

**ENVIRONMENTAL PROTECTION
AGENCY**
40 CFR Part 131
[WH-FRL-4029-2]
**Amendments to the Water Quality
Standards Regulation To Establish the
Numeric Criteria for Priority Toxic
Pollutants Necessary to Bring All
States Into Compliance With Section
303(c)(2)(B)**
AGENCY: Environmental Protection
Agency.

ACTION: Proposed rule.

SUMMARY: This proposed rulemaking would promulgate the chemical-specific, numeric criteria for priority toxic pollutants necessary to bring all States into compliance with the requirements of section 303(c)(2)(B) of the Clean Water Act (CWA). States which have been determined by EPA to fully comply with section 303(c)(2)(B) requirements would not be affected by today's proposed rulemaking.

The proposed rulemaking addresses several situations. For a few States EPA would promulgate only a limited number of criteria because the Agency previously identified, in disapproval letters to such States, the specific priority toxic pollutants that require new or revised criteria. For these States, EPA would promulgate Federal criteria only for the priority toxic pollutants which require new or revised criteria. In the vast majority of States, EPA would promulgate, at a minimum, broadly applicable Federal criteria for all priority toxic pollutants for which EPA has issued section 304(a) water quality criteria guidance and that are not the subject of approved State criteria.

For those priority toxic pollutants included in today's proposed rulemaking where the section 304(a) criteria recommendation is based on carcinogenicity, the proposed criteria are based on an incremental one in one million cancer risk level (i.e., 10^{-6}).

The primary focus of this rule is the inclusion of the water quality criteria for pollutant(s) in State standards as necessary to support water quality-based control programs. The Agency is accepting comment on the criteria proposed in today's rule. However, Congress has established a very ambitious schedule for the promulgation of the final criteria. The statutory deadline in section 303(c)(4) clearly indicates that Congress intended the Agency to move very expeditiously when Federal action is warranted. The Agency believes that the limited time available for promulgation of the

regulation can be used most efficiently and effectively by addressing those issues that have not already come before the Agency.

DATES: All written comments received on or before December 19, 1991, will be considered in the preparation of any final rulemaking.

A public hearing will be held on December 19, 1991, in Washington, DC, beginning at 9 a.m. The hearing officer reserves the right to limit oral testimony to 10 minutes, if necessary.

ADDRESSES: Comments, in quadruplicate, on this proposed rule should be addressed to William R. Diamond, Director, Standards and Applied Science Division (WH-585), Office of Science and Technology, 401 M Street, SW., Washington, DC 20460 (Telephone: 202-260-1315). The public may inspect the administrative record for this rulemaking, including documentation supporting the aquatic life and human health criteria, and all comments received on this proposed rule at EPA's Public Information Reference Unit, EPA Library, room 2904, Waterside Mall, 401 M Street, SW., Washington, DC 20460 (Telephone: 202-260-5926) on weekdays during the Agency's normal business hours of 8 a.m. to 4:30 p.m. Each of EPA's ten Regional offices will also have copies for public inspection and copying of the administrative records for the States in that Region. These records will be available in the Water Management Divisions of each respective Regional office. A reasonable fee will be charged for photocopies.

The public hearing will be held in the EPA auditorium, 401 M Street, SW., Washington, DC.

FOR FURTHER INFORMATION CONTACT: David K. Sabock or R. Kent Ballentine, Telephone 202-260-1315.

SUPPLEMENTARY INFORMATION:

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A. Introduction and Overview
1. Introduction

This section of the preamble introduces the topics which are addressed subsequently and provides a brief overview of EPA's basis and rationale for proposing to promulgate Federal criteria for priority toxic pollutants. Section B of this preamble presents a description of the evolution of the Federal Government's efforts to control toxic pollutants beginning with a discussion of the authorities in the Federal Water Pollution Control Act Amendments of 1972. Also described in some detail is the development of the water quality standards review and revision process which provides for establishing both narrative goals and enforceable numeric requirements for controlling toxic pollutants. This discussion includes the recent changes enacted in the 1987 Clean Water Act Amendments which are the basis for this proposed rulemaking. Section C summarizes State efforts since 1987 to comply with the requirements of Section 303(c)(2)(B). Section D describes EPA's procedure for determining whether a State has fully complied with Section 303(c)(2)(B). Section E sets out the rationale and approach for developing today's proposed rulemaking, including a discussion of EPA's legal basis. Section F describes the development of the criteria included in today's proposed rulemaking. Section G summarizes the provisions of the proposed rule and Section H highlights certain issues

raised by the proposal for public comment. Sections I, J, and K address the requirements of Executive Order 12291, the Regulatory Flexibility Act, and the Paperwork Reduction Act, respectively. Section L provides a list of subjects covered in today's proposed rulemaking.

2. Overview

Today's proposed rulemaking to establish Federal toxics criteria for States is important for a number of environmental, programmatic and legal reasons.

First, control of toxic pollutants in surface waters is an important priority to achieve the Clean Water Act's goals and objectives. The most recent National Water Quality Inventory indicates that one-third of monitored river miles, lake acres, and coastal waters have elevated levels of toxics. Forty-seven States and Territories have reported elevated levels of toxic pollutants in fish tissues. States have issued a total of 586 fishing advisories and 135 bans, attributed mostly to industrial discharges and land disposal.

The absence of State water quality standards for toxic pollutants undermines EPA's overall toxic control efforts to address these problems. Without clearly established water quality goals, the effectiveness of many of EPA's water programs is jeopardized. Permitting, enforcement, coastal water quality improvement, fish tissue quality protection, certain nonpoint source controls, drinking water quality protection, and ecological protection all depend to a significant extent on complete and adequate water quality standards. Numeric criteria for toxics are essential to the process of controlling toxics because they allow States and EPA to evaluate the adequacy of existing and potential control measures to protect aquatic ecosystems and human health. Formally adopted standards form the legal basis for including water quality-based effluent limitations in NPDES permits to control toxic pollutant discharges. The critical importance of controlling toxic pollutants has been recognized by Congress and is reflected, in part, by the addition of section 303(c)(2)(B) to the Act. Congressional impatience with the pace of State toxics control programs is well documented in the legislative history of the 1987 CWA amendments. In order to protect human health, aquatic ecosystems, and successfully implement toxics controls, EPA believes that all actions which are available to the Agency must be taken to ensure that all necessary numeric criteria for

priority toxic pollutants are established in a timely manner.

Second, as States and EPA continue the transition from an era of primarily technology-based controls to an era in which technology-based controls are integrated with water quality-based controls, it is important that EPA ensures timely compliance with CWA requirements. An active Federal role is essential to assist States in getting in place complete toxics criteria as part of their pollution control programs. While most States recognize the need for enforceable water quality standards for toxic pollutants, their recent adoption efforts have often been stymied by a variety of factors including limited resources, competing environmental priorities, and difficult scientific, policy and legal challenges. Although many water quality criteria for toxic pollutants have been available since 1980 and the water quality standards regulation has required State adoption of numeric criteria for toxic pollutants since 1983 (see 40 CFR 131.11), a preliminary assessment of the water quality standards for all States in February of 1990 showed that only six States had established fully acceptable criteria for toxic pollutants. This rate of toxics criteria adoption is contrary to the CWA requirements and is a reflection of the difficulties faced by States. EPA should exercise its CWA authorities to assist States in such circumstances.

EPA's proposed action will also help restore equity among the States. The CWA is designed to ensure all waters are sufficiently clean to protect public health and the environment. The CWA allows some flexibility and differences among States in their adopted and approved water quality standards, but it was not designed to reward inaction and inability to meet statutory requirements.

Although most States have made some progress toward satisfying CWA requirements, many appear to have failed to fully comply with section 303(c)(2)(B). The CWA assigns EPA the legal responsibility to promulgate standards where necessary to meet the requirements of the Act. Where States have not satisfied the CWA requirement to adopt water quality standards for toxic pollutants, which was re-emphasized by Congress in 1987, it is imperative that EPA take action.

EPA's ability to oversee State standards-setting activities and to correct deficiencies in State water quality standards is critical to the effective implementation of section 303(c)(2)(B). This proposed rulemaking is a necessary and important component of

EPA's implementation of section 303(c)(2)(B) as well as EPA's overall efforts to control toxic pollutants in surface waters.

B. Statutory and Regulatory Background

1. Pre-Water Quality Act Amendments of 1987 (Pub. L. 100-4)

Section 303(c) of the 1972 Federal Water Pollution Control Act Amendments (FWPCA) (33 U.S.C. 1313(c)) established the statutory basis for the current water quality standards program. It completed the transition from the previously established program of water quality standards for interstate waters to one requiring standards for all surface waters of the United States.

Although the major innovation of the 1972 FWPCA was technology-based controls, Congress maintained the concept of water quality standards both as a mechanism to establish goals for the Nation's waters and as a regulatory requirement when standardized technology controls for point source discharges and/or nonpoint source controls were inadequate. In recent years these so-called water quality-based controls have received new emphasis by Congress and EPA in the continuing quest to enhance and maintain water quality to protect the public health and welfare.

Briefly stated, the key elements of section 303(c) are:

(a) A water quality standard is defined as the designated beneficial uses of a water segment and the water quality criteria necessary to support those uses;

(b) The minimum beneficial uses to be considered by States in establishing water quality standards are specified as public water supplies, propagation of fish and wildlife, recreation, agricultural uses, industrial uses and navigation;

(c) A requirement that State standards must protect public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act;

(d) A requirement that States must review their standards at least once each three year period using a process that includes public participation;

(e) The process for EPA review of State standards which may ultimately result in the promulgation of a superseding Federal rule in cases where a State's standards are not consistent with the applicable requirements of the CWA, or in situations where the Agency determines Federal standards are necessary to meet the requirements of the Act.

Another major innovation in the 1972 FWPCA was the establishment of the

National Pollutant Discharge Elimination System (NPDES) which requires point source dischargers to obtain a permit before legally discharging to the waters of the United States. In addition to the permit limits established on the basis of technology (e.g. effluent limitations guidelines), the Act requires dischargers to meet instream water quality standards. (See section 301(b)(1)(C), 33 U.S.C. 1311(b)(1)(C)).

Thus water quality standards serve a dual function under the Clean Water Act regulatory scheme. Standards establish narrative and numeric definitions and quantification of the Act's goals and policies (see section 101, 33 U.S.C. 1251) which provide a basis for identifying impaired waters. Water quality standards also establish regulatory requirements which are translated into specific discharge requirements. In order to fulfill this critical function, adopted State criteria must contain sufficient parametric coverage to protect both human health and aquatic life.

In its initial efforts to control toxic pollutants, the FWPCA, pursuant to section 307, required EPA to designate a list of toxic pollutants and to establish toxic pollutant effluent standards based on a formal rulemaking record. Such rulemaking required formal hearings, including cross-examination of witnesses. EPA struggled with this unwieldy process and ultimately promulgated effluent standards for six toxic pollutants, pollutant families or mixtures. (See 40 CFR part 129.) Congress amended section 307 in the 1977 Clean Water Act Amendments by endorsing the Agency's alternative procedure of regulating toxic pollutants by use of effluent limitation guidelines, by amending the procedure for establishing toxic pollutant effluent standards to provide for more flexibility in the hearing process for establishing a record, and by directing the Agency to include sixty-five specific pollutants or classes of pollutants on the toxic pollutant list. EPA published the required list on January 31, 1978 (43 FR 4109). This toxic pollutant list was the basis on which EPA's efforts on criteria development for toxics was focused.

During planning efforts to develop effluent limitation guidelines and water quality criteria, the list of sixty-five toxic pollutants was judged too broad as some of the pollutants were, in fact, general families or classes of organic compounds consisting of many individual chemicals. EPA selected key chemicals of concern within the 65 families of pollutants and identified a

more specific list of 129 priority toxic pollutants. Three volatile chemicals were removed from the list (see 46 FR 2266, January 8, 1981; 46 FR 10723, February 4, 1981) so that at present there are 126 priority toxic pollutants. This list is published as Appendix A to 40 CFR part 423.

Another critical section of the 1972 FWPCA was section 304(a) (33 U.S.C. 1314(a)). Section 304(a)(1) provides, in pertinent part, that EPA

* * * shall develop and publish * * * criteria for water quality accurately reflecting the latest scientific knowledge (A) on the kind and extent of all identifiable effects on health and welfare including, but not limited to, plankton, fish, shellfish, wildlife, plant life, shorelines, beaches, esthetics, and recreation which may be expected from the presence of pollutants in any body of water, * * * and (C) on the effects of pollutants on biological community diversity, productivity, and stability, * * *

In order to avoid confusion, it must be recognized that the Clean Water Act uses the term "criteria" in two separate ways. In section 303(c), which is discussed above, the term is part of the definition of a water quality standard. That is, a water quality standard is comprised of designated uses and the criteria necessary to protect those uses. Thus, States are required to adopt regulations or statutes which contain legally achievable criteria. However, in section 304(a), the term criteria is used in a scientific sense and EPA develops recommendations which States consider in adopting regulatory criteria.

In response to this legislative mandate and an earlier similar statutory requirement, EPA and a predecessor agency have produced a series of water quality criteria documents. Early Federal efforts were Water Quality Criteria (1968 "Green Book") and Quality Criteria for Water (1976 "Red Book"). EPA also sponsored a contract effort with the National Academy of Science—National Academy of Engineering which resulted in Water Quality Criteria, 1972 (1973 "Blue Book"). These early efforts were premised on the use of literature reviews and the collective scientific judgment of Agency and advisory panels. However, when faced with the list of 65 toxic pollutants and the need to develop criteria for human health as well as aquatic life, the Agency determined that new procedures were necessary. Continued reliance solely on existing scientific literature was now inadequate, since for many pollutants essential information was not available. EPA scientists developed formal methodologies for establishing scientifically defensible criteria. These

were subjected to review by the Agency's Science Advisory Board and the public. This effort culminated on November 28, 1980, when the Agency published criteria development guidelines for aquatic life and for human health, along with criteria for 64 toxic pollutants. (See 45 FR 79318.) Since that initial publication, the aquatic life methodology was slightly amended (50 FR 30784, July 29, 1985) and additional criteria were proposed for public comment and finalized as Agency criteria guidance. EPA summarized the available criteria information in Quality Criteria for Water 1986 (1986 "Gold Book") which is updated from time-to-time. However, the individual criteria documents, as updated, are the official guidance documents.

EPA's criteria documents provide a comprehensive toxicological evaluation of each chemical. For toxic pollutants, the documents tabulate the relevant acute and chronic toxicity information for aquatic life and derive the criteria maximum concentrations (acute criteria) and criteria continuous concentrations (chronic criteria) which the Agency recommends to protect aquatic life resources. For human health criteria, the document provides the appropriate reference doses, and if appropriate the carcinogenic slope factors, and derives recommended criteria. The details of this process are described more fully in a following part of this preamble.

Programmatically, EPA's initial efforts were aimed at converting a program focused on interstate waters into one addressing all interstate and intrastate surface waters of the United States. Guidance was aimed at the inclusion of traditional water quality parameters to protect aquatic life (e.g., pH, temperature, dissolved oxygen and a narrative "free from toxicity" provision), recreation (e.g., bacteriological criteria) and general aesthetics (e.g., narrative "free from nuisance" provisions). EPA also required State adoption of an antidegradation policy to maintain existing high quality or ecologically unique waters as well as maintain improvements in water quality as they occur.

The initial water quality standards regulation was actually a part of EPA's water quality management regulations implementing section 303(e) (33 U.S.C. 1313(e)) of the Act. It was not comprehensive and did not address toxics or any other criteria specifically. Rather, it simply required States to adopt appropriate water quality criteria necessary to support designated uses. (See 40 CFR 130.17 as promulgated in 40 FR 55334, November 28, 1975).

After several years of effort and faced with increasing public and Congressional concerns about toxic pollutants, EPA realized that proceeding under section 307 of the Act would not comprehensively address in a timely manner the control of toxics through either toxic pollutant effluent standards or effluent limitations guidelines because these controls are only applicable to specific types of discharges. EPA sought a broader, more generally applicable mechanism and decided to vigorously pursue the alternative approach of EPA issuance of scientific water quality criteria documents which States could use to adopt enforceable water quality standards. These in turn could be used as the basis for establishing State and EPA permit discharge limits pursuant to section 301(b)(1)(C) which requires NPDES permits to contain

* * * any more stringent limitation, including those necessary to meet water quality standards * * *, or required to implement any applicable water quality standard established pursuant to this Act.

Thus, the adoption by States of appropriate toxics criteria applicable to their surface waters, such as those recommended by EPA in its criteria documents, would be translated by regulatory agencies into point source permit limits. Through the use of water quality standards, all discharges of toxics are subject to permit limits and not just those discharged by particular industrial categories. In order to facilitate this process, the Agency amended the water quality standards regulation to explicitly address toxic criteria requirements in State standards. The culmination of this effort was the promulgation of the present water quality standards regulation on November 8, 1983 (40 CFR part 131, 48 FR 51400).

The current water quality standards regulation (40 CFR part 131) is much more comprehensive than its predecessor. The regulation addresses in detail both the beneficial use component and the criteria component of a water-quality standard. Section 131.11 of the regulation requires States to review available information and,

* * * to identify specific water bodies where toxic pollutants may be adversely affecting water quality or the attainment of the designated water use or where the levels of toxic pollutants are at a level to warrant concern and must adopt criteria for such toxic pollutants applicable to the water body sufficient to protect the designated use.

The regulation provided that either or both numeric and narrative criteria may

be appropriately used in water quality standards.

EPA's water quality standards emphasis since the early 1980's reflected the increasing importance placed on controlling toxic pollutants. States were strongly encouraged to adopt criteria in their standards for the priority toxic pollutants, especially where EPA had published criteria guidance under Section 304(a) of the Act.

Under the statutory scheme, during the 3-year triennial review period following EPA's 1980 publication of water quality criteria for the protection of human health and aquatic life, States should have reviewed those criteria and adopted standards for many priority toxic pollutants. In fact, State response to EPA's criteria publication and toxics initiative was disappointing. A few States adopted large numbers of numeric toxics criteria, although primarily for the protection of aquatic life. Most other States adopted few or no water quality criteria for priority toxic pollutants. Some relied on a narrative "free from toxicity" criterion, and so-called "action levels" for toxic pollutants or occasionally calculated site-specific criteria. Few States addressed the protection of human health by adopting numeric human health criteria.

In support of the November, 1983, water quality standards rulemaking, EPA issued program guidance entitled, Water Quality Standards Handbook (December 1983) simultaneously with the publication of the final rule. The foreword to that guidance noted EPA's two-fold water quality based approach to controlling toxics: chemical specific numeric criteria and biological testing in whole effluents or ambient waters to comply with narrative "no toxics in toxic amounts" standards. More detailed programmatic guidance on the application of biological testing was provided in the Technical Support Document for Water Quality Based Toxics Control (TSD) (EPA 440/4-85-032, September 1985). This document provided the needed information to convert chemical specific and biologically based criteria into water quality standards for ambient receiving waters and permit limits for discharges to those waters. The TSD focused on the use of bioassay testing of effluents (so-called whole effluent testing or WET methods) to develop effluent limitations within discharge permits. Such effluent limits were designed to implement the "free from toxicity" narrative standards in State water quality standards. The TSD also focused on water quality standards. Procedures and policy were presented for appropriate design flows

for EPA's section 304(a) acute and chronic criteria. EPA revised the TSD. (Technical Support Document for Water Quality-based Toxics Control, EPA 505/2-90-001, March 1991.) A Notice of Availability was published in the Federal Register on April 4, 1991 (56 FR 13827). All references in this Preamble are to the revised TSD.

The Water Quality Standards Handbook and the TSD are examples of EPA's efforts and assistance that were intended to help, encourage and support the States in adopting appropriate water quality standards for the protection of their waters against the deleterious effects of toxic pollutants. In some States, more and more numeric criteria for toxics were being included as well as more aggressive use of the "free from toxics" narratives in setting protective NPDES permit limits. However, by the time of Congressional consideration and action on the CWA reauthorization, most States had adopted few, if any, water quality standards for priority toxic pollutants.

State practices of developing case-by-case effluent limits using procedures that were not standardized in State regulations made it difficult to ascertain whether such procedures were consistently applied. The use of approaches to control toxicity that did not rely on the statewide adoption of numeric criteria for the priority toxic pollutants generated frustration in Congress. Senator Robert Stafford, first chairman and then ranking minority member of the authorizing committee, noted during the Senate debate:

An important problem in this regard is that few States have numeric ambient criteria for toxic pollutants. The lack of ambient criteria (for toxic pollutants) make it impossible to calculate additional discharge limitations for toxics * * * It is vitally important that the water quality standards program operate in such a way that it supports the objectives of the Clean Water Act to restore and maintain the integrity of the Nation's Waters. (bracketed material added). A Legislative History of the Water Quality Act of 1987 (Pub. L. 100-4), Senate Print 100-144, USGPO, November 1988 at page 1324.

Other comments in the legislative history similarly note the Congressional perception that the States were failing to aggressively address toxics and that EPA was not using its oversight role to push the States to move more quickly and comprehensively. Thus Congress developed the water quality standards amendments to the Clean Water Act for reasons similar to those strongly stated during the Senate debate by a chief sponsor, Senator John Chafee,

A cornerstone of the bill's new toxic pollution control requirements is the so called beyond-BAT program. * * * Adopting the beyond BAT provisions will assure that EPA continues to move forward rapidly on the program. * * * If we are going to repair the damage to those water bodies that have become highly degraded as a result of toxic substances, we are going to have to move forward expeditiously on this beyond-BAT program. The Nation cannot tolerate endless delays and negotiations between EPA and States on this program. Both entities must move aggressively in taking the necessary steps to make this program work within the time frame established by this Bill * * * Ibid, at page 1309.

This Congressional impatience with the pace of State and EPA progress and an appreciation that the lack of State standards for toxics undermined the effectiveness of the entire CWA-based scheme, resulted in the 1987 adoption of stringent new water quality standard provisions in the Water Quality Act amendments.

2. The Water Quality Act Amendments of 1987 (Pub. L. 100-4)

a. Description of the New Requirements

The 1987 Amendments to the Clean Water Act added section 303(c)(2)(B) which provides:

Whenever a State reviews water quality standards pursuant to paragraph (1) of this subsection, or revises or adopts new standards pursuant to this paragraph, such State shall adopt criteria for all toxic pollutants listed pursuant to section 307(a)(1) of this Act for which criteria have been published under section 304(a), the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses. Such criteria shall be specific numerical criteria for such toxic pollutants. Where such numerical criteria are not available, whenever a State reviews water quality standards pursuant to paragraph (1), or revises or adopts new standards pursuant to this paragraph, such State shall adopt criteria based on biological monitoring or assessment methods consistent with information published pursuant to section 304(a)(8). Nothing in this section shall be construed to limit or delay the use of effluent limitations or other permit conditions based on or involving biological monitoring or assessment methods or previously adopted numerical criteria.

b. EPA's Initial Implementing Actions for Sections 303(c) and 304(l)

This new requirement to the existing water quality standards review and

revision process of section 303(c) did not change the existing procedural or timing provisions. For example, section 303(c)(1) still requires that States review their water quality standards at least once each 3 year period and transmit the results to EPA for review. EPA's oversight and promulgation authorities and statutory schedules in section 303(c)(4) were likewise unchanged. Rather, the provision required the States to place heavy emphasis on adopting numeric chemical-specific criteria for toxic pollutants (i.e., rather than just narrative approaches) during the next triennial review cycle. As discussed in the previous section, Congress was frustrated that States were not using the numerous section 304(a) criteria that EPA had developed, and was continuing to develop, to assist States in controlling the discharge of priority toxic pollutants. Congress therefore took an usual action; for the first time in the history of the Clean Water Act, it explicitly mandated that States adopt numeric criteria for specific toxic pollutants.

In response to this new Congressional mandate, EPA redoubled its efforts to promote and assist State adoption of water quality standards for priority toxic pollutants. EPA's efforts included the development and issuance of guidance to the States on acceptable implementation procedures for several new sections of the Act, including Sections 303(c)(2)(B) and 304(l).

The 1987 CWA Amendments added to, or amended, other CWA sections related to toxics control. Section 304(l) (33 U.S.C. 1314(l)) was an important corollary amendment because it required States to take actions to identify waters adversely affected by toxic pollutants, particularly those waters entirely or substantially impaired by point sources. Section 304(l) entitled "Individual Control Strategies for Toxic Pollutants," requires in part, that States identify and list waterbodies where the designated uses specified in the applicable water quality standards cannot reasonably be expected to be achieved because of point source discharge of toxic pollutants. For each segment so identified, the State is required to develop individual control strategies to reduce the discharge of toxics from point sources so that in conjunction with existing controls on point and nonpoint sources, water quality standards will be attained. To assist the States in identifying waters under section 304(l), EPA's guidance listed a number of potential sources of available data for States to review. States generally assembled data for a broad spectrum of pollutants, including the priority toxic pollutants, which could

be useful in complying with sections 304(l) and 303(c)(2)(B). In fact, between February 1988 and October 1988, EPA assembled pollutant candidate lists for section 304(l) which were then transmitted to each jurisdiction. Thus, each State had a preliminary list of pollutants that had been identified as present in, or discharged to, surface waters. Such lists were limited by the quantity and distribution of available effluent and ambient monitoring data for priority toxic pollutants. This listing exercise further emphasized the need for water quality standards for toxic pollutants. Lack of standards increased the difficulty of identifying impaired waters. On the positive side, the data gathered in support of the 304(l) activity proved helpful in identifying those pollutants most obviously in need of water quality standards.

EPA, in devising guidance for section 303(c)(2)(B), attempted to provide the maximum flexibility in its options that not only complied with the express statutory language but also with the ultimate congressional objective: Prompt adoption of numeric toxics criteria. EPA believed that flexibility was important so that each State could comply with section 303(c)(2)(B), accommodate its existing water quality standards regulatory approach, and not violate the resource constraints specific to the State. These options are described in the next Section of this preamble. EPA's program guidance was issued in final form on December 12, 1988 but was not substantially different from earlier drafts available for review by the States. The availability of the guidance was published in a *Federal Register* notice on January 5, 1989 (54 FR 346).

3. EPA's Program Guidance for Section 303(c)(2)(B)

EPA's section 303(c)(2)(B) program guidance identified three options that could be used by a State to meet the requirement that the State adopt toxic pollutant criteria " * * * the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses."

Option 1. Adopt statewide numeric criteria in State Water Quality Standards for all section 307(a) toxic pollutants for which EPA has developed criteria guidance, regardless of whether the pollutants are known to be present.

This option is the most comprehensive approach to satisfy the statutory requirements because it would include all of the priority toxic pollutants for which EPA has prepared section 304(a)

criteria guidance for either or both aquatic life protection and human health protection. In addition to a simple adoption of EPA's section 304(a) guidance as standards, a State must select a risk level for those toxic pollutants which EPA believes are carcinogens (i.e., that cause, or may cause cancer in humans). EPA also recommended that States should supplement this comprehensive approach with a water quality standard variance and/or a site-specific criteria methodology to provide the opportunity for flexibility in applying criteria.

Many States found this option attractive because it ensured comprehensive coverage of the priority toxic pollutants with scientifically defensible criteria without the need to conduct a resource-intensive evaluation of the particular segments and pollutants requiring criteria or future prevalence of priority toxic pollutants in their waters. It was also determined this option would not be more costly to dischargers than the other options because permit limits would only be based on the regulation of the particular toxic pollutants in their discharges and not on the total listing in the water quality standards. Thus, actual permit limits should be the same under any of the options.

Option 2. Adopt chemical-specific numeric criteria for priority toxic pollutants that are the subject of EPA section 304(a) criteria guidance, where the State determines based on available information that the pollutants are present or discharged and can reasonably be expected to interfere with designated uses.

This option results in the adoption of numeric water quality standards for some subset of those pollutants for which EPA has issued section 304(a) criteria guidance based on a review of current information. To satisfy this option, the guidance recommended that States use the data gathered during the section 304(l) water quality assessments as a starting point to identify those water segments that need water quality standards for priority toxic pollutants. That data would be supplemented by a State and public review of other data sources to ensure sufficient breadth of coverage to meet the statutory objective. Among the available data to be reviewed were: (1) Ambient water monitoring data, including those for the water column, sediment, and aquatic life (e.g., fish tissue data); (2) NPDES permit applications and permittee self-monitoring reports; (3) effluent guideline development documents, many of which contain priority toxic pollutant scans; (4)

pesticide and herbicide application information and other records of pesticide or herbicide inventories; (5) public water supply source monitoring data noting pollutants with maximum contaminant levels (MCLs); and (6) any other relevant information on toxic pollutants collected by Federal, State, industry, agencies, academic groups, or scientific organizations. EPA also recommended that States adopt a translator provision similar to that described in Option 3 but applicable to all chemicals causing toxicity, and not just priority toxic pollutants.

This Option 2 review resulted in a State proposing new or revised water quality standards and providing an opportunity for public review and comment on the pollutants, criteria, and water bodies included. Throughout this process, EPA's Regional Offices were available to assist States by providing additional guidance and technical assistance on applying EPA's recommended criteria to particular situations in the States.

Option 3. Adopt a procedure to be applied to a narrative water quality standard provision prohibiting toxicity in receiving waters. Such procedures would be used by the State in calculating derived numeric criteria which must be used for all purposes under section 303(c) of the CWA. At a minimum, such criteria need to be developed for section 307(a) toxic pollutants, as necessary to support designated uses, where these pollutants are discharged or present in the affected waters and could reasonably be expected to interfere with designated uses.

The combination of a narrative standard (e.g., "free from toxics in toxic amounts") and an approved translator mechanism as part of a State's water quality standards satisfies the requirements of section 303(c)(2)(B). As noted above, such a procedure is also a valuable supplement to either option 1 or 2. There are several regulatory and scientific requirements EPA's guidance specifies are essential to ensure acceptable scientific quality and full involvement of the public and EPA in this approach. Briefly stated these are:

- The procedure (i.e., narrative criterion and translator) must be used to calculate numeric water quality criteria;
- The State must demonstrate to EPA that the procedure results in numeric criteria that are sufficiently protective to meet the goals of the Act;
- The State must provide for full opportunity for public participation during the adoption of the procedure;

- The procedure must be formally adopted as a State rule and be mandatory in application; and

- The procedure must be submitted for review and approval by EPA as part of the State's water quality standards regulation.

Several States currently apply translators that have been approved by EPA. The scientific elements of a translator are similar to EPA's 304(a) criteria methodologies when applied on a site-specific basis. For example, aquatic criteria are developed using a sufficient number and diversity of aquatic species representative of the biological assemblage of a particular water body. Human health criteria focus on determining appropriate exposure conditions (e.g. amount of aquatic life consumed per person per day) rather than underlying pollutant toxicity. The results of the procedures are scientifically defensible criteria that are protective for the site's particular conditions. EPA review of translator procedures includes an evaluation of the scientific merit of the procedure using the Section 304(a) methodology as a guide.

Ideally, States adopting option 3 translator procedures should prepare a preliminary list of criteria and specify the waters the criteria apply to at the time of adoption. Although under option 3 the State retains flexibility to derive new criteria without revising the adopted standards, establishing this preliminary list of derived criteria at the time of the triennial review will assist the public in determining the scope of the adopted standards, and help ensure that the State ultimately complies with the requirement to establish criteria for all pollutants that can "reasonably be expected" to interfere with uses. EPA believes that States selecting solely option 3 should prepare an analysis similar to that required of option 2 States at the time of the triennial review.

EPA's December 1988 guidance also addressed the timing issue for State compliance with section 303(c)(2)(B). The statutory directive was clear: All State standards triennial reviews initiated after passage of the Act must include a consideration of numeric toxic criteria.

The structure of section 303(c) is to require States to review their water quality standards at least once each three year period. Section 303(c)(2)(B) instructs States to include reviews for toxics criteria whenever they initiate a triennial review. EPA initially looked at February 4, 1990, the 3-year anniversary of the 1987 CWA amendments, as a convenient point to index State

compliance. The April 1990 Federal Register notice used this index point for the preliminary assessment. However, some States were very nearly completing their State administrative processes for ongoing reviews when the 1987 amendments were enacted and could not legally amend those proceedings to address additional toxics criteria. Therefore, in the interest of fairness, and to provide such States a full 3-year review period, EPA's FY 1990 Agency Operating Guidance provided that "By the end of the FY 88-90 triennium, States should have completed adoption of numeric criteria to meet the section 303(c)(2)(B) requirements." (p. 48.) The FY 88-90 triennium ended on September 30, 1990.

