. After reviewing the comments, EPA concludes that good estimates of toxic pollutants removal through use of secondary treatment cannot be made at this time. Thus the secondary equivalency requirement is being removed from the final regulation.

In addition to the secondary equivalency requirement, EPA anticipated that settled and unsettled sample analyses could be used to determine solids accumulation on the seabed. However, EPA scientists have advised that, based on the existing technical data, a defensible correlation between settleable solids in POTW effluent and seabed deposition of settleable solids is not possible. As a result, EPA is eliminating the settled sample analysis from the chemical analysis requirements.

(2) *Water Quality Criteria.* (i) *Initial dilution.* The Agency received comments on part of the proposed regulation which required compliance with EPA-recommended criteria for the toxic pollutants and pesticides. The proposed regulations effectively would have made water quality criteria for the so-called synthetic organic pollutants into end-of-pipe effluent limitations. For heavy metals and potentially naturally occurring constituents, "initial dilution" was allowed.

Some commenters opposed the prohibition of "initial dilution" for synthetic organics, claiming that would place an additional and unnecessary safety factor on the water quality criteria. They argued that application factors had already been used to establish the water quality criteria in the first place. Establishing the additional no-dilution policy was tantamount to admitting that, in fact, EPA-recommended criteria for synthetic organics were not stringent enough to protect ambient marine waters.

Other commenters supported the Agency's "no initial dilution" policy. They believed the same policy should be applied to all toxic pollutants including heavy metals, because such substances are persistent, exhibit bioaccumulative properties and are not affected by biogeochemical processes. The application of this policy to a broad class of pollutants such as "synthetic organics" was also questioned. Some commenters questioned whether all the toxic pollutants and pesticides would

have an effect on the marine environment.

EPA proposed the "no initial dilution" policy for synthetic organics because the long term impact of these pollutants on the marine environment is known to be independent of dilution associated with solids, oils, or surface slicks, and because they are readily accumulated in lipid fractions or marine organisms. Heavy metals were not grouped together with synthetic organics since heavy metals are found naturally in the marine environment, and many of the known effects are dilution dependent (except possibly for lead, cadmium, and mercury). California has made this distinction in its Ocean Plan since 1972. Further, EPA's proposed use of the numerical criteria for the toxic pollutants and pesticides exceeded the intended regulatory impact of those criteria under section 304(a) of the Act (see a discussion of EPA recommended criteria at 44 FR 15926, March 15, 1979). Because of this, no distinction is made between groups of toxic substances and pesticides which are naturally occurring and those classified as synthetic organic chemicals. Further, applicants will not have to demonstrate that their effluent does not exceed EPA water quality criteria (with or without dilution) for reasons described below.

(ii) *Analytical methods.* The Agency received comments on the analytical methods available to measure toxic pollutants in wastewaters. Commenters referred to the high cost of these procedures and the questionable accuracy of the proposed methods in measuring low toxic pollutant concentrations.

On June 16, 1978, EPA published a notice of availability of procedures to comply with the chemical assessment requirements of the proposed section 301(h) regulations (43 FR 26126). These procedures were contained in an EPA publication entitled *Sampling and Analysis Procedures for Screening of Industrial Effluents for Priority Pollutants* (the screening protocol). Analytical procedures for heavy metals and traditional pollutants are those published in 40 CFR Part 136 (Guidelines Establishing Test Procedures for the Analysis of Pollutants); procedures for measuring synthetic organic chemicals are described in the screening protocol, but have not been promulgated by EPA in 40 CFR Part 136.

These procedures are designed for measuring pollutants concentrations in industrial effluents, not municipal effluents. Recognizing the potential difficulty of using the screening protocol to measure municipal effluents, EPA

asked applicants to provide quality assurance/quality control data along with reported results. While such data improves the statistical confidence of the reported results, it does not reduce the analytical limits of detectability for the toxic pollutants and pesticides below 10 mg/l. Since many existing water quality criteria recommended by EPA are more stringent than 10 mg/l, it would be impossible to ensure compliance with those criteria using the screening protocol.

Since quality assurance/quality control does not improve the analytical limits of detectability and because some EPA criteria are below the analytical limits of detectability, EPA will not require applicants to prove their effluents will not exceed water quality criteria for toxic pollutants and pesticides.

(iii) *Availability of Criteria.* Some commenters asked whether or not EPA would publish water quality criteria for the 65 toxic pollutants by the time section 301(h) regulations were promulgated. EPA originally had planned to publish these criteria by July 1978, but the schedule has been extended. EPA recently published a notice of availability of 27 draft criteria documents (44 FR 15926, March 15, 1979). We do not expect to publish final criteria documents for all 65 toxic substances until the end of this year, at the earliest.

EPA believes that the comments on the availability of published water quality criteria are no longer relevant, since applicants will not be required to compare the results of their toxics control monitoring program with EPA-recommended criteria. For the purposes of section 301(h), when such criteria are available, they will be used by EPA to evaluate the effectiveness of pretreatment control programs set up by the applicants. As noted earlier, EPA-recommended criteria will not be used by themselves to determine whether or not an applicant qualifies for a section 301(h) modified permit.

(3) *General Toxic Pollutant Issues.* (i) Comments were received on alternate methods to be used by applicants to certify that toxic pollutants are not in the POTW effluent. Presumably, small POTWs receiving little or no industrial effluent would be able to affirmatively demonstrate that they had no toxic pollutants in their effluent by characterizing the toxic pollutants (if any) in the industrial wastewater. This would enable the small POTW to avoid the costly chemical analyses required for most POTWs wastewaters. However, current monitoring data

shows that we cannot make such assumptions about small POTWs. Only by conducting chemical analyses required in this regulation will it be possible to conclude that toxic pollutants are not present in POTW effluents. Therefore, all applicants for section 301(h) modified permits will have to perform chemical analyses on their wastewaters.

(ii) Comments were received on the relationship of toxic pollutants to disposition of settleable solids in the bottom sediments. Much field data on the effects of ocean outfalls on marine life relate to the accumulation of settleable solids near the ocean outfall. Commenters pointed out that compliance with ambient water quality criteria in the water column does not necessarily bear any relationship to the impact of wastewaters on the benthic sediments and associated marine life. Toxic pollutants which are relatively insoluble are retained in the suspended solids fraction of the wastewater. When all or part of this fraction settles to the bottom sediment, benthic communities and fish that feed on the benthos may bioaccumulate those toxics.

EPA believes that there is sufficient technical data available to justify its concern over benthic loading near sewage outfalls. EPA disagrees with commenters who maintain that there is little accumulation of toxics in the benthic sediments due to rapid dispersion of wastewaters by strong currents and tidal action. EPA agrees that benthic loading of toxic pollutants cannot be predicted based upon ambient water concentrations. Therefore, it has included a requirement for benthic sediment evaluations for toxic pollutants as part of the physical assessment and subsequent monitoring requirements.

(iii) Finally, comments were received on the presumptive applicability of section 304(a) water quality criteria to all territorial seas of the U.S. One commenter said there was no basis for assigning a threshold concentration for certain pollutants, and that no effective techniques exist for predicting the effects of pollutants on marine communities.

EPA's current policy on use of section 304(a) criteria in State water quality standards is discussed in two recent Federal Register notices (43 FR 29588; July 10, 1978 and 44 FR 15920; March 15, 1979). Although site-specific conditions may warrant use of criteria other than those recommended under section 304(a), EPA now believes those criteria are sufficiently stringent to protect marine communities in most

biogeographic areas. EPA policy requires that State regulatory agencies must technically justify alternative criteria less stringent than EPA-recommended criteria.

(b) *Enforceable pretreatment program (formerly section 233.18).* Since proposal of these regulations, EPA has promulgated General Pretreatment Regulations (43 FR 27738, June 26, 1978). This section has been changed as a result of those new requirements. Two major issues were raised during the comment period concerning EPA's proposed regulations implementing section 301(h)(5) of the Act (requiring a section 301(h) applicant to demonstrate that all applicable pretreatment requirements for sources discharging into its facility will be enforced):

(1) Should POTWs be allowed to grant revisions to their industrial users' National Pretreatment Standards to reflect treatment by the POTWs under § 403.7 of the General Pretreatment Regulations?

Since Congress provided in section 307(b) of the Act that POTWs can grant revisions to National Categorical Pretreatment Standards to reflect POTW removal, EPA cannot eliminate that option. However, POTWs should carefully consider whether to grant such revisions since they may significantly contribute to adverse impacts in the marine environment which would disqualify the POTWs application for a section 301(h) permit based on either the POTWs current discharge or an improved discharge.

(2) The time when section 301(h) applicants should be required to put a pretreatment program into effect—i.e., prior to receipt of a section 301(h) permit, at the time a section 301(h) permit is issued, or within a reasonable time after issuance of a section 301(h) permit. One large POTW suggested that the time period for implementing the pretreatment program should be extended from eighteen to twenty-four months (or such additional period of time as EPA might allow) for all POTWs, because the proposed eighteen-month deadline was arbitrary, unattainable, and would force applicants to implement a less than comprehensive pretreatment program. No other large POTW with industrial contributors, objected to the proposed eighteen month deadline. The Agency does not view the eighteen month deadline as unreasonable, since it generally coincides with the scheduled promulgation of toxic pretreatment standards under the consent decree entered in *Natural Resources Defense Council, Inc. v. Train*, 8 ERC 2120

(D.D.C. 1976), as modified by *National Resources Defense Council v. Costle*, 12 ERC 1833 (D.D.C. March 9, 1979). It is imperative that national pretreatment standards for the control of sources discharging into these facilities be implemented as soon as possible after their promulgation because section 301(h) POTWs will not be utilizing secondary treatment to remove toxic pollutants.

Several commenters suggested that EPA postpone its decision on section 301(h) applications until the applicant's pretreatment program is actually implemented or until all national pretreatment standards have been promulgated. Because this course of action could unnecessarily delay decisions on section 301(h) applications, with resultant delays in treatment construction, EPA has determined not to adopt it.

Where an applicant (1) would discharge increased toxic pollutants as a result of less-than-secondary treatment and (2) receives waste from one of the twenty-one industries identified as subject to pretreatment requirements in 40 CFR Part 403, the final regulations require that a pretreatment program designed to control the introduction of toxic pollutants into the municipal system be established by the time of application. Such program is to address existing problems that the POTW has experienced with the introduction of toxic pollutants, including any problems that cause or substantially contribute to violation of any effluent limitations contained in a NPDES permit, interfere with sludge treatment or disposal, or violate any existing water quality standards. The program must contain provisions to sufficiently limit introduction of such pollutants into the municipal system and adequate legal authorities to enforce such limitations. In addition, the program must provide adequate funding levels and qualified personnel to effectively implement the pretreatment program. The regulations do allow additional time (up to the expected date of issuance of a modified permit) to complete this submission where the applicant can show it has made substantial effort towards obtaining the necessary legal authorities, funding, and personnel, but cannot complete these activities prior to submittal of its application due to time constraints imposed by State or local law. Finally, the regulations require that, within eighteen months of issuance of a modified permit, the POTW must have developed and must implement a pretreatment program in full compliance with the General Pretreatment

Regulations. Such a program must contain a complete inventory of all industrial sources under the twenty-one categories of industry identified in 40 CFR Part 403, together with an inventory of other industrial sources which contribute non-domestic pollutants which pass through untreated or which interfere with the POTW, including interference with water reuse and recycling, beneficial uses of sludge, and sludge treatment and disposal. The inventory must include qualitative descriptions of the industrial contributor's discharges, together with a quantitative description of those discharges for all pollutants subject to control under an established national categorical pretreatment standard, or State or local pretreatment requirement. The POTW must obtain within eighteen months full legal authorities to enforce all existing, as well as prospective Federal, State or local pretreatment standards or requirements, together with adequate sources of funding and qualified personnel to effectively implement additional national categorical pretreatment standards or State and local requirements as they become effective.

(c) *Nonindustrial source control program* (formerly § 233.19). EPA received only a few comments on its proposed regulations implementing section 301(h)(6) of the Act, which requires section 301(h) applicants to demonstrate that non-industrial sources of toxic pollutants will be controlled to the extent practicable. Some commenters noted that it would not be "practicable" to remove some of the sources of toxic pollutants identified in the regulation due to institutional, economic, or legal constraints. Others suggested that the proposed regulations were not specific enough and did not require an applicant to demonstrate that it would exercise its best efforts to eliminate the introduction of toxic pollutants from non-industrial sources into its treatment facility.

EPA acknowledges that the statute does not require elimination of all non-industrial sources of toxic pollutants. It does, however, require that the applicant take all practicable measures designed "to eliminate" the input of toxic pollutants from non-industrial sources. This implies the need for a maximum source control effort, and the regulations have been revised to reflect this intent.

With respect to each non-industrial source of toxic pollutants identified by the applicant under § 125.64(d), the applicant has the responsibility for showing the economic, institutional or

legal limitations of its program to reduce or eliminate that source of toxic pollutants together with an analysis of future activities designed to strengthen its source control program. In determining economic feasibility, the applicant must consider as an offset to the costs of source control any savings in capital or operating and maintenance expenses which may accrue as a result of being issued a section 301(h) modified permit.

EPA anticipates that the toxic pollutant control requirements set forth in these regulations will require many dischargers to develop innovative ways of reducing non-industrial sources of pollutants. It should be noted, however, that even where an applicant has controlled sources of toxic pollutants to the point necessary to comply with §§ 125.60-61, it would still be required to continue to exercise its best efforts to eliminate non-industrial sources of toxic pollutants under section 301(h)(6).

To provide further guidance to section 301(h) applicants in developing non-industrial source control programs, in these final regulations, at § 125.64(c)(4), EPA has expanded its proposed list of specific programs which should be undertaken to comply with section 301(h)(6).

Section 125.65. Increase in effluent volume or amount of pollutants discharged. (formerly § 233.20). Section 301(h)(7) of the Act provides that an applicant for a section 301(h) permit must demonstrate that there will be no new or substantially increased discharges of the pollutant to which the modification applies (*i.e.*, BOD, suspended solids, and pH) above the volume of discharge specified in the modified permit. Because both the volume of effluent discharged and pollutant loadings may adversely impact marine biota, the Agency chose in its proposed regulations to limit both the volume of wastewater discharged and the mass loadings of BOD and suspended solids. Consistent with the Agency's proposed definition of "existing discharge" in § 233.11, this section, as proposed, limited effluent volume to the applicant's existing design capacity and limited increases in volume to the applicant's existing service area. Mass emissions were similarly limited to the applicant's BOD and suspended solids loadings at the time of application. As a result, any increases in flow during the life of a section 301(h) permit would have to be accompanied by a reduction in BOD and suspended solids effluent concentrations so that total mass loadings would remain constant. To assure that

pollutant loadings from combined sewer overflows ("CSO") were adequately controlled, applicants with CSO problems were asked to submit an analysis of the overflow problem(s) and an explanation of the measures being taken to correct them.

Volume limitations. EPA received numerous comments on this section, particularly on its proposed restrictions on increases in flow. Some commenters suggested that limiting increases in discharge volume to the applicant's design capacity within the service area would amount to the establishment of a no-growth policy, and would greatly restrict a POTW's ability to function as a public service agency within the district. Other commenters urged that the term "substantial" in section 301(h)(7) assumed reasonable growth, and that section 301(h) permits should, therefore, allow increases in flow resulting from normal growth, regardless of whether the increased flow originated within the permittee's service area or would exceed design flow capacity at the time of application. Others suggested that EPA allow increases in flow resulting from the construction of facilities in Step 1, 2, or 3 grants which were proposed or approved at the time of application. Still others suggested that increases in flow during the life of the permit be regulated through the monitoring program required under section 301(h)(3). These commenters proposed that increases in flow resulting from normal growth patterns be allowed so long as the monitoring program indicated that they were not having an adverse impact on the marine environment.

EPA believes that under the proposed definition of "existing discharge" the flow restriction of the proposed regulation appropriately limited growth to the existing design capacity. However, in view of the changed final definition of "existing discharge"—which allows for "planned" as well as existing discharges—the proposed flow restrictions could result in a no-growth situation for a number of municipalities that are now at or near design capacity. Section 125.65 of the final regulations has been changed to allow for reasonable growth through the five-year period of a modified permit. Flows will continue to be limited to the applicant's existing design capacity, where such design capacity provides for normal growth during the life of the modified permit. If an applicant's current design capacity does not provide for normal growth, the applicant must develop a projection of the increased flows necessary to accommodate normal

growth over the period of the modified permit, utilizing the analyses performed in Step 1 facilities planning or comparable studies.

A number of commenters supported the proposed flow restrictions because they would prevent the possibility of further adverse impact on the marine environment, and also because they seemed to encourage recycle/reuse/reclamation of wastewater and water conservation generally. Several commenters from water-poor areas suggested that rather than restricting discharge volume to existing flows, EPA require, as a condition of any section 301(h) permit issued, that the permittee study the feasibility and cost-effectiveness of water reuse/recycle/reclamation projects and that, upon renewal of any section 301(h) permit, EPA require discharge volumes to be reduced by the amount of wastewater which could be recycled/reused/reclaimed. Commenters from water-rich areas of the country argued that municipalities receiving a section 301(h) permit should not be required to recycle/reuse and reclaim water unless a need exists and unless recycle/reuse and reclamation is cost-effective. Otherwise, they contended, compliance with the requirements of section 301(h) might prove to be more costly than secondary treatment.

EPA agrees with the concerns expressed in these comments and accordingly has changed the proposed § 233.21. The revised provisions of § 125.60 emphasize that POTWs under active Step 1 grants consider reclamation, reuse, and recycling in addition to other flow and waste reduction measures. This is already required in the facilities planning regulations (§ 35.917 of Subpart E of Title 40). Additionally, the Agency has determined that such alternatives for section 301(h) dischargers should be compared with the cost of secondary treatment, not less-than-secondary treatment, in the Step 1 cost-effective analysis. EPA believes this policy is consistent not only with the goals of section 301(h), but also with Congress' intent that section 301(h) be used only as an interim—not a long-term—solution to the wastewater disposal problems of coastal dischargers. Furthermore, because it is expected to have the greatest impact on those communities which have a high demand for reused water (where water sale revenues can offset recycle/reuse systems costs, and thus make recycle/reuse a cost-effective alternative), EPA believes this policy will encourage recycle/reuse/

reclamation of water where it is most necessary and economically realistic.

The final regulations have deleted the proposed requirement that flows be limited to existing service areas. This change is a consequence of allowing applications on the basis of planned discharges. However, any plan to regionalize treatment services that proposes to divert flow from a non-marine discharger to a less-than-secondary marine discharger must be cost-effective based upon the cost of full secondary treatment at the less-than-secondary site. Section 125.66, which concerns the use of Title II funds, has been revised to require the applicant for a modified permit to determine those costs.

Mass limitations. EPA received relatively few comments on its proposed restrictions on mass loadings. One commenter suggested that, in addition to imposing mass loading limitations on BOD and suspended solids, EPA also require applicants to meet mass emission limitations for toxic pollutants.

While section 301(h)(7) applies specifically to those pollutants for which a modification may be issued—i.e., BOD, suspended solids and pH—to the extent that increases in mass loadings of suspended solids may result in increased quantities of toxic pollutants being discharged to the marine environment, the limitations on increases in suspended solids established under this section will restrict the amount of toxic pollutants discharged. Additionally, direct limitations on permissible discharges of specific toxic pollutants will be established by EPA under §§ 125.60 through 125.62 of these regulations. This approach is supported by the legislative history and will carry out both the letter and the intent of section 301(h)(7).

Combined sewer overflows. In addition to limiting volume and mass loading increases in treated wastewater, EPA's proposed regulations implementing section 301(h)(7) attempted to establish a mechanism for reducing or eliminating the discharge of combined sewer overflows by recipients of modified permits under section 301(h). Several commenters indicated that these discharges represent a major source of pollution in coastal waters and are a significant problem for some POTWs.

One way of eliminating or reducing the pollution caused by combined sewer overflows is to route part or all of the overflow through the POTW for treatment. Under its proposed regulations implementing section 301(h)(7), this option would not have been available to most POTWs if they

received a section 301(h) modification. However, to assure that the modification afforded by section 301(h) would not have the effect of delaying community efforts to minimize or eliminate combined sewer overflows by other means EPA proposed in § 233.20(b)(2) that applicants with combined sewers submit a schedule of activities designed to minimize existing overflows and to prevent increases in the amount of pollutants discharged.

EPA received two major comments on this section. One commenter stated that the restrictions on discharge volume and mass loadings imposed under § 233.20(b)(1) would prevent many communities from eliminating nearshore combined sewer overflow discharges by routing them through a section 301(h) treatment facility. The other commenter stated that section 301(h) should be used to minimize existing combined sewer overflows and eliminate them completely where possible.

The Agency agrees that in some cases it may be more environmentally sound to discharge combined sewer overflows through a well designed outfall after a minimum of primary treatment than to allow raw wastewater to overflow collection sewers into nearshore coastal waters. However, EPA believes that such discharges should be allowed under section 301(h)(7) only where the POTW has fully examined all other means of control stormwater inflow. Applicants should ensure that the resulting increase in volume and mass loadings would allow continued compliance with the requirements of sections 301(h) (1), (2) and (4) of the Act and §§ 125.60, 125.61, 125.63 and 125.65 of these regulations, as revised. Providing this additional alternative for reducing and eliminating combined sewer overflows should increase the likelihood that such discharge will in fact be materially limited or eliminated.

Under Program Requirements
Memorandum No. 75-34, combined sewer overflow projects which have been thoroughly studied in the Step 1 process may be funded under Title II of the Act only after provision has been made for secondary treatment of dry-weather flows in the area. Since POTWs receiving section 301(h) modifications will not be constructing secondary treatment facilities, at least for the immediate future, this requirement could prevent or significantly delay funding to control combined sewer overflows from these facilities. To remove this economic disincentive to the correction of combined sewer overflow problems for POTWs receiving section 301(h)

modified permits, EPA will waive this requirement for such POTWs.

Section 125.66. Utilization of grant funds under Title II of the Act. (formerly § 233.21). Section 301(h)(8) of the Act requires applicants to demonstrate that they will utilize any Title II funds available to them to comply with the requirement of sections 201(b), 201(g)(2)(A), or section 301(h) of the Act. The purpose of this provision is to allow EPA to fund certain planning, design and construction activities which would be required in order to comply with section 301(h).

In its proposed regulations EPA stated that projects needed to meet the requirements of section 301(h) would be grant-eligible only if the applicant satisfactorily demonstrated that alternative waste management techniques had been studied and evaluated and that the works proposed for grant assistance would be cost-effective and would provide for the application of BPWTT (including reclamation and recycling of wastewater and confined disposal of pollutants). Consistent with the legislative history of section 301(h) and EPA construction grant regulations, EPA noted in the preamble that while Title II funds would be available for the development of monitoring, pretreatment and source control programs, as well as other programs and construction necessary to assure compliance with the requirements of section 301(h), they would not be granted for operating and maintenance costs associated with such programs and construction.

Most comments which EPA received on this section supported the Agency's interpretation of the statute. A few commenters suggested, however, that the scope of activities eligible for funding should either be narrowed or broadened.

In response to these comments, § 233.21 of the proposed regulations has been revised to clarify the scope of activities eligible for Title II funding. Section 125.66 of these final regulations states that Title II funds are to be used for construction of treatment works necessary to ensure the applicants proposed discharge will meet the requirements of section 301(h) of the Act. The definition of construction as contained under section 212 of the Act includes preliminary planning, plan and specification as well as physical construction. Section 35.940-1 of Subpart E of this Chapter lists such costs as allowable project costs. Section 35.901 of the construction grant regulations states that the primary

purpose of Federal grant assistance is to assist municipalities in meeting enforceable requirements of the Act, particularly applicable NPDES permit requirements. Thus the construction of less-than-secondary treatment works upon which the section 301(h) modification is based is grant-eligible.

Additionally, § 125.66 of these final regulations provides more detailed information concerning the revision of the scope of work of any active Step 1, Step 2 or Step 3 grant. Subsection (b)(1)(E) requires that a section 301(h) permittee have a program to complete facility planning for additions to the less than secondary treatment facility to bring the treatment works to full secondary treatment if needed. Planning for such additions must be in accordance with all applicable requirements of § 35.917 of Subpart E. Based upon the analysis of these alternative methods of upgrading to secondary treatment, the cost-effective combination of the less-than-secondary treatment system and additional facilities is to be established. This is required because the five year modification is considered temporary until the impact of the less than secondary treatment system and toxics control programs are verified by monitoring and biomonitoring programs. Should these monitoring programs indicate that secondary treatment is required, further delay due to planning requirements will be minimized. In addition, the cost of upgrading to secondary treatment must be known in order to determine whether it is cost-effective for non-marine dischargers to regionalize with a marine discharger and to evaluate wastewater reuse, recycling and reclamation as discussed in the preamble discussion on § 125.65.

Subsection (b)(2), which has been added to the final regulations requires that plans and specifications for the less than secondary facilities include provisions to ensure compatibility with additional facilities, should they be required at a later date. It is not intended that detailed plans and specifications be developed for the additional facilities at this time. Similarly, subsection (b)(3) has been added to provide for the compatibility of construction of the less-than-secondary facilities and any additional facilities required for upgrading to full secondary treatment.

No specific mention was made in the final regulations concerning eligibility of monitoring equipment for section 301(h). Eligibility of monitoring and laboratory equipment for pretreatment and NPDES permit purposes is already established

under Subpart E of this Chapter and Program Operations Memorandum 78-4.

One commenter suggested that Title II funds which had previously been allocated to a section 301(h) applicant for another purpose should be returned to the State and reissued under the State's then current priority list. Requiring section 301(h) dischargers to remit Title II funds previously granted to construct secondary treatment would, in EPA's opinion, be contrary to Congress' expectation, expressed in section 301(h)(8), that such funds would be diverted either to the achievement of BPWTT or the requirements of section 301(h).

Another commenter raised the issue of how section 201(g)(5) would fit into the Agency's assessment of the eligibility of particular projects for funding under section 301(h). Section 201(g)(5) which was added to the Act by the 1977 Amendments, requires EPA, in making any Title II grant from funds authorized for any fiscal year beginning after September 30, 1978, to assure that, in addition to the waste management techniques which must be studied under section 201(g)(2)(A), the grant applicant has evaluated innovative and alternative wastewater treatment processes and techniques. The requirements of this section also apply to section 301(h) dischargers. Not only is there nothing in the legislative history of the Act which would suggest that section 301(h) applicants were exempted from this provision, there is no logical reason for such an exemption. To clarify this point, section 125.66 of the final regulations requires section 301(h) applicants to demonstrate that any grants received from FY 1979 (or later) funds will meet the requirements of section 201(g)(5), in addition to those of section 201(g)(2)(A).

A number of commenters urged that Title II funds be made available to communities to assist them in filling out their section 301(h) applications. EPA disagrees. First of all, the Agency has no authority under the Act to provide federal funding for this purpose. Furthermore, there is nothing in either the language or the legislative history of section 301(h)(8) to suggest that Congress intended to allow Title II funds to be granted to section 301(h) applicants to assist them in gathering the technical and scientific data necessary to complete their applications. Section 301(h)(8) authorizes EPA to provide funding to "carry out the requirements of (Section 301(h))", not to determine whether applicants meet those requirements. Moreover, since section 301(h) is

premised on the theory that communities have accumulated the data necessary to demonstrate their eligibility for a modification, it seems highly unlikely that Congress would have enacted a provision permitting EPA to grant Title II funds to collect such data.

Furthermore, since the Agency believes that the information required by the regulations and application is necessary to make an informed decision on the statutory criteria established by Congress, it is not possible to reduce the amount of data required.

Small communities with no, or very limited amounts of toxic pollutants in their discharges will in many cases be able to develop a section 301(h) application with less extensive data than will a larger discharger with significant sources of toxic pollutants. Thus, the costs of their applications should, as a practical matter, be lower than those of larger dischargers.

Section 125.67. Special permit conditions. This is a new section which delineates special conditions which will be required in permits issued under section 301(h). These conditions are to insure compliance with various provisions of the subpart and will be included in all section 301(h) permits in addition to all applicable terms and conditions required by 40 CFR 122.14 through 122.23.

VI. Application Format

Numerous comments have been received by EPA regarding the proposed Application for Modification of the Requirements of Secondary Treatment. Several changes have been made to the Application Format in response to these comments and to reflect changes which have been made in the regulations.

Most of the comments address three main areas of concern, namely, (1) time limitations for submittal of applications; (2) burdensome reporting requirements, particularly as they relate to small communities; and (3) use of a single application form for dischargers which vary substantially in size, complexity and nature of waste discharged.

The comments regarding the time limitations for submittal of applications are somewhat mooted by the fact that final regulations were not published as originally scheduled. As a result of this delay, EPA accepted preliminary applications which required that applicants submit a minimum of information.

Most commenters felt that the three month period for preparation of complete applications was too short, and they suggested that EPA either

extend the deadline for submission of applications or implement a "two-stage" application review. As explained in section II.B., above, EPA has no authority to extend the statutory deadline for submission of applications. The Agency recognized, however, that since final regulations were not available for guidance, it would be unreasonable to expect applicants to submit complete final applications by that deadline. Therefore, the Agency accepted preliminary applications postmarked no later than September 25th, 1978 giving applicants substantial additional time to gather data for their final applications.