Clean Water Act section 303(c) does not provide penalties for States that do not complete timely water quality standards reviews. In no previous case has the EPA Administrator found that State failure to complete a review within three years jeopardized the public health or welfare to such an extent that promulgation of Federal standards pursuant to section 303(c)(4)(B) was justified. The pre-1987 CWA never mandated State adoption of priority toxic pollutants or other specific criteria. EPA relied on its water quality standards regulation (40 CFR 131.11) and its criteria and program guidance to the States on appropriate parametric coverage in State water quality standards, including toxic pollutants. However, because of Congressional concern exhibited in the legislative history for the 1987 Clean Water Act amendments regarding undue delays by States and EPA, and because States have been explicitly required to adopt numeric criteria for appropriate priority toxic pollutants since 1963, the Agency in this proposed rulemaking is proceeding pursuant to section 303(c)(4)(B) and 40 CFR 131.22(b).

4. Revisions to the Water Quality Standards Regulation to Incorporate the Requirements of Section 303(c)(2)(B)

In a rulemaking separate from today's proposal, EPA intends to propose amendments to the Water Quality Standards Regulation to incorporate the requirements of section 303(c)(2)(B). EPA views the effects of that intended rulemaking to be prospective only. EPA's expected regulatory change would provide principally more consistency among the States in their approaches to adopting appropriate toxic and other criteria in future triennial reviews.

The current requirements for water quality criteria in State water quality standards are addressed in 40 CFR

131.11. EPA's intended rulemaking will propose amendments to this section and incorporate the three options described in its December 12, 1988 guidance. Of special concern are the specific requirements for the translator provision described as option 3.

The current regulation at 40 CFR part 131 in conjunction with the statutory language provides a clear and unambiguous basis and process for today's proposed Federal promulgation.

C. State Actions Pursuant to Section 303(c)(2)(B)

There has been substantial progress by many States in the adoption, and EPA approval, of water quality standards for toxic pollutants. For example, for freshwater aquatic life uses, the average number of priority toxic pollutants with criteria adopted has tripled from ten per State in 1986 to thirty per State on February 4, 1990. In addition, the number of States with at least some aquatic life criteria adopted has increased from thirty-three in April 1986 to forty-five as of February 4, 1990.

Furthermore, virtually all States have at least proposed new toxics criteria for priority toxic pollutants since section 303(c)(2)(B) was added to the CWA in February of 1987. Unfortunately, not all such State proposals address, in a comprehensive manner, the requirements of section 303(c)(2)(B). For example, some States have proposed to adopt criteria to protect aquatic life, but not human health; other States have proposed human health criteria which do not address major human exposure pathways. In addition, in some cases final adoption of proposed State toxics criteria which would be approvable by EPA has been substantially delayed due to controversial and difficult issues associated with the toxics criteria adoption process. For purposes of today's proposed rulemaking, it is EPA's judgment that only 35 States completed actions which fully satisfy the requirements of section 303(c)(2)(B).

The difficulties faced by States in adopting criteria for priority toxic pollutants are exemplified by recent State efforts to adopt criteria for the priority toxic pollutant 2,3,7,8-TCDD (dioxin). As is generally true of State section 303(c)(2)(B) efforts, State efforts to adopt numeric human health dioxin criteria have been slow and controversial, but in many respects impressive. For example, since 1987, a total of 34 States have adopted numeric human health criteria for dioxin which have been approved by EPA. In total, 38 States have adopted numeric human health criteria for dioxin. Twenty-five of these 38 States adopted criteria during

calendar year 1991, showing that the pace of State actions to adopt dioxin criteria has accelerated substantially.

The progress which has been made by States in adopting dioxin criteria is particularly impressive in light of the substantial attention and controversy which has been focused on such actions. EPA, States, dischargers, environmental groups, and the public at large have been involved in discussions concerning the ambient level of protection that is protective of public health. In some States, the struggle to select an appropriate dioxin criterion has been the major impediment to successful completion of section 303(c)(2)(B) actions.

At issue are scientific questions specific to dioxin, such as determining the carcinogenic potency of the pollutant and the extent to which the pollutant tends to accumulate in fish tissues. Other issues are generic to EPA'S human health criteria, such as determining the rate at which humans consume fish and other forms of aquatic life, and the necessity of setting ambient criteria at levels which may not be detected by state-of-the-art laboratories. Most of these issues relate, directly or indirectly, to concerns expressed by dischargers regarding the cost of complying with water quality-based effluent limits for dioxin which, although variable from State to State, generally are based on State numeric water quality criteria that allow only minute quantities of dioxin per liter of water. For example, twelve States have adopted EPA's recommended ambient water column concentration of 0.013 picograms per liter.

Currently, a total of eleven States have proposed, or are expected to propose, numeric human health-based criteria for dioxin. These States could face the same issues, obstacles, and resource requirements that the 38 States which previously adopted criteria have faced.

In summary, States have devoted substantial resources, and have made substantial progress, in adopting new or revised numeric criteria for priority pollutants. In so doing they have addressed a number of significant and difficult issues. These issues and the attendant controversy has accounted, at least in part, for the fact that 22 jurisdictions still have not adopted numeric toxics criteria that fully comply with section 303(c)(2)(B). For a more detailed State-specific outline of actions taken in response to section 303(c)(2)(B), refer to part III of appendix 1, which itemizes State actions to adopt toxics criteria for States approved by EPA as

being in full compliance as well as States which EPA has not approved as being in full compliance with section 303(c)(2)(B).

D. Determining State Compliance With Section 303(c)(2)(B)

1. EPA's Review of State Water Quality Standards for Toxics

The EPA Administrator has delegated the responsibility and authority for review and approval or disapproval of all State water quality standards actions to the 10 EPA Regional Administrators (see 40 CFR 131.21). State section 303(c)(2)(B) actions are thus submitted to the appropriate EPA Regional Administrator for review and approval. This de-centralized EPA system for State water quality standards review and approval is guided by EPA Headquarter's Office of Water, which issues national policies and guidance to the States and Regions such as the annual Office of Water Operating Guidance and various technical operating guidance manuals.

For purposes of evaluating State compliance with CWA section 303(c)(2)(B), EPA relied on the language of section 303(c)(2)(B), the existing water quality standards regulation, and section 303(c)(2)(B) national guidance to provide the basis for EPA review. In some cases, individual Regions also used Regional policies and procedures in reviewing State section 303(c)(2)(B) actions. The flexibility provided by the national guidance, coupled with subtle differences in Regional policies and procedures, contributed to some differences in the approaches taken by States to satisfy section 303(c)(2)(B) requirements.

As discussed previously, EPA's final guidance on compliance with section 303(c)(2)(B) was developed to provide States with the necessary flexibility to allow State standards revisions that would complement the State's existing water quality standards program, fully comply with section 303(c)(2)(B), and not violate State-specific resource constraints. As guidance, it did not contain clearly defined limits on the range of acceptable approaches, but rather described EPA's recommendations on approaches States could use to satisfy the statutory requirements. Some innovative State approaches were expected as well as differences in terms of criteria coverage, stringency and application procedures.

Although the guidance provided for State flexibility, it was also consistent with existing water quality standards regulation requirements at 40 CFR 131.11 that explicitly require State criteria to be

sufficient to protect designated uses. Such water quality criteria also must be based on sound scientific rationale and support the most sensitive use designated for a water body.

The most complicated EPA compliance determinations involve States that select EPA Options 2 or 3. Since most States use EPA's Section 304(a) criteria guidance, where States select Option 1, EPA normally is able to focus Agency efforts on verifying that all available EPA criteria are included, appropriate cancer risk levels are selected, and that sufficient application procedures are in place (e.g. laboratory analytical methods, mixing zones, flow condition, etc.).

However, for States using EPA's Option 2 or 3, substantially more EPA evaluation and judgment is required because the Agency must evaluate which priority pollutants and, in some cases, segments or designated uses, require numeric criteria. Under these options, the State must adopt or derive numeric criteria for priority toxic pollutants for which EPA has section 304(a) criteria, " * * * the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State * * * " The necessary justification and the ultimate coverage and acceptability of a State's actions vary State-to-State because of differences in the adequacy of available monitoring information, local water bodies use designations, the effluent and nonpoint source controls in place, and different approaches to the scientific basis for criteria.

In submitting criteria for the protection of human health, States are not limited to a 1 in 1 million risk level (10^{-6}). EPA generally regulates pollutants treated as carcinogens in the range of 10^{-6} to 10^{-4} for average exposed individuals. If a State selects a criterion that represents an upper bound risk level less protective than 1 in 100,000 (i.e., 10^{-5}), however, the State will need to have substantial support in the record for this level. This support should focus on two distinct issues. First, the record must include documentation that the decision maker considered the public interest of the State in selecting the risk level, including documentation of public participation in the decision making process as required by the water quality standards regulation at 40 CFR 131.20(b). Second, the record must include an analysis showing that the risk level selected, when combined with other risk assessment variables, is a balanced and reasonable estimate of actual risk posed, based on the best and most

representative information available. The importance of the estimated actual risk increases as the degree of conservatism in the selected risk level diminishes. EPA will carefully evaluate all assumptions used by a State if the State chooses to alter any one of the standard EPA assumption values.

Where States select Option 3, EPA reviews must also include an evaluation of the scientific defensibility of the translator procedure. EPA must also verify that a requirement to apply the translator whenever toxics may reasonably be expected to interfere with designated uses (e.g., where such toxics exist or are discharged) is included in the State's water quality standards. Satisfactory application procedures must also be developed by States selecting Option 3.

In general, each EPA Region made compliance decisions based on whatever information was available to the State at the time of the triennial review. For some States, information on the presence and discharge of priority toxic pollutants is extremely limited. Nevertheless, during the period of February 1988 to October 1990, to supplement State efforts, EPA assembled the available information and provided each State with various pollutant candidate lists in support of the section 304(l) and section 303(c)(2)(B) activities. These were based in part on computerized searches of existing Agency data bases.

Beginning in 1988, EPA provided States with candidate lists of priority toxic pollutants and water bodies in support of CWA section 304(l) implementation. These lists were developed because States were required to evaluate existing and readily available water-related data in order to comply with section 304(l). 40 CFR 130.10(d). A similar "strawman" analysis of priority pollutants potentially requiring adoption of numeric criteria under section 303(c)(2)(B) was furnished to most States in September or October of 1990 for their use in on-going and subsequent triennial reviews. The primary differences between the "strawman" analysis and the section 304(l) candidate lists were that the "strawman" analysis: (1) Organized the results by chemical rather than by water body, (2) included data for certain STORET monitoring stations that were not used in constructing the candidate lists, (3) included data from the Toxics Release Inventory database, and (4) did not include a number of data sources used in preparing the candidate lists (e.g., those, such as fish kill

information, that did not provide chemical specific information).

In its 1988 section 303(c)(2)(B) guidance, EPA urged States, at a minimum, to use the information gathered in support of section 304(l) requirements as a starting point for identifying which priority toxic pollutants require adoption of numeric criteria. EPA also encouraged States to consider the presence or potential construction of facilities that manufacture or use priority toxic pollutants as a strong indication of the need for toxics criteria. Similarly, EPA indicated to States that the presence of priority pollutants in ambient waters (including those in sediments or in aquatic life tissue) or in discharges from point or nonpoint sources also be considered as an indication that toxics criteria should be adopted. A limited amount of data on the effluent characteristics of NPDES discharges was readily available to States. States were also expected to take into account newer information as it became available, such as information in annual reports from the Toxic Chemical Release Inventory requirements of the Emergency Planning and Community Right-To-Know Act of 1986. (Title III, Pub. L. 99-499.)

In summary, EPA and the States had access to a variety of information gathered in support of section 304(l), section 303(c)(2)(B), and section 305(b) activities. For some States, as noted above, such information for priority toxic pollutants is extremely limited. In the final analysis, the Regional Administrator made a judgment on a duly submitted State standards triennial review based on the State's record and the Region's independent knowledge of the facts and circumstances surrounding the State's actions. These actions, taken in consultation with the Office of Water, determined which State actions were sufficiently consistent with the coverage contemplated in the statute to justify approval. These approval actions include allowable variations among State water quality standards. EPA approval indicates that, based on the record, the State water quality standards met the requirements of the Act.

2. Determining Current Compliance Status

The following summarizes the process generally followed by the Agency in assessing compliance with section 303(c)(2)(B). As with other aspects of this rule, EPA invites comments on the compliance determination process.

A State was determined to be in full compliance with the requirements of section 303(c)(2)(B) if,

a. The State had submitted a water quality standards package for EPA review since enactment of the 1987 Clean Water Act amendments or was determined to be already in compliance, and,

b. The adopted State water quality standards are effective under State law and consistent with the CWA and EPA's implementing regulations (EPA's December 1988 guidance described three Options, any one, or a combination of which EPA suggested States could adopt for compliance with the CWA and EPA regulations), and

c. EPA has issued a formal approval determination to the State.

States meeting these criteria are not included in this proposed rulemaking.

States which adopted standards following Option 1 generally have been found to satisfy section 303(c)(2)(B). An exception exists for selected States which attempted to follow Option 1 by adopting all EPA section 304(a) criteria by reference. EPA has withheld approval for a few States which have adopted such references into their standards because the adopted standards did not specify application factors necessary to implement the criteria (e.g., a risk level for carcinogens). Other States have achieved full compliance following options 1, 2, 3, or some combination of these options.

As of the date of signature of today's proposal, the Agency has determined that 35 States and Territories are in full compliance with the requirements of section 303(c)(2)(B). Compliance status for all States and Territories is set forth in Table 1.

TABLE 1.—PRELIMINARY ASSESSMENT OF STATE COMPLIANCE WITH CWA SECTION 303(C)(2)(B)

State	Is State in compliance with section 303(c)(2)(B)?
Alabama	Yes.
Alaska	No.
Arizona	No.
Arkansas	No.
California	No.
Colorado	No.
Connecticut	No.
Delaware	Yes.
Florida	No.
Georgia	Yes.
Hawaii	No.
Idaho	No.
Illinois	Yes.
Indiana	Yes.
Iowa	Yes.
Kansas	No.
Kentucky	Yes.

TABLE 1.—PRELIMINARY ASSESSMENT OF STATE COMPLIANCE WITH CWA SECTION 303(C)(2)(B)—Continued

State	Is State in compliance with section 303(c)(2)(B)?
Louisiana	No.
Maine	Yes.
Maryland	Yes.
Massachusetts	Yes.
Michigan	No.
Minnesota	Yes.
Mississippi	Yes.
Missouri	Yes.
Montana	Yes.
Nebraska	Yes.
Nevada	No.
New Hampshire	No.
New Jersey	No.
New Mexico	Yes.
New York	Yes.
North Carolina	Yes.
North Dakota	Yes.
Ohio	Yes.
Oklahoma	Yes.
Oregon	Yes.
Pennsylvania	Yes.
Rhode Island	No.
South Carolina	Yes.
South Dakota	Yes.
Tennessee	Yes.
Texas	Yes.
Utah	Yes.
Vermont	No.
Virginia	No.
Washington	No.
West Virginia	Yes.
Wisconsin	Yes.
Wyoming	Yes.
American Samoa	Yes.
Commonwealth of the Northern Marianas Islands	No.
District of Columbia	No.
Guam	Yes.
Puerto Rico	No.
Tr. Territories	Yes.
Virgin Islands	Yes.

Section III of appendix 1 provides a State-by-State summary of how compliance was achieved for the EPA-approved States, and what has been, and yet needs to be, accomplished in States included in this proposed rule.

E. Rationale and Approach for Developing Today's Proposed Rulemaking

The addition of section 303(c)(2)(B) to the Clean Water Act was an unequivocal signal to the States that Congress wanted toxics criteria in the State's water quality standards. The legislative history notes that the "beyond BAT" program (i.e., controls necessary to comply with water quality standards that are more stringent than technology-based controls) was the cornerstone to the Act's toxic pollution control requirements.

The major innovation of the 1972 Clean Water Act Amendments was the concept of effluent limitation guidelines

which were to be incorporated into NPDES permits. In many cases, this strategy has succeeded in halting the decline in the quality of the Nation's waters and, often, has provided improvements. However, the effluent limitation guidelines for industrial discharges and the similar technology-based secondary treatment requirements for municipal discharges are not capable, by themselves, of ensuring that the fishable-swimmable goals of the Clean Water Act will be met.

The basic mechanism to accomplish this in the Act is water quality standards. States are required to periodically review and revise these standards to achieve the goals of the Act. In the 1987 CWA amendments, Congress focused on addressing toxics in several sections of the Act, but special attention was placed on the section 303 water quality standards program requirements. Congress intended that the adoption of numeric criteria for toxics would result in direct improvements in water quality by forcing, where necessary, effluent limits more stringent than those resulting from technology-based effluent limitations guidelines.

As the legislative history demonstrates, Congress was dissatisfied with the piecemeal, slow progress being made by States in setting standards for toxics. Congress reacted by legislating new requirements and deadlines directing the States to establish toxics criteria for pollutants addressed in EPA Section 304(a) criteria guidance, especially for those priority toxic pollutants that could reasonably be expected to interfere with designated uses. In today's action, EPA is exercising its authority under section 303(c)(4) to propose criteria where States have failed to act in a timely manner.

For those States not in compliance with section 303(c)(2)(B) four and one-half years after enactment, EPA now begins the process that will culminate in the promulgation of appropriate toxics criteria and the determination of the necessary parametric coverage and stringency of such criteria. While the previous section of this preamble explains EPA's approach to evaluating the adequacy of State actions in response to section 303(c)(2)(B), this section explains EPA's legal basis for issuing today's proposed rulemaking, discusses EPA's general approach for developing the proposed State-specific requirements in § 131.36(d).

In addition to the Congressional directive and the legal basis for this proposed action, there are a number of

environmental and programmatic reasons why further delay in establishing water quality standards for toxic pollutants is no longer acceptable.

Prompt control of toxic pollutants in surface waters is critical to the success of a number of Clean Water Act programs and objectives, including permitting, enforcement, fish tissue quality protection, coastal water quality improvement, sediment contamination control, certain nonpoint source controls, pollution prevention planning, and ecological protection. The decade-long delay in State adoption of water quality standards for toxic pollutants has had a ripple effect throughout EPA's water programs. Without clearly established water quality goals, the effectiveness of many water programs is jeopardized.

Failure to take prompt action at this juncture would also undermine the continued viability of the current statutory scheme to establish standards. Continued delay subverts the entire concept of the triennial review cycle which is to combine current scientific information with the results of previous environmental control programs to direct continuing progress in enhancing water quality.

Finally, another reason to proceed expeditiously is to bring closure to this long-term effort and allow State attention and resources to be directed towards important, new national program initiatives. Until standards for toxic pollutants are in place, neither EPA nor the States can fully focus on the emerging, ecologically based water quality activities such as wetlands criteria, biological criteria and sediment criteria.

1. *Legal Basis*

Clean Water Act section 303(c) specifies that adoption of water quality standards is primarily the responsibility of the States. However, section 303(c) also describes a role for EPA of overseeing State actions to ensure compliance with CWA requirements. If the Agency's review of the State's standards finds flaws or omissions, then the Act authorizes EPA to initiate promulgation to correct the deficiencies (see section 303(c)(4)). The water quality standards promulgation authority has been used by EPA to issue final rules on nine separate occasions. These actions have addressed both insufficiently protective State criteria and/or designated uses and failure to adopt needed criteria. Thus, today's action is not unique, although it would affect more States and pollutants than previous actions taken by the Agency.

The Clean Water Act in section 303(c)(4) provides two bases for promulgation of Federal water quality standards. The first basis in paragraph (A) applies when a State submits new or revised standards that EPA determines are not consistent with the applicable requirements of the Act. If, after EPA's disapproval, the State does not promptly amend its rules so as to be consistent with the Act, EPA must promulgate appropriate Federal water quality standards for that State. The second basis for EPA's action is paragraph (B), which provides that EPA shall promptly initiate promulgation " * * * in any case where the Administrator determines that a revised or new standard is necessary to meet the requirements of this Act." EPA is relying on both section 303(c)(4)(A) and section 303(c)(4)(B) as the legal basis for this proposed rulemaking.

Section 303(c)(4)(A) supports today's action for several States. These States have submitted criteria for some number of priority toxic pollutants and EPA has disapproved the State's adopted standards. The basis for EPA's disapproval generally has been the lack of sufficient criteria or particular criteria that were insufficiently stringent. In these cases, EPA has, by letter to the State, noted the deficiencies and specified the need for corrective action. (See section III of appendix 1 for a summary description of each State's section 303(c)(2)(B) history.) Not having received an appropriate correction within the statutory time frame, EPA is today proposing the needed criteria. The action in today's proposal pursuant to section 303(c)(4)(A) may differ from those taken pursuant to section 303(c)(4)(B) by being limited to criteria for specific priority toxic pollutants, particular geographic areas, or particular designated uses.

Section 303(c)(4)(B) is the basis for EPA's proposed requirements for most States. For these States, the Administrator proposes criteria that would bring the States into compliance with the requirements of the CWA. In these cases, EPA is proposing, at a minimum, criteria for all priority toxic pollutants not addressed by approved State criteria. EPA is also proposing criteria for priority toxic pollutants where any previously-approved State criteria do not reflect current science contained in revised criteria documents and other guidance sufficient to fully protect all designated uses or human exposure pathways, or where such previously-approved State criteria are not applicable to all appropriate designated uses. EPA's action pursuant

to section 304(c)(4)(B) may include several situations.

In some cases, the State has failed to adopt and submit for approval any criteria for those priority toxic pollutants for which EPA has published criteria. This includes those States that have not submitted triennial reviews. In other cases, the State has adopted and EPA has approved criteria for either aquatic life or human health, but not both. In yet a third situation, States have submitted some criteria but not all necessary criteria. Lastly, one State has submitted criteria that do not apply to all appropriate geographic sections of the waters of the State. (See section III of appendix 1.)

The use of section 303(c)(4)(B) requires a determination by the Administrator " * * * that a revised or new standard is necessary to meet the requirements of * * * " the Act. The Administrator's determination could be supported in different ways.

One approach would be for EPA to undertake a time-consuming effort to research and marshal data to demonstrate the need for promulgation for each criteria for each stream segment or waterbody in each State. This would include evidence for each section 307(a) priority toxic pollutant for which EPA has section 304(a) criteria and that there is a "discharge or presence" which could reasonably "be expected to interfere with" the designated use. This approach would not only impose an enormous administrative burden, but would be contrary to the statutory scheme and the compelling Congressional directive for swift action reflected in the 1987 addition of section 303(c)(2)(B) to the Act.

An approach that is more reasonable and consistent with Congressional intent focuses on the State's failure to complete the timely review and adoption of the necessary standards required by section 303(c)(2)(B) despite information that priority toxic pollutants may interfere with designated uses of the State's waters. This approach is consistent with the fact that in enacting section 303(c)(2)(B) Congress expressed its determination of the necessity for prompt adoption and implementation of water quality standards for toxic pollutants. Therefore, a State's failure to meet this fundamental 303(c)(2)(B) requirement of adopting appropriate standards constitutes a failure "to meet the requirements of the Act." That failure to act can be a basis for the Administrator's determination under section 303(c)(4)(B) that new or revised criteria are necessary to ensure designated uses are adequately

protected. Here, this determination is buttressed by the existence of evidence of the discharge or presence of priority toxic pollutants in a State's waters for which the State has not adopted numeric water quality criteria. The Agency has compiled an impressive volume of information in the record for this rulemaking (See appendix 1) on the discharge or presence of toxic pollutants in State waters. This data supports the Administrator's proposed determination pursuant to section 303(c)(4)(B).

The Agency's choice to base the proposed determination on the second approach is supported by both the elicit language of the statutory provision and by the legislative history. Congress added subsection 303(c)(2)(B) to section 303 with full knowledge of the existing requirements in section 303(c)(1) for triennial water quality standards review and submission to EPA and in section 303(c)(4)(B) for EPA promulgation. There was a clear expectation that these provisions be used in concert to overcome the programmatic delay that many legislators criticized and achieve the Congressional objective of the rapid availability of enforceable water quality standards for toxic pollutants. As quoted earlier, chief Senate sponsors, including Senators Stafford, Chafee and others, wanted the provision to eliminate State and EPA delays and force aggressive action.

In normal circumstances, it might be argued that to exercise section 303(c)(4)(B) the Administrator might have the burden of marshalling conclusive evidence of "necessity" for Federally promulgated water quality standards. However, in adopting section 303(c)(2)(B), Congress made clear that the "normal" procedure had become inadequate. The specificity and deadline in section 303(c)(2)(B) were layered on top of a statutory scheme already designed to achieve the adoption of toxic water quality standards. Congressional action to adopt an essentially redundant provision was driven by their impatience with the lack of State progress. The new provision was essentially a Congressional "determination" of the necessity for new or revised comprehensive toxic water quality standards by States. In deference to the principle of State primacy, Congress, by linking section 303(c)(2)(B) to the section 303(c)(1) three-year review period, gave States a last chance to correct this deficiency on their own. However, this Congressional indulgence does not alter the fact that section 303(c)(2)(B) changed the nature of the CWA State/EPA water quality standard relationship. The new

provision and its legislative background indicate that the Administrator's determination to invoke his section 303(c)(4)(B) authority in this circumstance can be met by a generic finding of inaction on the part of a State and without the need to develop data for individual stream segments. Otherwise, the Agency would face the heavy data gathering burden of justifying the need for each Federal criterion, the process could stretch for years and never be realized. To interpret the combination of subsections (c)(2)(B) and (c)(4) as an effective bar to prompt achievement of statutory objectives would be a perverse conclusion and render section 303(c)(2)(B) essentially meaningless.

A second strong argument against requiring EPA to shoulder a heavy burden to exercise section 303(c)(4)(B) authority is that it would invert the traditional statutory scheme of EPA as national overseer and States as the entity with the greatest local expertise. The CWA provides States the flexibility to tailor water quality standards to local conditions and needs based upon their wealth of first-hand experience, knowledge and data. However, this allowance for flexibility is based on an assumption of reasoned and timely State action, not an abdication of State responsibility by failure to act. EPA does not possess the local expertise or resources necessary to successfully tailor State water quality standards. Therefore, the fact that the CWA allows States flexibility in standards development does not impose an inappropriate burden on EPA in the exercise of its oversight promulgation responsibilities. A broad Federal promulgation based on a showing of State inaction coupled with basic information on the discharge and presence of toxic pollutants meets the statutory objective of having criteria in place that are protective of public health and the environment. Without local expertise to help accurately narrow this list of pollutants and segments requiring criteria, there is no assurance of comparable protection. Nothing in the overall statutory water quality standards scheme anticipates EPA would develop this expertise in lieu of the States. EPA's lack of familiarity with local conditions argues strongly for a simple "determination" test to trigger section 303(c)(4)(B) promulgations. It also supports the concept of an across-the-board rulemaking for all priority toxic pollutants with section 304(a) criteria.

A final major reason supporting a simple determination to trigger section 303(c)(4)(B) action is that comprehensive

Federal promulgation imposes no undue or inappropriate burden on States or dischargers. It merely puts in place standards for toxic pollutants that are utilized in implementing Clean Water Act programs. Under this rulemaking, a State still retains the ability to adopt alternative water quality standards simply by completing its standards adoption process. Upon EPA approval of those standards, EPA would take actions to withdraw the Federally-promulgated criteria.

Federal promulgation of State water quality standards should be a course of last resort. It is symptomatic of something awry with the basic statutory scheme. Yet, when it is necessary to exercise this authority, as the evidence suggests is this case, there should be no undue impediments to its use. Section 303(c)(4) is replete with deadlines and Congressional directives for the Administrator to act "promptly" in these cases. The statute indicates that the Administrator of EPA, is to " * * * promptly prepare and publish proposed regulations setting forth a revised or new water quality standard * * *" and " * * * shall promulgate any revised or new standard * * * not later than 90 days after he published such proposed standards, unless prior to such promulgation, such State has adopted a revised or new standard which the Administrator determines to be in accordance with the Act." EPA intends to make every effort to meet the 90 day schedule. The adoption of section 303(c)(2)(B) reinforced this emphasis on expeditious actions. EPA has demonstrated extensive deference to State primacy and a willingness to provide broad flexibility in their adoption of State standards for toxics. However, to fulfill its statutory obligation requires that EPA's deference and flexibility cannot be unlimited.

For the reasons just discussed, EPA does not believe it is necessary to support the criteria proposed today on a pollutant specific, State-by-State, waterbody-by-waterbody basis. Nonetheless, over the course of the past several years in working with and assisting the States, the Agency has reviewed the readily-available data on the discharge and presence of priority toxic pollutants. While this data is not necessarily comprehensive, it constitutes a substantial record to support a *prima facie* case for the need for numeric criteria for most priority toxic pollutants with section 304(a) criteria guidance in most States. In the absence of final State actions to adopt criteria pursuant to either Option 2 or 3 which meet the requirements for EPA

approval, this evidence strongly supports EPA's decision to propose, pursuant to Section 303(c)(4)(B), criteria for all priority toxic pollutants not fully addressed by State criteria. The EPA data supporting this assertion is discussed more fully in the next section.

2. Approach for Developing Today's Proposed Rulemaking

The proposed State-specific requirements in § 131.36(d) were developed using one of two approaches. In the formal review of the adopted standards for certain States, EPA has determined that specific numeric toxics criteria are lacking. For some, criteria were omitted from the State standards, even though in EPA's judgment, the pollutants can reasonably be expected to interfere with designated uses. In these cases where EPA has specifically identified deficiencies in a State submission, today's proposed rule would establish Federal criteria for that limited number of priority toxic pollutants necessary to correct the deficiency.

For the balance of the States, EPA proposes to apply, to all appropriate State waters, the section 304(a) criteria for all priority toxic pollutants which are not the subject of approved State criteria. EPA also proposes to promulgate Federal criteria for priority toxic pollutants where any previously-approved State criteria do not reflect current science contained in revised criteria documents and other guidance sufficient to fully protect all designated uses or human health exposure pathways, where such previously-approved State criteria do not protect against both acute and chronic aquatic life effects, or where such previously-approved State criteria are not applicable to all appropriate State designated uses. EPA encourages public comments regarding any data which demonstrate that specific priority pollutants or water bodies may not require Federal criteria to protect State designated uses.

Absent a State-by-State pollutant specific analysis to narrow the list, existing data sources strongly support a comprehensive rulemaking approach. Information in the rulemaking record from a number of sources indicates the discharge, potential discharge or presence of virtually all priority toxic pollutants in all States. The data available to EPA has been assembled into a "strawman" analysis designed to identify priority toxic pollutants that potentially require the adoption of numeric criteria. Information on pollutants discharged or present was identified by accessing various national data sources:

- Final section 304(1) short lists identifying toxic pollutants likely to impair designated uses;
- Water column, fish tissue and sediment observations in the Storage Retrieval (STORET) data base (i.e., where the pollutant was detected);
- The National Pollutant Discharge Elimination System's (NPDES) Permit Compliance System data base to identify those pollutants limited in direct dischargers' permits;
- Pollutants included on Form 2(c) permit applications which have been submitted by wastewater dischargers;
- Information on discharges to surface waters or POTWs from the Toxics Release Inventory required by the Emergency Planning and Community Right-To-Know Act of 1986 (title III, Pub. L. 99-499);
- Pollutants predicted to be in the effluent of NPDES dischargers based on industry-specific analyses conducted for the Clean Water Act effluent guideline program.

The extent of this data supports a conclusion that promulgation of Federal criteria for all priority toxic pollutants with section 304(a) criteria guidance documents is appropriate for those States that have not completed their standards adoption process. This conclusion is supported by several other factors.

First, many of the available data sources have limitations which argue against relying on them solely to identify all needed water quality criteria. For example, the section 304(1) short lists only identified water bodies where uses were impaired by point source discharges; State long lists did not generally identify pollutants causing use impairment by nonpoint sources. Other available data sources (i.e., NPDES permit limits) have a similar narrow scope because of their particular purposes. Even the value of those data bases designed to identify ambient water problems is restricted by the availability of monitoring data.

In many States, the quantity, spatial and temporal distribution, and pollutant coverage of monitoring data is severely limited. For example, the most recent Water Quality Inventory Report to Congress included an evaluation of use attainment for only one-third of all river miles and less than one-half of lake acres. Even for those waters where use attainment status was reported, many assessments were based on data which did not include the chemical-specific information necessary to identify the priority toxic pollutants which pose a threat to designated uses. After evaluating this data, EPA concluded that

it most likely understates the adverse presence or discharge of priority toxic pollutants.

Further evidence justifying a broad promulgation rulemaking can be found in the State actions to date in their standards adoption process. While many have not come to completion, the initial steps have led many States to develop or propose rulemaking packages with extensive pollutant coverage. The nature of these preliminary State determinations argues for a Federal promulgation of all section 304(a) criteria pollutants to ensure adequate public health and environmental protection against priority toxic pollutant insults.