The suggestions that EPA employ a "two-stage" review process had two basic objectives: (1) to provide additional time for completing final applications, and (2) to require that EPA make an initial eligibility determination, based on a minimum amount of information, prior to a POTW incurring the additional cost of completing a final application.

EPA has not adopted the "two-stage" review process. However, by delineating a number of threshold criteria in § 125.59, these regulations should enable a POTW to determine whether it should incur the cost of applying for a section 301(h) modified permit.

The latter two concerns mentioned above, namely, concerns about burdensome reporting requirements and use of a single application form, are discussed together, as they raise similar questions. Several commenters suggested that the reporting requirements would be unduly burdensome for many small communities, particularly villages in Alaska, Puerto Rico and territorial possessions. This issue has been discussed extensively in a previous section of this preamble. (See discussion on small communities in section II, Major Issues).

A number of commenters suggested that a single application form was inappropriate for obtaining necessary and useful data from POTWs which vary substantially in size, complexity and nature of waste discharged. EPA recognizes that these variables exist but at the same time, believes that certain areas must be addressed in all applications in order for the Agency to make determinations based on sufficient information. Furthermore, this review can be completed more expeditiously if the data is presented in a reasonably uniform manner. For these reasons, EPA believes that a standard Application Format should be followed.

A number of other commenters either suggested specific questions which they felt should be included, or they asked specific questions regarding the basis for various technical requirements in the Application Format. EPA has attempted to respond to most of these suggestions in the Technical Support Document which was made available for review and comment prior to publication of these regulations. (See section IV for a discussion of the Technical Support Document).

Section F of the Application Format has been revised to delineate the information which must be provided by applicants. This information pertains to requirements of the Endangered Species Act of 1973, as amended. There is additional discussion of this change in the section-by-section analysis portion of this preamble.

Accordingly, 40 CFR Part 125 is amended by adding §§ 125.56 through 125.67 to this Subpart G which has been previously reserved.

These final section 301(h) regulations will be considered issued for purposes of judicial review at 1:00 p.m. Eastern time on June 22, 1979.

Note.—The Environmental Protection Agency has determined that this regulation, because it implements a statutory provision which eases rather than imposes, pollution control costs, does not constitute a regulation requiring preparation of an Economic Impact Statement under Executive Order 11821, as amended by Executive Order 11949, and under OMB Circular A-107.

Dated: June 4, 1979.

Douglas M. Costle,
Administrator.

Part 125 is amended by the addition of new Subpart G which reads as set forth below:

PART 125—CRITERIA AND STANDARDS FOR THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

Subpart G—Criteria For Modifying the Secondary Treatment Requirements Under Section 301(h) of the Clean Water Act

Sec.

- 125.56 Scope and purpose.
- 125.57 Law authorizing issuance of a modified permit.
- 125.58 Definitions.
- 125.59 General.
- 125.60 Existence and compliance with applicable water quality standards.
- 125.61 Attainment or maintenance of water quality which assures protection of public water supplies, the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife, and allows recreational activities.
- 125.62 Establishment of a monitoring system.

- 125.63 Effect of discharge on other point and nonpoint sources.
- 125.64 Toxics control program.
- 125.65 Increase in effluent volume or amount of pollutants discharged.
- 125.66 Utilization of grant funds under Title II of the Act.
- 125.67 Special permit conditions.

Subpart G—Criteria For Modifying the Secondary Treatment Requirements Under Section 301(h) of the Clean Water Act

§ 125.56 Scope and purpose.

This Subpart establishes the criteria and standards to be applied by EPA in acting on section 301(h) requests for modifications to the secondary treatment requirements. It also establishes special permit conditions which must be imposed, in addition to terms and conditions required under Part 122, in any permit incorporating a section 301(h) modification of the secondary treatment requirement ("section 301(h) modified permit").

§ 125.57 Law authorizing issuance of a section 301(h) modified permit.

Section 301(h) of the Clean Water Act provides that:

The Administrator, with the concurrence of the State, may issue a permit under section 402 which modifies the requirements of subsection (b)(1)(B) of this section with respect to the discharge of any pollutant in an existing discharge from a publicly owned treatment works into marine waters, if the applicant demonstrates to the satisfaction of the Administrator that—

- (1) There is an applicable water quality standard specific to the pollutant for which the modification is requested, which has been identified under section 304(a)(8) of this Act;
- (2) Such modified requirements will not interfere with the attainment or maintenance of that water quality which assures protection of public water supplies and the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife, and allows recreational activities, in and on the water;
- (3) The Applicant has established a system for monitoring the impact of such discharge on a representative sample of aquatic biota, to the extent practicable;
- (4) Such modified requirements will not result in any additional requirements on any other point or nonpoint source;
- (5) All applicable pretreatment requirements for sources introducing waste into such treatment works will be enforced;
- (6) To the extent practicable, the applicant has established a schedule of activities designed to eliminate the entrance of toxic pollutants from nonindustrial sources into such treatment works;
- (7) There will be no new or substantially increased discharges from the point source of the pollutant to which the modification applies above that volume of discharge specified in the permit;

(8) Any funds available to the owner of such treatment works under Title II of this Act will be used to achieve the degree of effluent reduction required by section 201 (b) and (g)(2)(A) or to carry out the requirements of this subsection.

For the purposes of this subsection the phrase "the discharge of any pollutant into marine waters" refers to a discharge into deep waters of the territorial sea or the waters of the contiguous zone, or into saline estuarine waters where there is strong tidal movement and other hydrological and geological characteristics which the Administrator determines necessary to allow compliance with paragraph (2) of this subsection, and section 101(a)(2) of this Act.

§ 125.58 Definitions.

For the purpose of this Subpart:

(a) "Applicant" means an applicant for a modified NPDES permit under section 301(h) of the Act.

(b) "Application format" means EPA's "Application Format for Modification of the Requirements of Secondary Treatment" provided in Part II of this regulation.

(c) "Balanced, indigenous population" means an ecological community which:

- (1) Exhibits characteristics similar to those of nearby, healthy communities existing under comparable but unpolluted environmental conditions; or
- (2) May reasonably be expected to become re-established in the polluted water body segment from adjacent waters if sources of pollution were removed.

(d) "Current discharge" means the volume, composition, and location of an applicant's discharge as of any time between December 27, 1977 and (3 months after date of publication) as designated by the applicant.

(e) "Final application" means a submission for a section 301(h) modified permit to EPA not later than (90 days after date of publication). The final application shall contain:

- (1) A completed application which corresponds to EPA's Application Format for Modification of the Requirements of Secondary Treatment;
- (2) A signed, completed NPDES application Standard Form A, Parts I, II, and III; and

(3) The following certification: "I certify under penalty of law that I have personally examined and am familiar with the information submitted in the attached document(s), and based on my inquiry of those individuals immediately responsible for obtaining the information, I am convinced that the information is true, accurate and correct. I am aware that there are significant penalties for submitting false information, including the possibility of

fine and imprisonment." (see § 125.59(d)(1)).

(f) "Improved discharge" means the volume, composition and location of an applicant's discharge following:

(1) Construction of planned outfall improvements, including, without limitation, outfall relocation, outfall repair, or diffuser modification; or

(2) Construction of planned treatment system improvements; or

(3) Implementation of a planned program to improve operation and maintenance of an existing treatment system; or

(4) Implementation of a planned program to eliminate or control the introduction of pollutants into the applicant's treatment works.

(g) "Industrial source" means any source of nondomestic pollutants regulated under section 307 (b) or (c) of the Act which discharges into a POTW.

(h) "Modified discharge" means the volume, composition and location of the discharge proposed by the applicant for which a modification under section 301(h) of the Act is requested.

(i) "Nonindustrial source" means any source of pollutants which is not an industrial source.

(j) "Ocean waters" means those coastal waters landward of the baseline of the territorial seas, and the deep waters of the territorial seas, or the waters of the contiguous zone.

(k) "Pesticides" means demeton, guthion, malathion, mirex, methoxychlor and parathion.

(l) "Preliminary application" means a submission to EPA postmarked no later than September 25, 1978, which contained, at a minimum, the name and address of the applicant and a statement that the applicant was seeking a modification of secondary treatment requirements under section 301(h) of the Act.

(m) "Primary treatment" means the first stage in wastewater treatment where substantially all floating or settleable solids, are removed by floatation and/or sedimentation.

(n) "Public water supplies" means water distributed from a public water system.

(o) "Public water system" means a system for the provision to the public of piped water for human consumption, if such system has at least fifteen service connections or regularly serves at least twenty-five (25) individuals. This term includes (1) any collection, treatment, storage and distribution facilities under the control of the operator of the system and used primarily in connection with the system, and (2) any collection or pretreatment storage facilities not under

the control of the operator of the system which are used primarily in connection with the system.

(p) "Publicly owned treatment works" ("POTW") means a treatment works, as defined in section 212(2) of the Act, which is owned by a State, municipality or intermunicipal or interstate agency.

(q) "Saline estuarine waters" means those semi-enclosed coastal waters which have a free connection to the territorial sea, undergo net seaward exchange with ocean waters, and have salinities comparable to those of the ocean. Generally, these waters are near the mouth of estuaries and have cross-sectional annual mean salinities greater than twenty-five (25) parts per thousand.

(r) "Secondary treatment" means the term as defined in 40 CFR 133.102.

(s) "Shellfish, fish and wildlife" means any biological population or community that might be adversely affected by the applicant's modified discharge.

(t) "Stressed waters" means those receiving environments in which an applicant can demonstrate, to the satisfaction of the Administrator, that the absence of a balanced, indigenous population is caused solely by human perturbations other than the applicant's discharge.

(u) "Toxic pollutants" means those substances listed in Table 1 of Committee Print No. 95-30 of the Committee on Public Works and Transportation, House of Representatives, and published at 43 FR 4108 (January 31, 1978), as from time to time revised by the Administrator under section 307(a) of the Act.

(v) "Traditional pollutant" means biochemical oxygen demand ("BOD"), suspended solids ("SS") and pH.

(w) "State water quality standards" means applicable State water quality standards which have been:

(1) Approved or left in effect by the Administrator under section 303(a) or 303(c) of the Act; or

(2) Promulgated by the Administrator under section 303(b) or 303(c) of the Act, as of the date of any final application submitted under this Subpart.

(x) "Zone of initial dilution" ("ZID") means the region surrounding or adjacent to the end of the outfall pipe or diffuser ports, as calculated according to instructions in the application format, provided that it may not be larger than allowed by mixing zone restrictions in applicable State water quality standards.

§ 125.59 General.

(a) *Basis for application.* A final application for modified section 301(h)

permit under this Subpart shall be based on either:

(1) A current discharge into ocean waters or saline estuarine waters; or

(2) An improved discharge into ocean waters or saline estuarine waters.

Provided, That:

(i) The applicant demonstrates in its final application that such improvements have been thoroughly planned and studied as an alternative to secondary treatment and that it can expeditiously complete or implement such improvements; and

(ii) The applicant submits, as part of its final application, a proposed schedule for (A) the planning, design and staged construction of secondary treatment, and (B) such other improvements which will provide for the maximum amount of planning, design and construction which can be completed by the applicant pending a final decision on its application; and

(iii) The applicant has exercised its best efforts to comply with such schedule pending a final decision on its application.

(b) *Prohibitions:* No modified section 301(h) permit shall be issued:

(1) Where such issuance would not assure compliance with all applicable requirements of this Subpart;

(2) Where such issuance would not assure compliance with all applicable requirements of Part 122;

(3) Where the applicant's discharge was not actually flowing into ocean waters or saline estuarine waters as of December 27, 1977;

(4) For a discharge receiving less than primary treatment;

(5) For the discharge of sewage sludge;

(6) For any discharge for which there is as of September 13, 1979 an applicable State or local law, regulation or ordinance requiring secondary treatment of municipal wastewater, unless it can be shown that such law, regulation or ordinance is less stringent than secondary treatment, as defined in 40 CFR 133.102.

(7) Where such issuance would conflict with applicable provisions of other Federal laws, and, to the extent that they do not conflict with requirements of law, applicable provisions of Executive Orders. This includes situations where:

(i) The applicant's modified discharge is located in an area covered by an approved State coastal zone management program, and the applicant fails to provide certification under section 307(c) of the Coastal Zone Management Act of 1972, as amended,

16 U.S.C. 1456(c), that its discharge complies with such program;

(ii) The issuance of a section 301(h) modified permit would jeopardize the continued existence of an endangered or threatened species listed under the Endangered Species Act of 1973, as amended, 16 U.S.C. 1531 *et seq.*, or would result in the destruction or modification of the habitat of such species; or,

(iii) The applicant's modified discharge is located in a marine or estuarine sanctuary designated by the Secretary of Commerce under Title III of the Marine Protection, Research and Sanctuaries Act, as amended, 16 U.S.C. 1431 *et seq.*, or the Coastal Zone Management Act, as amended; 16 U.S.C. 1461 *et seq.*, and the Secretary denies certification under either of these Acts;

(8) Where the applicant either did not submit a preliminary application or submits a final application which, on its face, did not demonstrate to the satisfaction of the Administrator that the applicant's modified discharge meets or will meet all the requirements of this Subpart; or,

(9) Where the applicant is currently meeting effluent limitations based on secondary treatment.

(c) *Preliminary application.* Each applicant for a section 301(h) modified permit under this Subpart must have submitted a preliminary application to EPA, postmarked no later than September 25, 1978, which contained, at a minimum, the name and address of the applicant and a statement that the applicant was seeking a modification of secondary treatment requirements under section 301(h) of the Act.

(d) *Final application.* All final section 301(h) applications shall be signed by either a principal executive officer of the POTW or ranking elected official of the municipality. (See also § 122.5(a)(3)).

(1) *Contents.* Each applicant for a modified permit under this Subpart shall submit a final application to EPA which shall contain:

(i) A signed, completed NPDES Application Standard Form A, Parts I, II, and III; and

(ii) A completed application which corresponds to EPA's Application Format for Modification of the Requirements of Secondary Treatment; and

(iii) The following certification:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in the attached document(s), and based on my inquiry of those individuals immediately responsible for obtaining the information, I am convinced that the information is true, accurate and

correct. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

(2) *Deadline and distribution.* The original and two copies of the final application must be submitted to the following no later than September 13, 1979:

(i) 301(h) Review Group, Office of Water Program Operations, 401 M Street, SW., Washington, D.C. 20460 (original);

(ii) The Regional Administrator for the EPA Region in which the applicant is located (one copy); and

(iii) The State or interstate agency (or agencies) authorized to provide certification/concurrence under § 124.21-124.23 (one copy).

(e) *Decisions on section 301(h) modifications.* (1) The decision to grant or deny a section 301(h) modification of the secondary treatment requirement shall be:

(i) Made by the Administrator, or a person designated by the Administrator, pursuant to § 124.55; and

(ii) Based on the applicant's demonstration that it has met all the criteria set forth in §§ 125.59-66.

(2) No section 301(h) modified permit shall be issued by the Administrator, or person designated by the Administrator:

(i) Until the appropriate State certification/concurrence is granted or waived pursuant to § 124.24; or

(ii) If the appropriate State denies certification/concurrence pursuant to § 124.24.

(3) Any section 301(h) modified permit shall:

(i) Be issued in accordance with the procedures set forth in Part 124; and

(ii) Contain all applicable terms and conditions set forth in Part 122; and

(iii) Contain the special permit terms set forth in § 125.67.

(4) Appeals of any section 301(h) determination shall be governed by the nonadversary initial licensing procedures set forth in Part 124, Subpart I.

(5) At the expiration of the section 301(h) permit, the POTW should be prepared to support the continuation of the modification based on studies and monitoring performed during the life of the permit.

§ 125.60 Existence of and compliance with applicable water quality standards.

(a) *Criteria.* There must exist a State water quality standard or standards applicable to the pollutant(s) for which a section 301(h) modified permit is requested, including:

(1) State water quality standards for biochemical oxygen demand or dissolved oxygen;

(2) State water quality standards for suspended solids, turbidity, light transmission, light scattering or maintenance of the photic zone; and

(3) State water quality standards for pH.

(b) *Application requirements.* To enable the Administrator to determine whether the applicant meets the criteria of paragraph (a), the applicant shall demonstrate in Part A Section 9 of its application that:

(1) An applicable State water quality standard(s) exists; and

(2) That the modified discharge will comply with these State water quality standard(s).

§ 125.61 Attainment or maintenance of water quality which assures protection of public water supplies, the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife, and allows recreational activities.

(a) *Physical characteristics of discharge.*—(1) *Criteria.* (i) The applicant's modified outfall and diffuser must be well designed, using accepted designs of outfall and diffuser systems, to provide appropriate initial dilution, dispersion and transport of wastewater, considering the volume of the discharge and site-specific physical and environmental conditions;

(ii) The initial dilution achieved by the applicant's modified discharge, as calculated in Part B, section 1 of the Application Format, must be sufficient to meet all applicable State water quality standards at and beyond the boundary of the zone of initial dilution during those conditions defined as critical in Part B, Sections 1-4, of the Application Format;

(iii) Dilution water must be supplied to that zone where entrainment takes place in an amount equal to the wastewater flow times the dilution factor as calculated in Part B, Section 1 of the Application Format;

(iv) Following initial dilution, the partially diluted wastewater and particulates must be transported and dispersed so as not to adversely affect water use areas (including recreational and fishing areas) and areas of biological sensitivity.

(2) *Application requirements.* To enable the Administrator to determine whether an applicant's modified discharge meets the criteria of paragraph (a)(1), the applicant shall provide the data on the physical characteristics and hydraulics of the outfall and on the physical

oceanographic conditions in the vicinity of the outfall required by Part B, Sections 1-4, of the Application Format.

(b) *Impact of discharge on public water supplies.*—(1) *Criteria.* (i) The applicant's modified discharge must allow for the attainment or maintenance of water quality which assures protection of public water supplies.

(ii) The applicant's modified discharge must not:

(A) Prevent a planned or existing public water supply from being used, or from continuing to be used, as a public water supply; or,

(B) Have the effect of requiring treatment over and above what would be necessary in the absence of such discharge in order to comply with local, State, and EPA drinking water standards.

(iii) The applicant's modified discharge must comply with all applicable State water quality standards or other requirements adopted or promulgated for the purpose of attaining or maintaining water quality which assures protection of public water supplies.

(2) *Application requirements.* To enable the Administrator to determine whether an applicant's modified discharge meets the requirements of paragraph (b)(1) of this section, the applicant shall provide the data on the impact of its outfall on existing and potential public water supplies required by the Public Water Supply Impact Assessment, Part B, section 5, of the Application Format.

(c) *Biological impact of discharge.*—(1) *Criteria.* (i) A balanced, indigenous population of shellfish, fish and wildlife must exist:

(A) Immediately beyond the zone of initial dilution of the applicant's modified discharge and;

(B) In all other areas beyond the zone of initial dilution where marine life is actually or potentially affected by the applicant's modified discharge.

(ii) Conditions within the zone of initial dilution must not contribute to extreme adverse biological impacts, including, but not limited to, the destruction of distinctive habitats of limited distribution, the presence of disease epicenters, or the stimulation of phytoplankton blooms which have adverse effects beyond the zone of initial dilution;

(iii) In the case of a modified discharge into saline estuarine waters the following additional restrictions are placed on impacts within the zone of initial dilution:

(A) Benthic populations within the zone of initial dilution must not differ

substantially from the balanced, indigenous populations which exist immediately beyond the boundary of the zone of initial dilution;

(B) The discharge must not interfere with estuarine migratory pathways within the zone of initial dilution; and

(C) The discharge must not result in the accumulation of toxic pollutants or pesticides at levels which exert adverse effects on the biota within the zone of initial dilution.

(iv) The applicant's modified discharge must comply with all applicable State water quality standards or other requirements adopted or promulgated for the purpose of attaining or maintaining water quality which provides for the protection and propagation of fish, shellfish and wildlife.

(2) *Application requirements.* To enable the Administrator to determine whether an applicant's modified discharge meets the criteria of paragraph (c)(1) of this section, the applicant shall prepare a Biological Conditions Summary in accordance with the Marine Biological Assessment Part B, section 6, of the Application Format and shall answer all questions contained in the Marine Biological Assessment Questionnaire, part B, Section 7 of the Application Format, based on the summary.

(d) *Impact of discharge on recreational activities.*—(1) *Criteria.* (i) The applicant's modified discharge must allow for the attainment or maintenance of water quality which allows for recreational activities beyond the zone of initial dilution, including, without limitation, swimming, diving, boating, fishing and picnicking and sports activities along shorelines and beaches.

(ii) The applicant's modified discharge must comply with all applicable State water quality standards or other requirements adopted or promulgated for the purpose of attaining or maintaining water quality which allows for recreational activities.

(iii) There must be no Federal, State or local restrictions on recreational activities within the vicinity of the applicant's modified outfall unless such restrictions are routinely imposed around sewage outfalls. This exception shall not apply where the restriction would be lifted or modified, in whole or in part, if the applicant were discharging a secondary treatment effluent.

(2) *Application requirements.* To enable the Administrator to determine whether an applicant's modified discharge meets the criteria of paragraph (d)(1) of this section, the applicant shall provide the data on the

impact of its discharge on recreational uses required by the Recreation Impact Assessment, Part B, section 8 of the Application Format.

(e) *Additional application requirements for application based on improved discharge.* If an applicant is applying for a section 301(h) modified permit on the basis of an improved discharge, it must submit in its final application:

(1) Final plans for such improvements in Part A, Section 10 of the Application Format;

(2) Computer modeling or other detailed analyses projecting changes in flow rates, flow patterns, composition, volume or other parameters or characteristics of the applicant's current discharge which are expected to result from such improvements at several milestone dates (including the statutory July 1, 1983 date) reflecting conditions of severe waste loadings;

(3) The assessments required by paragraphs (a) through (d) of this section based on its current discharge;

(4) Where the improved discharge involves outfall relocation, the assessments required by paragraphs (a) through (d) of this section for the relocation site; and,

(5) A detailed analysis of how the improvements planned by the applicant will, when completed and at the milestone(s) identified in paragraph (e)(2) above, eliminate, reduce or otherwise relieve any adverse impacts identified in paragraph (e)(3) of this section and assure compliance with the criteria contained in paragraphs (a) through (d) of this section.

(f) *Stressed waters.* If an applicant believes that its failure to meet the requirements of paragraphs (a) through (d) of this section is attributable to conditions resulting from human perturbations other than its modified discharge (including, without limitation, other municipal or industrial discharges, nonpoint source runoff and the applicant's previous discharges), the applicant must demonstrate, to the satisfaction of the Administrator, that its modified discharge does not or will not:

(1) Contribute to, increase, or perpetuate such stressed conditions;

(2) Contribute to further degradation of the biota or water quality if the level of human perturbation from other sources increases; and

(3) Retard the recovery of the biota or water quality if the level of human perturbation from other sources decreases.

§ 125.61 Establishment of a monitoring system.

(a) *General requirements applicable to all proposed monitoring programs.* (1) The applicant must have a biological monitoring program, a program for monitoring compliance with State water quality standards, and a toxics control monitoring program which meet the requirements of paragraphs (a) through (c) of this section;

(2) Each program must include a detailed description of sampling techniques, times, and locations (including appropriate control sites), analytical techniques, quality control and verification procedures to be used; and,

(3) The applicant must also demonstrate that it has the economic, personnel, technical and other resources to implement the proposed programs immediately upon issuance of a section 301(h) modified permit and to carry out the proposed programs for the life of the modified permit.

(4) Each proposed monitoring program submitted by the applicant under this section shall be subject to revision as determined by the Administrator prior to issuing any modified permit and during the term of any modified permit issued.

(b) *Biological monitoring program.*—

(1) *Criteria.* (i) The biological monitoring program shall provide data adequate to evaluate the impact of the applicant's discharge on marine biota, taking into account critical environmental periods (e.g., runoff, spawning periods for fish and shellfish, and unusual oceanographic and meteorological events) and variability of the discharge anticipated during the life of the permit. It shall be keyed to the nature and volume of the applicant's discharge, the nature of the receiving water, and the nature of the marine life affected or likely to be affected as identified in the Biological Conditions Summary prepared under § 125.61(c)(2).

(ii) For applicants seeking a section 301(h) modified permit based on:

(A) A current discharge, the biological monitoring program shall be designed to demonstrate that the discharge currently complies and will continue to comply throughout the term of the modified permit with the requirements of § 125.61(c)(1).

(B) An improved discharge other than outfall relocation, the biological monitoring program shall be designed to collect baseline data on the current impact of the discharge, to monitor the impact of the discharge as improvements are completed, and, upon completion of all improvements, to

demonstrate that the discharge complies with the requirements of § 125.61(c)(1).

(C) An improved discharge involving outfall relocation, the biological monitoring shall be conducted at both the current discharge site, until such discharge ceases, and the relocation site. The biological monitoring program at the current discharge site must be designed to measure the impact of the discharge as the toxics control program is implemented and any upgrading of treatment is completed. The biological monitoring program at the relocation site shall be designed to collect baseline data for a minimum of one year, to monitor the impact of the discharge as improvements other than outfall relocation are completed, and, upon completion of all improvements, demonstrate that the discharge complies with the requirements of § 125.61(c)(1).

(iii) The biological monitoring program shall include quarterly seasonal surveys of the structure and function of the macrofaunal benthos and those other biological communities most likely to be affected by the discharge.

(iv) Where the chemical analysis conducted under § 125.64(a)(1) of this Subpart or any subsequent chemical analysis of the applicant's discharge required to be conducted under paragraph (d) of this section identifies any toxic pollutants or pesticides in the applicant's discharge, the biological program shall include:

(A) *In situ* bioassays within and immediately beyond the zone of initial dilution and at appropriate reference sites. The bioassays must be conducted with appropriate sensitive marine organisms, and shall be designed to:

(1) Determine the accumulation of each identified toxic pollutant and pesticide in the organisms;

(2) Examine other adverse effects of the discharge on the organisms, including, death, growth abnormalities, and physiological stress.

(B) Sampling of sediments within and immediately beyond the boundary of the zone of initial dilution and other areas of solids accumulation (as identified in the physical assessment prepared under § 125.61(a)(1)), and at appropriate reference sites, for accumulation of each identified toxic pollutant and pesticide. If sampling indicates the existence of elevated or increasing levels of such pollutants or pesticides, the biological monitoring program must include a specific program for measuring the impact of such substances on, at a minimum, the macrofaunal benthos.

(v) Where the applicant's discharge may affect commercial or recreational fisheries, the biomonitoring program

shall include periodic assessments of the condition and productivity of fisheries likely to be affected by the discharge.

(2) *Application requirements.* To enable the Administrator to determine whether an applicant's biomonitoring program meets the criteria of (b)(1), the applicant shall submit a proposed Biological Monitoring Program in Part C, Section 1 of its final application.

(c) *Water quality monitoring program.* (1) *Criteria.* (i) The water quality monitoring program shall provide data adequate to evaluate the applicant's compliance with applicable State water quality standards, taking into account critical environmental periods (e.g., runoff, spawning periods for fish and shellfish, and unusual oceanographic and meteorological events) and variability of the discharge anticipated during the term of the modified permit;

(ii) The water quality monitoring program shall be designed to measure the applicant's compliance with applicable State water quality standards:

(A) As required by State law;

(B) At the boundary of the zone of initial dilution; and

(C) At locations beyond the zone of initial dilution where impacts on marine life, recreational interests or public water supplies may occur.

(2) *Application requirements.* To enable the Administrator to determine whether an applicant's water quality monitoring program meets the criteria of (c)(1) of this section, the applicant shall submit a proposed Water Quality Monitoring Program in Part C, Section 2 of its final application.

(d) *Toxics control monitoring program*

(1) *Criteria.* (i) The toxics control monitoring program shall provide data on the chemical composition of the applicant's discharge, which can be used to:

(A) Measure the effectiveness of the applicant's toxic control program in reducing toxic pollutants and pesticides in its discharge;

(B) Assist in implementing the toxics control program; and,

(C) Guide biological monitoring efforts under paragraph (b)(1)(iv) of this section.

(ii) The toxics control monitoring program shall provide for a chemical analysis of representative wet weather and dry weather discharges for toxic pollutants and pesticides.

(2) *Application requirements.* To enable the Administrator to determine whether an applicant's toxic control monitoring program meets the criteria of

(d)(1) of this section, the applicant shall submit a proposed Toxics Control Monitoring program in Part C, section 3 of its final application.

§ 125.63 Effect of discharge on other point and non-point sources.

(a) *Criterion.* No modified discharge may result in any additional requirements on any other point or nonpoint source.

(b) *Application requirements.* To enable the Administrator to determine whether an applicant's modified discharge meets the criterion of paragraph (a) of this section, the applicant shall submit in Part D of its final application, letters from each agency having authority to establish or to advise in the establishment of waste loadings or wasteload allocations for the waters into which the applicant proposes to discharge. These letters shall indicate whether the applicant's proposed discharge will result in any additional treatment, pollution control, or other requirement on any other point or nonpoint source (including combined sewers). The letter(s) shall include the basis for the agency's conclusion.

§ 125.64 Toxics control program.