EPA's strawman analysis for each State is described in greater detail in part III of appendix 1 and the complete record is available for public review.

The detailed assumptions and "rules" followed by EPA in writing the proposed § 131.36(d) requirements for all jurisdictions are listed below. Comment is invited on the details of these determinations.

(1) No criteria are proposed for States which have been fully approved by EPA as complying with the section 303(c)(2)(B) requirements.

(2) For States which have not been fully approved, if EPA has not previously determined which specific pollutants/criteria/waterbodies are lacking from a State's standards (i.e., as part of an approval/disapproval action only), all of the criteria in columns B, C, and D of the proposed § 131.36(b) matrix are proposed for statewide application to all appropriate designated uses, except as provided for elsewhere in these rules. That is, EPA proposes to bring the State into compliance with section 303(c)(2)(B) via an approach which is comparable to option 1 of the December 1988 national guidance for section 303(c)(2)(B).

(3) If EPA has previously determined which specific pollutants/criteria/waterbodies are needed to comply with CWA section 303(c)(2)(B) (i.e., as part of an approval/disapproval action only), the criteria in proposed section 131.36(b) are proposed for only those specific pollutants/criteria/waterbodies (i.e., EPA proposes to bring the State into compliance via an approach which is comparable to option 2 of the December 1988 national guidance for section 303(c)(2)(B)).

(4) For aquatic life, except as provided for elsewhere in these rules, all waters with designated aquatic life uses providing even minimal support to aquatic life are included in the proposed rule (i.e., fish survival, marginal aquatic life, etc.).

(5a) For human health, except as provided for elsewhere in these rules, all waters with designated uses providing for public water supply protection (and therefore a potential water consumption exposure route) or minimal aquatic life protection (and therefore a potential fish consumption exposure route) are included in the proposed rule.

(5b) Where a State has determined the specific aquatic life segments which provide a fish consumption exposure route (i.e., fish or other aquatic life are being caught and consumed) and EPA approved this determination as part of standards approval/disapproval action, the proposed rule includes the fish consumption (Column D(II)) criteria for only those aquatic life segments, except as provided for elsewhere in these rules. In making a determination that certain segments do not support a fish consumption exposure route, a State must have completed, and EPA approved, a use attainability analysis consistent with the provisions of 40 CFR 131.10(j). In the absence of such an approved State determination, EPA has proposed fish consumption criteria for all aquatic life segments.

(6) Uses/Classes other than those which support aquatic life or human health are not included in the proposed rulemaking (e.g., livestock watering, industrial water supply), unless they are defined in the State standards as also providing protection to aquatic life or human health (i.e., unless they are described as protecting multiple uses including aquatic life or human health). For example, if the State standards include a use such as industrial water supply, and in the narrative description of the use the State standards indicate that the use includes protection for resident aquatic life, then this use is included in the proposed rulemaking.

(7) For human health, the "water + fish" criteria in Column D(I) of § 131.36(b) are proposed for all waterbodies where public water supply and aquatic life uses are designated, except as provided for elsewhere in these rules (e.g., rule 9).

(8) If the State has public water supplies where aquatic life uses have not been designated, or public water supplies that have been determined not to provide a potential fish consumption exposure pathway, the "water only" criteria in Column D(I) of § 131.36(b) are proposed for such waterbodies, except as provided for elsewhere in these rules (e.g., rule 9).

(9) EPA is generally not proposing criteria for priority toxic pollutants for which a State has adopted criteria and received EPA approval. The exceptions

to this general rule are described in rules 10 and 11.

(10) For priority toxic pollutants where the State has adopted human health criteria and received EPA approval, but such criteria do not fully satisfy section 303(c)(2)(B) requirements, the proposed rule includes human health criteria for such pollutants. For example, consider a case where a State has a water supply segment that poses an exposure risk to human health from both water and fish consumption. If the State has adopted, and received approval for, human health criteria based on water consumption only (e.g., Safe Drinking Water Act Maximum Contaminant Levels (MCLs)) which are less stringent than the "water + fish" criteria in Column D(I) of proposed § 131.36(b), the Column D(I) criteria are proposed for those water supply segments. The rationale for this is to ensure that both water and fish consumption exposure pathways are adequately addressed and human health is fully protected. If the State has adopted water consumption only criteria which are more stringent or equal to the Column D(I) criteria, the "water + fish" criteria in Column D(I) criteria are not proposed.

(11) For priority toxic pollutants where the State has adopted aquatic life criteria and previous to the 1987 CWA Amendments received EPA approval, but such criteria do not fully satisfy section 303(c)(2)(B) requirements, the proposed rule includes aquatic life criteria for such pollutants. For example, if the State has adopted not-to-be-exceeded aquatic life criteria which are less stringent than the 4-day average chronic aquatic life criteria in § 131.36(b) (i.e., in Columns B(II) and C(II)), the acute and chronic aquatic life criteria in Section 131.36(b) are proposed for those pollutants.

The rationale for this is that the State-adopted criteria do not protect resident aquatic life from both acute and chronic effects, and that Federal criteria are necessary to fully protect aquatic life designated uses. If the State has adopted not-to-be-exceeded aquatic life criteria which are more stringent or equal to the chronic aquatic life criteria in § 131.36(b), the acute and chronic aquatic life criteria in § 131.36(b) are not proposed for those pollutants.

(12) Under certain conditions discussed in rules 9, 10, and 11, criteria listed in § 131.36(b) are not proposed for specific pollutants; however, EPA made such exceptions only for pollutants for which criteria have been adopted by the State and approved by EPA, where such criteria are currently effective under State law the appropriate EPA Region

concluded that the State's criteria fully satisfy section 303(c)(2)(B) requirements.

3. Approach for States That Fully Comply Subsequent to Issuance of Today's Proposed Rulemaking

As discussed in prior sections of this preamble, the water quality standards program has been established with an emphasis on State primacy. Although this proposed rule has been developed to Federally promulgate toxics criteria for States, EPA prefers that States maintain primacy, revise their own standards, and achieve full compliance. EPA is hopeful that today's proposed rulemaking will provide additional impetus for non-complying States to adopt the criteria for priority toxic pollutants necessary to comply with section 303(c)(2)(B).

For States that achieve full compliance before publication of the final rulemaking, EPA will not include such States in the final rulemaking. At any point in the process prior to final promulgation, a State can ensure that it will not be affected by this action by adopting the necessary criteria pursuant to State law and receiving EPA approval. The content of the adopted standards must be within the boundaries of the several acceptable approaches described earlier in this preamble.

Following a final promulgation of this rule, removal of a State from the rule will require rulemaking by EPA according to the requirements of the Administrative Procedure Act (5 U.S.C. 551 *et seq.*). EPA will withdraw the Federal rule without a notice and comment rulemaking when the State adopts standards no less stringent than the Federal rule (i.e., standards which provide, at least, equivalent environmental protection). For example, see 51 FR 11580, April 4, 1986, which finalized EPA's removal of a Federal rule for the State of Mississippi.

However, if a State adopts standards for toxics which are less stringent than the Federal rule but, in the Agency's judgment, fully meet the requirements of the Act, EPA will propose to withdraw the rule with a notice of proposed rulemaking and provide for public participation. This procedure would be required for partial or complete removal of a State from this rulemaking. A State covered by the final rule could adopt the necessary criteria using any of the three options or combinations of those Options described in EPA's 1989 guidance.

EPA cautions States and the public that promulgation of a Federal rule removes most of the flexibility available to States for modifying their standards

on a discharger-specific or stream-specific basis. For example, variances, site-specific criteria and schedules of compliance actions pursuant to State law for federally promulgated criteria are precluded. Each of these types of modifications would require Federal rulemaking on a case-by-case basis to change the Federal rule for that State.

F. Derivation of Proposed Criteria

1. Sections 304(a) Criteria Process

Under the authority of CWA section 304(a) EPA has developed methodologies and specific criteria to protect aquatic life and human health. These methodologies are intended to provide protection for all surface water on a national basis. As described below, there are site specific procedures for more precisely addressing site specific conditions for an individual water body. However, these site-specific criteria procedures are infrequently used because the section 304(a) criteria recommendations have proven themselves to be appropriate for the vast majority of water bodies. The methodologies have been subject to public review, as have the individual criteria documents. Additionally, the methodologies have been reviewed and approved by EPA's Science Advisory Board.

EPA incorporates by reference into the record of this proposed rulemaking the aquatic life methodology as described in "Appendix B—Guidelines for Deriving Water Quality Criteria for the Protection of Aquatic Life and Its Uses" (45 FR 79341, November 28, 1980) as amended by "Summary of Revisions to Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses" (50 FR 30792, July 29, 1985). EPA also incorporates by reference into the record of this proposed rulemaking the human health methodology as described in "Appendix C—Guidelines and Methodology Used in the Preparation of Health Effects Assessment Chapters of the Consent Decree Water Criteria Documents" (45 FR 79347, November 28, 1980). EPA also recommends that the following be reviewed for information: "Appendix D—Response to Comments on Guidelines for Deriving Water Quality Criteria for the Protection of Aquatic Life and Its Uses," (45 FR 79357, November 28, 1980); "Appendix E—Responses to Public Comments on the Human Health Effects Methodology for Deriving Ambient Water Quality Criteria" (45 FR 79368, November 28, 1980); and "Appendix B—Response to Comments on Guidelines for Deriving

Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses" (50 FR 30793, July 29, 1985). EPA also is placing into the record the most current individual criteria documents for the priority toxic pollutants included in today's proposal.

The primary focus of this rule is the inclusion of the water quality criteria for pollutant(s) in State standards as necessary to support water quality-based control programs. The Agency is accepting comment on the criteria proposed in today's rule. However, Congress has established a very ambitious schedule for the promulgation of the final criteria. The statutory deadline in section 303(c)(4) clearly indicates that Congress intended the Agency to move very expeditiously when Federal action is warranted. The Agency believes that the limited time available for promulgation of the regulation can be used most efficiently and effectively by addressing those issues that have not already come before the Agency.

The methodology used to develop the criteria and the criteria themselves (to the extent not updated through IRIS) have previously undergone scientific peer review and public review and comment, and have been revised as appropriate. For the most part, this review occurred before Congress amended the Act in 1987, to require the inclusion of numeric criteria for certain toxic pollutants in State standards. Congress acted with full knowledge of the EPA process for developing criteria and the Agency's recommendations under section 304(a). EPA believes it is consistent with Congressional intent to rely in large part on existing criteria rather than engage in a time-consuming reevaluation of the underlying basis for water quality criteria. Accordingly, the Agency does not intend in this rulemaking to address the issues that have already been addressed by the Agency in response to previous comments. It is the Agency's belief that this approach will best achieve the purpose of moving forward in promulgating criteria for States not in compliance with section 303(c)(2)(B) so that environmental controls intended by Congress can be put into place to protect public health and welfare and enhance water quality.

It should be noted that the Agency is initiating a review of the basic guidelines for developing criteria and that comments received in this rulemaking may be of value in that effort as well. Future revisions to the criteria guidelines will be reviewed by

the Agency's Science Advisory Board and submitted to the public for review and comment following the same process that was used in issuing the existing methodological guidelines. Subsequent revisions of criteria documents and the issuance of any new criteria documents will also be subject to public review.

2. Aquatic Life Criteria

Aquatic life criteria may be expressed in numeric or narrative forms. EPA's guidelines describe an objective, internally consistent and appropriate way of deriving chemical-specific, numeric water quality criteria for the protection of the presence of, as well as the uses of, both fresh and marine water aquatic organisms.

An aquatic life criterion derived using EPA's section 304(a) method represents an estimate of the highest concentration of a pollutant in water that does not present a significant risk to aquatic organisms *per se* or to their use. EPA's guidelines are designed to derive criteria that protect aquatic communities by protecting most of the species and their uses most of the time, but not necessarily all of the species all of the time. Aquatic communities can tolerate some stress and occasional adverse effects on a few species so that total protection of all species all of the time is not necessary. EPA's guidelines attempt to provide a reasonable and adequate amount of protection with only a small possibility of substantial overprotection or underprotection. As discussed in detail below, there are several individual factors which may make the criteria somewhat overprotective or underprotective. Clearly, addressing them all is probably infeasible and, in any case, would make the criteria derivation process unduly resource intensive and time consuming. The approach EPA is using is believed to be as well balanced as possible, given the state of the science.

Numerical aquatic life criteria derived using EPA's most recent guidelines are expressed as short-term and long-term numbers, rather than one number, in order that the criteria more accurately reflect toxicological and practical realities. The combination of a criteria maximum concentration (CMC), a one-hour average acute limit, and a criteria continuous concentration (CCC), a four-day average concentration chronic limit, provide protection of aquatic life and its uses from acute and chronic toxicity to animals and plants, and from bioconcentration by aquatic organisms, without being as restrictive as a one-number criterion would have to be.

The two number criteria are intended to identify average pollutant concentrations which will produce water quality generally suited to maintenance of aquatic life and their uses while restricting the duration of excursions over the average so that total exposures will not cause unacceptable adverse effects. Merely specifying an average value over a time period is insufficient unless the time period is short, because excursions higher than the average can kill or cause substantial damage in short periods.

EPA's guidelines were developed on the assumption that the results of laboratory tests are generally useful for predicting what will happen in field situations. Certain ambient waters may have some capacity to bind pollutants and make them less bioavailable. The site-specific criteria process provides a means of addressing this effect (i.e., by allowing development and use of a "water effect ratio" that quantifies the difference in toxicity of a pollutant in site water versus the toxicity of the pollutant in the laboratory water used to develop the section 304(a) criteria recommendation). However, in the absence of such an approach, the criteria may be somewhat overprotective in some situations.

A minimum data set of eight specified families is required for criteria development (details are given in the methodology cited above). The eight specific families are intended to be representative of a wide spectrum of aquatic life. For this reason it is not necessary that the specific organisms tested be actually present in the water body. States may develop site-specific criteria using native species, provided that the broad spectrum represented by the eight families is maintained. All aquatic organisms and their common uses are meant to be considered, but not necessarily protected, if relevant data are available.

EPA's application of guidelines to develop the criteria matrix in the proposed rule is judged by the Agency to be applicable to all waters of the United States, and to all ecosystems. There are waters and ecosystems where site-specific criteria could be developed, as discussed below, but it is up to States to identify those waters and develop the appropriate site-specific criteria.

Fresh water and salt water (including both estuarine and marine waters) have different chemical compositions, and freshwater and saltwater species rarely inhabit the same water simultaneously. To provide additional accuracy, criteria developed recently are developed for fresh water and for salt water.

Assumptions which may make the criteria underprotective include the use of criteria on an individual basis, with no consideration of additive or synergistic effects, and the general lack of consideration of impacts on wildlife, due principally to a lack of data.

3. Criteria for Human Health

As with aquatic life, EPA's guidelines for human health criteria attempt to provide a reasonable and adequate amount of protection with only a small possibility of substantial overprotection or underprotection. EPA's section 304(a) criteria for human health are based on two types of biological endpoints:

(1) Carcinogenicity and (2) systemic toxicity (i.e., all other adverse effects other than cancer). Thus, there are two procedures for assessing these health effects: One for carcinogens and one for non-carcinogens.

EPA's guidelines assume that carcinogenicity is a "non-threshold phenomenon," that is, there are no "safe" or "no-effect levels" because even extremely small doses are assumed to cause a finite increase in the incidence of the response (i.e., cancer). Therefore, EPA's water quality criteria for carcinogens are presented as pollutant concentrations corresponding to increases in the risk of developing cancer.

For pollutants that do not manifest any apparent carcinogenic effects in animal studies (i.e., systemic toxicants), EPA assumes that the pollutant has a threshold below which no effects will be observed. This assumption is based on the premise that a physiological mechanism exists within living organisms to avoid or overcome the adverse effects of the pollutant below the threshold concentration.

The human health risks of a substance cannot be determined with any degree of confidence unless dose-response relationships are quantified. Therefore, a dose-response assessment is required before a criterion can be calculated. The dose-response assessment determines the quantitative relationships between the amount of exposure to a substance and the onset of toxic injury or disease. Data for determining dose-response relationships are typically derived from animal studies, or less frequently, from epidemiological studies in exposed populations.

The dose-response information needed for carcinogens is an estimate of the carcinogenic potency of the compound. Carcinogenic potency is defined here as a general term for a chemical's human cancer-causing potential. This term is often used loosely

to refer to the more specific carcinogenic or cancer slope factor which is defined as an estimate of carcinogenic potency derived from animal studies or epidemiological data of human exposure. It is based on extrapolation from test exposures of high dose levels over relatively short periods of time to more realistic low dose levels over a lifetime exposure period by use of linear extrapolation models. The cancer slope factor, q_1^* , is EPA's estimate of carcinogenic potency and is intended to be a conservative upper bound estimate (e.g. 95% upper bound confidence limit).

For non-carcinogens, EPA uses the reference dose (RfD) as the dose response parameter in calculating the criteria. The RfD was formerly referred to as an "Acceptable Daily Intake" or ADI. The RfD is useful as a reference point for gauging the potential effects of other doses. Doses that are less than the RfD are not likely to be associated with any health risks, and are therefore less likely to be of regulatory concern. As the frequency of exposures exceeding the RfD increases and as the size of the excess increases, the probability increases that adverse effects may be observed in a human population. Nonetheless, a clear conclusion cannot be categorically drawn that all doses below the RfD are "acceptable" and that all doses in excess of the RfD are "unacceptable." In extrapolating non-carcinogen animal test data to humans to derive an RfD, EPA divides a no-observed-effect dose observed in animal studies by an "uncertainty factor" which is based on professional judgment of toxicologists and typically ranges from 10 to 10,000.

For section 304(a) criteria development, EPA typically considers only exposures to a pollutant that occur through the ingestion of waters and contaminated fish and shellfish. Thus the criteria are based on an assessment of risks related to the surface water exposure route only.

The assumed exposure pathways in calculating the criteria are the consumption of 2 liters per day at the criteria concentration and the consumption of 6.5 grams per day of fish/shellfish contaminated at a level equal to the criteria concentration but multiplied by a "bioconcentration factor." The use of fish consumption as an exposure factor requires the quantification of pollutant residues in the edible portions of the ingested species. Bioconcentration factors (BCFs) are used to relate pollutant residues in aquatic organisms to the pollutant concentration in ambient waters. BCFs are quantified by various procedures

depending on the lipid solubility of the pollutant. For lipid soluble pollutants, the average BCF is calculated from the weighted average percent lipids in the edible portions of fish/shellfish, which is about 3%; or it is calculated from theoretical considerations using the octanol/water partition coefficient. For non-lipid soluble compounds, the BCF is determined empirically. The assumed water consumption is taken from the National Academy of Sciences publication "Drinking Water and Health" (1977). The 6.5 grams per day contaminated fish consumption value is equivalent to the average per-capita consumption rate of all (contaminated and non-contaminated) freshwater and estuarine fish for the U.S. population.

EPA also assumes in calculating water quality criteria that the exposed individual is an average adult with body weight of 70 kilograms. The issue of concern is dose per kilogram of body weight. EPA assumes 6.5 grams per day of contaminated fish consumption and 2 liters per day of contaminated drinking water consumption for a 70 kilogram person in calculating the criteria. Persons of smaller body weight are expected to ingest less contaminated fish and water, so the dose per kilogram of body weight is generally expected to be roughly comparable. There may be subpopulations within a State, such as subsistence fishermen, who as a result of greater exposure to a contaminant, are at greater risk than the hypothetical 70 kilogram person eating 6.5 grams per day of maximally contaminated fish and shellfish and drinking 2 liters per day of maximally contaminated drinking water. (EPA is in part addressing the potential that highly exposed subpopulations exist by selecting a relatively stringent cancer risk level (10^{-6}) for use in deriving State-wide criteria for carcinogens. Individuals that ingest ten times more of a pollutant than is assumed in derivation of the criteria will be protected to a 10^{-5} level, which EPA has historically considered to be adequately protective. There may, nevertheless, be circumstances where site-specific numeric criteria that are more stringent than the State-wide criteria are necessary to adequately protect highly exposed subpopulations. Although EPA intends in this initial promulgation to focus on promulgation of appropriate State-wide criteria that will reduce risks to all exposed individuals, including highly exposed subpopulations, site specific criteria may be developed subsequently by EPA or the States where warranted to provide necessary additional protection.)

For non-carcinogens RfDs are developed based on pollutant concentrations that cause threshold effects. The RfD is an estimate (with uncertainty spanning perhaps an order of magnitude) of a daily exposure to the human population (including sensitive subgroups) that is likely to be without appreciable risk of deleterious effects during a lifetime.

Criteria are calculated for individual chemicals with no consideration of additive, synergistic or antagonistic effects in mixtures. If the conditions within a State differ from the assumptions EPA used, the States have the option to perform the analyses for their conditions.

EPA has a process to develop a scientific consensus on oral reference doses and carcinogenic slope factors. Reference doses and slope factors are validated by two Agency work groups (i.e., one work group for each) which are composed of senior Agency scientists from all of the program offices and the Office of Research and Development. These work groups develop a consensus of Agency opinion for RfDs and slope factors which are then used throughout the Agency for consistent regulation and guidance development. EPA maintains an electronic data base which contains the official Agency consensus for RfD's and slope factors which is known as the Integrated Risk Information System (IRIS). It is available for use through EPA's electronic mail system, and also available through the Public Health Network of the Public Health Foundation, and on the National Institutes of Health National Library of Medicine's TOXNET system. For the criteria included in today's proposal, EPA used the criteria recommendation from the appropriate section 304(a) criteria document. (The availability of EPA's criteria documents has been announced in various Federal Register notices. These documents are also placed in the record for today's proposed rule.) However, if the Agency has changed in IRIS any parameters used in criteria derivation since issuance of the criteria guidance document, EPA recalculated the criteria recommendation with the latest information. (This information is included in the record.) Thus, there may be differences between the original recommendation, and those in today's proposal, but today's proposal presents the Agency's most current section 304(a) criteria recommendation. The recalculated human health numbers are denoted by an "a" in the criteria matrix in subsection 131.36(b) of today's proposed rule.

In order to base its regulatory decisions on the best available science, EPA continuously updates its assessment of the risk from exposure to contaminants. On September 11, 1991, EPA's Office of Research and Development (ORD) began reassessing the scientific models and exposure scenarios used to predict the risks of biological effects from exposure to low levels of dioxin. This reassessment has the potential to alter the risk assessment for dioxin and accordingly the Agency's regulatory decisions related to dioxin. At this time, EPA is unable to say with any certainty what the degree or directions of any changes in risk estimates might be. This rulemaking includes a proposed Agency action with regard to dioxin that may be affected by the reassessment. The Agency will be carefully monitoring ORD's efforts in order to ensure that appropriate actions are taken during the course of this rulemaking to reflect any necessary changes resulting from the reassessment. If a final Agency action on this rulemaking occurs prior to completion of ORD's work, the Agency will consider revisiting that decision.

4. Section 304(a) Human Health Criteria Excluded

Today's proposal does not contain certain of the Section 304(a) criteria for priority toxic pollutants because those criteria were not based on toxicity. The basis for these particular criteria are organoleptic effects (e.g., taste and odor) which would make water and edible aquatic life unpalatable but not toxic. Because the basis for this proposed rulemaking is to protect the public health and aquatic life from toxicity consistent with the language in section 303(c)(2)(B), EPA is proposing criteria only for those priority toxic pollutants whose criteria recommendations are based on toxicity. The Section 304(a) human health criteria based on organoleptic effects for copper, zinc, 2,4-dimethylphenol, and 3-methyl-4-chlorophenol are excluded for this reason.

5. Cancer Risk Level Proposed

EPA's Section 304(a) criteria guidance documents for priority toxic pollutants which are based on carcinogenicity present concentrations for upper bound risk levels of 1 excess cancer per 100,000 people (10^{-5}), per 1,000,000 people (10^{-6}), and per 10,000,000 people (10^{-7}). However, the criteria documents do not recommend a particular risk factor as EPA policy.

In the April, 1990, Federal Register notice of preliminary assessment of State compliance, EPA announced the

intention to include in the proposed rulemaking an incremental cancer risk level of one in a million (10^{-6}) for all priority toxic pollutants regulated as carcinogens. That cancer risk level is reflected in this proposed rule. The reasons supporting this decision are discussed below. However, EPA's Office of Water's guidance to the States has consistently reflected the Agency's policy of accepting cancer risk policies from the States in the range of 10^{-6} to 10^{-4} . EPA reviews individual State policies as part of its water quality standards oversight function and determines if States have appropriately consulted its citizens and applied good science in adopting water quality criteria.

First, EPA's human health criteria have been developed based on a number of exposure assumptions. Many of these assumptions are based on the exposure for an average individual. For example, EPA's criteria assumes exposure of a 70 kilogram (154 pound) adult who consumes 2 liters (2.1 quarts) of water per day and 6.5 grams of fish per day (less than 7 ounces per month). These assumptions are based on approximate national averages, but considerably understate the exposure that would occur for certain segments of the population that have high fish consumption or depend on fish consumption for subsistence. Similarly, it would overstate the exposure of those who consume less fish than the National average amount. Therefore, although EPA would accept a lower State adopted risk level, in the range of 10^{-4} to 10^{-6} , EPA has chosen a 10^{-6} risk level to protect the average exposed individual at a conservative incremental lifetime cancer risk.

A second strong reason is that a 10^{-6} risk level is consistent with what most States have selected, or are expected to select, as their risk level. A recent EPA status report on State compliance with section 303(c)(2)(B) found that 36 of the 57 States and Territories will select 10^{-6} as their risk level (12 States have selected or are expected to select 10^{-5} and 9 of the remaining States are undecided). EPA's proposal is therefore consistent with the majority of the States, does not contradict those States choosing a 10^{-6} risk level and does not preclude States from eventually choosing a risk level below 10^{-6} .

Third, by selecting a risk level of 10^{-6} for the average exposed individual, some assurance is provided against the possibility that current section 304(a) criteria are not sufficiently stringent. The various parameters used in deriving the Section 304(a) criteria (e.g. cancer

potency slopes, reference doses, bioaccumulation factors, etc.) are based on the state of present science. With additional research and experience, EPA may find that one or more of these factors understates the actual public risk. In addition, in many cases, EPA's criteria are based upon a single health effect. As the science evolves and available information expands, there is the potential that EPA will determine that other endpoints or effects are more sensitive than those currently considered. This risk level also reflects a recognition that certain factors are not considered in the current criteria methodology.

A proposed 10^{-6} risk level does not preclude State alternatives. If a State decides that a different risk level is more appropriate, it may avoid Federal promulgation by completing its standards adoption process in compliance with section 303(c)(2)(B). As discussed earlier, this would be the case both in advance of or subsequent to final promulgation.

6. Applying EPA's Nationally Derived Criteria to State Waters

To assist States in modifying EPA's water quality criteria, the Agency has provided guidance on developing site specific criteria for aquatic life and human health (see Water Quality Standards Handbook and the Guidelines for Deriving Numerical National Water Quality Criteria). This guidance can be used by the appropriate regulatory authority to develop alternative criteria where such criteria are more stringent than the criteria finally developed pursuant to this proposed rulemaking, section 510 of the Clean Water Act (33 U.S.C. 1370) provides authority for their implementation and enforcement in lieu of today's proposed criteria.

EPA's experience with such site-specific criteria has verified that the national criteria are generally protective and appropriate for direct use by the States.

G. Description of the Proposed Rule

EPA's final rule would establish a new § 131.36 in 40 CFR part 131 entitled, "Toxics Criteria for Those States Not Fully Complying With Clean Water Act section 303(c)(2)(B)."

1. Scope

Subsection (a), entitled "Scope", clarifies that this section is not a general promulgation of the section 304(a) criteria for priority toxic pollutants but is restricted to specific pollutants in specific States.

2. EPA Criteria for Priority Toxic Pollutants

Subsection (b) presents a matrix of the applicable EPA criteria for priority toxic pollutants. Section 303(c)(2)(B) of the Act addresses only pollutants listed as "toxic" pursuant to section 307(a) of the Act. As discussed earlier in this preamble, the section 307(a) list of toxics contains 65 compounds and families of compounds, which potentially include thousands of specific compounds. The Agency uses the list of 126 "priority toxic pollutants" for administrative purposes (see 40 CFR part 423, appendix A). Reference in this proposed rule to priority toxic pollutants, toxic pollutants, or toxics refers to the 126 priority toxic pollutants.

However, EPA has not developed both aquatic life and human health section 304(a) criteria for all of the 126 priority toxic pollutants. The matrix in paragraph (b) contains human health criteria in Column D for 102 priority toxic pollutants which are divided into criteria (Column I) for water consumption (i.e., 2 liters per day) and aquatic life consumption (i.e., 6.5 grams per day of aquatic organisms), and Column II for aquatic life consumption only. The term aquatic life includes fish and shellfish such as shrimp, clams, oysters and mussels. The total number of priority toxic pollutants with criteria proposed today differs from the total number of priority toxic pollutants with section 304(a) criteria because EPA has developed and is proposing chromium criteria for two valence states. Thus, although chromium is a single priority toxic pollutant, there are two criteria for chromium. See numbers 5a and 5b in proposed § 131.36(b).

The matrix contains aquatic life criteria for 30 priority pollutants. These are divided into freshwater criteria (Column B) and saltwater criteria (Column C). These columns are further divided into acute and chronic criteria. The aquatic life criteria are considered by EPA to be protective when applied under the conditions described in the section 304(a) criteria documents and in the "Technical Support Document for Water Quality-based Toxics Control." For example, waterbody uses should be protected if the criteria are not exceeded, on average, once every three year period. It should be noted that the criteria maximum concentrations (the acute criteria) are one-hour average concentrations and that the criteria continuous concentrations (the chronic criteria) are four-day averages. It should also be noted that for certain of the metals, the actual criteria are equations which are included as footnotes to the

matrix. The toxicity of these metals are water hardness dependent. The values shown in the table are based on a hardness expressed as calcium carbonate of 100 mg/l. Finally, the criterion for pentachlorophenol is pH dependent. The equation is the actual criterion and is included as a footnote. The value shown in the matrix is for a pH of 7.8 units.

Several of the freshwater aquatic life criteria are incorporated into the matrix in the format used in the 1980 criteria methodology. This distinction is noted in footnote (g) to the table. EPA has not updated these criteria for various reasons. Footnote (g) describes an approximate method to translate these 1980 criteria to the equivalent criteria by the 1985 methodology. EPA could make this translation in a final rule and solicits public comment on which approach is better.

The matrix also includes toxicity-based human health criteria for copper, 2-chloroethylvinyl ether, 1,2-trans-dichloroethylene, 2-chlorophenol, acenaphthene, butylbenzyl phthalate, and N-nitrosodi-n-propylamine. The criteria for these substances are shown in parentheses and are *not* being proposed today but are included for informational purposes and as notice for consideration in all future State triennial reviews. Although sufficient information on these compounds was previously unavailable to calculate a section 304(a) criterion based on carcinogenicity or systemic toxicity, Agency-approved information in IRIS now allow calculation of these criteria using the EPA criteria guidelines. EPA has assembled another matrix which provides all of the factors used to calculate the proposed human health criteria. This supplementary matrix is included in the record for this proposal.

3. Applicability

Section 131.36(d) establishes the applicability of the criteria proposed for each included State. It provides that the criteria promulgated for each State supersede and/or complement any State criteria for that toxic pollutant. EPA believes it has not proposed to supersede any State criteria for priority toxic pollutants unless the State-adopted criteria are disapproved or otherwise insufficient. The approach followed by the Agency in preparing proposed § 131.36(d) is described in section E.2, and further rationale is provided in section E.3 of this preamble. EPA invites comment on the accuracy of the Agency's decisions to include or exclude particular priority toxic pollutant criteria.

EPA's principal purpose today is to propose the toxics criteria necessary to comply with section 303(c)(2)(B). However, in order for such criteria to achieve their intended purpose the implementation scheme must be such that the final results protect the public health and welfare. In section F of this preamble a discussion focused on the factors in EPA's assessment of criteria for carcinogens. For example, fish consumption rates, bioaccumulation factors, and cancer potency slopes were discussed. When any one of these factors is changed, the others must also be evaluated so that, on balance, resulting criteria are adequately protective.

Once an appropriate criterion is selected for either aquatic life or human health protection, then appropriate conditions for calculating water quality-based effluent limits for that chemical must be established in order to maintain the intended stringency and achieve the necessary toxics control. EPA has included in this proposal appropriate implementation factors necessary to maintain the level of protection intended. These proposals are included in subsection (c).