(a) *Chemical analysis.*—(1) *Criteria.* The applicant shall submit at the time of application, a chemical analysis of its current discharge for all toxic pollutants and pesticides as defined in § 125.58(k) and (u). Analysis shall be performed on two 24 hour composite samples (one dry weather and one wet weather). Applicants may supplement or substitute additional chemical analysis data if documentation is provided to show that the composition of the wastewater samples typifies that which occurs during dry and wet weather conditions.

(2) *Application requirements.* To enable the Administrator to determine whether an applicant meets the criteria of paragraph (a)(1) the applicant shall provide the information required by Part E, Section 1 of the Application Format.

(b) *Identification of Sources of Toxic Pollutants* (1) *Criteria.* The applicant shall submit at the time of application, an analysis of the sources of toxic pollutants identified in section 125.64(a)(1). The applicant shall categorize the sources of the toxic pollutants according to industrial and non-industrial types.

The applicant shall include in § 125.64(c) and (d) programs to reduce or remove the identified toxic pollutants from the applicant's discharge.

(2) *Application requirements.* To enable the Administrator to determine

whether an applicant meets the criteria of paragraph (b)(1) the applicant shall provide the information required by Part E, Section 1 of the Application Format.

(c) *Industrial pretreatment requirements.*—(1) *Criteria.* (i) An applicant which has known or suspected industrial sources of toxic pollutants shall have a pretreatment program capable of enforcing all applicable promulgated pretreatment standards which meets the requirements of 40 CFR 403.8(f) no later than the time the applicant's permit is modified, and which will be implemented no later than eighteen (18) months after issuance of the modified permit;

(ii) This requirement shall not apply to any applicant which has no known or suspected industrial sources of toxic pollutants and so certifies to the Administrator;

(iii) The proposed industrial pretreatment program submitted by the applicant under this section shall be subject to revision as determined by the Administrator prior to issuing any section 301(h) modified permit and during the term of any section 301(h) modified permit issued;

(iv) Implementation of all existing pretreatment requirements and authorities must be maintained through the period of development of any additional pretreatment requirements that may be necessary to comply with the requirements of this subpart.

(2) *Application requirements.* To enable the Administrator to determine whether an applicant not exempted by paragraph (c)(1)(ii) of this section meets the criteria of paragraph (c)(1), the applicant shall provide in Part E, Section 2 of its final application, a proposed pretreatment program which includes the following:

(i) The evidence required by 40 CFR 403.9(a)(1)–(4);

(ii) An inventory of sources which are subject or may be subject to the pretreatment program. Such sources shall include, but not be limited to, sources in the industrial categories identified in Appendix A, Part 122 of the National Pollutant Discharge Elimination System regulations. The inventory shall include a description of the methodology used to develop the inventory and the process to be used to ensure the inventory is kept accurate and current. At a minimum, the inventory shall include a qualitative description of the type of pollutants contributed by each identified source. In addition, for sources subject to promulgated national categorical pretreatment standards, State or local pretreatment requirements, the

inventory shall include a summary of industrial compliance with the quantitative and qualitative information required by 40 CFR Part 403.12(b);

(iii) A schedule of compliance which demonstrates that the program will be implemented as soon as possible but in no event later than eighteen (18) months after issuance of a section 301(h) modified permit. The compliance schedule shall include, at a minimum, the following milestones and shall specify their initiation and completion dates:

(A) Completion of the wastewater characterization of industrial sources inventoried in the final application as required by 40 CFR 403.8(f)(2)(i–iii);

(B) Development of effluent limitations for prohibited pollutants (as defined by 40 CFR 403.5) contributed to the POTW by industrial sources;

(C) Notification of industrial sources of applicable pretreatment standards and sludge management requirements, as required by 40 CFR 403.8(f)(2)(iii);

(D) Design of a compliance monitoring program, as defined by 40 CFR 403.8(f)(1)(v);

(E) Establishment of financial programs and revenue sources to ensure adequate funding to carry out the pretreatment program;

(F) Acquisition of all qualified personnel necessary to carry out the pretreatment program; and

(G) Submission of a request for pretreatment program approval without conditions (and removal credit approval if desired and eligible) as required by 40 CFR 403.9.

(iv) Provisions, if necessary, for requesting conditional acceptance of the pretreatment program pending the acquisition of funding and/or personnel for limited aspects which do not require immediate implementation, *Provided* the applicant:

(A) Has the authority, procedures, funding and personnel to fulfill its current enforcement responsibilities for all applicable promulgated pretreatment standards;

(B) Meets the requirements of 40 CFR 403.9(b)(1)–(3);

(C) Submits a schedule of compliance and evidence demonstrating it will have sufficient resources and qualified personnel to carry out the authorities and procedures in 40 CFR 403.8(f) as soon as possible but not later than eighteen (18) months after issuance of a section 301(h) modified permit;

(D) Submits a description of its record to date in enforcing existing applicable national, State and local pretreatment standards; and

(E) Has an approvable schedule of compliance for implementing its pretreatment program.

(d) *Nonindustrial source control program.*—(1) *Criteria.* (i) The applicant shall have at the time of application, a schedule of activities designed to eliminate the entrance of toxic pollutants from nonindustrial sources into its treatment works to the extent practicable, which will be implemented no later than eighteen months after issuance of a section 301(h) modified permit.

(ii) Each proposed nonindustrial source control program submitted by the applicant under this section shall be subject to revision as determined by the Administrator prior to issuing any section 301(h) modified permit and during the life of any such permit issued.

(2) *Application requirements.* To enable the Administrator to determine whether an applicant's nonindustrial source control program meets the criteria of paragraph (d)(1) of this section, the applicant shall provide in Part E, section 3 of its final application a proposed nonindustrial source control program which includes the following:

(i) A schedule of activities for identifying nonindustrial sources of toxic pollutants, including:

(A) All nonindustrial sources, or categories of sources, which are introducing toxic pollutants into the applicant's treatment works; and,

(B) The specific toxic pollutants and volumes thereof generated by such sources or categories of sources.

(ii) A schedule of activities to determine practicability of controls, to include:

(A) An analysis of the control technologies available to the applicant, including treatment as well as control, at the sale, use, handling and disposal stage;

(B) An assessment of the effectiveness of such control technologies in eliminating or limiting the introduction of toxic pollutants from such source into the applicant's treatment facility; and

(C) An analysis of the legal, technological, socio-economic, and institutional impact of utilizing such control technologies.

(iii) A schedule for the development and implementation of control programs, to the extent practicable, for each nonindustrial source or category of sources identified under paragraphs (b)(1) and (d)(2)(i) of this section. Each such program shall include:

(A) A description of the program;

(B) A method for enforcing the program;

(C) A monitoring program which will measure compliance with and the effectiveness of the program; and

(D) A schedule for implementation.

(iv) A schedule for the development and implementation, to the extent practicable, of specific control programs, in addition to the programs for any other non-industrial source or sources identified under paragraph (b)(1) of this section. These programs shall include;

(A) A program for the development of best management practices to control urban stormwater runoff into combined sewers, including street cleaning, catch basin cleaning, trash pickup in both commercial and residential areas, and runoff controls at construction sites;

(B) A program to eliminate the discharge of waste oil from gas stations, service stations and garages into the applicant's treatment works, including programs to collect such waste oil for recycling or solid waste disposal;

(C) A program to control the introduction of herbicides, fungicides, insecticides and rodenticides into the applicant's treatment facility from residential, commercial and public works activities;

(D) A program for controlling sale, use, and/or disposal of certain household products containing toxic pollutants which, because of disposal practices, are likely to enter the applicant's treatment works (e.g., household paints, cleaning compounds); and

(E) A program to modify building and/or plumbing codes for new construction to limit the introduction of heavy metals from plumbing equipment into the applicant's treatment works.

(v) The schedules of activities shall include an assessment of the applicant's ability to provide the financial, staffing and other resources or arrangements which may be necessary to carry out the schedule of activities listed in paragraph (d)(2)(i) through (iv).

§ 125.65 Increase in effluent volume or amount of pollutants discharge.

(a) *Criteria.* No modified discharge may result in any new or substantially increased discharges of the pollutant to which the modification applies above the discharge specified in the section 301(h) modified permit. The applicant shall provide data indicating that:

(1) There shall be no increase in effluent volume beyond the amount in the applicant's projected five year discharge;

(2) There shall be no increase in the mass loadings of any pollutant(s) for which a modification is requested over

and above the amount in the applicant's projected five year discharge; and

(3) Where pollutant discharges are attributable in part to combined sewer overflows, the applicant shall minimize existing overflows and prevent increases in the amount of pollutants discharged.

(b) *Application requirements.* To enable the Administrator to determine whether the applicant meets the requirements of paragraph (a), the applicant shall demonstrate in Part F of its final application, compliance with paragraphs (a) (1) and (2) of this section, and submit a schedule of activities designed to comply with paragraph (a)(3) of this section.

§ 125.66 Utilization of grant funds available under Title II of the Act.

(a) *Criteria.* (1) Any funds available to the applicant under Title II of the Act shall be used for:

(i) The construction of municipal treatment works necessary to ensure that the applicant's modified discharge will meet the requirements of this subpart; and

(ii) The application of best practicable wastewater treatment technology.

(2) The applicant shall prepare a revised scope of work and estimate of revised costs under any active Step 1, 2, or 3 Construction Grant awarded under 40 CFR Part 35, subpart E.

(3) The revised scope of work of any active grant awarded from funds authorized for any fiscal year beginning after September 30, 1976, shall be subject to the requirement to evaluate innovative and alternative technologies in accordance with 40 CFR Part 35, Subpart E.

(4) Any such revised scope of work and costs shall be subject to review and revision by the Administrator; such review shall not constitute approval, obligation, or award of a grant under 40 CFR Part 35.

(b) *Application requirements.* To enable the Administrator to determine whether an applicant can meet the requirements of paragraph (a) of this section the applicant shall submit as Part G of its final application a funding program which shall contain a proposed modified scope of work and estimate of revised costs for any active Step 1, 2, or 3 Construction Grants awarded under Part 35, Subpart E of this Chapter, which provides for the following:

(1) *Step 1 Grants.* (i) Application of the best practicable wastewater treatment technology (BPWIT);

(ii) Reclamation, recycle, and reuse of water and confined disposal of pollutants;

(iii) Development of a pretreatment program in accordance with the requirements of this part and 40 CFR 403 (see also 40 CFR 35.907);

(iv) An evaluation of flow and waste reduction methods including development of a non-industrial source program as required by § 125.64(d)(3) to reduce or eliminate the discharge of toxic substances to the municipal treatment works; and

(v) An analysis which establishes the cost effective combination of the proposed less-than-secondary treatment system and additional facilities required to provide for full secondary treatment (such additional facilities must be planned in accordance with the requirements of § 35.917 of 40 CFR Part 35, Subpart E).

(2) *Step 2 Grants.* Development of plans and specification for the proposed less-than-secondary treatment facilities including provision for future addition of facilities to provide for secondary treatment and BPWTT.

(3) *Step 3 Grants.* Construction of the proposed less-than-secondary facilities including provisions to ensure compatibility with future additions of facilities to provide for secondary treatment and BPWTT.

§ 125.67 Special conditions for section 301(h) modified permits.

Each section 301(h) modified permit issued shall contain, in addition to all applicable terms and conditions required by 40 CFR §§ 122.14 through 122.23, the following:

(a) Effluent limitations which will assure compliance with the requirements of this Subpart;

(b) A schedule or schedules of compliance for:

(1) Pretreatment program development required by § 125.64(c);

(2) Nonindustrial toxics control program required by § 125.64(d);

(3) Any construction required by § 125.66; and

(4) Control of combined sewer overflows required by § 125.65.

(c) Monitoring requirements that include:

(1) Biomonitoring program requirements of § 125.62(b);

(2) Water quality program requirements of § 125.62(c); and

(3) Toxic control monitoring program requirements of § 125.62(d).

(d) Reporting requirements that include:

(1) An annual report to the Enforcement Division Director on the results of the monitoring program required by paragraph (c);

(2) An annual report summarizing industrial compliance with the reporting requirements of 40 CFR 403.12(b). The report shall summarize for each industrial subcategory covered by national pretreatment standards:

(i) The number of sources reporting versus the number of sources inventoried in that subcategory;

(ii) The number of sources not in compliance with the pretreatment standard;

(iii) The number of sources with compliance schedules; and

(iv) What actions are being undertaken to develop compliance schedules for sources currently lacking but requiring a schedule.

(3) A report within 180 days of the final compliance date of a national pretreatment standard, summarizing the number of noncomplying sources in that industrial subcategory and what actions are being taken to bring non-complying sources into compliance (see industry reports required by 40 CFR 403.12(d)).

(4) An annual report on the public notification of noncomplying industries required by 40 CFR 403.8(f)(2)(vii).

[OMB No. 158—S79003; Expires December 31, 1979]

Application Format for Modification of the Requirements of Secondary Treatment

Introduction

This application format consists of the following seven (7) parts, (A through G), sections and appendices which must be provided by the applicant to constitute a final application:

Part A. General

Section 1. Description of Treatment System.

Section 2. Effluent Limitations.

Section 3. Existing Discharge.

Section 4. State Secondary Treatment Requirements.

Section 5. State Coastal Zone Management Program.

Section 6. Marine and Estuarine Sanctuaries.

Section 7. Endangered or Threatened Species.

Section 8. Other Applicable Federal Requirements.

Section 9. Existence and Compliance with State Water Quality Standards.

Section 10. Improved Discharge Construction.

Part B. Technical Evaluation Information

Section 1. Physical Assessment.

Subsection A—Initial Dilution.

Appendix I. Description of Methods used to compute initial dilution assuming EPA methods were not used.

Appendix II. Oceanographic Data.

Subsection B—Ocean Discharge.

Appendix III. Data on Ocean Discharge.

Subsection C—Saline Estuarine Discharge.

Appendix IV. Data on Estuarine Discharge.

Section 2. Compliance with BOD or DO.

Appendix V. DO demand resulting from disturbance of bottom.

Appendix VI. Description of more critical DO situation.

Section 3. Compliance with pH.

Appendix VII. Other considerations relative to pH.

Section 4. Compliance with Suspended Solids.

Appendix VIII. Compliance with State water quality standards.

Appendix IX. Description of experimental procedure used to compute amount and areal extent of SS accumulation on seabed.

Section 5. Public Water Supply Impact Assessment.

Appendix X. Assessment of Modified Discharge on Public Water Supplies.

Section 6. Marine Biological Assessment.

Appendix XI. Biological Conditions Summary.

Section 7. Biological Assessment Questionnaire.

Section 8. Recreational Impact Assessment.

Appendix XII. Assessment of Modified Discharge on Recreational Activities.

Part C. Description of Monitoring System

Section 1. Biological Monitoring Program.

Appendix XIII. Proposed Biological Monitoring Program.

Section 2. Water Quality Monitoring Program.

Appendix XIV. Proposed Water Quality Monitoring Program.

Section 3. Toxics Control Monitoring Program.

Appendix XV. Proposed Toxics Control Monitoring Program.

Part D. Letter(s) From State Concerning Impact of Modified Discharge on Other Point and Non-Point Sources

Appendix XVI. Letters from State Agencies Concerning Impact on Other Point and Non-Point Sources.

Part E. Toxic Control Program.

Section 1. Chemical Analysis.

Appendix XVII. Chemical Analysis of Toxic Pollutants and Pesticides and Source Identification Analysis.

Section 2. Pretreatment Program.

Appendix XVIII. Proposed Pretreatment Program.

Section 3. Non-Industrial Source Control Program.

Appendix XIX. Proposed Non-Industrial Source Control Program.

Part F. Effluent Volume and Mass Emissions

Appendix XX. Data on Effluent Volume and Mass Emissions.

Appendix XXI. Schedule of Activities to Control Combined Sewer Overflows.

Part G. Use of Title II Funds

Appendix XXII. Funding Program for Available Title II Funds.

Each part should be completed by the applicant to the best of its ability. When completed, this application must demonstrate, on its face, that the applicant's

modified discharge will meet the requirements of 40 CFR Part 125 and section 301(h) of the Act.

Part A—General

Section 1. Description of Treatment System

Please provide a detailed description of the treatment system and outfall configuration which you propose to utilize to satisfy the requirements of section 301(h) and 40 CFR Part 125.

If you are applying for a modification on the basis of an improved discharge within the meaning of 40 CFR 125.58, please also provide a detailed description of your current treatment system and outfall configuration.

Section 2. Effluent Limitations

Please identify the final effluent limitations for biochemical oxygen demand, suspended solids and pH on which your application for a modification is based:

Biochemical oxygen demand
_____mg/l

Suspended solids _____mg/l
pH _____

Section 3. Existing Discharge

Did the publicly owned treatment works for which you are requesting a modification discharge into marine waters on or prior to December 27, 1977?

Yes _____ No _____

If "yes", please provide the start-up date of the facility's discharge, the discharge volume, and the exact location of the discharge.

If "no", please provide an explanation.

Section 4. State Secondary Treatment Requirements

Does your State or locality have a law, regulation or ordinance requiring secondary treatment of municipal wastewater?

Yes _____ No _____

If "yes", please attach a copy of such law, regulation or ordinance.

Section 5. State Coastal Zone Management Program

Is your modified discharge located in an area which is included in a State coastal zone management program(s) which has been approved under the Coastal Zone Management Act of 1972, as amended?

Yes _____ No _____

If "yes", attach a certification that your modified discharge will comply with such program(s).

Section 6. Marine and Estuarine Sanctuaries

Is your modified discharge located in a marine or estuarine sanctuary designated under Title III of the Marine, Protection, Research & Sanctuaries Act of 1972, as amended or under the Coastal Zone Management Act of 1972?

Yes _____ No _____

If "yes", please attach a certification from the Secretary of Commerce that the discharge is consistent with Title III and can be carried out within any applicable regulations promulgated thereunder.

Section 7. Endangered or Threatened Species

Please attach sufficient information to demonstrate that your modified discharge will not jeopardize the continued existence of an endangered or threatened species (as determined by the Secretary of the Interior under the Endangered Species Act of 1973, as amended), and will not result in the destruction or modification of the habitat of such species.

To assist EPA in determining whether the discharge of effluent pursuant to a permit issued under section 301(h) may affect a threatened or endangered species or modify the critical habitat of such species, an application must contain the following information:

(1) the names of any threatened or endangered species listed in 44 FR 3836 *et seq.* (January 17, 1979 or subsequently listed species) that inhabit, or obtain nutrients from, waters that will be affected by the proposed discharge;

(2) an indication whether the discharge will affect an area designated as Critical Habitat in 50 CFR Sections 17.95, 19.96 or Part 228;

(3) the applicant's evaluation of whether the proposed discharge may affect threatened or endangered species or modify a Critical Habitat (if a proposed discharge may affect waters inhabited by a threatened or endangered species, or used by such species to obtain nutrients, or if a proposed discharge may affect a Critical Habitat, the applicant's evaluation should contain a detailed analysis of the direct and indirect impacts of such discharge on threatened or endangered species).

Section 8. Other Applicable Federal Requirements

Are you aware of any Federal law, other than the Clean Water Act or the three statutes identified in Sections 5, 6 and 7, or an Executive Order, which is applicable to your discharge?

Yes _____ No _____

If "yes", please provide sufficient information to demonstrate that your modified discharge will comply with such law(s) or order(s).

Section 9. Existence and Compliance With State Water Quality Standards

Does a State water quality standard or standards, as defined in section 125.58(w) exist, as required by § 125.60(a) that is applicable to the pollutant or pollutants for which a modified permit is requested?

Yes _____ No _____

If "yes", please attach a certification from your State water pollution control agency and a demonstration that the water quality of your modified discharge meets or will meet the appropriate State water quality standard or standards. Include information on the State's mixing zone policy, criteria applied, and dilution or decay studies that were undertaken to demonstrate that the appropriate mixing and effluent concentration limitations were met.

Section 10. Improved Discharge Construction

Are you applying for a section 301(h) modification based on an improved discharge within the meaning of 40 CFR 125.58?

If "yes", please provide the following information:

A. Evidence that such improvements have been thoroughly planned and studied as an alternative to secondary treatment.

B. Evidence that you have the financial and technical resources necessary to complete or implement such improvements expeditiously.

C. A history of your previous efforts to comply with construction schedules in your existing NPDES permit (or an enforcement compliance schedule letter). If you have not met all required dates, please provide an explanation.

D. A proposed schedule for the staged planning, design and construction of (A) secondary treatment and (B) the improvements which you propose to make to meet the requirements of this part, which will maximize the amount of planning, design and construction which you can complete pending a final Agency decision on your application.

Part B—Technical Evaluation Information

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Section 5. Public Water Supply Impact Assessment.

Section 6. Marine Biological Assessment.

Section 7. Biological Assessment Questionnaire.

Section 8. Recreational Impact Assessment.

General Instructions. In addition to providing the information required in this format, the applicant must include supplemental information as requested in various Sections of Part A.

Section 1. Physical Assessment

Subsection A. Initial Dilution

1-1. List the characteristics of the outfall diffuser system:

_____angle of port orientation(s) from the horizontal, in degrees.

_____port diameter(s) in meters to three significant figures, and the contraction coefficient of the orifice(s), if known.

_____vertical distance between water surface and outfall port(s) centerline, in meters.

_____density of effluent in grams per cubic centimeters at some reference temperature (degrees centigrade).

_____number of ports.

_____port spacing, meters; also explain in Appendix I the spatial arrangement of ports with respect to each other, and the seabed.

_____design flow rate for each port if multiple ports are employed (m³/sec).

1-2. Determine the flow rates representing the highest two to three hours during an average day of the seasonal critical periods identified in 1-3:

a. Maximum flow = _____m³/sec.

b. Expected maximum flow at the end of the permit term = _____m³/sec.

1-3. Provide ambient density gradient lines for the region of the outfall diffuser. Sufficient vertical data points must be given to allow an accurate representation by linear segments of the major features of the ambient density structure. Ambient stratification adversely affects initial dilution. The greatest density gradient over the height-of-rise of the plume will result in the lowest dilution period. Data can be evaluated by (1) comparing predictions for various density profiles or (2) predicting the density gradient over the height-of-rise of the plume and then using the greatest value (as explained in the Technical Support Document). Worst case conditions or those at the worst 10 percentile if sufficient data exists should be used. Since initial dilution predictions may be sensitive to the value of the density gradient, data accuracy should be consistent with

generally accepted oceanographic practices. Density should be reported to five (5) significant figures. A set of data should be provided for each of the following critical environmental situations:

a. Periods of maximum hydraulic loading from the wastewater treatment facility.

b. Periods of low background water quality due to natural conditions including low DO, excessively high and low turbidity.

c. Periods of exceptional biological activity (e.g., spawning, migration of anadromous or catadromous organisms, etc.)

d. Periods of low net circulation, low effective net flushing, or low intertidal mixing

e. Periods of minimum and maximum stratification.

1-4. Compute initial dilution for the flow rates identified in Section 1-2 and each of the critical environmental conditions given in Section 1-3. Currents equal to the lowest ten percentile of those measurements made near the discharge site during these periods may be used in computations.

Dilution is defined as the total volume of a parcel divided by the volume of waste it contains. Initial dilution is the flux-average dilution attained by the plume during its convective ascent through ambient water. Initial dilution may be calculated by the applicant. However, EPA will make calculations based on its own methods.¹ These methods are available upon request. If other methods are used, they should be described in Appendix I and be in reasonable agreement with EPA calculations.

For the purposes of demonstrating impact on water quality, concentrations of waste constituents expected after initial dilution are:

$$C_i = C_a + (C_e - C_a) / Sa$$

Where:

C_i = final concentrations, C_e = effluent concentrations, C_a = ambient concentration, and Sa = predicted initial dilution.

1-5. If EPA methods of initial dilution prediction are used, check here.

1-6. Of the initial dilutions listed in 1-4, which is most critical with respect to ambient DO requirements (See 2-7)? Explain in Appendix I.

1-7. Which is most critical for pH (See 3.3)? Explain in Appendix I.

1-8. Which is most critical for SS (See 4.5)? Explain in Appendix I.

¹Teeter, A. M. and D. J. Baumgartner. Predictions of Initial Mixing for Municipal Ocean Discharges. EPA, Corvallis Environmental Research Laboratory Publication 043. Corvallis, Oregon, August 1978.

1-9. Provide in Appendix II an explanation of how the currents and ambient vertical density stratification in the vicinity of the outfall (using data provided in Appendices III and/or IV) may influence plume shape, trajectory, and seawater entrainment in the plume (or plumes if multiple diffusers are used). Methods cited above for initial dilution may be used. The applicant must demonstrate that coastal circulation processes supply dilution water in the amount of $Sa \times Q$, where Q is the volumetric flux of treated wastewater, using oceanographic data discussed in Appendix II, III, or IV.

1-10. Estimate the boundary of the zone of initial dilution. This zone should bound those dilutions calculated for the flows and conditions described in Section 1-4. Use predicted plume trajectories or vertical height of rise for the critical conditions, whichever is greater, as the radial extent of the zone. Measure this distance horizontally from the discharge point(s) to the boundary of the zone. The maximum vertical height of rise will equal the water depth in most cases and is an acceptable value. The zone will then be a circle with a radius equal to the water depth in the case of a single port, or a rectangle whose width is equal to twice the depth of the water plus the width of the diffuser, and whose length is equal to twice the depth of the water plus the length of the diffuser. For purposes of compliance monitoring, a regularly shaped boundary (describing a cylinder, cube, etc.) extending vertically from the seabed to the sea surface would be acceptable. List the geometric description of the zone configurations indicating the margin for navigational error as a \pm distance.

1-11. List the coordinates of the zone by latitude and longitude.

Subsection B. Ocean Discharge

1-12. If your discharge is into the ocean, provide in Appendix III an oceanographic report including:

a. Profiles with depth, representative of seasonal conditions, shall be provided for temperature, salinity, density and currents. These variables shall be given for the water column in-shore of the diffuser (or pipeline end, in the case of no diffuser), over the diffuser (or end), but away from direct effluent effects, offshore of the end, and upstream and downstream of the center of the discharge. Conclusions should be drawn from direct and inferred current measurements as to the fate of material in the far field and as to plume dynamics. Oceanographic atlases or compendia of data may be used, or data

may be extrapolated from them if it is shown that they are representative of the outfall area.

b. Depending on applicable water quality standards and monitoring requirements, the following measurements shall be made simultaneously at the same stations as 1-12a, above, and additionally to monitor outfall effluents: BOD, DO, pH, suspended particulates, and light transmittance. As noted elsewhere, DO is a surrogate for BOD, and light transmittance and turbidity are surrogates for suspended solids and may be substituted where appropriate.

c. An assessment of the environmental effects of direct freshwater runoff from coastal areas is required. Runoff from estuaries may contain substances that affect measurements in the zone occupied by the outfall, hence the outfall may contribute less to the pollution load than would be the case if extraneous sources were not considered. The applicant should document the estuary mass emission rate if this situation occurs.

Subsection C. Saline Estuarine Discharge

1-13. If your discharge is to saline estuarine waters, provide in Appendix IV an oceanographic report describing the following characteristics:

a. Seasonal classification of the estuary in the vicinity of the discharge must be documented, preferably by the scheme devised by Hansen and Rattray.² If the Hansen-Rattray method is used, velocity and salinity data shall be presented so as to estimate pollutant flux past the outfall. Residence times of material in the vicinity of the outfall and in the estuary itself should be provided. If the Hansen-Rattray scheme is not used, e.g., if the estuary is classified as "well-mixed," "partially-mixed," etc., data shall be presented to support the classification. The same calculations discussed above will be presented.

If deep estuaries, e.g., fiords, are being considered, calculation of residence times throughout the water column will be given. Methods of deriving these estimates and their effect on relative pollutant distribution must be made with reference to the seasonal variation of plume configuration, i.e., plume equilibrium position.

b. In conjunction with 1-13a, the freshwater budget is required to provide estimates of the non-tidal freshwater velocity, at the point of evaluation. Other uses of the freshwater budget are

for calculations of flushing rates which require knowledge of tidal prisms and as input to numerical models which are discussed below. Generally, streams are gauged sufficiently above tidal effect so that the freshwater inflow can be estimated. Other estimates of runoff contributions below the gauging station are required.

If gauged stream data are not available for runoff estimates the method of estimating flow must be accompanied by a discussion of assumptions, estimates of errors and potential effect of errors.

c. Historical records of wind, tide height and tidal currents should be synthesized and a correlation made with the dispersion of surface and subsurface materials, and recirculation of material. Particular attention should be given to prevailing wind speed and direction, especially the onshore-alongshore-offshore component (as it affects the shoreward movement of surface materials), and the incidence of such events. Where possible, corrections to time of occurrence, elevations, speeds and directions should be cited with reference to NOAA current and tide table stations.

d. The effects of geographical and geomorphological features on spatial and temporal variations shall be evaluated with narrows and shoaling effects in mind.

e. Spatial and temporal scale-dependent phenomena within the outfall tidal excursion zone are to be evaluated.

f. If numerical models are used to support the modification request, complete documentation and seasonal verification at the point(s) in question must be supplied, as must methods employed to evaluate turbulent, advective, and other terms.

g. If hydraulic models are used to support the modification request, time-lapse photographs covering combinations of seasonal runoff and tidal conditions at the point(s) in question should be supplied if available. Documentations of methods employed to simulate wind, density, and velocity profiles will be required.

h. Background data on suspended solids contributions and estimates of deposition and resuspension to the estuary solids balance must be supplied.