For example, most States have low flow values for streams and rivers which establish flow rates below which numeric criteria may be exceeded. These low flow values became design flows for sizing treatment plants and developing water quality-based effluent limits. Historically, these so-called "design" flows were selected for the purposes of waste load allocation analyses which focused on instream dissolved oxygen concentrations and protection of aquatic life. With the publication of the 1985 Technical Support Document for Water Quality Based Toxics Control (TSD), EPA introduced hydrologically and biologically based analyses for the protection of aquatic life and human health.¹ EPA recommended either of two methods for calculating acceptable low flows, the traditional hydrologic method developed by the U.S. Geological Survey and a biological based method developed by EPA. The

¹ These concepts have been expanded subsequently in guidance entitled "Technical Guidance Manual for Performing Wasteload Allocations, Book 6, Design Conditions," USEPA, Office of Water Regulations and Standards, Washington, DC (1986). These new developments are included in appendix D of the revised TSD. The discussion here is greatly simplified and is provided to support EPA's decision to propose baseline application values for instream flows and thereby maintain the intended stringency of the criteria for priority toxic pollutants.

results of either of these two methods may be used.

Some States have adopted specific low flow requirements for streams and rivers to protect designated uses against the effects of toxics. Generally these have followed the guidance in the TSD. However, EPA believes it is essential to include proposed design flows in today's proposed rule so that, where States have not yet adopted such design flows, the criteria proposed today would be implemented appropriately. Clearly, if the proposed criteria were implemented using inadequate design flows, the resulting toxics controls would not be fully effective, because the resulting ambient concentrations would exceed EPA's recommended levels.

In the case of aquatic life, more frequent violations than the once in 3 years assumed exceedences would result in diminished vitality of stream ecosystems characteristics by the loss of desired species such as sport fish. The low flow values proposed are:

Aquatic Life:	
Acute criteria (CMC).	1 Q 10 or 1 B 3.
Chronic criteria (CCC).	7 Q 10 or 4 B 3
Human Health:	
Non-carcinogens	30 Q 5.
Carcinogens.....	harmonic mean flow.

Where:

- 1 Q 10 is the lowest one day flow with an average recurrence frequency of once in 10 years determined hydrologically;
 - 1 B 3 is biologically based and indicates an allowable exceedence of once every 3 years. It is determined by EPA's computerized method (DFLOW model);
 - 7 Q 10 is the lowest average 7 consecutive day low flow with an average recurrence frequency of once in 10 years determined hydrologically;
 - 4 B 3 is biologically based and indicates an allowable exceedence for 4 consecutive days once every 3 years. It is determined by EPA's computerized method (DFLOW model);
 - 30 Q 5 is the lowest average 30 consecutive day low flow with an average recurrence frequency of once in 5 years determined hydrologically; and
- The harmonic mean flow is a long term mean flow value calculated by dividing the number of daily flows analyzed by the sum of the reciprocals of those daily flows.

EPA is proposing the harmonic mean flow to be applied with human health criteria. The concept of a harmonic mean is a standard statistical data analysis technique. EPA's model for human health effects assumes that such effects occur because of a long-term exposure to low concentration of a toxic pollutant. For example, two liters of

water per day for seventy years. To estimate the concentrations of the toxic pollutant in those two liters per day by withdrawal from streams with a high daily variation in flow, EPA believes the harmonic mean flow is the correct statistic to use in computing such design flows rather than other averaging techniques.²

All waters, whether or not suitable for such hydrologic calculations but included in this proposed rule (including lakes, estuaries, and marine waters), must contain the criteria proposed today. Such attainment must occur at the end of the discharge pipe, unless the State has an EPA approved mixing zone regulation. If the State has an EPA approved mixing zone regulation, then the criteria would apply at the locations stated in that regulation. For example, the chronic criteria (CCC) must apply at the geographically defined boundary of the mixing zone. Discussion and guidance of these factors are included in the revised TSD in chapter 4.

EPA is aware that the criteria proposed today for some of the priority toxic pollutants are at concentrations less than EPA's current analytical detection limits. Detection limits have never been an acceptable basis for setting standards since they are not related to actual environmental impacts. The environmental impact of a pollutant is based on a scientific determination, not an arbitrary measuring technique which is subject to change. Setting the criteria at levels that reflect adequate protection tends to be a forcing mechanism to improve analytical detection methods. As the methods improve, limits closer to the actual criteria necessary to protect aquatic life and human health are measurable. The Agency does not believe it is appropriate to promulgate insufficiently protective criteria (e.g., criteria equal to the current analytical detection limits).

EPA does believe, however, that the use of analytical detection limits are appropriate for determining compliance with NPDES permit limits. This historical view of the role of detection limits was recently articulated in guidance for translating dioxin criteria into NPDES permit limits which is the principal method used for water quality standards enforcement.³ This guidance

² For a description of harmonic means see "Design Stream Flows Based on Harmonic Means," Lewis A. Rossman, J. of Hydraulics Engineering, Vol. 116, No. 7, July, 1990. This article is contained in the record for this proposal.

³ Strategy for the Regulation of Discharges of PHDDs and PHDFs from Pulp and Paper Mills to Waters of the United States." memorandum from the Assistant Administrator for Water to the Regional Water Management Division Directors and NPDES State Directors, May 21, 1990.

presents a model for addressing toxic pollutants which have criteria recommendations less than current detection limits. This guidance is equally applicable to other priority toxic pollutants with criteria recommendations less than current detection limits. The guidance explains that detection limits may be used for purposes of determining compliance with permit limits, but not for purposes of establishing water quality criteria or permit limits. Because under the Clean Water Act analytical detection limits are appropriately used only in connection with NPDES permit limit compliance determinations, EPA has not considered analytical detection limits in deriving the criteria proposed today.

EPA has added provisions in paragraph (c)(3) to determine when fresh water or saltwater aquatic life criteria apply. The structure of the paragraph is to establish presumptively applicable rules and to allow for site-specific determinations where the rules are not consistent with actual field conditions. Because a distinct separation generally does not exist between fresh water and marine water aquatic communities, EPA is proposing the following: (1) The fresh water criteria apply at salinities of 1 part per thousand and below; (2) marine water criteria apply at 10 parts per thousand and above; and (3) at salinities between 1 and 10 parts per thousand the more stringent of the two apply unless EPA approves another site specific criterion for the pollutant. This proposed assignment of criteria for fresh, brackish and marine waters was developed in consultation with EPA's research laboratories at Duluth, Minnesota and Narragansett, Rhode Island. The Agency believes such an approach is consistent with field experience.

In paragraph (c)(4)(i) EPA has included a limitation on the amount of hardness that EPA can allow to antagonize the toxicity of certain metals (see footnote (e) in the criteria matrix in paragraph (b) of the rule). The data base used for the Section 304(a) criteria documents for metals do not include data supporting the extrapolation of the hardness effects on metal toxicity beyond a range of hardness of 25 mg/l to 400 mg/l (expressed as calcium carbonate). Thus, the aquatic life values for the CNC (acute) and CCC (chronic) criteria for these metals in waters with a hardness less than 25 mg/l, must nevertheless use 25 mg/l when calculating the criteria; and in waters with a hardness greater than 400 mg/l, must nevertheless use 400 mg/l when calculating the criteria.

Subsection (d) lists the States for which rules are being proposed. For each identified State, the water uses impacted (and in some cases the waters covered) and the criteria proposed are identified.

H. Specific Issues for Public Comment

As is the Agency's custom, EPA would like to request that particular public review be directed to the issues and alternatives presented in this section. Although the issues presented below are particularly notable and worthy of comment, EPA encourages public comment on any aspect of this proposed rule.

1. In section D of this preamble, EPA has presented a discussion of how EPA determines State compliance with section 303(c)(2)(9). The process described has been the Agency's general practice since the beginning of the water quality standards program, although the requirements specific to toxics criteria have evolved over the years. Briefly stated, EPA's ten Regional offices review the State-adopted standards to ascertain compliance with the Clean Water Act using the information developed by the State and other relevant and available data and information.

For compliance with section 303(c)(2)(B), EPA's focus in many cases was on the process the State used to assemble the criteria for those priority toxic pollutants which could reasonably be expected to interfere with the State's designated uses. For example, EPA's review of individual State water quality standards had to balance a need for national consistency with the need to implement the CWA scheme that provides for State primacy and State-specific approaches. If EPA had information on a toxic pollutant sufficient to satisfy the test that the pollutant can reasonably be expected to interfere with designated uses, and the State did not adopt sufficient, scientifically defensible criteria for that pollutant, EPA disapproved the State action as being inconsistent with Section 303(c)(2)(B). Alternative approaches could have had either a narrower focus on fewer priority toxic pollutants (for example, relying only on the results of the section 304(l) short list process) or might have been broader, (for example, requiring most States to adopt criteria for the complete list of priority toxic pollutants addressed in EPA section 304(a) criteria recommendations). EPA solicits comment on whether the Agency's traditional review process should have been changed.

2. EPA's approach and rationale for deciding which criteria to propose for a State is discussed in section E of this Preamble. Briefly stated, EPA either: (1) Proposed to promulgate Federal criteria for all priority toxic pollutants not acceptably addressed by approved State criteria (this approach is used for most States), or (2) proposed to promulgate Federal criteria only for specific priority pollutants for which State criteria are lacking or insufficient (this approach is used for only a few States). EPA could have used other approaches and solicits public comment. For example, EPA could have relied totally on the State's own determination pursuant to section 304(l) and 305(b), or entirely on an Option 1 approach of promulgating all Federal criteria for all State waters.

3. This proposed rulemaking includes proposed minimum implementation factors for the criteria, such as flow conditions. As proposed, these factors are dependent on existing State rules but subject to base values which are those used in developing the criteria. EPA's revised TSD explains more fully the details of these base values. EPA could rely entirely on existing State rules or establish the proposed Federal rules.

4. The conditions under which States will be removed from the rule, either before or after final promulgation, are described in section E.4 of this preamble. EPA could make the conditions for removing the applicability of the rule to a State more or less stringent. A difficult aspect of this issue is a definition of what the State must adopt for EPA to withdraw the applicability of its rule entirely. As currently stated, EPA's policy is that if the State's standards are judged to meet the requirements of the Act and thereby provide adequate environmental protection, EPA will withdraw the applicability of the Federal Rule as to that State. In the context of this proposal, the State would have to demonstrate that the criteria it adopted meet the statutory test of protecting the public health and would protect designated uses. State compliance could be by any one or a combination of the 3 options described in EPA's guidance. Once such a showing were made EPA would propose to withdraw the applicability of its rule entirely. However, if a State fails to make such a demonstration for all pollutants, partial withdrawals for certain pollutants could occur, leaving applicable parts of the Federal rule.

5. EPA must also decide whether it should pick a uniform cancer risk level of, for example, 10^{-6} , for all States

included in a final rule, or whether different risk levels for different States are appropriate. EPA today proposes the human health criteria at a cancer risk level of 10^{-6} because such a risk level is conservative for the general population and in the generally applied risk range. However, as noted in section F.5, EPA has approved human health risk levels of 10^{-5} in 10 States, and for some criteria and uses risk levels of 10^{-4} . EPA's review of the explanations provided by the States supporting State-adopted risk levels of less than 10^{-5} focuses on public participation and the supportability of the risk factors included in the State's analysis.

While today's proposed action is predicated on a 10^{-6} risk level for carcinogens, another option that the public should consider in responding to this rule is the application of the proposed criteria at a 10^{-5} risk level. EPA's rationale for proposing at a 10^{-6} risk level was articulated earlier in the preamble. However, there are several arguments to support a less protective 10^{-5} level. The model used to calculate the criteria for carcinogens is a conservative one and has a very low probability of underestimating the potency of a carcinogen. As a result, a higher level of accepted risk as the endpoint for criteria calculations may be reasonable. For "Class C" carcinogens, i.e., those for which the data demonstrating oncogenicity in animal studies are most limited, a 10^{-5} risk level is closer to the criteria values calculated as RfDs (non-cancer endpoints of toxicity) for these chemicals. Use of RfDs reduces the likelihood that EPA is over-regulating chemicals of less definitive cancer potency. A 10^{-5} risk is within the range of accepted risks for other major EPA rulemakings which aim to protect the general public, such as national drinking water standards.

Similarly, EPA must decide what a State must adopt in the way of a risk level for EPA to withdraw a final rule. The question to be addressed is whether EPA can accept less stringent risk levels (applied statewide; by individual chemicals, or by geographical sub-area) than contained in EPA's final rule if such less stringent risk levels were adopted following State administrative procedures and adequately supported by the administrative record.

6. Today's proposed rulemaking includes an Agency proposal to establish criteria for only those EPA priority toxic pollutant criteria which are based on toxic effects. The Agency could include other section 304(a) priority toxic pollutant criteria

recommendations which are based on organoleptic (i.e., taste and odor) effects. The logic would be that the congressional reference to "toxic pollutants" in section 303(c)(2)(B) was the generic list of 126 priority toxic pollutants and EPA should include all such criteria developed for these pollutants rather than just those based on toxicity. Organoleptic effects cause taste and odor problems in drinking water which may increase treatment costs or the selection by the public of alternative but less protective sources of drinking water; and may cause tainting or off flavors in fish flesh and other edible aquatic life reducing their marketability, thus diminishing the recreational and resource value of the water. EPA believes that because the Section 303(c)(2)(B) focuses on toxicity of the priority toxic pollutants, EPA's proposal should likewise focus on toxicity.

7. EPA also invites public comment on the merits of promulgating a translator procedure (that could support derivation of new or revised chemical-specific criteria for those priority toxic pollutants for which EPA has not issued section 304(a) criteria guidance) for States in this rule to enhance State and EPA implementation of section 303(c)(2)(B). Such a procedure would supplement the specific numeric criteria included in this proposal. The rationale for, and specifics of, such an approach are described below.

As discussed in previous sections of this preamble, CWA section 303(c)(2)(B) represents a clear congressional mandate for State adoption of chemical-specific numeric criteria for priority toxic pollutants where EPA has issued section 304(a) criteria guidance. However, where no such criteria exist, section 303(c)(2)(B) went on to direct States that, " * * * Where such numerical criteria are not available, whenever a State reviews water quality standards * * * or revises or adopts new standards * * *, such State shall adopt criteria based on biological monitoring or assessment methods * * *."

EPA's December 1988 national guidance provided States with three options for satisfying the chemical-specific criteria requirements. Option 3 of the guidance allows States to adopt and apply translator procedures. As described in section B-3 of this preamble, such translator procedures are defined as the methods, equations, and protocols by which a State calculates derived chemical-specific numeric criteria for priority toxic pollutants to ensure that the State's

narrative toxics criterion is fully satisfied.

There are several alternative approaches for establishing a translator procedure. All approaches would utilize EPA's criteria guidelines (i.e., for aquatic life and human health as described in section F.1. of this preamble) as the basis for deriving chemical-specific criteria. They could also require EPA to periodically issue an updated list of derived numeric criteria and notice the availability of the list in the *Federal Register*.

One alternative would be to promulgate a mechanism for State usage only for the pollutants where EPA has not issued a section 304(a) criteria guidance document.

Another alternative would be to allow criteria revisions in specific situations where EPA determines that a revised criterion is necessary. For example, if EPA issued a final revised estimate of the cancer potency slope of a priority toxic pollutant (i.e., by adding it to IRIS), such cancer slopes would be available for use in deriving new human health criteria for that pollutant following the translator procedure. Another example would be situations where additional data on the toxicity of a pollutant to aquatic life becomes available such that the minimum database requirements in the EPA criteria guidelines are satisfied. In such situations, the data could be applied to the translator procedure to derive new or revised aquatic life criteria more rapidly than the current method of proposing for comment and then publishing a final section 304(a) recommendation for subsequent consideration by States. This alternative would apply to criteria for both aquatic life and human health protection and could apply to pollutants for which a section 304(a) criteria recommendation exists or to those pollutants where no such recommendation exists.

A third approach would limit the applicability of the translator procedure to the priority toxic pollutants for which numeric criteria are contained in today's proposed rulemaking. Under this alternative, criteria could not be derived for pollutants without a section 304(a) criteria recommendation using the translator procedure, even where: (1) Formal Agency estimates of the parameters necessary to support derivation are issued, or (2) the data necessary to satisfy the minimum database requirements become available.

A final alternative providing only limited flexibility would be to limit use of the translator procedure to human health criteria where the Agency issues

a final revised risk assessment for the parameter in IRIS. Such IRIS estimates are subject to extensive intra-Agency review. This alternative would limit revisions to situations where EPA makes a formal determination that a revised human health risk assessment is appropriate.

The Agency invites public comment on the environmental, programmatic and legal aspects of including a promulgation of a criteria translator mechanism for each State in the final issuance of this rulemaking. Comment is also invited on the scope and details of such an approach as described above.

8. EPA solicits comment on the section 304(a) assessment methodology (cancer and non-cancer) used to derive human health criteria for section 307(a) priority toxic pollutants. This methodology is discussed in section F of the Preamble but is derived in the criteria methodology published in the *Federal Register* on November 26, 1980 (45 FR 79347). For example, EPA has included proposed criteria for 3 PAHs (acenaphthylene, benzo(ghi)perylene and phenanthrene). The included criteria treat these PAHs as carcinogens and are based on data for benzo(a)pyrene. The section 304(a) criteria methodology does not distinguish between classes of carcinogens and allows the use of closely related chemicals of similar structure to carry the same criteria recommendation. This methodology is basic to the development of the human health criteria proposed today.

I. Executive Order 12291

Executive Order 12291 requires EPA and other agencies to perform regulatory impact analyses for major regulations. Major regulations are those that impose an annual cost to the economy of \$100 million or more, or meet other criteria. This is a major regulation, however, a regulatory impact analyses has been waived by the Office of Management and Budget for this proposal for the reasons discussed below.

This rulemaking establishes a legal minimum standard where States have failed to comply with the statutory mandate to adopt numeric criteria for toxic pollutants. The impacts to dischargers are no different than what would occur if States had acted to adopt their own standards. There will be a cost to dischargers for complying with these proposed new standards as the standards are translated into specific NPDES permit limits for individual dischargers. However, for reasons discussed in more detail below, a meaningful cost estimate is difficult to

develop. The increased costs incurred will depend upon the type and amount of pollutants discharged and the extent to which additional treatment needs to be installed beyond that which is required to meet the generally applicable technology-based limit regulations. As discussed earlier in the Preamble, the control of toxic pollutants is expected to provide societal benefits by reducing risk to human health and to reduce ecological impacts on aquatic life.

The general impacts on point source dischargers, publicly owned treatment works (POTWs) and nonpoint sources may be described. By establishing new goals for a waterbody, the addition of criteria for toxic pollutants into State water quality standards will affect the wasteload allocations developed for each waterbody segment to the extent the pollutant is actually discharged into the stream. If the pollutant is not present in the wastestream, the addition of criteria has no impact. Revised wasteload allocations may result in adjustments to individual NPDES permit limits for point source dischargers which could result in increased incremental treatment costs required to meet the revised water quality standards. These costs will vary depending on the types of treatment involved, the number and kind of pollutant(s) being treated, and the controls necessary to meet the technologically based effluent limits for a given industry.

Compliance costs for indirect industrial dischargers will be reflected in increased incremental costs for POTWs assuming that industrial sources are the primary source of toxics discharged by POTWs and that the incremental treatment costs incurred by POTWs will be passed along to their industrial dischargers. Possible areas where the addition of criteria for toxic pollutants into State standards may have a cost impact include: (1) POTW expansion, (2) operational changes, and (3) increased operator training costs.

Increased costs may also be incurred by nonpoint sources of toxic pollutants to the extent that best management practices need to be modified to reflect the revised standards. Although there is no comparable Federal permit program for nonpoint sources as there is to control point source discharges, there are existing State regulatory programs to control nonpoint sources.

Monitoring programs to generate information on the existing quality of water and the kinds and amount of pollutants being discharged are likely to be affected by this proposed rulemaking. However, the addition of criteria for toxic pollutants into State standards

does not require the State to engage in a program to monitor for all such pollutants unless there is some reasonable expectation that the pollutants are manufactured or actually used in the State with the likelihood that they will be discharged into surface waters.

While recognizing that the application of criteria for toxic pollutants will result in increased treatment costs and that such costs are appropriately considered in several areas of the standards to permits process, it is important to consider the difficulties and the large potential uncertainties involved in developing meaningful cost estimates for purposes of this proposed rulemaking. The development of compliance cost estimates would require numerous assumptions about pollutant loadings, impacts of technology-based regulations on loadings, combinations of pollutants handled by a given treatment approach, the costs of each treatment train and the variables for each pollutant in each waterbody in each State. There are many sources of uncertainty in making these assumptions, and the resulting estimates could contain such significant estimation errors that the figures would have questionable value.

This proposed rule, including the above determination, has been reviewed by the Office of Management and Budget. Any written comments from OMB to EPA and any EPA response to those comments are included in the public record and are available for inspection.

J. Regulatory Flexibility Act

The Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*, Pub. L. 96-354) requires EPA to assess whether its regulations create a disproportionate effect on small entities. According to the provisions of the Act, EPA must prepare an initial regulatory flexibility analysis for all proposed regulations that have a significant impact on a substantial number of small entities. There will be a cost to dischargers for complying with these standards as they are translated into permit limits for individual dischargers. However, for the reasons discussed in the previous section, a meaningful estimate of the total cost or impact on small entities cannot be meaningfully computed.

This proposed regulation fills a regulatory void left by States not fully complying with the statute; thus, the impact on small entities is not different than what would have occurred if States had acted to adopt standards. In addition, the water quality standards regulation provides several means (such

as adjusting designated uses, setting site-specific criteria, or granting variances) to consider costs and adjust standards to account for the impacts on dischargers.

K. Paperwork Reduction Act

The information collection requirements associated with this proposed rule have been submitted for approval to the Office of Management and Budget (OMB) under the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.* An Information Collection Request (ICR) document has been prepared by EPA (ICR No. 0988.04) and a copy may be obtained from Sandy Farmer, Information Policy Branch; EPA; 401 M St., SW. (PM-223Y); Washington, DC 20460 or by calling (202) 382-2740.

Public reporting burden for this collection of information is estimated to average 745 hours per respondent, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection information.

Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223Y, U.S. EPA, 401 M St., SW., Washington, DC 20460; and to the Office of Information and Regulatory Affairs; Office of Management and Budget, Washington, DC 20503, marked "Attention: Desk Officer for EPA." The final rule will respond to any OMB or public comments on the information collection requirements contained in this proposal.

List of Subjects

Water quality standards, Toxic pollutants.

Dated: November 6, 1991.

William K. Reilly,
Administrator.

For the reasons set out in the preamble, part 131 of title 40 of the Code of Federal Regulations is proposed to be amended as follows:

PART 131—WATER QUALITY STANDARDS

1. The authority citation for part 131 continues to read as follows:

Authority: Clean Water Act, Pub. L. 92-500, as amended; 33 U.S.C. 1251 *et seq.*

2. Section 131.36 is added to subpart D, to read as follows:

§ 131.36 Toxics criteria for those states not complying with Clean Water Act section 303(c)(2)(B)

(a) Scope. This section is not a general promulgation of the section 304(a)

criteria for priority toxic pollutants but is restricted to specific pollutants in specific States.

(b) EPA's Section 304(a) Criteria for Priority Toxic Pollutants

A		B		C		D		
		Freshwater		Saltwater		Human health (10 ⁻⁶ risk for carcinogens)		
(#) Compound	CAS No.	Criterion maximum concentration d (µg/L) B1	Criterion continuous concentration d (µg/L) B2	Criterion maximum concentration d (µg/L) C1	Criterion continuous concentration d (µg/L) C2	For consumption of:		
						Water and organisms (µg/L) D1	Organisms only (µg/L) D2	
1	Antimony.....	7440360				14 a	4300 a	
2	Arsenic.....	7440382	360	190	69	36	0.018-bc	0.14 bc
3	Beryllium.....	7440417					0.0077 ac	0.13 ac
4	Cadmium.....	7440439	3.9 e	1.1 e	43	9.3	16	170 aj
5a	Chromium (III).....	16065831	1700 e	210 e			33000 a	670000 a
b	Chromium (VI).....	18540299	16	11	1100	50	170 a	3400 a
6	Copper.....	7440508	18 e	12 e	2.9	2.9	(1300) b	
7	Lead.....	7439921	62 e	3.2 e	220	8.5	50	
8	Mercury.....	7439976	2.4	0.012 i	2.1	0.025 i	0.14	0.15
9	Nickel.....	7440020	1400 e	160 e	75	8.3	610 a	4600 a
10	Selenium.....	7782492	20	5	300	71	100 b	6800 bj
11	Silver.....	7440224	4.1 e		2.3		105 a	65000 aj
12	Thallium.....	7440280					1.7 a	6.3 a
13	Zinc.....	7440666	120 e	110 e	95	86		
14	Cyanide.....	57125	22	5.2	1	1	700 a	220000 aj
15	Asbestos.....	1332214					7,000,000 fibers/L k	
16	2,3,7,8-TCDD (Dioxin).....	1746016					0.000000013 c	0.000000014 c
17	Acrolein.....	107028					320	780
18	Acrylonitrile.....	107131					0.059 ac	0.66 ac
19	Benzene.....	71432					1.2 ac	71 ac
20	Bromoform.....	75252					4.3 ac	360 ac
21	Carbon Tetrachloride.....	56235					0.25 ac	4.4 ac
22	Chlorobenzene.....	108907					680 a	21000 aj
23	Chlorodibromomethane.....	124481					0.41 ac	34 ac
24	Chloroethane.....	75003						
25	2-Chloroethylvinyl Ether.....	110758						
26	Chloroform.....	67663					5.7 ac	470 ac
27	Dichlorobromomethane.....	75274					0.27 ac	22 ac
28	1,1-Dichloroethane.....	75343						
29	1,2-Dichloroethane.....	107062					0.38 ac	99 ac
30	1,1-Dichloroethylene.....	75354					0.057 ac	3.2 ac
31	1,2-Dichloropropane.....	78875					(0.52) kc	(39) kc
32	1,3-Dichloropropylene.....	542756					10 a	1700 a
33	Ethylbenzene.....	100414					3100 a	29000 a
34	Methyl Bromide.....	74839					48 a	4000 a
35	Methyl Chloride.....	74873					5.7 ac	470 ac
36	Methylene Chloride.....	75092					4.7 ac	1600 ac
37	1,1,2,2-Tetrachloroethane.....	79345					0.17 ac	11 ac
38	Tetrachloroethylene.....	127184					0.8 c	8.85 c
39	Toluene.....	108883					6800 a	200000 a
40	1,2-Trans-Dichloroethylene.....	156605					(700) a	(140000) a
41	1,1,1-Trichloroethane.....	71556					3100 a	(170000) a
42	1,1,2-Trichloroethane.....	79005					0.60 ac	42 ac
43	Trichloroethylene.....	79016					2.7 c	81 c
44	Vinyl Chloride.....	75014					2 c	525 c
45	2-Chlorophenol.....	95578					(120) a	(400) a
46	2,4-Dichlorophenol.....	120832					93 a	790 aj
47	2,4-Dimethylphenol.....	105679					(540) a	(2300) a
48	2-Methyl-4,6-Dinitrophenol.....	534521					13.4	765
49	2,4-Dinitrophenol.....	51285					70 a	14000 a
50	2-Nitrophenol.....	88755						
51	4-Nitrophenol.....	100027						
52	3-Methyl-4-Chlorophenol.....	59507						
53	Pentachlorophenol.....	87865	20 f	13 f	13	7.9	0.28 ac	8.2 acj
54	Phenol.....	108952					21000 a	4600000 aj
55	2,4,6-Trichlorophenol.....	88062					2.1 ac	6.5 ac
56	Acenaphthene.....	83329					(1200) a	(2700) a
57	Acenaphthylene.....	208968					0.0028 c	0.031 c
58	Anthracene.....	120127					9600 a	110000 a
59	Benzidine.....	92875					0.00012 ac	0.00054 ac
60	Benzo(a)Anthracene.....	56553					0.0028 c	0.031 c
61	Benzo(a)Pyrène.....	50328					0.0028 c	0.031 c
62	Benzo(b)Fluoranthene.....	205992					0.0028 c	0.031 c

A (#) Compound	B CAS No.	C Freshwater		C Saltwater		D Human health (10 ⁻⁴ risk for carcinogens)	
		Criterion maximum concentration d (µg/L) B1	Criterion continuous concentration d (µg/L) B2	Criterion maximum concentration d (µg/L) C1	Criterion continuous concentration d (µg/L) C2	For consumption of:	
						Water and organisms (µg/L) D1	Organisms only (µg/L) D2
63 Benzo(ghi)Perylene	191242					0.0028 c	0.031 c
64 Benzo(k)Fluoranthene	207089					0.0028 c	0.031 c
65 Bis(2-Chloroethoxy)Methane	111911						
66 Bis(2-Chloroethyl)Ether	111444					0.031 ac	1.4 ac
67 Bis(2-Chloroisopropyl)Ether	108601					1400 a	170000 a
68 Bis(2-Ethylhexyl)Phthalate	117817					1.8 ac	5.9 ac
69 4-Bromophenyl Phenyl Ether	101553						
70 Butylbenzyl Phthalate	85687					(3000) a	(5200) a
71 2-Chloronaphthalene	91587					(1700) a	(4300) a
72 4-Chlorophenyl Phenyl Ether	7005723						
73 Chrysene	218019					0.0028 c	0.031 c
74 Dibenzo(a,h)Anthracene	53703					0.0028 c	0.031 c
75 1,2-Dichlorobenzene	95501					2700 a	17000 a
76 1,3-Dichlorobenzene	541731					400	2600
77 1,4-Dichlorobenzene	106467					400	2600
78 3,3'-Dichlorobenzidine	91941					0.04 ac	0.077 ac
79 Diethyl Phthalate	84662					23000 a	120000 a
80 Dimethyl Phthalate	131113					313000	2900000
81 Di-n-Butyl Phthalate	84742					2700 a	12000 a
82 2,4-Dinitrotoluene	121142					0.11 c	9.1 c
83 2,6-Dinitrotoluene	606202						
84 Di-n-Octyl Phthalate	117840						
85 1,2-Diphenylhydrazine	122667					0.040 ac	0.54 ac
86 Fluoranthene	206440					300 a	370 a
87 Fluorene	86737					1300 a	14000 a
88 Hexachlorobenzene	113741					0.00075 ac	0.00077 ac
89 Hexachlorobutadiene	87683					0.44 ac	50 ac
90 Hexachlorocyclopentadiene	77474					240 a	17000 aj
91 Hexachloroethane	67721					1.9 ac	8.9 ac
92 Indeno(1,2,3-cd)Pyrene	193395					0.0028 c	0.031 c
93 Isophorone	78591					8.4 ac	600 ac
94 Naphthalene	91203						
95 Nitrobenzene	98953					17 a	1900 aj
96 N-Nitrosodimethylamine	62759					0.00069 ac	8.1 ac
97 N-Nitrosodi-n-Propylamine	621647					(0.005) ac	(1.4) ac
98 N-Nitrosodiphenylamine	86306					5.0 ac	16 ac
99 Phenanthrene	85018					0.0028 c	0.031 c
100 Pyrene	129000					960 a	11000 a
101 1,2,4-Trichlorobenzene	120821						
102 Aldrin	309002	3 g		1.3 g		0.00013 ac	0.00014 ac
103 alpha-BHC	319846					0.0039 ac	0.013 ac
104 beta-BHC	319857					0.014 ac	0.046 ac
105 gamma-BHC	58899	2 g	0.08 g	0.16 g		0.019 c	0.063 c
106 delta-BHC	319868						
107 Chlordane	57749	2.4 g	0.0043 g	0.09 g	0.004 g	0.00057 ac	0.00059 ac
108 4,4'-DDT	50293	1.1 g	0.001 g	0.13 g	0.001 g	0.00059 ac	0.00059 ac
109 4,4'-DDE	72559					0.00059 ac	0.00059 ac
110 4,4'-DDD	72548					0.00083 ac	0.00084 ac
111 Dieldrin	60571	2.5 g	0.0019 g	0.71 g	0.0019 g	0.00014 ac	0.00014 ac
112 alpha-Endosulfan	959988	0.22 g	0.056 g	0.034 g	0.0087 g	0.93 a	2.0 a
113 beta-Endosulfan	33213659	0.22 g	0.056 g	0.034 g	0.0087 g	0.93 a	2.0 a
114 Endosulfan Sulfate	1031078					0.93 a	2.0 a
115 Endrin	72208	0.18 g	0.0023 g	0.037 g	0.0023 g	0.76 a	0.81 aj
116 Endrin Aldehyde	7421934					0.76 a	0.81 aj
117 Heptachlor	76448	0.52 g	0.0038 g	0.053 g	0.0036 g	0.00021 ac	0.00021 ac
118 Heptachlor Epoxide	1024573	0.52 g	0.0038 g	0.053 g	0.0036 g	0.00010 ac	0.00011 ac
119 PCB-1242	53469219		0.014 g		0.03 g	0.000044 ac	0.000045 ac
120 PCB-1254	11097691		0.014 g		0.03 g	0.000044 ac	0.000045 ac
121 PCB-1221	11104282		0.014 g		0.03 g	0.000044 ac	0.000045 ac
122 PCB-1232	11141165		0.014 g		0.03 g	0.000044 ac	0.000045 ac
123 PCB-1248	12672296		0.014 g		0.03 g	0.000044 ac	0.000045 ac
124 PCB-1260	11096825		0.014 g		0.03 g	0.000044 ac	0.000045 ac
125 PCB-1016	12674112		0.014 g		0.03 g	0.000044 ac	0.000045 ac
126 Toxaphene	8001352	0.73	0.0002	0.21	0.0002	0.00073 ac	0.00075 ac
Total No. of Criteria (h) =		24	29	33	27	103	102

Footnotes:

a. Criteria revised to reflect current agency q₁* or RfD, as contained in the Integrated Risk Information System (IRIS). The fish tissue bioconcentration factor (BCF) from the 1980 criteria documents was retained in all cases. Values in parentheses indicate that no health based criteria appeared in the 1990 documents. The criteria in parentheses are not being proposed today but are presented as notice for inclusion in future state triennial reviews.

b. EPA in the Office of Research and Development's Environmental Criteria and Assessment Office prepared draft updates of criteria documents for arsenic, copper and selenium which are used instead of IRIS for this rulemaking. Each document was entitled as an "Addendum" to the prior criteria documents. These documents are available in the record for this proceeding.

c. Criteria based on carcinogenicity (10^{-6} risk).

d. Criteria Maximum Concentration = the highest concentration of a pollutant to which aquatic life can be exposed for a short period of time (1-hour average) without deleterious effects.