Section 2. Compliance With BOD or DO

2-1. If the BOD of your effluent exceeds the BOD criteria described in 40 CFR 133.102(a), complete this section.

2-2. Provide applicable State water quality standards levels in receiving water. You may apply for a BOD

modification if a value is entered in 2-2a or 2-2b below.

a. DO criteria _____

b. BOD criteria _____

Complete the appropriate subsection to show compliance with the criteria listed in 2-2a or 2-2b or both if applicable.

Dissolved Oxygen

2-3. Effluent sample point location _____ DO (mg/l) at sample point _____

The location of effluent concentration measurement should be clearly indicated (i.e., final clarifier overflow, final pump station). If disinfection is employed periodically, samples must be obtained for every comparable situation.

2-4. Travel time from sample point to diffuser ports:

a. Minimum flow _____ m³/sec, time to flow _____ minutes.

b. Average flow _____ m³/sec, time to flow _____ minutes.

c. Maximum flow _____ m³/sec, time to flow _____ minutes.

d. Expected maximum flow at the end of the permit term _____ m³/sec, time to flow _____ minutes.

Because anaerobic conditions in ocean outfalls may increase demand and adversely alter other chemical parameters, it is necessary to compute travel times at these flows. Applicants should enter the values for the flows indicated and compute the time to flow between the sample point and the diffuser ports.

2-5. Immediate dissolved oxygen demand (15 minutes) of the effluent after anaerobic incubation for times 2-4a through 2-4d, respectively.

a. _____

b. _____

c. _____

d. _____

The immediate dissolved oxygen demand (IDOD; APHA Standard Methods, 14th ed., except as modified to use representative seawater instead of distilled water for dilution) must be measured after anaerobic incubation at representative temperatures for the time periods computed in 2-4. This value is considered to be a conservative estimate of the oxygen demand exerted by the waste stream in the buoyant plume formed in the sea upon discharge from an ocean outfall. Show the data from which the IDOD's were calculated.

2-6. List background DO concentrations at appropriate depths and indicate possible influence by the ocean outfall for the critical environmental situations listed in question 1-3.

²Hansen, D. V. and M. Rattray, Jr. New dimensions in estuary classification. *Limn. Ocean.* 21:319-328, 1968.

2-7. Compute the influence on ambient DO using the largest IDOD presented in 2-5, the DO concentration presented in 2-6, and the corresponding Sa from question 1-4. Respond to question 1-6. Compute the following equation (all values in mg/l):

$$DO_t = DO_s + (DO_s - IDOD - DO_t) / Sa$$

where:

DO_t = final dissolved oxygen,
DO_s = background dissolved oxygen,
DO_t = dissolved oxygen of samples at final sampling point in the plant,
IDOD = immediate dissolved oxygen demand, per modified standard methods,
Sa = predicted average initial dilution.

2-8. Do the results of 2-7 meet the criteria for DO presented in 2-27? If not explain.

BOD

2-9. Determine the effluent BOD taken at times corresponding to flows presented in 2-4a, b, c, and d.

- _____
- _____
- _____
- _____

2-10. Compute the final BOD following initial dilution using the appropriate flows in 2-4.

- _____
- _____
- _____
- _____

2-11. Do the results of 2-10 meet the criteria for BOD presented in 2-2b? If not explain.

2-12. Provide in Appendix V, an analysis showing that BOD exerted after initial dilution will not result in subsequent depletion of DO below applicable standards for DO. Describe the oxygen demand resulting from periodic disturbance of accumulated sediments, and from steady demand of undisturbed sediments, in relation to 2-13.

2-13. The demand of oxygen in the bottom 2 meters of seawater for the critical 3 month period refers to the following data:

- Ambient DO concentration _____ mg/l.
- DO criteria _____.
- What months of the year are represented? _____.

2-14. How often are the 2-2a criteria exceeded? _____.

2-15. Do you believe questions 2-2 through 2-13 adequately represent the most critical evaluation of possible adverse effects that may be associated with the BOD exerted by your discharge? If not, please describe in Appendix VI a more critical situation and demonstrate that your discharge will comply with applicable State water

quality standards and not cause environmental damage.

Section 3. Compliance with pH

3-1. Does your effluent pH ever exceed nine or fall below six? If so, explain why and complete this section.

3-2. List the applicable State standard for pH in the vicinity of the discharge.

3-3. List pH's resulting from mixtures of receiving seawater and effluent according to the lowest initial dilution calculated in 1-4. Respond to question 1-7. Describe the method used in determining pH.

Values must be a time series, as deemed appropriate, based on the above experimental observations. The pH may change as a result of effluent dilution with seawater. Therefore, the applicant should provide results of pH measurement in tabular form (graphs of continuous measurement may be attached). Measurements should be made immediately after mixing and at three more times following mixing as determined by observing the rate of reaction of the waste and seawater.

3-4. Is the pH standard met? How often is the pH standard exceeded? Explain.

3-5. If you have evaluated other considerations regarding pH, please provide a detailed analysis in Appendix VII.

Section 4. Compliance With Suspended Solids

4-1. If the suspended solids of your effluent exceeds the suspended solids criteria described in 40 CFR 133.102(b) complete this section.

4-2. Have you received, or are you in the process of receiving an adjusted suspended solids effluent requirement from EPA by virtue of operating an approved wastewater treatment pond? (See 40 CFR 133.103).

YES _____, please explain.

NO _____, proceed to next question.

4-3. List the State water quality standard related to suspended solids applicable to the marine waters at the discharge point. Standards for suspended solids, water clarity, turbidity, light transmittance, depth of photic zone, or settleable solids are acceptable.

4-4. Determine the suspended solids content for the following flow conditions:

- Minimum flow _____ m³/sec, SS _____ mg/l.
- Average flow _____ m³/sec, SS _____ mg/l.
- Maximum flow _____ m³/sec, SS _____ mg/l.

4-5. Using the initial dilutions computed in 1-4, the ambient SS concentrations for the critical periods identified in 1-3, and corresponding SS in 4-4, compute the final suspended solids concentrations following initial mixing. Respond to question 1-8.

4-6. Do the final suspended solids concentrations meet the State water quality standard for suspended solids? YES _____ NO _____

State does not have water quality standard for SS _____.

4-7. If the State does not have a water quality standard for SS, provide as Appendix VIII a detailed discussion of how your outfall discharge meets State water quality standards for water clarity, turbidity, light transmittance, depth of photic zone, or settleable solids. The information should relate to the critical condition explained in 1-8 and include the results of laboratory testing and field studies.

4-8. Describe in Appendix IX the experimental procedure used to compute the amount and areal extent of seabed accumulation of SS discharge under this modification.

If applicable water quality standards limit settleable solids, the applicant must experimentally determine the amount of settleable solids after appropriate initial mixing and a period of a quiescent settling. The mass of settleable material may be reported per unit volume of discharge or per unit volume of receiving water, whichever relates most directly to the applicable standard.

Water quality standards may limit the actual areal deposition³ rate of settleable solids as a way to protect benthic communities from significantly altered sedimentary materials. An assessment of the accumulation of settleable solids must be provided in any event, in order to estimate the impact of deposited materials on oxygen levels.

The applicant must also provide an assessment of the long term fate of the sedimentary material within and outside the zone of initial dilution. It is important to assure that periodic sediment resuspension or continual drift of sediment loads will not result in deleterious accumulations in bays, estuaries, beaches, and oceanic topographic depressions. Data from seabed drifter studies, if available should be reported.

4-9. Does the discharge meet the settleable solids standards in all critical cases as identified in 1-3? Data must be

³As distinguished from a limit on the concentration of settleable solids in the water column.

provided to substantiate this assessment.

_____ Yes,

_____ No applicable standard; however the seabed accumulation is computed for use in evaluating oxygen demand at the seabed interface.

Section 5. Public Water Supply Impact Assessment

General Instructions. The applicant must prepare an assessment of the impact of its current discharge on existing and potential sources of public water supplies (Appendix X). As noted in § 125.81(e), applicants requesting a modified permit based on an improved discharge involving outfall relocation must submit a similar assessment for the relocation site.

The public water supply impact assessment must include, at a minimum:

5-1. Identification of the exact location of each planned or existing seawater intake which is being or will be used by a desalinization plant producing water for public water supplies and is likely to be affected by the applicant's modified discharge, based on the analysis of the transport and dispersion of the applicant's wastewater required by the Physical Assessment, Sections 1-4 of this part.

5-2. If any desalinization plant is identified under paragraph 5-1, a detailed assessment of:

(a) The impact of the applicant's modified discharge on water quality in the vicinity of the intake, considering the effect of tides, winds, currents and other meteorological or hydrological phenomena which affect the transport and dispersion of the applicant's modified discharge; and

(b) If the applicant's modified discharge has any impact on the water quality in the vicinity of the intake, the effect of that impact on the quality of the public water supply ultimately produced, including an analysis of whether it will continue to comply with local, State and EPA drinking water standards, and whether such compliance will require additional treatment.

5-3. An analysis of whether the applicant's modified discharge will comply with all applicable State water quality standards or other requirements adopted or promulgated for the purpose of attaining or maintaining water quality which assures protection of public water supplies.

Section 6. Marine Biological Assessment

General Instructions: To enable the Administrator to determine whether an

applicant's modified discharge meets the criteria of § 125.81(b)(1), the applicant shall answer the Biological Assessment Questionnaire contained in Section 7 of this part of the application form, and shall prepare a Biological Conditions Summary (Appendix XI) that supports the response to the questionnaire. The organization of the Biological Conditions Summary should follow the format of the questionnaire. A section should be prepared for each question and it should include a synthesis of all data relevant to the issue.

The Biological Conditions Summary must examine ecological conditions at a minimum of three sites: within the zone of initial dilution, immediately beyond the boundary of the zone of initial dilution, and at a reference site that is comparable to the discharge site in all physical and chemical parameters except for the presence of ecologically significant human disturbances.

The basic requirements of § 125.81(b)(1) are the absence of extreme biological impacts within the zone of initial dilution, and the presence of a balanced, indigenous population immediately beyond the boundary of the zone. A balanced, indigenous population must also exist at any point beyond the boundary of the zone where impacts from the applicant's modified discharge might reasonably be expected to occur. A balanced, indigenous population will be considered present beyond the boundary of the zone if the applicant can demonstrate that biological conditions there fall within the natural range of variability observed at the reference site.

Section 125.81(b)(1) contains additional biological criteria for modified discharges into saline estuarine waters, for modified discharges into stressed waters, and for improved discharges. Applicants who propose a modified discharge into saline estuarine waters must demonstrate in their response to question 7-2 that their modified discharge will not cause substantial difference in benthic populations within and beyond the zone of initial dilution, will not interfere with migratory pathways within the zone, and will not result in the bioaccumulation of pollutants at levels which exert adverse effects on the biota within the zone.

Applicants who propose a discharge into stressed waters must demonstrate in their response to question 7-12 that their modified discharge will not increase or perpetuate adverse ecological alterations resulting from other sources of pollution.

Applicants who propose an improved discharge must demonstrate in their response to question 7-13 that the improvement will eliminate any adverse biological impacts attributable to their current discharge.

The other portions of the Biological Assessment Questionnaire address major ecological impacts of obvious concern. These include the occurrence of mass mortalities, disease epicenters, and phytoplankton blooms near the applicant's outfall; adverse effects on fisheries and distinctive habitats of limited distribution such as coral reefs and kelp beds; and the bioaccumulation of toxic materials. The questions also address more fundamental ecological characteristics that are likely to indicate a disruption of the natural structure and function of a balanced, indigenous population. These include species composition; patterns of diversity, abundance, and productivity; trophic structure; and the presence of pollution indicators, opportunistic, or nuisance species. Alterations in such ecological parameters may occur in benthic, phytoplankton, zooplankton, demersal, and intertidal assemblages. Sampling guidelines for each of these biological assemblages are cited in the 301(h) Technical Support Document.

The extent of documentation in the Biological Conditions Summary necessary to support the response to the Biological Assessment Questionnaire is dependent on the quality and quantity of the applicant's discharge and the sensitivity of the receiving environment. Because these factors vary greatly among potential 301(h) applicants, EPA has generally avoided specific, universal requirements for biological analyses. Applicants are given the flexibility to provide only those analyses that are warranted in individual cases.

Section 7. Biological Assessment Questionnaire

Is there reason to believe that the applicant's discharge may have caused or will cause:

7-1 Interference with the protection and propagation of a balanced, indigenous population of marine life characteristic of the biogeographic zone in which the outfall is located?

YES _____ NO _____

7-2 Biological communities within the zone of initial dilution to be different from those that would naturally occur in the absence of the outfall? YES _____ NO _____

7-3 Differences in the structure and function of biological communities (e.g., vertical and horizontal stratification, species composition, abundance,

diversity, productivity, trophic structure, etc.) beyond the zone of initial dilution from those characteristics of the biogeographic zone in which the outfall is located? YES _____ NO _____

7-4 Increases in the abundance of any marine plant or animal organism (especially nuisance or toxic species, or phytoplankton whose blooms cause adverse ecological effects) within or beyond the zone of initial dilution not characteristic of the biogeographic zone in which the outfall discharge is located? YES _____ NO _____

7-5 Domination of marine communities within or beyond the zone of initial dilution by pollution resistant species (e.g., slime forming algae or bacteria, fouling, boring, nuisance or opportunistic species of finfish, invertebrates, etc.)? YES _____ NO _____

7-6 A deleterious effect on distinctive habitats of limited distribution such as kelp beds and coral reefs either within or beyond the zone of initial dilution? YES _____ NO _____

7-7 Within or beyond the zone of initial dilution, an increased incidence of disease in marine organisms? YES _____ NO _____

7-8 An abnormal body burden of any toxic material in marine organisms collected within or beyond the zone of initial dilution? YES _____ NO _____

7-9 Adverse effects on commercial or recreational fisheries within or beyond the zone of initial dilution? YES _____ NO _____

7-10 Mass mortality of fishes or invertebrates due to a typical growth of marine algae, anoxia or other conditions within or beyond the zone of initial dilution? YES _____ NO _____

7-11 Adverse ecological impacts either within or beyond the zone of initial dilution other than those addressed in the preceding questions? If so, please explain. YES _____ NO _____

The following question must be answered only by applicants who propose a discharge into stressed waters.

7-12 Is there reason to believe that the applicant's discharge has enhanced or will perpetuate adverse ecological alterations resulting from other sources of pollution? If so, please explain. YES _____ NO _____

The following question must be answered only by applicants who propose to improve their discharge in order to qualify for a 301(h) modification.