Criteria Continuous Concentration = the highest concentration of a pollutant to which aquatic life can be exposed for an extended period of time (4-days) without deleterious effects.

$\mu\text{g/L}$ = micrograms per liter

e. Freshwater aquatic life criteria for these metals are expressed as a function of total hardness (mg/L), as follows (where exp represents the base e exponential function). (Values displayed above in the matrix correspond to a total hardness of 100 mg/L.)

	CMC = $\exp\{m_a [\ln(\text{hardness})] + b_a\}$		CCC = $\exp\{m_c [\ln(\text{hardness})] + b_c\}$	
	m_a	b_a	m_c	b_c
Cadmium.....	1.128	-3.828	0.7852	-3.490
Copper.....	0.9422	-1.464	0.8545	-1.465
Chromium (III).....	0.8190	3.688	0.8190	1.561
Lead.....	1.273	-1.460	1.273	-4.705
Nickel.....	0.8460	3.3612	0.8460	1.1645
Silver.....	1.72	-6.52		
Zinc.....	0.8473	0.8604	0.8473	0.7614

f. Freshwater aquatic life criteria for pentachlorophenol are expressed as a function of pH, and are calculated as follows. (Values displayed above in the matrix correspond to a pH of 7.8.)

$$\text{CMC} = \exp(1.005(\text{pH}) - 4.830)$$

$$\text{CCC} = \exp(1.005(\text{pH}) - 5.290)$$

g. Aquatic life criteria for these compounds were issued in 1980 utilizing the 1980 Guidelines for criteria development. The acute values shown are final acute values (FAV). According to the 1980 Guidelines, the acute values were intended to be interpreted as instantaneous maximum values, and the chronic values shown were interpreted as 24-hour average values. EPA has not updated these criteria pursuant to the 1985 Guidelines. However, as an approximation, dividing the final acute values in columns B1 and C1 by 2 yields a Criterion Maximum Concentration. No numeric changes are required for columns B2 and C2, and EPA suggests using these values directly as Criterion Continuous Concentration.

h. These totals simply sum the criteria in each column. For aquatic life, there are 30 priority toxic pollutants with some type of freshwater or saltwater, acute or chronic criteria proposed. For human health, there are 102 priority toxic pollutants with either "water + fish" or "fish only" criteria proposed. Note that these totals count chromium as one pollutant even though EPA has developed criteria based on two valence states. In the matrix, EPA has assigned numbers 5a and 5b to the proposed criteria for chromium to reflect the fact that the list of 126 priority toxic pollutants includes only a single listing for chromium. Criteria enclosed in parentheses are also *not* included in the totals.

i. Applies to methyl mercury.

j. No criteria for protection of human health from consumption of aquatic organisms (excluding water) was presented in the 1980 criteria document or in the 1986 Quality Criteria for Water. Nevertheless, the criterion value has not been placed in parentheses, because sufficient information was presented in the 1980 document to allow a calculation of a criterion, even though the results of such a calculation were not shown in the document.

k. The criterion for asbestos is the MCL (56 FR 3526, January 30, 1991). The criteria for 1,2-dichloropropane have been derived using MCL (56 FR 3526, January 30, 1991).

General notes:

(1) This chart lists all of EPA's priority toxic pollutants whether or not criteria recommendations are available. Blank spaces indicate the absence of criteria recommendations. Because of variations in chemical nomenclature systems, this listing of toxic pollutants does not duplicate the listing in appendix A of 40 CFR part 423. EPA has added the Chemical Abstracts Service (CAS) registry numbers, which provide a unique identification for each chemical.

(2) The following chemicals have organoleptic based criteria recommendations that are not included on this chart (for reasons which are discussed in the preamble): copper, zinc, chlorobenzene, 2-chlorophenol, 2,4-dichlorophenol, acenaphthene, 2,4-dimethylphenol, 3-methyl-4-chlorophenol, hexachlorocyclopentadiene, pentachlorophenol, phenol.

(3) For purposes of this rulemaking, freshwater criteria apply at salinity levels equal to or less than 1 part per thousand (ppt); saltwater criteria apply at salinity levels equal to or greater than 10 ppt; for waters with salinity between 1 and 10 ppt, the applicable criteria are the more stringent of the freshwater or saltwater criteria.

(c) *Applicability.* (1) The criteria in paragraph (b) of this section apply to the States' designated uses cited in paragraph (d) of this section and supersede any criteria adopted by the State, except when State regulations contain criteria which are more stringent for a particular use in which case the State's criteria will continue to apply;

(2) The criteria established in this section are subject to the State's general rules of applicability in the same way and to the same extent as are the other numeric toxics criteria when applied to the same use classifications including mixing zones, and low flow values below which numeric standards can be exceeded in flowing fresh waters, but only if these State general policies have been reviewed and approved previously by EPA after November 8, 1983.

(i) For all waters with approved EPA mixing zone regulations or implementation procedures, the criteria apply at the appropriate locations within or at the boundary of the mixing

zones; otherwise the criteria apply throughout the waterbody including at the end of any discharge pipe, canal or other discharge point.

(ii) A State shall not use a low flow value below which numeric standards can be exceeded that is less stringent than the following for waters suitable for the establishment of low flow return frequencies (i.e., streams and rivers):

Aquatic Life
acute criteria (CMC); 1 Q 10 or 1 B 3
chronic criteria (CCC); 7 Q 10 or 4 B 3
Human Health
non-carcinogens; 30 Q 5
carcinogens; harmonic mean flow

where:

CMC—criteria maximum concentration = the water quality criteria to protect against acute effects in aquatic life and is the highest instream concentration of a priority toxic pollutant consisting of a one-hour average not to be exceeded more than once every three years on the average.

CCC—criteria continuous concentration = the water quality criteria to protect against chronic effects in aquatic life

is the highest instream concentration of a priority toxic pollutant consisting of a 4-day average not to be exceeded more than once every three years on the average.

1 Q 10 is the lowest one day flow with an average recurrence frequency of once in 10 years determined hydrologically;

1 B 3 is biologically based and indicates an allowable exceedence of once every 3 years. It is determined by EPA's computerized method (DFLOW model);

7 Q 10 is the lowest average 7 consecutive day low flow with an average recurrence frequency of once in 10 years determined hydrologically;

4 B 3 is biologically based and indicates an allowable exceedence for 4 consecutive days once every 3 years. It is determined by EPA's computerized method (DFLOW model);

30 Q 5 is the lowest average 30 consecutive day low flow with an average recurrence frequency of once in 5 years determined hydrologically and, the harmonic mean flow is a long term mean flow value calculated by dividing the number of daily flows analyzed by the sum of the reciprocals of those daily flows.

(iii) If a State does not have such a low flow value for numeric standards compliance, then none shall apply and the criteria included in paragraph (d) of this section herein apply at all flows.

(3) The aquatic life criteria in the matrix in paragraph (b) of this section apply as follows:

(i) For waters in which the salinity is equal to or less than 1 part per thousand, the applicable criteria are the freshwater criteria in Column B.

(ii) For waters in which the salinity is equal to or greater than 10 parts per thousand, the applicable criteria are the saltwater criteria in Column C;

(iii) For waters in which the salinity is between 1 and 10 parts per thousand, the applicable criteria are the more stringent of the freshwater or saltwater criteria. However, the Regional Administrator may approve the use of alternative criteria if scientifically defensible information and data demonstrate that on a site-specific basis the biology of the waterbody is dominated by freshwater aquatic life and that freshwater criteria are more appropriate; or conversely, the biology of the waterbody is dominated by saltwater aquatic life and that saltwater criteria are more appropriate.

(4) Application of metals criteria. (i) For purposes of calculating freshwater aquatic life criteria for metals from the equations in footnote (e) in the criteria matrix in paragraph (b) of this section, the minimum hardness allowed for use in those equations shall not be less than 25 mg/l, as calcium carbonate, even if the actual ambient hardness is less than 25 mg/l as calcium carbonate. The maximum hardness value for use in those equations shall not exceed 400 mg/l as calcium carbonate, even if the actual ambient hardness is greater than 400 mg/l as calcium carbonate.

(ii) The hardness values used shall be consistent with the design discharge conditions established in paragraph (c)(2) of this section for flows and mixing zones.

(d) *Criteria for Specific Jurisdictions.*—(1) *Connecticut, Region 1*

(i) All waters assigned to the following use classifications in the "State of Connecticut Water Quality Standards" adopted pursuant to section 22a-428 of the Connecticut General Statutes are subject to the criteria in paragraph (d)(1)(ii) of this section, without exception:

- II.5.(A)—Class AA Surface Waters
- II.5.(B)—Class A and SA Surface Waters
- II.5.(C)—Class B and SB Surface Waters

(ii) The following criteria from the matrix in paragraph (b) of this section apply to the use classifications

identified in paragraph (d)(1)(i) of this section:

Use classification	Applicable criteria
Class AA; Class A; Class B waters where water supply use is designated.	Each of these classifications is assigned the criteria in: Column B(I)—all. Column B(II)—all. Column D(I)—all.
Class B waters where water supply use is not designated.	This classification is assigned the criteria in: Column B(I)—all. Column B(II)—all. Column D(II).
Class SA; Class SB	Each of these classifications is assigned the criteria in: Column C(I)—all. Column C(II)—all. Column D(II)—all.

(2) *New Hampshire, Region 1*

(i) All waters assigned to the following use classifications in the New Hampshire Revised Statutes Annotated Chapter 149:3 are subject to the criteria in paragraph (d)(2)(ii) of this section, without exception:

- 149:3.I Class A
- 149:3.II Class B
- 149:3.III Class C

(ii) The following criteria from the matrix in paragraph (b) of this section apply to the use classifications identified in paragraph (d)(a)(i) of this section:

Use classification	Applicable criteria
Class A; Class B waters where water supply use is designated.	Each of these classifications is assigned the criteria in: Column D(I)—#16. Column D(II)—#16.
Class B waters where water supply use is not designated Class C.	

(3) *Rhode Island, Region 1*

(i) All waters assigned to the following use classifications in the Water Quality Regulations for Water Pollution Control adopted under chapters 46-12, 42-17.1, and 42-35 of the General Laws of Rhode Island are subject to the criteria in paragraph d(3)(ii) of this section without exception:

- 6.21 Freshwater
 - Class A
 - Class B
 - Class C
- 6.22 Saltwater
 - Class SA
 - Class SB
 - Class SC

(ii) The following criteria from the matrix in paragraph (b) of this section

apply to the use classifications identified in paragraph (d)(3)(i) of this section:

Use classification	Applicable criteria
Class A; Class B waters where water supply use is designated.	These classifications are assigned the criteria in: Column D(I)—all.
Class B waters where water supply use is not designated Class C; Class SA; Class SB; Class SC.	Each of these classifications is assigned the criteria in: Column D(II)—all.

(4) *Vermont, Region 1*

(i) All waters assigned to the following use classifications in the Vermont Water Quality Standards adopted under the authority of the Vermont Water Pollution Control Act (10 V.S.A., Chapter 47) are subject to the criteria in paragraph (d)(4)(ii) of this section, without exception:

- Class A
- Class B
- Class C

(ii) The following criteria from the matrix in paragraph (b) of this section apply to the use classifications identified in paragraph (d)(4)(i) of this section:

Use classification	Applicable criteria
Class A; Class B waters where water supply use is designated.	This classification is assigned the criteria in: Column B(I)—all. Column B(II)—all. Column D(I)—all.
Class B waters where water supply use is not designated; Class C.	These classifications are assigned the criteria in: Column B(I)—all. Column B(II)—all. Column D(II)—all.

(5) *New Jersey, Region 2*

(i) All waters assigned to the following use classifications in the New Jersey Administrative Code (N.J.A.C.) 7:9-4.1 et seq., Surface Water Quality Standards, are subject to the criteria in paragraph (d)(5)(ii) of this section, without exception:

- N.J.A.C. 7:9-4.12(c): Class FW2
- N.J.A.C. 7:9-4.12(d): Class SE1
- N.J.A.C. 7:9-4.12(e): Class SE2
- N.J.A.C. 7:9-4.12(f): Class SE3
- N.J.A.C. 7:9-4.12(g): Class SC

(ii) The following criteria from the matrix in paragraph (b) of this section apply to the use classifications identified in paragraph (d)(5)(i) of this section:

Use classification	Applicable criteria
FW ²	This classification is assigned the criteria in: Column B(1)—all except #102, 105, 107, 108, 111, 112, 113, 115, 117, and 118. Column B(2)—all except #105, 107, 108, 111, 112, 113, 115, 117, 118, 119, 120, 121, 122, 123, 124, and 125. Column D(1)—all except #4, 5a, 5b, 7, 10, and 11. Column D(2)—all.
SE1, SE SE3, SC.	These classifications are each assigned the criteria in: Column C(1)—all except #102, 105, 107, 108, 111, 112, 113, 115, 117, and 118. Column C(2)—all except #105, 107, 108, 111, 112, 113, 115, 117, 118, 119, 120, 121, 122, 123, 124, and 125. Column D(2)—all.

(6) Puerto Rico, Region 2

(i) All waters assigned to the following use classifications in the Puerto Rico Water Quality Standards (promulgated by Resolution Number R-83-5-2) are subject to the criteria in paragraph (d)(6)(ii) of this section, without exception.

- Article 2.2.2—Class SB
- Article 2.2.3—Class SC
- Article 2.2.4—Class SD

(ii) The following criteria from the matrix in paragraph (b) of this section apply to the use classifications identified in paragraph (d)(6)(i) of this section:

Use classification	Applicable criteria
Class SD.....	This classification is assigned criteria in: Column B(1)—all, except: 10, 102, 105, 107, 108, 111, 112, 113, 115, 117, and 126. Column B(2)—all, except: 105, 107, 108, 112, 113, 115, and 117. Column D(1)—all, except: 4, 5a, 5b, 6, 7, 10, 11, 14, 105, 112, 113, and 115. Column D(2)—all, except: 4, 5a, 5b, 10, 14, 105, 112, 113, and 115.
Class SB, Class SC.	These classifications are assigned criteria in: Column C(1)—all, except: 4, 5b, 7, 8, 10, 11, 13, 102, 105, 107, 108, 111, 112, 113, 115, 117, and 126. Column C(2)—all, except: 4, 5b, 10, 13, 108, 112, 113, 115, and 117. Column D(2)—all, except: 4, 5a, 5b, 10, 14, 105, 112, 113, and 115.

(7) Virginia, Region 3

(i) All waters assigned to the following use classifications in the

Virginia Water Quality Standards, VR680-21 are subject to the criteria in paragraph (d)(6)(ii) of this section without exception:

VR680-21-08 Classes I-VII and PWS

(ii) The following criteria from the matrix in paragraph (b) of this section apply to the use classifications identified in paragraph (d)(7)(i) of this section:

Use classification	Applicable criteria
Class I.....	This classification is assigned the criteria in: Column C(I)—all. Column C(II)—all. Column D(II)—all, except #16.
Class II.....	This classification is assigned the criteria in: Column B(I)—all. Column B(II)—all. Column C(I)—all. Column C(II)—all. Column D(II)—all, except #16.
Class III-VII.....	Each of these classifications is assigned the criteria in: Column B(I)—all. Column B(II)—all. Column D(II)—all, except #16.
PWS.....	This classification is assigned the additional criteria in: Column D(I)—all, except #16.

(8) District of Columbia, Region 3

(i) All waters assigned to the following use classifications in Chapter 11 Title 21 DCMR, Water Quality Standards of the District of Columbia are subject to the criteria in paragraph (d)(8)(ii) of this section without exception:

1101.2 Class C waters

(ii) The following criteria from the matrix in paragraph (b) of this section apply to the use classification identified in paragraph (d)(8)(i) of this section:

Use classification	Applicable criteria
Class C.....	This classification is assigned the additional criteria in: Column B(II)—#10, 118, 126. Column D(I)—#7, 15, 16, 44, 67, 68, 79, 80, 81, 88, 114, 116, 118. Column D(II)—all.

(9) Florida, Region 4

(i) All waters assigned to the following use classifications in Chapter 17-301 of the Florida Administrative Code (i.e., identified in Section 17-302.600) are subject to the criteria in paragraph (d)(9)(ii) of this section, without exception:

- Class I
- Class II
- Class III

(ii) The following criteria from the matrix paragraph (b) of this section apply to the use classifications identified in paragraph (d)(9)(i) of this section:

Use classification	Applicable criteria
Class I.....	This classification is assigned the criteria in: Columns B1 and B2-5(b), 6, 7, 8, 9, 10, 11, 107, 111, 115, 118, and 126; and Column D1—all.
Class II; Class III (marine).	This classification is assigned the criteria in: Columns C1 and C2-2, 6, 7, 8, 9, 11, 13, 14, 111, 115, 118, and 126; and Column D2—all.
Class III (freshwater).	This classification is assigned the criteria in: Columns B1 and B2-5(b), 6, 7, 8, 9, 10, 11, 107, 111, 115, 118, and 126; and Column D2—all.

(10) Michigan, Region 5

(i) All waters assigned to the following use classifications in the Michigan Department of Natural Resources Commission General Rules, R 323.1043 Definitions: A to N, (i.e., identified in Section (g) "Designated use") are subject to the criteria in paragraph (d)(10)(ii) of this section, without exception:

- (A) Industrial water supply
- (B) Agricultural water supply
- (C) Public water supply
- (D) Recreation
- (E) Fish, other aquatic life, and wildlife
- (F) Navigation

(ii) The following criteria from the matrix in paragraph (b) of this section apply to the use classifications identified in paragraph (d)(10)(i) of this section:

Use classification	Applicable criteria
Public water supply.....	This classification is assigned the criteria in: Column B (I)—all, Column B (II)—all, Column D (I)—all.
All other designations.	These classifications are assigned the criteria in: Column B (I)—all, Column B (II)—all, and Column D (II)—all.

(11) Arkansas, Region 6

(i) All waters assigned to the following use classification in Section 4C (Waterbody uses) identified in Arkansas Department of Pollution Control and Ecology's Regulation No. 2 as amended and entitled, "Regulation Establishing Water Quality Standards

for Surface Waters of the State of Arkansas" are subject to the criteria in paragraph (d)(11)(ii) of this section, without exception:

- (A) Extraordinary Resource Waters
 - (B) Ecologically Sensitive Waterbody
 - (C) Natural and Scenic Waterways
 - (D) Fisheries:
 - (1) Trout
 - (2) Lakes and Reservoirs
 - (3) Streams
 - (i) Ozark Highlands Ecoregion
 - (ii) Boston Mountains Ecoregion
 - (iii) Arkansas River Valley Ecoregion
 - (iv) Ouachita Mountains Ecoregion
 - (v) Typical Gulf Coastal Ecoregion
 - (vi) Spring Water-influenced Gulf Coastal Ecoregion
 - (vii) Least-altered Delta Ecoregion
 - (viii) Channel-altered Delta Ecoregion
- Domestic Water Supply
- (ii) The following criteria from the matrix in paragraph (b) of this section apply to the use classification identified in paragraph (d)(11)(i) of this section:

Use classification	Applicable criteria
Extraordinary resource waters Ecologically sensitive waterbody Natural and scenic waterways Fisheries: (1) Trout (2) Lakes and reservoirs (3) Streams (a) Ozark highlands ecoregion (b) Boston mountains ecoregion (c) Arkansas river valley ecoregion (d) Ouachita mountains ecoregion (e) Typical gulf coastal Ecoregion (f) Spring water-influenced gulf coastal ecoregion (g) Least-altered Delta ecoregion (h) Channel-altered Delta ecoregion.	These uses are each assigned the criteria in Column B1—# 2, 4, 5a, 5b, 6, 7, 8, 9, 10, 11, 13, 14. Column B2—# 2, 4, 5a, 5b, 6, 7, 8, 9, 10, 13, 14. Column D2—all.
Domestic water supply.	This use is assigned the criteria in: Column D1—all.

(12) Louisiana, Region 6

(i) All waters assigned to the following use designations in the Louisiana Administrative Code, Title 33—Environmental Quality, Part IX—

Water Quality Regulations, Chapter 11 (i.e., identified in Section 1111 Water Use Designations) are subject to the criteria in paragraph (d)(12)(ii) of this section, without exception:

- (A) Public Water Supply
- (B) Fish and Wildlife Propagation
- (C) Oyster Propagation

(ii) The following criteria from the matrix in paragraph (b) of this section apply to the use classifications identified in paragraph (d)(12)(i) of this section:

Use classification	Applicable criteria
Public water supply.....	This classification is assigned the criteria in: Column D(I)—#16.
Fish and wildlife propagation.	These classifications are assigned the criteria in: Column D(II) #16.
Oyster propagation.....	Column D(II) #16.

(13) Kansas, Region 7

(i) All waters assigned to the following use classification in the Kansas Department of Health and Environment regulations, K.A.R. 28-16-28b through K.A.R. 28-16-28f, are subject to the criteria in paragraph (d)(13)(ii) of this section, without exception.

Section 28-16-28d:

- Section (2)(A)—Special Aquatic Life Use Waters
- Section (2)(B)—Expected Aquatic Life Use Waters
- Section (2)(C)—Restricted Aquatic Life Use Waters
- Section 3—Domestic Water Supply
- Section (6)(c)—Consumptive Recreation Use.

(ii) The following criteria from the matrix is paragraph (b) of this section apply to the use classifications identified in paragraph (d)(13)(i) of this section:

Use classification	Applicable criteria
Sections (2)(A), (2)(B), (2)(C), 6(C).	These classifications are each assigned all criteria in: Column B(I), except #9, 13, 102, 105, 107, 108, 111-113, 115, 117, and 126; Column B(II), except #9, 13, 105, 107, 108, 111-113, 115, 117, 119-125, and 126; and Column D(II), except #9, 10, 112, 113, and 115.
Section (3).....	This classification is assigned all criteria in: Column D(I), except #9, 10, 12, 112, 113, and 115.

(14) Colorado, Region 8

(i)(A) All waters assigned to the following use classifications in the

Colorado Classifications and Numeric Standards for the following Basins:

- (1) Arkansas River Basin—3.2.0 (5CCR 1002-8);
 - (2) Upper Colorado River Basin and North Platte River Basin (Planning Region 12)—3.3.0 (5CCR 1002-8);
 - (3) San Juan and Dolores River Basins—3.4.0 (5CCR 1002-8);
 - (4) Gunnison and Lower Dolores River Basins—3.5.0 (5CCR 1002-8);
 - (5) Rio Grande River Basin 3.6.0 (5CCR 1002-8);
 - (6) Lower Colorado Basin—3.7.0 (5CCR 1002-8);
 - (7) South Platte River Basin, Laramie River Basin, Republican River Basin, Smoky Hill River Basin—3.8.0 (5CCR 1002-8);
- are subject to the criteria in paragraph (d)(14)(ii) of this section, except where only particular segments require criteria as delineated in paragraph (d)(14)(ii) of this section.

The following are the use classifications:

- (1) Domestic Water Supply
- (2) Class 1—Cold Water Aquatic Life
- (3) Class 2—Cold Water Aquatic Life
- (4) Class 1—Warm Water Aquatic Life
- (5) Class 2—Warm Water Aquatic Life

(ii) The following criteria from the matrix in paragraph (b) of this section apply to the use classifications in paragraph (d)(14)(i) of this section:

Use classification	Applicable criteria
Domestic water supply.	All waters assigned to this use classification are subject to the criteria in: Column D(I)—all except #4, 5a, 5b, 6, 7, 10, 11, 22, 33, 39, 41, 44, 53, 66, 77, 90, 95, 115.
Class 1 Cold Water A.L.	All waters assigned to these use classifications are subject to the criteria in: Column B(I)—#10. Column B(II)—#10. Column D(II)—all and the following specific segments (which have been assigned one of those aquatic life uses) are further assigned the criteria set forth below.
Class 2 Cold Water A.L.	
Class 1 Warm Water A.L.	
Class 2 Warm Water A.L..	

1. The criteria in: B(I)—#2, 4, 5a, 5b, 6, 7, 8, 9, 11, 13, 14; B(II)—#2, 4, 5a, 5b, 6, 7, 8, 9, 13, 14 are assigned to the following specific segments:

- Basin 3.2.0

Upper Arkansas River Basin: segments 14, 26
 Middle Arkansas River Basin: segments 4, 13, 18
 Fountain Creek Basin: segments 3a, 8
 Lower Arkansas River Basin: segments 2, 6b, 13
 Cimarron River Basin: segment 1

- Basin 3.3.0
 Blue River Basin (14010002): segments 5, 20
 Eagle River Basin (14010003): segment 11
 North Platte River Basin (1018001, 10180002): segment 7
 Yampa River Basin (14050001, 14050002): segment 12
- Basin 3.4.0
 San Juan River Basin: segments 3, 10, 11
 Piedra River Basin: segment 6
 Los Pinos River Basin: segment 6
 Animas and Florida River Basin: segment 13b
 La Plata River, Mancos River, McElmo Creek and San Juan River Basin in Montezuma County and Dolores Counties: segments 3, 6, 8
 Dolores River Basin: segment 11
- Basin 3.5.0
 Upper Gunnison River Basin: segments 6b, 16, 28, 32
 North Fork of the Gunnison River Basin: segment 6, 10
 Upperphgre River Basin: segments 10, 12
 Lower Gunnison River Basin: segment 4
 San Miguel River Basin: segment 12
 Lower Dolores River Basin: segment 4
- Basin 3.6.0
 Rio Grande River Basin: segments 15b, 25
 Closed Basin—San Luis Valley: segment 3
- Basin 3.7.0
 Lower Yampa River/Green River Basin: segments 3a, 3b, 6, 14, 17, 20
 White River Basin: segments 5, 9, 13a, 22
 Lower Colorado River Basin: segments 11b, 11e, 13
- Basin 3.8.0
 Republican River Basin: segments 6, 7
 South Platte River Basin (Region 1): segment 2
 Cache La Poudre River Basin: segments 8, 13
 Big Thompson River Basin: segments 6, 10
 South Platte River Basin (Region 2): segment 3
 St. Vrain Creek Basin: segment 6
 Boulder Creek Basin: segments 8, 11
 Big Dry Creek Basin: segment 1
 Clear Creek Basin: segments 8, 16, 18
 Cherry Creek Basin: segment 4
 South Platte River Basin (Regions 2, 3, 4): segments 7a, 11a, 16
 South Platte River Basin (Region 3 and 4): segment 7

2. The criteria in: Column B(I)—#9; Column B(II)—#9 are assigned to the following specific segments:

- Basin 3.3.0
 Blue River Basin (14010002): segment 12
- Basin 3.4.0
 Animas and Florida River Basin: segment 15
 La Plata River, Mancos River, McElmo Creek and San Juan River Basin in Montezuma County and Dolores Counties: segment 9
- Basin 3.8.0
 Big Thompson River Basin: segment 13

Boulder Creek Basin: segments 4c, 6
 Clear Creek Basin: segment 12
 Bear Creek Basin: segments 4a, 5
 South Platte River Basin (Region 2, 3, and 4): segment 7b

3. The criteria in: Column B(I)—#8; Column B(II)—#8 are assigned to the following specific segments:

- Basin 3.7.0—Lower Colorado River Basin: segment 4
- Basin 3.8.0—South Platte River Basin (Region 2, 3, and 4): segment 11b

4. The criteria in: Column B(I)—#14; Column B(II)—#14 are assigned to the following specific segment:

- Basin 3.2.0—Upper Arkansas River Basin: segment 8b

5. The criterion in: Column B(I)—#11 is assigned to the following specific segment:

- Basin 3.7.0—Lower Colorado River Basin: segment 4.

(15) Arizona, Region 9

(i) All waters assigned the use classifications in chapter 21 of the Arizona Administrative Code (AAC) which are referred to in paragraph (d)(15)(ii) of this section, are subject to the criteria in paragraph (d)(15)(ii) of this section, without exception. These criteria amend the existing State standards contained in chapter 21 of the AAC sections R9-21-101 through 304, Water Quality Standards for Waters of the State, for the toxic pollutants identified in paragraph (d)(15)(ii) of this section. For purposes of this action, the specific standards to be applied are based on the following selected use designations as defined in chapter 21, AAC §§ R9-21-101 through R9-21-304:

- (A) DWS—Domestic Water Source
- (B) A&W—Aquatic & Wildlife (including any aquatic life designation)

(ii) The following criteria from the matrix in paragraph (b) of this section apply to the water and use classifications defined in paragraph (d)(15)(i) of this section and identified below:

Water and use classification	Applicable criteria
Waters of the State with A&W but without DWS.	These waters are assigned the criteria in: Column B1—all pollutants. Column B2—all pollutants. Column D2—all pollutants.
Waters of the State with A&W and DWS.	These waters are assigned the criteria in: Column B1—all pollutants. Column B2—all pollutants. Column D1—all pollutants.

Water and use classification	Applicable criteria
Waters of the State with DWS but without A&W.	These waters are assigned the criteria in: Column D1—all pollutants.

(16) California, Region 9

(i) All waters assigned any aquatic life or human health use classifications in the Water Quality Control Plans for the various Basins of the State ("Basin Plans"), as amended, adopted by the California State Water Resources Control Board ("SWRCB"), except for ocean waters covered by the Water Quality Control Plan for Ocean Waters of California ("Ocean Plan") adopted by the SWRCB with resolution Number 90-27 on March 22, 1990, are subject to the criteria in paragraph (d)(16)(ii) of this section, without exception. These criteria amend the portions of the existing State standards contained in the Basin Plans. More particularly these criteria amend water quality criteria contained in the Basin Plan Chapters specifying water quality objectives (the State equivalent of federal water quality criteria) for the toxic pollutants identified in paragraph (d)(16)(ii) of this section. Although the State has adopted several use designations for each of these waters, for purposes of this action, the specific standards to be applied in paragraph (d)(16)(ii) of this section are based on the presence in all waters of some aquatic life designation and the presence or absence of the MUN use designation (Municipal and domestic supply). (See Basin Plans for more detailed use definitions).

(ii) The following criteria from the matrix in paragraph (b) of this section apply to the water & use classifications defined in paragraph (d)(16)(i) of this section and identified below:

Water and use classification	Applicable criteria
Waters of the state defined as bays or estuaries except the Sacramento-San Joaquin Delta and San Francisco Bay.	These waters are assigned the criteria in: Column B1—all pollutants. Column B2—all pollutants. Column C1—all pollutants. Column C2—all pollutants. Column D2—all pollutants.

Water and use classification	Applicable criteria
Waters of the Sacramento-San Joaquin Delta and waters of the state defined as inland (i.e., all surface waters of the state not bays or estuaries or ocean) that include a MUN use designation except the San Joaquin River from the mouth of the Merced River to Vernalis and the Sacramento River and its tributaries upstream from Hamilton City.	These waters are assigned the criteria in: Column B1—all pollutants. Column B2—all pollutants. Column D1—all pollutants.
Waters of the state defined as inland without an MUN use designation except waters flowing to Grasslands Water District, San Luis National Wildlife Refuge and Los Banos State Wildlife Area.	These waters are assigned the criteria in: Column B1—all pollutants. Column B2—all pollutants. Column D2—all pollutants.
Waters of the San Joaquin River from the mouth of the Merced River to Vernalis.	These waters are assigned the criteria in: Column B1—all pollutants except #10. Column B2—all pollutants. Column D1—all pollutants except #10.
Waters of the Sacramento River and its tributaries upstream from Hamilton City.	These waters are assigned the criteria in: Column B1—all pollutants except #4, 6, 13. Column B2—all pollutants except #4, 6, 13. Column D1—all pollutants except #4.
Waters flowing to Grasslands Water District, San Luis National Wildlife Refuge, and Los Banos State Wildlife Area.	These waters are assigned the criteria in: Column B1—all pollutants. Column B2—all pollutants. Column D2—all pollutants except #10.
Waters of San Francisco Bay.	These waters are assigned the criteria in: Column B1—all pollutants. Column B2—all pollutants. Column C1—all pollutants except #10. Column C2—all pollutants except #10. Column D2—all pollutants.

(17) Nevada, Region 9

(i) All waters assigned the use classifications in chapter 445 of the Nevada Administrative Code (NAC), Nevada Water Pollution Control Regulations, which are referred to in paragraph (d)(17)(ii), of this section, are subject to the criteria in paragraph

(d)(17)(ii) of this section, without exception. These criteria amend the existing State standards contained in the Nevada Water Pollution Control Regulations. More particularly, these criteria amend or supplement the table of numeric standards in NAC 445.1339 for the toxic pollutants identified in paragraph (d)(17)(ii) of this section.

(ii) The following criteria from the matrix in paragraph (b) of this section apply to the waters defined in paragraph (d)(16)(i) of this section and identified below:

Water and use classification	Applicable criteria
Waters that the State has included in NAC 445.1339 where municipal or domestic supply is a designated use.	These waters are assigned the criteria in: Column B1—pollutant #118. Column B2—pollutant #118. Column D1—pollutants 15, 16, 18, 19, 20, 21, 23, 26, 27, 29, 30, 34, 35, 36, 37, 38, 42, 43, 55, 57-64, 66, 73, 74, 78, 82, 85, 87-89, 91, 92, 96, 98-100, 103, 104, 105, 114, 116, 117, 118.
Waters that the State has included in NAC 445.1339 where municipal or domestic supply is not a designated use.	These waters are assigned the criteria in: Column B1—pollutant #118. Column B2—pollutant #118. Column D2—all pollutants except #2.

(18) Hawaii, Region 9

(i) All waters assigned the use classifications in the existing State standards ("State Standards") which are referred to in paragraph (d)(18)(ii) of this section, are subject to the criteria in paragraph (d)(18)(ii) of this section, without exception. These criteria amend the existing State standards.

Specifically, these criteria supplement the table of numeric standards for toxic pollutants applicable to all of Hawaii's waters in section 11-54-04(b)(3).

(ii) The following criteria from the matrix in paragraph (b) of this section apply to the waters defined in paragraph (d)(18)(i) of this section and identified below:

Water and use classification	Applicable criteria
Waters of the State assigned to Classes AA, A, 1, and 2.	These waters are assigned the criteria in: Column D2—pollutants #3, 8.

Water and use classification	Applicable criteria
Waters of the State assigned to Classes AA and A.	These waters are assigned criteria in: Column C1—pollutant #6. Column C2—pollutants #6, 7, 8.

(19) Commonwealth of the Northern Mariana Islands, Region 9

(i) All waters assigned the use classifications in the existing Commonwealth of the Northern Mariana Islands Marine and Fresh Water Quality Standards ("Standards") which are referred to in paragraph (d)(19)(ii) of this section, are subject to the criteria in paragraph (d)(19)(ii) of this section, without exception. These criteria amend the existing standards. Specifically, these criteria supplement the table of numeric standards in part 7.10 of the Standards.

(ii) The following criteria from the matrix in paragraph (b) of this section apply to the waters defined in paragraph (d)(19)(i) of this section and identified below:

Water and use classification	Applicable criteria
Fresh surface waters of the Commonwealth assigned to classes 1 and 2.	These waters are assigned the criteria in: Column D1—all pollutants. Column B1—pollutants #53, 108, 118. Column B2—pollutants #53, 108, 118.
Marine waters of the Commonwealth to classes AA and A.	These waters are assigned the criteria in: Column D2—all pollutants. Column C1—pollutants #53, 108, 118. Column C2—pollutants #53, 108, 118.

(20) Alaska, Region 10

(i) All waters assigned to the following use classifications in the Alaska Administrative Code (AAC), chapter 18 (i.e., identified in 18 AAC 70.020) are subject to the criteria in paragraph(d)(20)(ii) of this section, without exception:

- 70.020.(1)(A) Fresh water.
Water supply.
(i) Drinking, culinary, and food processing,
(ii) Aquaculture;
- 70.020.(1)(B) Water recreation.
(i) Contact recreation,
(ii) Secondary recreation;
- 70.020.(1)(C) Growth and propagation of fish, shellfish, other aquatic life, and wildlife.

70.020.(2)(A).....	Marine water. Water supply. (i) Aquaculture, (ii) Seafood processing.
70.020.(2)(B).....	Water recreation. (i) Contact recreation, (ii) Secondary recreation;
70.020.(2)(C).....	Growth and propagation of fish, shellfish, other aquatic life, and wildlife;
70.020.(2)(D).....	Harvesting for consumption of raw mollusks or other raw aquatic life.

(ii) The following criteria from the matrix in paragraph (b) of this section apply to the use classifications identified in paragraph (d)(20)(i) of this section:

Use classification	Applicable criteria
(1)(A).....	This classification is assigned the criteria in: Column D(I)—#’s 9, 10, 53. Column D(I)—human health carcinogens: #’s 2, 3, 16, 18, 19, 20, 21, 23, 26, 27, 29, 30, 35, 36, 37, 42, 43, 44, 55, 57-64, 66, 68, 73, 74, 78, 82, 85, 87, 88, 89, 91, 92, 96, 97, 98, 99, 100, 102-111, 117-126.
(1)(A)iii.....	This classification is assigned the criteria in: Same as for (1)(A)i (above) plus: Column B(I)—all. Column B(II)—#’s 9, 10, 13, 53.
(1)(B)i.....	This classification is assigned the criteria in: Same as for (1)(A)i above.
(1)(B)ii.....	This classification is assigned the criteria in: Column B(I)—all. Column B(II)—#’s 9, 10, 13, 53. Column D(II)—#’s 9, 10, 53. Column D(II) human health carcinogens: #’s 2, 3, 16, 18, 19, 20, 21, 23, 26, 27, 29, 30, 35, 36, 37, 42, 43, 44, 55, 57-64, 66, 68, 73, 74, 78, 82, 85, 87, 88, 89, 91, 92, 96, 97, 98, 99, 100, 102-111, 117-126
(1)(C) This classification is assigned the criteria in: Same as for (1)(B)(ii).....	

Use classification	Applicable criteria
(2)(A).....	This classification is assigned the criteria in: Column C(I)—all. Column C(II)—#’s 9, 10, 13, 53. Column D(II)—#’s 9, 10, 53. Column D(II)—human health carcinogens: #’s 2, 3, 16, 18, 19, 20, 21, 23, 26, 27, 29, 30, 35, 36, 37, 42, 43, 44, 55, 57-64, 66, 68, 73, 74, 78, 82, 85, 87, 88, 89, 91, 92, 96, 97, 98, 99, 100, 102-111, 117-126
(2)(A)ii.....	This classification is assigned the criteria in: Column C(I)—all. Column C(II)—only for #’s 9, 10, 13, 53.
(2)(B)i & ii.....	These classifications are assigned the criteria in: Column D(II) for #’s 9, 10, 53. Column D(II)—human health carcinogens: #’s 2, 3, 16, 18, 19, 20, 21, 23, 26, 27, 29, 30, 35, 36, 37, 42, 43, 44, 55, 57-64, 66, 68, 73, 74, 78, 82, 85, 87, 88, 89, 91, 92, 96, 97, 98, 99, 100, 102-111, 117-126.
(2)(C) and (2)(D).....	These classifications are assigned the criteria in: Same as for (2)(A)i.

(21) Idaho, Region 10
 (i) All waters assigned to the following use classifications in the Idaho Administrative Procedures Act (IDAPA), chapter 16 (i.e., identified in IDAPA 16.01.2100,02-16.01.2100,07) are subject to the criteria in paragraph (d)(21)(ii) of this section, without exception:

16.01.2100,02	Domestic Water Supplies.
16.01.2100,03	Cold Water Biota.
16.01.2100,04	Warm Water Biota.
16.01.2100,05	Salmonid Spawning.
16.01.2100,06	Primary Contact Recreation.
16.01.2100,07	Secondary Contact Recreation.

(ii) The following criteria from the matrix in paragraph (b) of this section apply to the use classifications identified in paragraph (d)(21)(i) of this section:

Use classification	Applicable criteria
02.....	This classification is assigned the criteria in: Column D(I)—all except #’s 4, 5, 7, 10, 11, 14, 115.

Use classification	Applicable criteria
03, 04 and 05.....	These classifications are assigned the criteria in: Column B(I)—all. Column B(II)—all. Column D(II)—all.
06.....	This classification is assigned the criteria in: Column B(I)—all. Column B(II)—all.
07.....	This classification is assigned the criteria in: Column B(I)—all. Column B(II)—all. Column D(II)—all.

(22) Washington, Region 10
 (i) All waters assigned to the following use classifications in the Washington Administrative Code (WAC), chapter 173-201 (i.e., identified in WAC 173-201-045) are subject to the criteria in paragraph (d)(22)(ii) of this section, without exception:

173-201-045.	Class AA water supplies. Class A. Class B. Class C. Lake class.
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(ii) The following criteria from the matrix in paragraph (b) of this section apply to the use classifications identified in paragraph (d)(22)(i) of this section:

Use classification	Applicable criteria
AA and A.....	These classifications are assigned the criteria in: Column D(I)—all. Column D(II)—all. Columns B(I), B(II), C(I), and C(II): all except #’s 4, 5a&b, 7, 8, 9, 11, 13, 53, 108, 109, 110, 115, 117, 119-126
B and C.....	These classifications are assigned the criteria in: Same as for AA and A except do not include Column D(I).
Lake class.....	This classification is assigned the criteria in: Same as for AA and A except do not include Columns C(I), C(II) or D(I).

(Note.—The following appendix will not appear in the Code of Federal Regulations.)

Appendix to Preamble of Today’s Proposal

I. Introduction
 The purpose of this appendix is to provide background information and further explanation of today’s proposed rulemaking. Two major topics are discussed. The first topic concerns the detailed assumptions and rules followed

by EPA in writing the State-specific proposed regulatory requirements (i.e., the water quality uses and criteria) contained in proposed section § 131.36(d). The second topic concerns EPA's rationale for proposing the § 131.36(d) requirements. Separate, customized rationales are provided for each jurisdiction included in the water quality standards program (i.e., as defined by 40 CFR 131.3(j)).

II. Assumptions and Rules Followed by EPA in Writing the Proposed Section 131.36(d) Requirements for all Jurisdictions

The "rules" followed by EPA in writing the proposed § 131.36(d) requirements for all jurisdictions are as follows:

1. No criteria are proposed for States which have been fully approved by EPA as complying with the section 303(c)(2)(B) requirements.

2. For States which have not been fully approved, if EPA has not previously determined which specific pollutants/criteria/waterbodies are lacking from a State's standards (i.e., as part of an approval/disapproval action only), all of the criteria in Columns B, C, and D of the proposed § 131.36(b) matrix are proposed for statewide application to all appropriate designated uses, except as provided for elsewhere in these rules. That is, EPA proposes to bring the State into compliance with section 303(c)(2)(B) via an approach which is comparable to option 1 of the December 1988 national guidance for section 303(c)(2)(B).

3. If EPA has previously determined which specific pollutants/criteria/waterbodies are needed to comply with CWA section 303(c)(2)(B) (i.e., as part of an approval/disapproval action only), the criteria in proposed § 131.36(b) are proposed for only those specific pollutants/criteria/waterbodies (i.e., EPA proposes to bring the State into compliance via an approach which is comparable to option 2 of the December 1988 national guidance for section 303(c)(2)(B)).

4. For aquatic life, except as provided for elsewhere in these rules, all waters with designated aquatic life uses providing even minimal support to aquatic life are included in the proposed rule (i.e., fish survival, marginal aquatic life, etc.).

5(a). For human health, except as provided for elsewhere in these rules, all waters with designated uses providing for public water supply protection (and therefore a potential water consumption exposure route) or minimal aquatic life protection (and therefore a potential fish

consumption exposure route) are included in the proposed rule.

5(b). Where a State has determined the specific aquatic life segments which provide a fish consumption exposure route (i.e., fish or other aquatic life are being caught and consumed) and EPA approved this determination as part of a standards approval/disapproval action, the proposed rule includes the fish consumption (Column D(II)) criteria for only those aquatic life segments, except as provided for elsewhere in these rules. In making a determination that certain segments do not support a fish consumption exposure route, a State must complete and EPA must have previously approved, a use attainability analysis consistent with the provisions of 40 CFR part 131.10(j). In the absence of such an approved State determination, EPA has proposed fish consumption criteria for all aquatic life segments.

6. Uses/Classes other than those which support aquatic life or human health are not included in the proposed rulemaking (e.g., livestock watering, industrial water supply), unless they are defined in the State standards as also providing protection to aquatic life or human health (i.e., unless they are described as protecting multiple uses including aquatic life or human health). For example, if the State standards include a use such as industrial water supply, and in the narrative description of the use the State standards indicate that the use includes protection for resident aquatic life, then this use is included in the proposed rulemaking.

7. For human health, the "water + fish" criteria in Column D(I) of § 131.36(b) are proposed for all waterbodies where public water supply and aquatic life uses are designated, except as provided for elsewhere in these rules (e.g., rule 9).

8. If the State has public water supplies where aquatic life uses have not been designated, or public water supplies that have been determined not to provide a potential fish consumption exposure pathway, the "water + fish" criteria in Column D(I) of § 131.36(b) are proposed for such waterbodies, except as provided for elsewhere in these rules (e.g., rule 9).

9. EPA is generally not proposing criteria for priority toxic pollutants for which a State has adopted criteria and received EPA approval. The exceptions to this general rule are described in rules 10 and 11.

10. For priority toxic pollutants where the State has adopted human health criteria and received EPA approval, but such criteria do not fully satisfy section 303(c)(2)(B) requirements, the proposed

rule includes human health criteria for such pollutants. For example, consider a case where a State has a water supply segment that poses an exposure risk to human health from both water and fish consumption. If the State has adopted, and received approval for, human health criteria based on water consumption only (e.g., Safe Drinking Water Act Maximum Contaminant Levels (MCLs)) which are less stringent than the "water + fish" criteria in Column D(I) of proposed § 131.36(b), the Column D(I) criteria are proposed for those water supply segments. The rationale for this is to ensure that both water and fish consumption exposure pathways are adequately addressed and human health is fully protected. If the State has adopted water consumption only criteria which are more stringent or equal to the Column D(I) criteria, the "water + fish" criteria in Column D(I) criteria are not proposed.

11. For priority toxic pollutants where the State has adopted aquatic life criteria and received EPA approval, but such criteria do not fully satisfy section 303(c)(2)(B) requirements, the proposed rule includes aquatic life criteria for such pollutants (e.g., because previously approved State criteria do not reflect current science contained in revised criteria documents and other guidance sufficient to protect all designated uses or human health exposure pathways). For example, if the State has adopted not-to-be-exceeded aquatic life criteria which are less stringent than the 4-day average chronic aquatic life criteria in § 131.36(b) (i.e., in Columns B(II) and C(II)), the acute and chronic aquatic life criteria in § 131.36(b) are proposed for those pollutants. The rationale for this is that the State-adopted criteria do not protect resident aquatic life from both acute and chronic effects, and that federal criteria are necessary to fully protect aquatic life designated uses. If the State has adopted not-to-be-exceeded aquatic life criteria which are more stringent or equal to the chronic aquatic life criteria in § 131.36(b), the acute and chronic aquatic life criteria in § 131.36(b) are not proposed for those pollutants.

12. Under certain conditions discussed in rules 9, 10, and 11, criteria listed in § 131.36(b) are not proposed for specific pollutants; however, EPA made such exceptions only for pollutants for which criteria have been adopted by the State and approved by EPA, where such criteria are currently effective under State law and fully satisfy section 303(c)(2)(B) requirements.

III. State-by-State Summary Information and Rationale

EPA's jurisdiction-specific rationale for the § 131.36(d) requirements is described below. In addition, all proposed § 131.36(d) requirements conform to the rules specified in the previous section of this appendix.

Region 1

Connecticut is included in today's proposal because the State has not adopted any criteria for priority toxic pollutants, either before or in response to the statutory requirement, and EPA has reason to believe that at least some criteria are necessary to comply with section 303(c)(2)(B). Therefore, EPA has determined for purposes of today's proposed rulemaking that the State is not currently in compliance with section 303(c)(2)(B) because it has not adopted water quality standards consistent with section 303(c)(2)(B) which have been fully approved by the appropriate EPA Regional Administrator.

Connecticut's actions to respond to the 1987 section 303(c)(2)(B) requirement can be summarized as follows.

- August, 1990. Draft WQS revisions were submitted to EPA by the State. In this draft revision the State proposed adopting criteria for all priority pollutants for fresh water aquatic life and human health protection. No criteria were proposed for marine waters.
- December, 1990. EPA Region I notified Connecticut that adoption of criteria for marine waters is necessary to achieve compliance with section 303(c)(2)(B).

This proposed rulemaking would Federally promulgate the criteria necessary to bring the State into full compliance with section 303(c)(2)(B). To fully protect State designated uses, and to ensure that the required criteria are adopted, EPA proposes to apply broadly the criteria in proposed § 131.36(b). At a minimum, EPA proposes to apply, to all appropriate State waters, the criteria in proposed § 131.36(b) for all priority toxic pollutants which are not the subject of approved State criteria. EPA also proposes to promulgate Federal criteria for priority toxic pollutants where any previously-approved State criteria are insufficiently stringent to fully protect all designated uses, or where such previously-approved State criteria are not applicable to all appropriate State designated uses. EPA invites public comment regarding any specific priority pollutants or water bodies for which Federal criteria may not be necessary to protect State designated uses.

For reasons which are fully discussed in the preamble, EPA has not attempted to determine the specific priority pollutants and water bodies that require criteria. However, EPA has determined that at least some Federal criteria are necessary to protect designated uses. This determination is supported by information in the record which demonstrates that priority toxic pollutants are discharged or present in surface waters at levels that can reasonably be expected to interfere with State designated uses. For some priority toxic pollutants, available data clearly demonstrate use impairment and the need for toxics criteria. For most priority toxic pollutants, however, available data on the discharge and presence of priority toxic pollutants are spatially and temporally limited. Nevertheless, EPA believes that the data for many of these pollutants are sufficient to satisfy the "reasonable expectation" test established in section 303(c)(2)(B). The information in the record which demonstrates that priority toxic pollutants are discharged or present and that Federal criteria are necessary may be summarized as follows:

- Priority toxic pollutants on the State Section 304(1) short list for which State criteria have not been adopted and approved.
- State efforts since 1987 to adopt additional numeric criteria for priority toxic pollutants, as described above. The State has initiated (but not completed) efforts to adopt new or revised chemical-specific, numeric criteria for 34 priority toxic pollutants. These efforts represent evidence of the State's recognition of the need for numeric criteria for these priority toxic pollutants.
- Presence in surface waters of the State of priority pollutants for which sufficient State numeric criteria have not been adopted, based on surface water monitoring data in STORET.
- Discharge to surface waters of priority pollutants for which sufficient State numeric criteria have not been adopted, based on data in the Toxics Release Inventory database and/or the Permit Compliance System database.
- Long Island Sound study conducted as part of the National Estuaries Program which indicates presence of priority pollutants in Long Island Sound.

Maine has not been included in today's proposed rulemaking because the State has adopted revised criteria for priority toxic pollutants in response to the section 303(c)(2)(B) requirement and received full EPA approval.

The State's response to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:

- June 1990. Legislative adoption of all EPA issued section 304(a)(1) criteria by reference.
- December 20, 1990. EPA approved the adopted State criteria.

EPA fully approved the criteria for priority toxic pollutants adopted by Maine in June of 1990 as being consistent with option 1 of the December 12, 1988 section 303(c)(2)(B) guidance document.

If additional information is submitted during the public comment period asserting that the State has not fully complied with section 303(c)(2)(B) it will be necessary at that time to respond to those comments and reevaluate the Agency's determination of full compliance.

Massachusetts has not been included in today's proposed rulemaking because the State has adopted revised criteria for priority toxic pollutants in response to the section 303(c)(2)(B) requirement and received full EPA approval.

Massachusetts' actions to respond to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:

- Massachusetts adopted revised standards on July 23, 1990. The State adopted the section 304(a)(1) criteria for aquatic life protection in fresh and marine waters.
- Massachusetts toxicity control policy adopted with the standards incorporates a 10⁻⁶ risk level.
- December 20, 1990. EPA fully approved the Massachusetts toxics criteria as fully satisfying the requirements of section 303(c)(2)(B).

EPA fully approved the criteria for priority toxic pollutants adopted by Massachusetts as being consistent with option 1 of the December 12, 1988 section 303(c)(2)(B) guidance document.

If additional information is submitted during the public comment period asserting that the State has not fully complied with section 303(c)(2)(B) it will be necessary at that time to respond to those comments and reevaluate the Agency's determination of full compliance.

New Hampshire is included in today's proposal because although the State adopted numeric criteria for some priority toxic pollutants before the 1987 amendments, the State has not completed a review of their numeric criteria for priority toxic pollutants in response to the statutory requirement and EPA has reason to believe that at least some additional criteria are necessary to comply with section

303(c)(2)(B). Therefore, EPA has determined for purposes of today's proposed rulemaking that the State is not currently in compliance with section 303(c)(2)(B) because it has not adopted water quality standards consistent with section 303(c)(2)(B) which have been fully approved by the appropriate EPA Regional Administrator.

New Hampshire's actions to respond to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:

- August 1990. The State adopted water quality standards revisions following an option 1 approach using EPA national criteria for all pollutants. New Hampshire used a 10^{-6} risk assumption for human health protection for all pollutants except 2,3,7,8-TCDD for which a risk level of 10^{-5} was assumed.
- December 19, 1990. The revised toxics criteria adopted by the State were approved with the exception of the human health criteria for dioxin, which was disapproved.

This proposed rulemaking would Federally promulgate the criteria necessary to bring the State into full compliance with section 303(c)(2)(B). To fully protect State designated uses, and to ensure that the required criteria are adopted, EPA proposes to apply broadly the criteria in proposed § 131.36(b). At a minimum, EPA proposes to apply, to all appropriate State waters, the criteria in proposed § 131.36(b) for all priority toxic pollutants which are not the subject of approved State criteria. EPA also proposes to promulgate Federal criteria for priority toxic pollutants where any previously approved State criteria are insufficiently stringent to fully protect all designated uses, or where such previously approved State criteria are not applicable to all appropriate State designated uses. EPA invites public comment regarding any specific priority pollutants or water bodies for which Federal criteria may not be necessary to protect State designated uses.

For reasons which are fully discussed in the preamble, EPA has not attempted to determine the specific priority pollutants and water bodies that require criteria. However, EPA has determined that at least some Federal criteria are necessary to protect designated uses. This determination is supported by information in the record which demonstrates that priority toxic pollutants are discharged or present in surface waters at levels that can reasonably be expected to interfere with State designated uses. For some priority toxic pollutants, available data clearly demonstrate use impairment and the

need for toxics criteria. For most priority toxic pollutants, however, available data on the discharge and presence of priority toxic pollutants are spatially and temporally limited. Nevertheless, EPA believes that the data for many of these pollutants are sufficient to satisfy the "reasonable expectation" test established in section 303(c)(2)(B). The information in the record which demonstrates that priority toxic pollutants are discharged or present and that Federal criteria are necessary may be summarized as follows:

- State efforts since 1987 to adopt additional numeric criteria for priority toxic pollutants, as described above. The State has initiated (but not completed) efforts to adopt new or revised chemical-specific, numeric criteria for 126 priority toxic pollutants. These efforts represent evidence of the State's recognition of the need for numeric criteria for these priority toxic pollutants.
- Presence in surface waters of the State of priority pollutants for which sufficient State numeric criteria have not been adopted, based on surface water monitoring data in STORET.
- Discharge to surface waters of priority pollutants for which sufficient State numeric criteria have not been adopted, based on data in the Toxics Release Inventory data base and/or the Permit Compliance System data base.

Rhode Island is included in today's proposal because although the State has completed a review and adopted numeric criteria for some priority pollutants in response to the statutory requirement, EPA has reason to believe that at least some additional criteria are necessary to comply with section 303(c)(2)(B). Therefore, EPA has determined for purposes of today's proposed rulemaking that the State is not currently in compliance with section 303(c)(2)(B) because it has not adopted water quality standards consistent with section 303(c)(2)(B) which have been fully approved by the appropriate EPA Regional Administrator.

Rhode Island's actions to respond to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:

- October 1989. The State adopted revised WQS incorporating an option 1 approach for all section 304(a)(1) criteria for aquatic life protection in fresh and marine waters. No criteria were adopted for the protection of human health.
- March 30, 1989. EPA approved the water quality standards and informed Rhode Island that to come into full compliance with Section 303(c)(2)(B)

that the State would have to adopt human health criteria.

This proposed rulemaking would Federally promulgate the criteria necessary to bring the State into full compliance with section 303(c)(2)(B). To fully protect State designated uses, and to ensure that the required criteria are adopted, EPA proposes to apply broadly the criteria in proposed § 131.36(b). At a minimum, EPA proposes to apply, to all appropriate State waters, the criteria in proposed § 131.36(b) for all priority toxic pollutants which are not the subject of approved State criteria. EPA also proposes to promulgate Federal criteria for priority toxic pollutants where any previously-approved State criteria are insufficiently stringent to fully protect all designated uses, or where such previously-approved State criteria are not applicable to all appropriate State designated uses. EPA invites public comment regarding any specific priority pollutants or water bodies for which Federal criteria may not be necessary to protect State designated uses.

For reasons which are fully discussed in the preamble, EPA has not attempted to determine the specific priority pollutants and water bodies that require criteria. However, EPA has determined that at least some Federal criteria are necessary to protect designated uses. This determination is supported by information in the record which demonstrates that priority toxic pollutants are discharged or present in surface waters at levels that can reasonably be expected to interfere with State designated uses. For some priority toxic pollutants, available data clearly demonstrate use impairment and the need for toxics criteria. For most priority toxic pollutants, however, available data on the discharge and presence of priority toxic pollutants are spatially and temporally limited. Nevertheless, EPA believes that the data for many of these pollutants are sufficient to satisfy the "reasonable expectation" test established in section 303(c)(2)(B). The information in the record which demonstrates that priority toxic pollutants are discharged or present and that Federal criteria are necessary may be summarized as follows:

- Priority toxic pollutants on the State section 304(1) short list for which State toxics criteria have not been adopted and approved.
- State efforts since 1987 to adopt additional numeric criteria for priority toxic pollutants, as described above. The State has initiated (but not completed) efforts to adopt new or revised chemical-specific, numeric

criteria for an as yet undetermined number of priority toxic pollutants. These efforts represent evidence of the State's recognition of the need for numeric criteria for these priority toxic pollutants.

- Presence in surface waters of the State of priority pollutants for which sufficient State numeric criteria have not been adopted, based on surface water monitoring data in STORET.
- Discharge to surface waters of priority pollutants for which sufficient State numeric criteria have not been adopted, based on data in the Toxics Release Inventory database and/or the Permit Compliance System database.
- Superfund monitoring data indicating presence of priority pollutants at hazardous waste sites that may enter surface water through surface drainage and ground water migration.
- The Narragansett Bay Study conducted under the National Estuaries Program which indicated presence of priority pollutants in fish and shellfish tissue.

Vermont is included in today's proposal because the State has not adopted any criteria for priority toxic pollutants, either before or in response to the statutory requirement, and EPA has reason to believe that at least some criteria are necessary to comply with section 303(c)(2)(B). Therefore, EPA has determined for purposes of today's proposed rulemaking that the State is not currently in compliance with section 303(c)(2)(B) because it has not adopted water quality standards consistent with section 303(c)(2)(B) which have been fully approved by the appropriate EPA Regional Administrator.

Vermont's actions to respond to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:

- April 1990. Vermont proposed draft water quality standards revisions following an option 1 approach for all section 304(a)(1) pollutants for aquatic life and human health protection.

This proposed rulemaking would federally promulgate the criteria necessary to bring the State into full compliance with section 303(c)(2)(B). To fully protect State designated uses, and to ensure that the required criteria are adopted, EPA proposes to apply broadly the criteria in proposed § 131.36(b). At a minimum, EPA proposes to apply, to all appropriate State waters, the criteria in proposed § 131.36(b) for all priority toxic pollutants which are not the subject of approved State criteria. EPA also proposes to promulgate Federal criteria for priority toxic pollutants where any

previously approved State criteria are insufficiently stringent to fully protect all designated uses, or where such previously approved State criteria are not applicable to all appropriate State designated uses. EPA invites public comment regarding any specific priority pollutants or water bodies for which Federal criteria may not be necessary to protect State designated uses.

For reasons which are fully discussed in the preamble, EPA has not attempted to determine the specific priority pollutants and water bodies that require criteria. However, EPA has determined that at least some Federal criteria are necessary to protect designated uses. This determination is supported by information in the record which demonstrates that priority toxic pollutants are discharged or present in surface waters at levels that can reasonably be expected to interfere with State designated uses. For some priority toxic pollutants, available data clearly demonstrate use impairment and the need for toxics criteria. For most priority toxic pollutants, however, available data on the discharge and presence of priority toxic pollutants are spatially and temporally limited. Nevertheless, EPA believes that the data for many of these pollutants are sufficient to satisfy the "reasonable expectation" test established in section 303(c)(2)(B). The information in the record which demonstrates that priority toxic pollutants are discharged or present and that Federal criteria are necessary may be summarized as follows:

- State efforts since 1987 to adopt additional numeric criteria for priority toxic pollutants, as described above. The State has initiated (but not completed) efforts to adopt new or revised chemical-specific, numeric criteria for 126 priority toxic pollutants. These efforts represent evidence of the State's recognition of the need for numeric criteria for these priority toxic pollutants.
- Presence in surface waters of the State of priority pollutants for which sufficient State numeric criteria have not been adopted, based on surface water monitoring data in STORET.
- Discharge to surface waters of priority pollutants for which sufficient State numeric criteria have not been adopted, based on data in the Toxics Release Inventory database and/or the Permit Compliance System database.

Region 2

New Jersey is included in today's proposal because although the State adopted numeric criteria for some priority toxic pollutants before the 1987

amendments, the State has not completed a review/revision of their numeric criteria for priority toxic pollutants in response to the statutory requirement and EPA has reason to believe that additional criteria are necessary to comply with section 303(c)(2)(B). Therefore, EPA has determined for purposes of today's proposed rulemaking that the State is not currently in compliance with section 303(c)(2)(B) because it has not adopted water quality standards consistent with section 303(c)(2)(B) which have been fully approved by the appropriate EPA Regional Administrator.

New Jersey adopted criteria for some priority toxic pollutants prior to passage of section 303(c)(2)(B) on April 29, 1985 (N.J.A.C 7:9-4.1 et seq.). EPA approved these criteria on July 8, 1985. Some of these criteria are not affected by today's proposed rulemaking.

The State's actions to respond to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:

- June 20, 1988: the State published a public notice of proposed revisions to the State Surface Water Quality Regulation, including new numeric criteria for toxic pollutants.
- July 14, 1989: The State adopted revisions to the State Surface Water Quality Standards Regulation. Numeric criteria were not included in the adopted revisions.
- July 16, 1990: The State informed EPA that it would be proposing numeric criteria for all EPA priority pollutants.

This proposed rulemaking would federally promulgate the criteria necessary to bring the State into full compliance with section 303(c)(2)(B). To fully protect State designated uses, and to ensure that the required criteria are adopted, EPA proposes to apply broadly the criteria in proposed § 131.36(b). At a minimum, EPA proposes to apply, to all appropriate State waters, the criteria in proposed § 131.36(b) for all priority toxic pollutants which are not the subject of approved State criteria. EPA also proposes to promulgate Federal criteria for priority toxic pollutants where any previously-approved State criteria are insufficiently stringent to fully protect all designated uses, or where such previously-approved State criteria are not applicable to all appropriate State designated uses. EPA invites public comment regarding any specific priority pollutants or water bodies for which Federal criteria may not be necessary to protect State designated uses.