7-13 Will the proposed improvement eliminate adverse ecological impacts attributable to the applicant's existing discharge? If so, please explain. YES _____ NO _____

Section 8. Recreational Impact Assessment

General Instructions: The applicant must prepare an assessment of the impact of its modified discharge on existing and potential recreational activities (Appendix XII). The term recreational activities includes, but is not limited to, swimming, diving, wading, boating, fishing, and picnicking and sports activities along shorelines and beaches. As noted in § 125.61(e), applicants requesting a modified permit based on an improved discharge involving outfall relocation must submit a similar assessment for the relocation site.

The recreational impact assessment must include, as a minimum:

8-1. Identification of: (1) all existing or potential recreational activities affected and likely to be affected by the applicant's modified discharge, based on the analysis of the transport and dispersion of the applicant's wastewater required by the Physical Assessment, Section 1-4 of this part; (2) all existing and potential recreational activities at a reference site(s) of comparable, but unpolluted, environmental conditions; and (3) where the applicant claims that its inability to meet the requirements of § 125.61(d) is due to pollution from sources other than its discharge, all existing and potential recreational activities at a reference site(s) of comparable environmental conditions (including comparable pollution absent the applicant's discharge).

8-2. Within the area of impact, as identified by the applicant's analysis of the transport and dispersion of its discharge contained in the Physical Assessment, a detailed analysis of the following:

(a) The impact of the applicant's discharge on existing or potential recreational fishing, including both finfishing and shellfishing;

(b) State, Federal, or local restrictions on the harvesting or human consumption of shellfish or finfish;

(c) State, Federal or local limitations on the concentrations of toxic pollutants, pesticides or other substances in edible fish and shellfish harvested from within the area of impact;

(d) The impact of the applicant's discharge on recreational boating, swimming, wading, and picnicking and

sports activities along shorelines and beaches; and

(e) State, Federal or local restrictions on water contact sports or other activities or on the recreational uses of shorelines and beaches.

8-3. An analysis of whether the applicant's discharge will comply with all applicable water quality standards or other requirements adopted or promulgated for the purpose of attaining or maintaining water quality which assures protection of recreational activities.

Part C—Description of Monitoring System

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- Section 1. Biological Monitoring Program.
- Section 2. Water Quality Monitoring Program.
- Section 3. Toxics Control Monitoring Program.

General Instructions: The applicant must prepare as Part C of the application a description of the proposed monitoring system to meet the criteria of section 125.62 that would be implemented upon receipt of a section 301(h) modified NPDES permit. As noted in section 125.62(b)(ii) applicants requesting a modified permit based on an improved discharge involving outfall relocation must submit a monitoring plan for both the existing discharge site and the relocation site as well as control site(s).

The proposed monitoring plan must include proposed programs for monitoring to demonstrate compliance with the toxics control program established to meet the requirements of § 125.64, for monitoring biological impacts of the applicant's discharge(s) on marine biota to demonstrate compliance with § 125.61, and monitoring of compliance with State water quality standards as required by § 125.60. Each proposed program must include a detailed description or references of sampling techniques, frequency and locations of sampling, analytical techniques and quality control methods. In addition, applicants must demonstrate that adequate economic, personnel, technical, and other resources are available to implement the proposed programs upon issuance of a modified permit and to carry out the proposed programs for the life of the modified permit.

Section 1. Biological Monitoring Program

The applicant must submit as Appendix XIII a proposed biological monitoring program designed to provide data adequate to evaluate the impact of

the applicant's discharge on marine biota. The biological monitoring program should allow for the development and understanding of variations in the marine biota over time and the causes of these variations, whether they are due to natural forces, the discharge itself, or other sources of pollutants. Therefore, the biological monitoring program should be designed so that observed changes in the marine biota can be correlated with the possible influencing factors of the applicant's discharge, including but not limited to variations in the wastewater flow and characteristics, and both normal and unusual meteorological and oceanographic conditions. The biological monitoring program should be keyed to the marine life affected or likely to be affected, as indicated in the biological conditions summary prepared under § 125.61(c)(2), and should emphasize those parameters most likely to impact the marine biota in the vicinity of the applicant's outfall.

The requirements of § 125.62(b) should lead to the development of a biological monitoring program which consists of:

1. Field surveys of biological communities and populations that permit comparisons with baseline conditions described in the Biological Conditions Summary;
2. An assessment of the condition and productivity of both commercial and recreational fisheries potentially affected by the applicant's discharge; and
3. *In situ* bioassays and field surveys to determine bioaccumulation and survival of indicator organisms at various depths within and beyond the zone of initial dilution and at appropriate reference points. The proposed program should include detailed descriptions or references of sampling techniques, frequency and location of sampling and analytical methods, and rationales for the selection of indicator organisms and biological communities used for bioaccumulation studies and various field studies.

Section 2. Water Quality Monitoring Program

The applicant must submit as Appendix XIV a proposed water quality monitoring program designed to provide data adequate to evaluate the applicant's compliance with applicable State water quality standards. The water quality monitoring program should allow for the development and understanding of variations in water quality over time and the causes of these variations, whether they are due to natural forces, the discharge itself, or

other sources of pollutants. Therefore, the water quality monitoring program should be designed so that observed water quality can be correlated with the possible influencing factors of the applicant's discharge, including but not limited to variations in the wastewater flow and characteristics, and both normal and unusual meteorological and oceanographic conditions. Emphasis should be placed on critical environmental periods such as spawning periods for fish and shellfish. The proposed program should include detailed descriptions or references of sampling techniques, frequency and location sampling, and analytical and quality control methods.

Section 3. Toxics Control Monitoring Program

The applicant must submit as Appendix XV a proposed toxics control monitoring program designed to demonstrate the effectiveness of the applicant's toxic control program in reducing those toxic pollutants and pesticides identified in the required analysis of its current discharge under § 125.64(a) for the toxic pollutants and pesticides identified in § 125.58 (k) and (s). Accordingly, the toxics control monitoring program should provide data on the chemical composition of the applicant's discharge which can be used to:

1. Measure the effectiveness of the applicant's pretreatment and non-industrial source control programs and procedures;
2. Assist in implementing the overall toxics control program efforts; and
3. Guide the biological monitoring program efforts.

The proposed program should include detailed descriptions of or references to sampling techniques, frequency and location of sampling, and analytical and quality control methods. The toxics control monitoring program should provide an understanding of variations over time of both the flow rate and toxic pollutant content of the applicant's discharge; accordingly, the program should be designed to provide data on both wet weather and dry weather flows.

Part D—Letter(s) From State Concerning Impact of Modified Discharge on Other Point and Non-Point Sources

General Instructions: The applicant must submit, as Appendix XVI of the application, letters from appropriate State agencies stating whether the applicant's modified discharge will result in any additional treatment, pollution control, or other requirement

on any other point or non-point source. The letter(s) should include a detailed analysis of the facts and other considerations supporting the agency's conclusion, including a thorough analysis of existing and future waste loads and waste load allocations for the waters into which the applicant has discharged and will be discharging, and the effect of granting the proposed section 301(h) modification to other POTWs and other point and non-point source discharges into these waters.

Since waste load allocations are determined by the State, letter(s) should be secured from all State agencies which have any role in setting waste loadings or waste load allocations. These agencies include the State water pollution control agency, area-wide planning or management agency, coastal zone commission, and possibly other State-level agencies.

Part E—Toxic Control Program

Table of Contents

- Section 1. Chemical Analysis.
- Section 2. Pretreatment Program.
- Section 3. Non-Industrial Source Control Program.

General Instructions: All applicants must submit as Appendix XVII an analysis of the wastewater or effluent from their current discharge, an analysis of known or suspected sources of toxics and pesticides in the wastestream, and proposed industrial pretreatment and non-industrial source control programs designed to address the control of the toxics identified by the chemical analysis. Applicants who can certify that there are no known or suspected industrial sources of the identified toxic pollutants currently or planned that would discharge into the POTW for which a modification is being requested are not required to develop a proposed industrial pretreatment program.

Section 1. Chemical Analysis

All applicants shall submit an analysis of the waste water or effluent from their current discharge for the toxic pollutants and pesticides listed in Table 1 below, and present the results of the analyses in Appendix XVII. All analyses shall be done on a 24-hour composite sample with incremental samples collected hourly. Both dry weather and wet weather flows of the effluent shall be sampled and analyzed. The dry weather flow sample shall be collected no less than 5 days following a rainfall of measureable intensity.

The pesticides and toxic pollutants shall be analyzed using the procedures presented in the document titled "Sampling and Analysis Procedures for

Screening of Industrial Effluents for Priority Pollutants" (April, 1977 or later revisions). This document is available at no charge to the applicant. Applicants should notify the person listed under "For Further Information Contact" at the front of the regulation for a copy of the document.

This document references the analytical procedures for measuring pesticides, heavy metals, cyanides and phenols listed in 40 CFR Part 136. Applicants must report data for all detectable pesticides and toxic pollutants, not just those reported to be greater than 10ug/l, as requested on page thirty of the "Sampling and Analysis" document. Applicants should provide quality control data collected during the analysis of the wastewater samples.

Applicants may substitute or provide additional data on the concentration of priority pollutants concentrations in their discharge for those found in the two composite samples. Information must be provided to demonstrate that the concentrations are those typical of wet and dry weather flows. Where these data are not available, applicants shall provide data on the two samples listed above.

In addition to complying with the requirements of § 125.64(b), the applicant must submit as a part of Appendix XVII an analysis of known or suspected sources of the toxics and pesticides identified through the chemical analysis of the waste stream. These sources should be categorized according to their specific industrial and non-industrial origin, where possible.

For the purposes of these regulations, toxic pollutants and pesticides include: (1) those substances identified in Table 1 of Committee Print 95-30 of the House of Representatives Committee on Public Works and Transportation; and (2) those pesticides identified in *Quality Criteria for Water, 1976* but not included in Committee Print 95-30. Following is the list of toxic pollutants and pesticides which applicants must include in their toxic control program.

Table 1

Pesticides:

Mirex
Guthion
Methoxychlor
Parathion
Demeton
Malathion

Toxic Pollutants:

Acenaphthene
Acrolein
Acrylonitrile
Aldrin/Dieldrin
Antimony and compounds

Arsenic and compounds
Asbestos
Benzene
Benzidol
Beryllium and compounds
Cadmium and compounds
Carbon tetrachloride
Chlordane (technical mixture and metabolites)

Chlorinated benzenes (other than dichlorobenzenes)
Chlorinated ethanes (including 1, 2-dichloroethane, 1,1,1-trichloroethane, and hexachloroethane)

Chloroalkyl ethers (chloromethyl, chloroethyl, and mixed ethers)
Chlorinated naphthalene
Chlorinated phenols (other than those listed elsewhere; includes trichlorophenols and chlorinated cresols)

Chloroform
2-chlorophenol
Chromium and compounds
Copper and compounds
Cyanides

DDT and metabolites
Dichlorobenzenes (1,2-, 1,3-, and 1,4-dichlorobenzenes)

Dichlorobenzidino-
Dichloroethylenes (1,1- and 1,2-dichloroethylene)

2,4-dichlorophenol
Dichloropropane and dichloropropene

2,4-dimethylphenol
Dinitrotoluene
Diphenylhydrazine

Endosulfan and metabolites
Endrin and metabolites

Ethylbenzene
Fluoranthene

Haloethers (other than those listed elsewhere; includes chlorophenylphenyl ethers, bromophenylphenyl ether, bis (dichloroisopropyl) ether, bis (chloroethoxy) methane and polychlorinated diphenyl ethers)

Halomethanes (other than those listed elsewhere; includes methylene chloride, methylchloride, methylbromide, bromoform, dichlorobromomethane, trichlorofluoromethane, dichlorodifluoromethane)

Heptachlor and metabolites
Hexachlorobutadiene
Hexachlorocyclohexane (all isomers)
Hexachlorocyclopentadiene

Isophorone
Lead and compounds
Mercury and compounds

Naphthalene
Nickel and compounds

Nitrobenzene

Nitrophenols (including 2,4-dinitrophenol, dinitrocresol)

Nitrosamines
Pentachlorophenol
Phenol

Phthalate esters
Polychlorinated biphenyls (PCBs)
Polynuclear aromatic hydrocarbons (including benzantracenes, benzopyrenes, benzofluoranthene, chrysenes, dibenzanthracenes, and indenopyrenes)

Selenium and compounds

Silver and compounds
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)
Tetrachloromethylene
Thallium and compounds
Toluene
Toxaphene
Trichloroethylene
Vinyl chloride
Zinc and compounds

Section 2. Industrial Pretreatment Program

All applicants shall submit, as Appendix XVIII, a proposed pretreatment program which complies with the requirements of § 125.64(c) (1) and (2) and which is designed to address the control of toxic pollutants identified by the chemical analyses of its current discharge, as required under § 125.64(a), and reported in Appendix XVII, Section 1 of this part of the application format. In lieu of such pretreatment program, applicants may certify, as provided under § 125.64(c)(1)(ii), that no known or suspected industrial sources of toxic pollutants currently exist or are planned for construction that would discharge into the POTW for which a modification is being requested. Applicants developing proposed pretreatment programs should assure that all of the criteria and application requirements listed under § 125.64 are thoroughly addressed and that the proposed program can be implemented after issuance of a modified permit.

Section 3. Non-Industrial Source Control Program

All applicants shall submit as Appendix XIX a proposed non-industrial source control program which complies with the requirements of § 125.64(d) (1) and (2) and is designed to address the control of toxics identified by the chemical analyses of its current discharge as required under § 125.64(a) and reported in Appendix XI, Section 1 of this part of the application format. Applicants should note that they are not exempt from this requirement by the exemption from developing a proposed pretreatment program under § 125.64(c)(1)(ii).

Part F—Effluent Volume and Mass Emissions

General Instructions: Under § 125.65, the applicant must submit, as Appendix XX, evidence that there shall be no increase in effluent volume or mass loadings of any pollutant(s) for which a modification is requested over and above that amount identified in the applicant's projected five year discharge. Also, where combined sewer overflows contribute in part to pollutant

discharges, the applicant must submit as a part of Appendix XXI a schedule of activities designed to minimize existing overflows and prevent increases in the amount of pollutants from this source.

Part G—Use of Title II Funds

General Instructions: The applicant must submit as Appendix XXII a funding program containing a proposed modified scope of work and estimates of revised costs for any funds available to the applicant under Title II of the Clean Water Act in a manner which complies with the requirements of § 125.86 (a) and (b). This submittal should cover any active Step 1, 2, or 3 construction grants awarded under 40 CFR Part 35 Subpart E which may be affected by an approval of the applicants request for a 301(h) modified permit.

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