For reasons which are fully discussed in the preamble, EPA has not attempted to determine the specific priority

pollutants and water bodies that require criteria. However, EPA has determined that at least some Federal criteria are necessary to protect designated uses. This determination is supported by information in the record which demonstrates that priority toxic pollutants are discharged or present in surface waters at levels that can reasonably be expected to interfere with State designated uses. For some priority toxic pollutants, available data clearly demonstrate use impairment and the need for toxics criteria. For most priority toxic pollutants, however, available data on the discharge and presence of priority toxic pollutants are spatially and temporally limited. Nevertheless, EPA believes that the data for many of these pollutants are sufficient to satisfy the "reasonable expectation" test established in section 303(c)(2)(B). The information in the record which demonstrates that priority toxic pollutants are discharged or present and that Federal criteria are necessary may be summarized as follows:

- Priority toxic pollutants on the State section 304(1) list for which appropriate State criteria have not been adopted and approved, including metals.
- State efforts since 1987 to adopt additional numeric criteria for priority toxic pollutants, as described above. The State has initiated (but not completed) efforts to adopt new or revised chemical-specific, numeric criteria for 16 priority toxic pollutants. These efforts represent evidence of the State's recognition of the need for numeric criteria for these priority toxic pollutants.
- Presence in surface waters of the State of priority pollutants for which sufficient State numeric criteria have not been adopted, based on surface water monitoring data in STORET.
- Discharge to surface waters of priority pollutants for which sufficient State numeric criteria have not been adopted, based on data in the Toxics Release Inventory database and/or the Permit Compliance System database.
- Correspondence from the State indicating that the adoption of criteria for all EPA priority pollutants would be proposed for adoption.

Puerto Rico is included in today's proposal because although the State adopted numeric criteria for some priority toxic pollutants before the 1987 amendments, the State has not completed a review/revision of their numeric criteria for priority toxic pollutants in response to the statutory requirement and EPA has reason to

believe that additional criteria are necessary to comply with section 303(c)(2)(B). Therefore, EPA has determined for purposes of today's proposed rulemaking that the State is not currently in compliance with section 303(c)(2)(B) because it has not adopted water quality standards consistent with section 303(c)(2)(B) which have been fully approved by the appropriate EPA Regional Administrator.

Puerto Rico adopted criteria for some priority pollutants prior to passage of section 303(c)(2)(B) on February 28, 1983 (Puerto Rico Water Quality Standards Regulation, as amended, promulgated by Environmental Quality Board Resolution Number R-83-5-2). Some of these criteria are not affected by today's proposed rulemaking.

Puerto Rico's actions to respond to the 1987 Section 303(c)(2)(B) requirement can be summarized as follows:

- March 15, 1990: The Commonwealth submitted draft water quality standards revisions to EPA for review prior to issuing proposed standards for public comment.
- May 2-3, 1990 and July 12-13, 1990: The Commonwealth held public hearings on its proposed water quality standards revisions.

This proposed rulemaking would Federally promulgate the criteria necessary to bring the Commonwealth into full compliance with section 303(c)(2)(B). To fully protect Puerto Rico's designated uses, and to ensure that the required criteria are adopted, EPA proposes to apply broadly the criteria in proposed § 131.36(b). At a minimum, EPA proposes to apply, to all appropriate Commonwealth waters, the criteria in proposed § 231.36(b) for all priority toxic pollutants which are not the subject of approved Commonwealth criteria. EPA also proposes to promulgate Federal criteria for priority toxic pollutants where any previously approved Commonwealth criteria are insufficiently stringent to fully protect all designated uses, or where such previously approved Commonwealth criteria are not applicable to all appropriate Commonwealth designated uses. EPA invites public comment regarding any specific priority pollutants or water bodies for which Federal criteria may not be necessary to protect Puerto Rico's designated uses.

For reasons which are fully discussed in the preamble, EPA has not attempted to determine the specific priority pollutants and water bodies that require criteria. However, EPA has determined that at least some Federal criteria are necessary to protect designated uses. This determination is supported by

information in the record which demonstrates that priority toxic pollutants are discharged or present in surface waters at levels that can reasonably be expected to interfere with Puerto Rico's designated uses. For some priority toxic pollutants, available data clearly demonstrate use impairment and the need for toxics criteria. For most priority toxic pollutants, however, available data on the discharge and presence of priority toxic pollutants are spatially and temporally limited. Nevertheless, EPA believes that the data for many of these pollutants are sufficient to satisfy the "reasonable expectation" test established in section 303(c)(2)(B). The information in the record which demonstrates that priority toxic pollutants are discharged or present and that Federal criteria are necessary may be summarized as follows:

- Priority toxic pollutants on the Commonwealth's section 304(1) short list for which appropriate state criteria have not been adopted and approved, including metals and organic compounds.
- The Commonwealth's efforts since 1987 to adopt additional numeric criteria for priority toxic pollutants, as described above. The Commonwealth has initiated (but not completed) efforts to adopt new or revised chemical-specific, numeric criteria for 9 priority toxic pollutants. These efforts represent evidence of the Commonwealth's recognition of the need for numeric criteria for these priority toxic pollutants.
- Presence in surface waters of the Commonwealth's priority pollutants for which sufficient Commonwealth numeric criteria have not been adopted, based on surface water monitoring data in STORET.
- Discharge to surface waters of priority pollutants for which sufficient Commonwealth numeric criteria have not been adopted, based on data in the Toxics Release Inventory database and/or the Permit Compliance System database.
- Previously proposed revisions to Puerto Rico's Water Quality Standards Regulation indicating that numeric criteria for additional priority pollutants are necessary.

New York has not been included in today's proposed rulemaking because the State has water quality standards which meet the requirements of section 303(c)(2)(B). The State has met the requirements of section 303(c)(2)(B) of the Act through a combined Option 2 and Option 3 approach, as described in

EPA's December 12, 1988 guidance document.

State actions in response to the Clean Water Act requirement to adopt criteria may be summarized as follows:

- September 1985: The State adopted numeric criteria for 95 substances or classes of substances, including aquatic life and/or human health criteria. The State also adopted procedures, in regulation, for developing both aquatic life and human health based criteria. The procedures are used for developing the numeric criteria in the standards as well as for developing guidance values to be used for all purposes for which numeric criteria are used. The State has applied these procedures to develop aquatic life or human health based criteria for a total of 215 substances or classes of substances.
- September 30, 1985: EPA approved the State Water Quality Standards submittal.
- June 8, 1990: EPA approved State section 304(l) lists. No segments were included on the "short list" under Section 304(l) due to the presence of EPA priority pollutants for which the State did not have either a numeric criterion or derived guidance value.
- New York State had begun a triennial review prior to the 1987 amendments to the Clean Water Act. A notice of a public hearing and public information meetings was issued on May 25, 1990. The State has proposed the adoption of a limited number of aquatic life and human health based criteria for EPA priority pollutants. Public hearings and meetings were conducted in August 1990. A number of the proposed aquatic life and human health based criteria were formerly included as guidance values. The State may be expected to convert additional guidance values during the next triennial review.

EPA approved the criteria for priority toxic pollutants adopted by New York on September 27, 1990, as being consistent with options 2 and 3 of the December 12, 1988 section 303(c)(2)(B) guidance document. In this letter, EPA directed the State to adequately address three issues: the need for greater public participation in the use of guidance values; the need for additional bioconcentration/bioaccumulation-based criteria and guidance values; and participation in the process to identify appropriate water quality criteria for use in developing TMDLs/WLAs for the waters of the New York/New Jersey Harbor Complex. EPA believes that the State has established standards which include or provide for the derivation of,

numeric criteria for all priority toxic pollutants which "may reasonably be expected to interfere with designated uses".

If additional information is submitted during the public comment period asserting that the State has not fully complied with section 303(c)(2)(B), it will be necessary at that time to respond to those comments and reevaluate the Agency's determination of full compliance.

The U.S. Virgin Islands has not been included in today's rulemaking. No EPA priority pollutants have been identified as impairing designated uses in the U.S. Virgin Islands through water quality monitoring and assessment activities. Further, EPA believes that there are no priority toxic pollutants present or discharged to surface waters which "may reasonably be expected to interfere with designated uses."

The following information supports EPA's conclusion:

- June 4, 1989: The U.S. Virgin Islands submitted lists of impaired waters pursuant to section 304(l). No waters were included on the section 304(l) "short list." No EPA priority pollutants were identified as impairing uses on other section 304(l) lists.
- May 9, 1990: EPA approved section 304(l) lists submitted by the U.S. Virgin Islands.

EPA has determined that the Water Quality Standards of the U.S. Virgin Islands fully meet the requirements of CWA section 303(c)(2)(B).

If additional information is submitted during the public comment period asserting that the U.S. Virgin Islands has not fully complied with section 303(c)(2)(B), it will be necessary at that time to respond to those comments and reevaluate the Agency's determination of full compliance.

Region 3

Virginia is included in today's proposal because although the State adopted numeric criteria for some priority toxic pollutants before the 1987 amendments, such criteria are not mandatory in application and, furthermore, the State has not completed a review of their numeric criteria for priority toxic pollutants in response to the statutory requirement. EPA has reason to believe that at least some additional criteria are necessary to comply with section 303(c)(2)(B). Therefore, EPA has determined for purposes of today's proposed rulemaking that the State is not currently in compliance with section 303(c)(2)(B) because it has not adopted

water quality standards consistent with section 303(c)(2)(B) which have been fully approved by the appropriate EPA Regional Administrator.

The State's actions to respond to the 1987 section 303(c)(2)(B) requirements can be summarized as follows:

- September 29, 1987: The State Water Control Board adopted a resolution to adopt numerical criteria for toxic pollutants immediately after EPA issuance of CWA section 303(c)(2)(B) guidance.
- November 29, 1988: The State held a public meeting to receive comments on the adoption of criteria for toxic pollutants.
- December 30, 1988: EPA sent the State final "Guidance for State Implementation of Water Quality Standards for CWA section 303(c)(2)(B)."
- January 10, 1989: EPA submitted formal comments from the public meeting.
- October 23, 1989: Virginia requested EPA to submit recommendations for its triennial review.
- November 21, 1989: EPA responded to Virginia's request for triennial review recommendations.
- December 14, 1989: Virginia began public meetings to receive comments on issues to be included in the triennial review.
- February 12, 1990: Virginia began public hearings on a water quality standard for dioxin.
- February 16, 1990: EPA informed the State of EPA's intent to include the State in the national rule to promulgate numeric water quality criteria for priority toxic pollutants for those States which failed to meet the requirements of section 303(c)(2)(B).
- March 5, 1990: EPA submitted comments on Virginia's proposed dioxin standard.
- April 9, 1990: The EPA Assistant Administrator for the Office of Water informed the State that it was going to be included in a proposed national rule to establish numeric, surface water criteria for toxic pollutants designed to bring all States into full compliance with the requirements of section 303(c)(2)(B).
- July 25, 1990: Virginia began public hearings on proposed water quality standards, including criteria for toxics.
- August 7, 1990: EPA submitted comments on Virginia's proposed standards.
- August 17, 1990: Virginia repropoed changes to the water quality standards for public comment.

—September 14, 1990. EPA submitted comments on the revisions to the proposed water quality standards.

This proposed rulemaking would Federally promulgate the criteria necessary to bring the State into full compliance with section 303(c)(2)(B). To fully protect State designated uses, and to ensure that the required criteria are adopted, EPA proposes to apply broadly the criteria in proposed § 131.36(b). At a minimum, EPA proposes to apply, to all appropriate State waters, the criteria in proposed section 131.36(b) for all priority toxic pollutants which are not the subject of approved State criteria. EPA also proposes to promulgate Federal criteria for priority toxic pollutants where any previously-approved State criteria are insufficiently stringent to fully protect all designated uses, or where such previously-approved State criteria are not applicable to all appropriate State designated uses. EPA invites public comment regarding any specific priority pollutants or water bodies for which Federal criteria may not be necessary to protect State designated uses.

For reasons which are fully discussed in the preamble, EPA has not attempted to determine the specific priority pollutants and water bodies that require criteria. However, EPA has determined that at least some Federal criteria are necessary to protect designated uses. This determination is supported by information in the record which demonstrates that priority toxic pollutants are discharged or present in surface waters at levels that can reasonably be expected to interfere with State designated uses. For some priority toxic pollutants, available data clearly demonstrate use impairment and the need for toxics criteria. For most priority toxic pollutants, however, available data on the discharge and presence of priority toxic pollutants are spatially and temporally limited. Nevertheless, EPA believes that the data for many of these pollutants are sufficient to satisfy the "reasonable expectation" test established in section 303(c)(2)(B). The information in the record which demonstrates that priority toxic pollutants are discharged or present and that Federal criteria are necessary may be summarized as follows:

—Priority toxic pollutants on the State section 304(l) short list for which mandatory State criteria have not been adopted and approved.
 —State efforts since 1987 to adopt additional numeric criteria for priority toxic pollutants, as described above. The State has adopted a human health criterion for dioxin and has initiated

(but not completed) efforts to adopt new or revised chemical-specific, numeric criteria for 67 other priority toxic pollutants. These efforts represent evidence of the State's recognition of the need for numeric criteria for these priority toxic pollutants.

- Presence in surface waters of the State of priority pollutants for which sufficient State numeric criteria have not been adopted, based on surface water monitoring data in STORET.
- Discharge to surface waters of priority pollutants for which sufficient State numeric criteria have not been adopted, based on data in the Toxics Release Inventory database and/or the Permit Compliance System database.

Delaware has not been included in today's proposed rulemaking because the State has adopted revised criteria for priority toxic pollutants in response to the section 303(c)(2)(B) requirement and received full EPA approval.

The State's response to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:

- December 30, 1988. EPA sent the State final "Guidance for State Implementation of Water Quality Standards for CWA Section 303(c)(2)(B)."
- November 18, 1988. First draft revisions to water quality standards, including toxics.
- January 25, 1989. Second draft revisions to water quality standards.
- March 1, 1989. Third draft revisions to standards.
- June 1, 1989. Workshop draft of water quality standards, including development documents.
- June 12, 1989. Delaware began public workshops on standards revisions.
- July 10, 1989. EPA provided preliminary comments on the workshop draft revisions.
- July 28, 1989. Delaware submitted revised standards for EPA review.
- September 6, 1989. Delaware held a public hearing on the triennial review revisions to the water quality standards.
- September 6, 1989. EPA provided comments at the public hearing.
- February 2, 1990. Delaware adopted revisions to the water quality standards.
- February 5, 1990. Delaware submitted revised standards to EPA.
- February 16, 1990. EPA informed the State of EPA's intent to include the State in the national rule to promulgate numeric water quality criteria for priority toxic pollutants for

those States which failed to meet the requirements of section 303(c)(2)(B).

- March 13, 1990. Delaware completed a responsiveness summary for its standards review.
- March 21, 1990. Delaware's Attorney General certified the revised standards.
- April 9, 1990. The EPA Assistant Administrator for the Office of Water informed the State that it was going to be included in a proposed national rule to establish numeric, surface water criteria for toxic pollutants designed to bring all States into full compliance with the requirements of section 303(c)(2)(B).
- August 24, 1990. EPA approved Delaware's revised standards for toxics.

EPA fully approved the criteria for priority toxic pollutants adopted by Delaware on February 2, 1990 as being consistent with option 2 of the December 12, 1988 section 303(c)(2)(B) guidance document. As part of its submittal of revised standards for EPA review, the State included information which demonstrated that numeric criteria had been adopted for all priority toxic pollutants which "may reasonably be expected to interfere with designated uses."

If additional information is submitted during the public comment period asserting that the State has not fully complied with section 303(c)(2)(B), it will be necessary at that time to respond to those comments and reevaluate the Agency's determination of full compliance.

Maryland has not been included in today's proposed rulemaking, because the State has adopted revised criteria for priority toxic pollutants in response to the section 303(c)(2)(B) requirement and received Environmental Protection Agency (EPA) approval for the criteria portion of the water quality standards.

The State's response to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:

- December 30, 1988. EPA sent the State final "Guidance for State Implementation of Water Quality Standards for CWA section 303(c)(2)(B)."
- February 16, 1990. EPA informed the State of EPA's intent to include the State in the national rule to promulgate numeric water quality criteria for priority toxic pollutants for those States which failed to meet the requirements of section 303(c)(2)(B).
- March 21, 1990. The State adopted revised water quality standards which

included numeric criteria for priority toxic pollutants.

- April 9, 1990. The EPA Assistant Administrator for the Office of Water informed the State that it was going to be included in a proposed national rule to establish numeric, surface water criteria for toxic pollutants designed to bring all States into full compliance with the requirements of section 303(c)(2)(B).
- April 30, 1990. The State submitted the adopted water quality standards with a State Attorney General certification to EPA for approval/disapproval.
- May 4, 1990. The State proposed in the Maryland Register to adopt maximum contaminant levels (MCLs) for selenium and silver as drinking water criteria, which corrects a printing error resulting in the criteria being placed in the wrong column in the regulations proposed on November 3, 1989.
- June 12, 1990. Maryland submitted for EPA review the public hearing record for the toxic substances regulations proposed November 3, 1989.
- September 12, 1990. EPA approved the revised State numeric criteria for priority toxic pollutants.

EPA approved the criteria for priority toxic pollutants adopted by Maryland on March 21, 1990, as being consistent with option 2 of the December 12, 1988 section 303(c)(2)(B) guidance document. As part of its submittal of final revised standards for EPA review, the State included information which demonstrated that numeric criteria had been adopted for all priority toxic pollutants which "may reasonably be expected to interfere with designated uses".

If additional information is submitted during the public comment period asserting that the State has not fully complied with section 303(c)(2)(B), it will be necessary at that time to respond to those comments and reevaluate the Agency's determination of full compliance.

Pennsylvania has not been included in today's proposed rulemaking because the State has adopted a translator procedure to derive numeric criteria for priority toxic pollutants in response to the section 303(c)(2)(B) requirement and received full EPA approval.

The State's response to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:

- August 26, 1987. The State submitted to EPA a proposed list of issues to be addressed during the triennial water quality standards review.
- April 5, 1988. EPA submitted comments on the draft proposed

revisions to the water quality standards.

- June 16, 1988. The State held a public hearing on its proposed water quality standards revisions, at which EPA provided verbal testimony.
 - June 20, 1988. EPA submitted written comments to the State regarding the proposed water quality standards revisions.
 - November 15, 1988. The State adopted revised water quality standards which included a translator procedure (option 3) for deriving numeric criteria for priority toxic pollutants.
 - December 30, 1988. EPA sent the State final "Guidance for State Implementation of Water Quality Standards for CWA section 303(c)(2)(B)."
 - April 17, 1989. The State submitted the adopted water quality standards with a State Attorney General certification to EPA for approval/disapproval.
 - July 21, 1989. EPA requested clarification on the enforceability of the procedure adopted to derive criteria for priority toxic pollutants.
 - July 28, 1989. The State responded to EPA's clarification request.
 - September 29, 1989. EPA conditionally approved the State's water quality standards due to concerns regarding the enforceability and public participation of the translator procedure and the derived criteria.
 - November 15, 1989. The State responded to EPA's conditional approval.
 - January 18, 1990. EPA requested additional clarification regarding the State's response to the conditional approval.
 - February 16, 1990. EPA informed the State of EPA's intent to develop a national rule to promulgate numeric water quality criteria for priority toxic pollutants for those States which failed to meet the requirements of section 303(c)(2)(B).
 - February 20, 1990. The State provided additional clarification, in response to EPA's January 18, 1990, letter.
 - April 9, 1990. The EPA Assistant Administrator for the Office of Water informed the State that it was going to be included in a proposed national rule to establish numeric, surface water criteria for toxic pollutants designed to bring all States into full compliance with the requirements of section 303(c)(2)(B).
 - April 11, 1990. EPA approved the translator procedure for developing criteria for priority toxic pollutants.
- EPA fully approved the procedure for developing numeric criteria for priority toxic pollutants which was adopted by

Pennsylvania on November 15, 1988 as being consistent with option 3 of the December 12, 1988 section 303(c)(2)(B) guidance document.

If additional information is submitted during the public comment period asserting that the State has not fully complied with section 303(c)(2)(B), it will be necessary at that time to respond to those comments and reevaluate the Agency's determination of full compliance.

West Virginia has not been included in today's proposal because the State has adopted criteria for priority toxic pollutants in response to the statutory requirement and will receive full EPA approval by September 13, 1990.

The State's actions to respond to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:

- June 23, 1988. The State submitted a draft list of toxic pollutants for criteria development to EPA for review prior to issuing proposed standards for public comment.
- July 25, 1988. EPA provided written comments on the draft list of toxic pollutants for criteria development.
- September 12, 1988. The State held a public hearing on its proposed water quality standards revisions, at which EPA provided verbal testimony.
- September 21, 1988. EPA provided written comments on the proposed revisions to the water quality standards.
- October 18, 1988. The State submitted proposed revisions to EPA for review and approval.
- December 30, 1988. EPA sent the State final "Guidance for State Implementation of Water Quality Standards for CWA section 303(c)(2)(B)."
- April 27, 1989. The State adopted final revisions to the water quality standards.
- September 29, 1989. EPA disapproved criteria for seven priority pollutants. Aquatic life criteria were disapproved for arsenic, cadmium, mercury, nickel, lead, selenium, and silver. Human health criteria were disapproved for arsenic, mercury and nickel. In addition, EPA disapproved site-specific toxics criteria (cyanide, hexavalent chromium, and copper) for two waterbody segments (Little Scary Creek and Turkey Run).
- November 13, 1989. The State responded to EPA's disapproval of the final revisions to the water quality standards.
- January 30, 1990. The State sent a letter to EPA which stated that the permittee discharging to Turkey Run

- was relocating its outfall to another water body.
- January 31, 1990. EPA responded to the State's November 13, 1989 reply to EPA's disapproval of the water quality standards revisions.
 - February 16, 1990. EPA informed the State of EPA's intent to develop a national rule to promulgate numeric water quality criteria for priority toxic pollutants for those States which failed to meet the requirements of section 303(c)(2)(B).
 - March 12, 1990. EPA granted the State an extension to address EPA's disapproval.
 - April 9, 1990. The EPA Assistant Administrator for the Office of Water informed the State that it was going to be included in a proposed national rule to establish numeric, surface water criteria for toxic pollutants designed to bring all States into full compliance with the requirements of section 303(c)(2)(B).
 - April 1990. The State submitted rejustification for a disapproved site-specific criterion for copper.
 - June 13, 1990. The State submitted emergency revisions to the water quality standards to address EPA's disapproval.
 - July 16, 1990. The State held a public hearing on its emergency rulemaking, at which EPA provided verbal testimony.
 - July 25, 1990. The State submitted comments received on the standards revisions by industrial representatives and requested EPA's reaction to the comments.
 - July 27, 1990. EPA held a conference call with the State and discharger to Little Scary Creek to discuss the site-specific copper criteria rejustification submitted in April, 1990.
 - August 2, 1990. EPA sent the State recommended revised site-specific copper criteria for Little Scary Creek.
 - August 13, 1990. EPA replied to the State's July 25, 1990 request to respond to comments received by industrial representatives.
 - August 20, 1990. The State adopted final emergency revisions to the water quality standards to address EPA's remaining concerns.
 - August 27, 1990. The State submitted the adopted final emergency revisions to the water quality standards with a State Attorney General certification to EPA for approval/ disapproval.
 - September 18, 1990. EPA fully approved the State's revised State water quality standards, including full approval of the revised numeric criteria for priority toxic pollutants. EPA fully approved the criteria for priority toxic pollutants adopted by West Virginia on August 20, 1990 as being consistent with option 2 of the December 12, 1988 section 303(c)(2)(B) guidance document. As part of its submittal of final revised standards for EPA review, the State included information which demonstrated that numeric criteria had been adopted for all priority toxic pollutants which "may reasonably be expected to interfere with designated uses."
- If additional information is submitted during the public comment period asserting that the State has not fully complied with section 303(c)(2)(B) it will be necessary at that time to respond to those comments and reevaluate the Agency's determination of full compliance.
- The District of Columbia is included in today's proposal because although the District adopted numeric criteria for most priority toxic pollutants before the 1987 amendments, the District has not completed a review of their numeric criteria for priority toxic pollutants in response to the statutory requirement, and EPA has reason to believe that at least some additional criteria are necessary and some criteria need to be revised to comply with section 303(c)(2)(B). Therefore, EPA has determined for purposes of today's proposed rulemaking that the District is not currently in compliance with section 303(c)(2)(B) because it has not adopted water quality standards consistent with section 303(c)(2)(B) which have been fully approved by the appropriate EPA Regional Administrator.
- On August 26, 1985, prior to the passage of section 303(c)(2)(B), the District of Columbia adopted under emergency powers some criteria for priority toxic pollutants, chapter 11 of title 21 DCMR, "Water Quality Standards of the District of Columbia." EPA approved these criteria on October 31, 1985. The District made the emergency rules final on December 27, 1985.
- The District's actions to respond to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:
- August 26, 1988. EPA sent comments to the District as to what issues should be addressed for the upcoming triennial water quality standards review.
 - December 30, 1988. EPA sent the State final "Guidance for State Implementation of Water Quality Standards for CWA section 303(c)(2)(B)."
 - February 15, 1989. The District submitted draft water quality standards revisions to EPA for review prior to issuing proposed standards for public comment.
 - May 30, 1989. EPA sent the District a letter which emphasized the need for expediting the triennial water quality standards review.
 - June 26, 1989. The District submitted proposed water quality standards revisions to EPA for review.
 - July 5, 1989. The District held a public hearing on the proposed water quality standards revisions.
 - September 15, 1989. The District submitted revised proposed water quality standards revisions to EPA for review.
 - September 25, 1989. EPA submitted comments on the proposed water quality standards revisions and indicated that the District must adopt human health criteria for the consumption of fish.
 - October 3, 1989. The District responded to EPA's comments.
 - November 3, 1989. EPA provided additional comments on the proposed water quality standards revisions.
 - December 11, 1989. EPA telephoned the District to inquire about a response to EPA's November 3, 1989, letter and the status of the water quality standards revisions.
 - February 16, 1990. EPA informed the District of EPA's intent to develop a national rule to promulgate numeric water quality criteria for priority toxic pollutants for those States which failed to meet the requirements of section 303(c)(2)(B).
 - April 9, 1990. The EPA Assistant Administrator for the Office of Water informed the State that it was going to be included in a proposed national rule to establish numeric, surface water criteria for toxic pollutants designed to bring all States into full compliance with the requirements of section 303(c)(2)(B).
 - September 7, 1990. The District public noticed for comment proposed water quality standards revisions.
 - October 5, 1990. EPA submitted comments on the proposed water quality standards revisions.
- The District has adopted aquatic life criteria for 120 priority toxic pollutants and human health criteria for 107 priority toxic pollutants. The aquatic life criteria for two of the pollutants (selenium and toxaphene) and the human health criterion for one of the pollutants (hexachlorobenzene) exceed EPA's section 304(a)(1) criteria recommendations. Therefore, EPA believes that revised criteria for these pollutants are necessary. The District did not adopt human health criteria applicable to public water supplies for nine priority toxic pollutants (lead, asbestos, 2,3,7,8-tetrachlorodibenzo-p-

dioxin, vinyl chloride, bis(2-chloroisopropyl) ether, bis(2-ethylhexyl) phthalate, diethyl phthalate, dimethyl phthalate, and di-n-butyl phthalate) and has not provided justification that the discharge or presence of these pollutants cannot reasonably be expected to interfere with designated uses in the District's surface waters. Therefore, EPA believes that human health criteria for the consumption of water are necessary for these pollutants.

The District has not adopted any criteria for the protection of humans from the consumption of fish. Since the District's 1989 State Clean Water Strategy identifies that fishing does occur on District waters, EPA believes it is necessary to propose human health criteria for fish consumption for all priority toxic pollutants for which EPA has issued section 304(a)(1) criteria recommendations.

This proposed rulemaking would federally promulgate the criteria necessary to bring the State into full compliance with section 303(c)(2)(B). To fully protect State designated uses, and to ensure that the required criteria are adopted, EPA proposes to apply broadly the criteria in proposed § 131.36(b). At a minimum, EPA proposes to apply, to all appropriate State waters, the criteria in proposed 131.36(b) for all priority toxic pollutants which are not the subject of approved State criteria. EPA also proposes to promulgate Federal criteria for priority toxic pollutants where any previously approved State criteria are insufficiently stringent to fully protect all designated uses, or where such previously approved State criteria are not applicable to all appropriate State designated uses. EPA invites public comment regarding any specific priority pollutants or water bodies for which Federal criteria may not be necessary to protect State designated uses.

For reasons which are fully discussed in the preamble, EPA has not attempted to determine the specific priority pollutants and water bodies that require criteria. However, EPA has determined that at least some Federal criteria are necessary to protect designated uses. This determination is supported by information in the record which demonstrates that priority toxic pollutants are discharged or present in surface waters at levels that can reasonably be expected to interfere with State designated uses. For some priority toxic pollutants, available data clearly demonstrate use impairment and the need for toxics criteria. For most priority toxic pollutants, however, available data on the discharge and presence of priority toxic pollutants are spatially

and temporally limited. Nevertheless, EPA believes that the data for many of these pollutants are sufficient to satisfy the "reasonable expectation" test established in section 303(c)(2)(B). The information in the record which demonstrates that priority toxic pollutants are discharged or present and that Federal criteria are necessary may be summarized as follows:

- State efforts since 1987 to adopt additional numeric criteria for priority toxic pollutants, as described above. The State has initiated (but not completed) efforts to adopt new or revised chemical-specific, numeric criteria for 12 priority toxic pollutants. These efforts represent evidence of the State's recognition of the need for numeric criteria for these priority toxic pollutants.
- Presence in surface waters of the State of priority pollutants for which sufficient numeric criteria have not been adopted, based on surface water monitoring data in STORET.

Region 4

Alabama has not been included in today's proposed rulemaking because the State has adopted criteria for priority toxic pollutants in response to the section 303(c)(2)(B) requirement and received full EPA approval.

The State's response to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:

- January 24, 1990. The Alabama Environmental Management Commission adopted the triennial review of water quality standards.
- May 23, 1990. The State Attorney General notified EPA that the adopted water quality standards would not be certified.
- June 1, 1990. The State sent EPA a copy of the revised standards without a request for formal EPA review and approval.
- November 26, 1990. The State submitted draft water quality standards revisions for EPA review. These revisions include: (1) Criteria for protection of aquatic life based on an Option I approach as described in EPA's December 12, 1988 guidance document, (2) numeric criteria for protection of human health for 17 priority toxic pollutants based on Option II of the guidance, and (3) proposed criteria equations based on Option III of the guidance for the protection of human health for the remaining priority toxic pollutants.
- January 17, 1991. The State held public hearings on the proposed revisions to water quality standards.

—February 20, 1991. The State adopted revisions to water quality standards including the numeric criteria for priority toxic pollutant based on an Option I approach as described in EPA's December 12, 1988 guidance document.

—April 18, 1991. EPA received the State's request for formal review of the adopted water quality standards.

—May 24, 1991. The State Attorney General submitted information relating to the legal certification of the adopted water quality standards.

—July 3, 1991. The State Attorney General submitted further information relating to the legal certification of the adopted water quality standards.

—July 18, 1991. EPA approved the revised State water quality standards.

EPA fully approved the criteria for priority toxic pollutants adopted by Alabama on July 18, 1991 as being consistent with Option I of the December 12, 1988 guidance document.

If additional information is submitted during the public comment period asserting that the State has not fully complied with section 303(c)(2)(B) it will be necessary at that time to respond to those comments and reevaluate the Agency's determination of full compliance.

Florida is included in today's proposal because although the State has adopted numeric criteria for priority toxic pollutants in response to the statutory requirement, the State has not yet requested or obtained EPA approval of the adopted criteria. In addition, EPA has reason to believe that criteria for at least one other priority toxic pollutant is necessary to comply with section 303(c)(2)(B). Therefore, EPA has determined for purposes of today's proposed rulemaking that the State is not currently in compliance with section 303(c)(2)(B) because it has not adopted water quality standards consistent with section 303(c)(2)(B) which have been fully approved by the appropriate EPA Regional Administrator.

On September 24, 1987 EPA approved the previous triennial review of Florida Water quality standards with the exception of three areas of the water quality standards which were disapproved. Included in the water quality standards which were approved by EPA were several numeric criteria for toxic priority pollutants derived for the protection of aquatic life. These criteria were initially adopted by the State as water quality standards in adoption proceedings prior to 1985. These criteria were not revised in the State's triennial review completed in 1987.

These criteria included criteria values which are less stringent in value than several of the national ambient water quality criteria included in the proposed rulemaking. Data used to develop the national ambient water quality criteria were not available for consideration by the State at the time of the initial adoption of these criteria by the State.

In the letter approving revisions to water quality standards, EPA instructed the State "to initiate a review of existing criteria at the earliest possible date." This review was necessary to address the 1987 requirements of section 303(c)(2)(B) for adoption of numeric criteria for toxic priority pollutants.

In directing the State to complete this review, EPA stated, "Recent changes in federal law relating to water quality standards will make it necessary for the State to complete an extensive review of water quality criteria during the next triennial review of water quality standards. The Water Quality Act of 1987 mandates that each state adopt numerical criteria for all 307(a) toxics for which national criteria are available or adopt procedures which will result in numeric limitations in National Pollutant Discharge Elimination System permits for these contaminants.

Considering the above, EPA is including the national ambient aquatic life-based water quality criteria values for these toxic priority pollutants in this proposed rulemaking.

In addition, the criteria adopted by the State in 1990 for the protection of human health have not been formally submitted and certified to EPA with a request for approval. Therefore, EPA is including all national ambient water quality criteria for protection of human health (as a class of criteria).

The State's actions to respond to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:

- December 27, 1989. The State submitted draft water quality standards revisions to EPA for review. These revisions include proposed criteria for protection of human health based on an Option II approach as described in EPA's December 12, 1988 guidance document as well as updates to adopted criteria for protection of aquatic life.
- February 7 and May 1, 1990. The State held public workshops on its proposed water quality standards revisions.
- December 7, 1990. The State adopted revisions to water quality standards which include 66 numeric criteria for priority toxic pollutants.

This proposed rulemaking would Federally promulgate the criteria necessary to bring the State into full

compliance with section 303(c)(2)(B). To fully protect State designated uses, and to ensure that the required criteria are adopted, EPA proposes to apply broadly the criteria in proposed § 131.36(b). At a minimum, EPA proposes to apply, to all appropriate State waters, the criteria in proposed section 131.36(b) for all priority toxic pollutants which are not the subject of approved State criteria. EPA invites public comment regarding any specific priority pollutants or water bodies for which Federal criteria may not be necessary to protect State designated uses.

For reasons which are fully discussed in the preamble, EPA has not attempted to determine the specific priority pollutants and water bodies that require criteria. However, EPA has determined that at least some Federal criteria are necessary to protect designated uses. This determination is supported by information in the record which demonstrates that priority toxic pollutants are discharged or present in surface waters at levels that can reasonably be expected to interfere with State designated uses. For some priority toxic pollutants, available data clearly demonstrate use impairment and the need for toxics criteria. For most priority toxic pollutants, however, available data on the discharge and presence of priority toxic pollutants are spatially and temporally limited. Nevertheless, EPA believes that the data for many of these pollutants are sufficient to satisfy the "reasonable expectation" test established in section 303(c)(2)(B). The information in the record which demonstrates that priority toxic pollutants are discharged or present and that Federal criteria are necessary may be summarized as follows:

- priority toxic pollutants on the section 304(1) lists;
- State efforts since 1987 to adopt additional numeric criteria for priority toxic pollutants, as described above. The State has adopted new or revised chemical-specific, numeric criteria for 66 priority toxic pollutants. These efforts represent evidence of the State's recognition of the need for numeric criteria for these priority toxic pollutants.
- Priority toxic pollutants for which there exist water quality-based limits in an NPDES permit or where NPDES permit screening shows that the Federal 304(a) criteria may be exceeded in stream;
- Priority toxic pollutant ambient monitoring data or site specific data which show that the Federal 304(a) criteria in the water column or in fish tissue may be exceeded;

- Priority toxic pollutant data in the Toxics Release Inventory under section 313 of SARA title III or in the National Bioaccumulation Study which show that the Federal 304(a) criteria in the water column or in fish tissue may be exceeded;
- Priority toxic pollutant data for which there are reasonable expectations that the Federal 304(a) criteria will be exceeded in the water column or fish tissue as a result of impacts from Superfund or RCRA sites; and
- Consideration of other data such as sediment data and location of storage facilities of priority toxic pollutants where these pollutants could reasonably be expected to interfere with designated uses.

Georgia has not been included in today's proposed rulemaking because the State has adopted revised criteria for priority toxic pollutants in response to the section 303(c)(2)(B) requirement and received full EPA approval.

The State's actions to respond to the 1987 Section 303(c)(2)(B) requirement can be summarized as follows:

- December 7, 1988. The State adopted revisions to water quality standards which included 12 criteria for 307(a) toxics.
- December 8, 1988. The State submitted the adopted revisions to water quality standards for review and approval.
- March 29, 1989. EPA disapproved the adopted 307(a) criteria adopted by the State.
- December 6, 1989. The State adopted water quality standards which included an Option I approach for the section 303(c)(2)(B) requirement with the exception of 2,3,7,8 TCDD (dioxin) and PCBs.
- December 14, 1989. The State submitted the adopted revisions to water quality standards for review and approval.
- March 28, 1990. The State adopted water quality criteria for dioxin and PCBs.
- April 3, 1990. EPA approved the priority toxic pollutant criteria adopted by the State on December 6, 1989.
- May 29, 1990. The State submitted the adopted criteria for dioxin and PCBs for EPA review and approval.
- October 29, 1990. The State submitted draft revisions to water quality standards including revised criteria for dioxin.
- November 27, 1990. EPA disapproved the adopted criteria for dioxin and approved the adopted criteria for PCBs.

- January 23, 1991. The State adopted revised criteria for dioxin.
- April 2, 1991. The State submitted the revised water quality standard for dioxin with a State Attorney General certification to EPA for approval.
- June 3, 1991. EPA approved the dioxin criteria, thus bringing the State into full compliance with section 303(c)(2)(B).

EPA fully approved the criteria for priority toxic pollutants on June 3, 1991 as being consistent with Option 1 of the December 12, 1988 guidance.

If additional information is submitted during the public comment period asserting that the State has not fully complied with section 303(c)(2)(B), it will be necessary at that time to respond to those comments and reevaluate the Agency's determination of full compliance.

Kentucky has not been included in today's proposed rulemaking because the State has adopted revised criteria for priority toxic pollutants in response to the section 303(c)(2)(B) requirement and received full EPA approval.

The State's response to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:

- May 31, 1990. The State adopted revised water quality standards which included numeric criteria for priority toxic pollutants based on Option I approach for the section 303(c)(2)(B) requirement.
- June 29, 1990. The State submitted the adopted water quality standards with a State Attorney General certification to EPA for approval.
- October 5, 1990. EPA approved the revised State water quality standards, including full approval of the revised numeric criteria for priority toxic pollutants.

EPA fully approved the criteria for priority toxic pollutants adopted by Kentucky on October 5, 1990 as being consistent with Option I of the December 12, 1988 guidance document.

If additional information is submitted during the public comment period asserting that the State has not fully complied with section 303(c)(2)(B) it will be necessary at that time to respond to those comments and reevaluate the Agency's determination of full compliance.

Mississippi has not been included in today's proposed rulemaking because the State has adopted criteria for priority toxic pollutants in response to the section 303(c)(2)(B) requirement and received full EPA approval.

The State's actions to respond to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:

- March 22, 1990. The State adopted revisions to water quality standards in response to the section 303(C)(2)(B) requirement. The adopted revisions did not include criteria for dioxin.
- May 14, 1990. The State submitted the adopted revisions to water quality standards for review and approval.
- October 5, 1990. EPA approved the water quality criteria adopted by the State with the exception of the absence of criteria for dioxin, which was disapproved.
- January 29, 30 and 31, 1991. The State held public hearings to receive comments on the proposed dioxin criteria.
- March 28, 1991. The State adopted dioxin criteria of 1.0 ppq for protection of human health from the exposure routes of consumption of fish and shellfish and consumption of water.
- July 12, 1991. The State submitted the adopted dioxin criteria for EPA review and approval.
- July 15, 1991. The State submitted the adopted dioxin criteria for EPA review and approval.
- July 24, 1991. EPA approved the State-adopted water quality criteria for dioxin.

EPA fully approved the criteria for priority toxic pollutants adopted by Mississippi on July 24, 1991, as being consistent with Options I and III of the December 12, 1988 guidance document.

If additional information is submitted during the public comment period asserting that the State has not fully complied with section 303(c)(2)(B), it will be necessary at that time to respond to those comments and reevaluate the Agency's determination of full compliance.

North Carolina has not been included in today's proposed rulemaking because the State has adopted revised criteria for priority toxic pollutants in response to the section 303(c)(2)(B) requirement and received full EPA approval.

The State's actions to respond to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:

- July 13, 1989. The State adopted revisions to water quality standards in response to the section 303(C)(2)(B) requirement.
- October 27, 1989. The State submitted the adopted revisions to water quality standards for review and approval.
- April 12, 1990. EPA approved the water quality criteria adopted by the State with the exception of the criteria for arsenic (saltwater), chromium (freshwater), copper, lead, pentachlorophenol and zinc.
- October 5, 1990. EPA approved the adopted criteria for chromium

(freshwater) and decided that no criteria were required for pentachlorophenol to meet the 303(c)(2)(B) requirement. In addition, EPA conditionally approved the criteria for arsenic (saltwater), copper, lead and zinc based on a commitment by the State that revisions to these criteria would be adopted by the State by December 13, 1990.

- December 13, 1990. The State adopted revised criteria for arsenic, copper, chromium, lead and zinc.
 - January 18, 1991. The State submitted the adopted water quality standards with a State Attorney General certification to EPA for approval.
 - February 7, 1991. EPA approved the revised North Carolina water quality standards, including full approval of the revised criteria for priority toxic pollutants.
- On February 7, 1991, EPA fully approved the criteria for priority toxic pollutants adopted by North Carolina as being consistent with Options II and III of the December 12, 1988 guidance document.

If additional information is submitted during the public comment period asserting that the State has not fully complied with section 303(c)(2)(B), it will be necessary at that time to respond to those comments and reevaluate the Agency's determination of full compliance.

South Carolina has not been included in today's proposed rulemaking because the State has adopted revised criteria for priority toxic pollutants in response to the section 303(c)(2)(B) requirement and received full EPA approval.

The State's actions to respond to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:

- April 27, 1990. The State Legislature adopted revisions to water quality standards in response to the section 303(c)(2)(B) requirement.
- May 26, 1990. The State submitted the adopted revisions to water quality standards for review and approval.
- June 14, 1990. The State submitted for EPA review draft water quality standards revisions including numeric human health-based criteria based on Option I of the December 12, 1988 guidance document.
- August 1 and 2, 1990. The State held public hearings on proposed revisions to water quality standards which included 103 water quality criteria for protection of human health.
- October 5, 1990. EPA approved the water quality criteria adopted by the State with the exception of the criteria for protection of human health as a

class of criteria. The human health criteria for arsenic and lead were approved by EPA.

- October 11, 1990. The South Carolina Board of Health and Environmental Control promulgated the proposed revisions to water quality standards which included 103 criteria for the protection of human health.
- December 7, 1990. Promulgation by the Board of the South Carolina Department of Health and Environmental Control.
- March 13, 1991. Attorney General certification made.
- April 26, 1991. Revisions to South Carolina Water Classifications and Standards, Regulation 61-68, pertaining to numeric human health criteria for Clean Water Action section 307(a) toxics became effective upon publication in the State Register.
- May 8, 1991. The State submitted the adopted human health criteria for EPA review and approval.
- July 9, 1991. EPA approved the adopted standards, thus bringing the State into full compliance with section 303(c)(2)(B).

If additional information is submitted during the public comment period asserting that the State has not fully complied with section 303(c)(2)(B), it will be necessary at that time to respond to those comments and reevaluate the Agency's determination of full compliance.

Tennessee has not been included in today's proposed rulemaking because the State has adopted criteria for priority toxic pollutants in response to the section 303(c)(2)(B) requirement and received full EPA approval.

The State's actions to respond to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:

- May 1, 1989. The State submitted draft water quality standards revisions to EPA for review.
- December 15, 1989. The State submitted draft water quality standards revisions to EPA for review. The proposal included revisions to the draft water quality standards based on comments made by EPA and the public.
- December 15, 1989. The State held a public hearing on proposed revisions to water quality standards.
- July 30, 1990. The State submitted draft water quality standards revisions to EPA for review. The proposal included revisions to the draft water quality standards based on comments made by EPA and the public.
- November 15, 1990. The State held a second public hearing on proposed

revisions to the water quality standards.

- January 17, 1991. The State adopted revised water quality standards which included numeric criteria for priority toxic pollutants based on Option II of EPA's December 12, 1988 guidance.
- August 14, 1991. The State submitted the adopted water quality standards with a State Attorney General certification to EPA for approval.
- September 28, 1991. EPA approved the revised State water quality standard, including full approval of the criteria for toxic pollutants.

EPA fully approved the criteria for toxic pollutants adopted by Tennessee on September 28, 1991 as being consistent with Option II of the December 12, 1988 guidance.

If additional information is submitted during the public comment period asserting that the State has not fully complied with section 303(c)(2)(B), it will be necessary at that time to respond to those comments and reevaluate the Agency's determination of full compliance.

Region 5

Wisconsin has not been included in today's proposed rulemaking because the State has adopted revised criteria for priority toxic pollutants in response to the section 303(c)(2)(B) requirement and received full EPA approval.

The State's response to the 1987 section 303(c)(2)(B) requirements can be summarized as follows:

- February 1987. The Natural Resources Board authorized public hearings on Chapter NR 105.
- December 1987. The Natural Resources Board authorized public hearings on Chapter NR 106.
- Thirteen public hearings were held on the water quality standards revisions in 1987 and 1988.
- November 17, 1988 and December 15, 1988. The State adopted revised water quality standards (Chapter NR 106 and Chapter NR 105, respectively) which included numeric criteria for priority pollutants.
- February 3, 1989. Wisconsin Department of Natural Resources submitted the adopted water quality standards with a State Attorney General certification to EPA for approval/disapproval.
- March 1, 1989. Water quality standards became effective.
- May 15, 1989. USEPA approved the revised State water quality standards, including full approval of the revised numeric criteria for priority toxic pollutants.

USEPA fully approved the criteria for priority toxic pollutants adopted by Wisconsin on November 17 and December 15, 1988 as being consistent with option 2 of the December 12, 1988 section 303(c)(2)(B) guidance document. As part of its submittal of final revised standards for USEPA review, the State included information which demonstrated that numeric criteria had been adopted for all priority toxic pollutants which "may reasonably be expected to interfere with designated uses."

If additional information is submitted during the public comment period asserting that the State has not fully complied with section 303(c)(2)(B) it will be necessary at that time to respond to those comments and reevaluate the Agency's determination of full compliance.

Illinois has not been included in today's proposed rulemaking because the State has adopted revised criteria for priority toxic pollutants in response to the section 303(c)(2)(B) requirement and received full EPA approval.

The State's response to the 1987 section 303(c)(2)(B) requirements can be summarized as follows:

- January 25, 1990. The State adopted revised water quality standards which included criteria for priority toxic pollutants.
- February 2, 1990. The State submitted the adopted water quality standards with a State Attorney General certification to USEPA for approval/disapproval.
- February 13, 1990. Water quality standards rules became effective.
- February 15, 1990. USEPA approved the revised water quality standards (Docket A), including full approval of the revised criteria for priority pollutants.

USEPA fully approved the criteria for priority toxic pollutants adopted by Illinois on January 25, 1990 as being consistent with a combination of options 2 and 3 of the December 12, 1988 section 303(c)(2)(B) guidance document. As part of its submittal of final revised standards for USEPA review, the State included information which demonstrated that numeric criteria had been adopted for all priority toxic pollutants which "may reasonably be expected to interfere with designated uses."

If additional information is submitted during the public comment period asserting that the State has not fully complied with section 303(c)(2)(B) it will be necessary at that time to respond to those comments and reevaluate the

Agency's determination of full compliance.

Indiana has not been included in today's proposed rulemaking because the State has adopted revised criteria for priority toxic pollutants in response to the section 303(c)(2)(B) requirement and received full EPA approval.

The State's response to the 1987 section 303(c)(2)(B) requirements can be summarized as follows:

- March 1, 2, and 7, 1989. The State conducted public hearings for the water quality standards rules revisions.
- December 13, 1989. The State adopted revised water quality standards which included criteria for priority toxic pollutants. The Governor signed the revised standards on January 31, 1990.
- March 3, 1990. Water quality standards rules became effective.
- April 5, 1990. The State submitted the adopted water quality standards with a State Attorney General certification to USEPA for approval/disapproval.
- May 7, 1990. USEPA approved the revised water quality standards including full approval of the revised numeric criteria for priority pollutants.

USEPA fully approved the criteria for priority toxic pollutants adopted by Indiana on December 15, 1989 as being consistent with a combination of options 2 and 3 of the December 12, 1988 section 303(c)(2)(B) guidance document. As part of its submittal of final revised standards for USEPA review, the State included information which demonstrated that numeric criteria had been adopted for all priority toxic pollutants which "may reasonably be expected to interfere with designated uses."

If additional information is submitted during the public comment period asserting that the State has not fully complied with section 303(c)(2)(B) it will be necessary at that time to respond to those comments and reevaluate the Agency's determination of full compliance.

Ohio has not been included in today's proposed rulemaking because the State has adopted revised criteria for priority toxic pollutants in response to the section 303(c)(2)(B) requirement and received full EPA approval.

The State's response to the 1987 section 303(c)(2)(B) requirements can be summarized as follows:

- November 28, 29 and 30, 1989. Ohio EPA conducted public hearings addressing water quality standards revisions.
- December 18, 1989 Public record closed.

—February 1, 1990. The State adopted revised water quality standards which included criteria for priority toxic pollutants.

—February 12, 1990. The State submitted the adopted water quality standards to USEPA for approval/disapproval.

—March 13, 1990. The State submitted the required Attorney General certification of the water quality standards.

—April 25, 1990. USEPA approved the revised water quality standards including full approval of the revised numeric criteria for priority pollutants.

—May 1, 1990. Water quality standards rules became effective.

USEPA fully approved the criteria for priority toxic pollutants adopted by Ohio on February 1, 1990 as being consistent with a combination of options 2 and 3 of the December 12, 1988 section 303(c)(2)(B) guidance document. As part of its submittal of final revised standards for USEPA review, the State included information which demonstrated that numeric criteria had been adopted for all priority toxic pollutants which "may reasonably be expected to interfere with designated uses."

If additional information is submitted during the public comment period asserting that the State has not fully complied with section 303(c)(2)(B) it will be necessary at that time to respond to those comments and reevaluate the Agency's determination of full compliance.

Michigan is included in today's proposal because although the State adopted criteria for priority pollutants before the 1987 amendments, the State has not completed a review of their criteria for priority toxic pollutants in response to the statutory requirement and USEPA has reason to believe that modification of the water quality standards is necessary to comply with section 303(c)(2)(B). Therefore, EPA has determined for purposes of today's proposed rulemaking that the State is not currently in compliance with section 303(c)(2)(B) because it has not adopted water quality standards consistent with section 303(c)(2)(B) which have been fully approved by the appropriate EPA Regional Administrator.

Michigan adopted criteria for priority toxic pollutants consistent with option 3 of the December 12, 1988 section 303(c)(2)(B) guidance document prior to actual passage of section 303(c)(2)(B) on November 14, 1986 (General Rules of the Michigan Water Resources Commission, Part 4, Water Quality Standards, R 323 of the Michigan Administrative Code).

USEPA approved these criteria on August 4, 1987. However, the translator mechanism guidelines implementing Rule 57 were not included within the water quality standards regulation itself and, therefore, the criteria calculated through the implementation of this procedure were not binding upon the Water Resources Commission but instead are considered to be recommendations to the Commission. The State's efforts in response to section 303(c)(2)(B) have consisted of bringing the existing option 3 procedure within Rule 57 itself, thereby making implementation of the procedure-generated criteria in permits mandatory.

The State's actions to respond to the 1987 section 303(c)(2)(B) requirements can be summarized as follows:

- July 21, 1988. MDNR staff presented and the Michigan Water Resources Commission approved a proposed water quality standards review process and schedule.
- August, September and October 1988. Informal public comment on requests for changes in the water quality standards taken in Water Resources Commission meetings at Houghton, Lansing and Tawas, Michigan, respectively.
- February 28, 1989. Scoping session held by MDNR staff with interested parties prior to development of water quality standards package.
- August 20, 1989. Draft proposed water quality standards package as presented to the Commission and was approved for informal public comment through September 29, 1989.
- October 20, 1989. Staff presented a draft proposed standards package to the Commission which the Commission approved for formal public hearings.
- December 31, 1989. The proposed water quality standards were published in the November, 1989 Michigan Register along with a Notice of Public Hearing.
- February 20, 21 and 22, 1990. Public Hearings on the proposed standards were held in Lansing, Traverse City and Marquette, respectively.
- April 2, 1990. Public comment period ended.
- May 1990. Water Resources Commission approved revised water quality standards.
- September 1990. Revised water quality standards are to go before Joint Committee on Administrative Rules (JCAR) for approval/disapproval. The JCAR dropped this item from its agenda and did not address it during 1990. The Michigan

DNR has again submitted the existing revisions to JCAR for its review during February 1991.

This proposed rulemaking would Federally promulgate the criteria necessary to bring the State into full compliance with section 303(c)(2)(B). To fully protect State designated uses, and to ensure that the required criteria are adopted, EPA proposes to apply broadly the criteria in proposed § 131.36(b). At a minimum, EPA proposes to apply, to all appropriate State waters, the criteria in proposed § 131.36(b) for all priority toxic pollutants which are not the subject of approved State criteria. EPA also proposes to promulgate Federal criteria for priority toxic pollutants where any previously approved State criteria are insufficiently stringent to fully protect all designated uses, or where such previously approved State criteria are not applicable to all appropriate State designated uses. EPA invites public comment regarding any specific priority pollutants or water bodies for which Federal criteria may not be necessary to protect State designated uses.

For reasons which are fully discussed in the preamble, EPA has not attempted to determine the specific priority pollutants and water bodies that require criteria. However, EPA has determined that at least some Federal criteria are necessary to protect designated uses. This determination is supported by information in the record which demonstrates that priority toxic pollutants are discharged or present in surface waters at levels that can reasonably be expected to interfere with State designated uses. For some priority toxic pollutants, available data clearly demonstrate use impairment and the need for toxics criteria. For most priority toxic pollutants, however, available data on the discharge and presence of priority toxic pollutants are spatially and temporally limited. Nevertheless, EPA believes that the data for many of these pollutants are sufficient to satisfy the "reasonable expectation" test established in section 303(c)(2)(B). The information in the record which demonstrates that priority toxic pollutants are discharged or present and that Federal criteria are necessary may be summarized as follows:

- Priority toxic pollutants on the Michigan Section 304(l) short list (February 3, 1989) for which State criteria consistent with Section 303(c)(2)(B) have not been adopted and approved, including metals, dioxin, and polynuclear aromatic hydrocarbons.
- Presence in surface waters of the State of priority pollutants for which

sufficient State numeric criteria have not been adopted, based on surface water monitoring data in STORET.

- Discharge to surface waters of priority pollutants for which sufficient State numeric criteria have not been adopted, based on data in the Toxics Release Inventory database and/or the Permit Compliance System database.
- 1990 Michigan 305(b) Report.
- Current implementation of Michigan's Rule 57 in the State's NPDES program (e.g., Form 2c data, presence of water quality-based effluent controls in existing NPDES permits).

Minnesota has not been included in today's proposed rulemaking because the State has adopted revised criteria for priority toxic pollutants in response to the section 303(c)(2)(B) requirement and received full EPA approval.

The State's actions to respond to the 1987 section 303(c)(2)(B) requirements can be summarized as follows:

- December 1989. Minnesota Pollution Control Agency begins rulemaking proceedings on amendments to Minnesota Rules Chapter 7050.
- February 1 to March 16, 1990. Minnesota Pollution Control Agency holds nine public hearings addressing the revised standards.
- April 10, 1990. Public record for the standards revisions closed.
- May 10, 1990. Administrative Law Judge issued his report on the standards revisions.
- June 25, 1990. Minnesota Pollution Control Agency staff met with the Minnesota Pollution Control Agency Board—Water Quality Committee to discuss standards revision issues.
- July 24, 1990. Board approved and adopted the standards revisions.
- July 16, 1991. EPA approved the revised Minnesota water quality standards, including full approval of the revised criteria for priority toxic pollutants.

If additional information is submitted during the public comment period asserting that the State has not fully complied with section 303(c)(2)(B) it will be necessary at that time to respond to those comments and reevaluate the Agency's determination of full compliance.

Region 6

Arkansas is included in today's proposal because although the State has completed a review and adopted numeric criteria for some priority toxic pollutants in response to the statutory requirement, EPA has reason to believe that at least some additional criteria are necessary to comply with section

303(c)(2)(B). Therefore, EPA has determined for purposes of today's proposed rulemaking that the State is not currently in compliance with section 303(c)(2)(B) because it has not adopted water quality standards consistent with section 303(c)(2)(B) which have been fully approved by the appropriate EPA Regional Administrator.

Arkansas adopted some criteria for priority pollutants on November 1984 and January 1988. EPA approved these criteria on 1/28/85 and 5/6/88 and these criteria are not affected by today's rulemaking.

The State's actions to respond to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:

- November 1984. The State adopted revised water quality standards that included numeric criteria for 16 toxic substances to protect aquatic life. These were approved by EPA on January 28, 1985.
- January 1988. The State adopted revised water quality standards that included numeric criteria for 24 priority pollutants to protect aquatic life. These were approved by EPA on May 6, 1988.
- July 27, 1990. The State proposed revised water quality standards that included numeric criteria for 36 priority pollutants to protect aquatic life and for 13 priority pollutants to protect human health at a 10-6 risk.
- August 27, 1990. The State held a public hearing to receive public comment on the proposed revisions mentioned above.

This proposed rulemaking would Federally promulgate the criteria necessary to bring the State into full compliance with section 303(c)(2)(B). To fully protect State designated uses, and to ensure that the required criteria are adopted, EPA proposes to apply broadly the criteria in proposed § 131.36(b). At a minimum, EPA proposes to apply, to all appropriate State waters, the criteria in proposed § 131.36(b) for all priority toxic pollutants which are not the subject of approved State criteria. EPA also proposes to promulgate Federal criteria for priority toxic pollutants where any previously approved State criteria are insufficiently stringent to fully protect all designated uses, or where such previously approved State criteria are not applicable to all appropriate State designated uses. EPA invites public comment regarding any specific priority pollutants or water bodies for which Federal criteria may not be necessary to protect State designated uses.

For reasons which are fully discussed in the preamble, EPA has not attempted

to determine the specific priority pollutants and water bodies that require criteria. However, EPA has determined that at least some Federal criteria are necessary to protect designated uses. This determination is supported by information in the record which demonstrates that priority toxic pollutants are discharged or present in surface waters at levels that can reasonably be expected to interfere with State designated uses. For some priority toxic pollutants, available data clearly demonstrate use impairment and the need for toxics criteria. For most priority toxic pollutants, however, available data on the discharge and presence of priority toxic pollutants are spatially and temporally limited. Nevertheless, EPA believes that the data for many of these pollutants are sufficient to satisfy the "reasonable expectation" test established in section 303(c)(2)(B). A list of the pollutants requiring criteria was included in letters to the State dated February 15, 1990 and June 11, 1990 (copies are contained in the record). The information in the record which demonstrates that priority toxic pollutants are discharged or present and that Federal criteria are necessary may be summarized as follows:

- Priority toxic pollutants on the State section 304(l) short list for which State criteria consistent with Section 303(c)(2)(B) have not been adopted and approved.
- State efforts since 1987 to adopt additional numeric criteria for priority toxic pollutants, as described above. The State has initiated (but not completed) efforts to adopt new or revised chemical-specific, numeric criteria for 7 priority toxic pollutants. These efforts represent evidence of the State's recognition of the need for numeric criteria for these priority toxic pollutants.
- Presence in surface waters of the State of priority pollutants for which sufficient State numeric criteria have not been adopted, based on surface water monitoring data in STORET and the National Bioaccumulation Study.
- Discharge to surface waters of priority pollutants for which sufficient State numeric criteria have not been adopted, based on data in the Toxics Release Inventory database and/or the Permit Compliance System database.

Louisiana is included in today's proposal because although the State has adopted criteria for some priority toxic pollutants in response to the statutory requirement, EPA disapproved the lack of criteria for dioxin and has reason to believe that some additional criteria are

necessary to comply with section 303(c)(2)(B). Therefore, EPA has determined for purposes of today's proposed rulemaking that the State is not currently in compliance with section 303(c)(2)(B) because it has not adopted water quality standards consistent with Section 303(c)(2)(B) which have been fully approved by the appropriate EPA Regional Administrator.

The State completed a triennial revision of its water quality standards since passage of the Clean Water Act (CWA) section 303(c)(2)(B) and adopted revised standards on September 20, 1989. The revised numeric criteria were approved by EPA on December 19, 1989 with the exception of dioxin (no criterion proposed). Since this revision, a review of several databases—STORET, TRI, State 305(b) reports, and NPS assessments—indicated the need for Louisiana to adopt additional numeric criteria for mercury, lead, cadmium, copper and nickel via an Option 2 approach.

On March 20, 1991 the State adopted numeric criteria for 5 metals (cadmium, copper, lead, mercury and nickel). EPA received these revisions for our review on June 20, 1991.

Today's rule would only promulgate numeric criteria for dioxin and the metals listed above. Criteria approved on December 19, 1989 by EPA are not affected by today's proposed rulemaking.

New Mexico has not been included in today's proposed rulemaking because the State has adopted revised criteria for priority toxic pollutants in response to the section 303(c)(2)(B) requirement and received full EPA approval.

The State's actions to respond to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:

- June 6, 1988. The State proposed revised water quality standards that included numeric criteria for 11 priority pollutants to protect aquatic life. Additionally, the State proposed a narrative statement about protecting against toxic substances in domestic water supplies that create more than a 10-5 cancer risk.
- June 13, 1990. The State held a public hearing to receive public comment on the proposed revisions mentioned above.
- May 22, 1991. The State adopted numeric criteria for 14 priority pollutants. EPA received these revisions for our review on June 7, 1991.
- August 19, 1991. EPA approved the revised New Mexico water quality standards, including full approval of

the revised criteria for priority toxic pollutants.

If additional information is submitted during the public comment period asserting that the State has not fully complied with section 303(c)(2)(B) it will be necessary at that time to respond to those comments and reevaluate the Agency's determination of full compliance.

Oklahoma has not been included in today's proposed rulemaking because the State has adopted criteria for priority pollutants in response to the section 303(c)(2)(B) requirement and received full approval.

The State's response to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:

- June 10, 1989. The State adopted revised water quality standards which included numeric criteria for priority toxic pollutants.
- November 1, 1989. The State submitted the adopted water quality standards with a State Attorney General's certification to EPA for approval/disapproval.
- January 18, 1990. EPA approved the revised State water quality standards, including full approval of the numeric criteria for priority toxic pollutants.

EPA fully approved the criteria for priority toxic pollutants adopted by Oklahoma on June 10, 1989 as being consistent with Option 1 for aquatic life criteria and Option 2 for human health criteria as described in the December 12, 1988 section 303(c)(3)(B) guidance document. EPA's review concluded that numeric criteria had been adopted for all priority toxic pollutants which "may reasonably be expected to interfere with designated uses."

If additional information is submitted during the public comment period asserting that the State is not in compliance with section 303(c)(2)(B), EPA will transmit these comments to Oklahoma and will reevaluate the Agency's determination of full compliance after Oklahoma's submittal of their 1992 revised water quality standards to EPA for our approval/disapproval.

Texas has not been included in today's proposed rulemaking because the State has adopted revised criteria for priority toxic pollutants in response to the section 303(c)(2)(B) requirement and received full EPA approval.

The State's actions to respond to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:

- April 7, 1988. The State adopted revised water quality standards that included numeric criteria for 30 toxic

substances to protect aquatic life. The numeric criteria adopted for mercury protected human health in addition to aquatic life.

- June 29, 1985. EPA approved the aquatic life criteria for 30 priority toxic pollutants and the human health criterion for mercury.
- December 24, 1990. The State issued proposed water quality standards revisions for public comment. The proposed revisions included numeric criteria for 29 priority pollutants.
- February 25, 1991. The State held a public hearing on the proposed revisions to the water quality standards mentioned above.
- June 12, 1991. The State adopted numeric criteria for 29 priority pollutants. EPA received these revisions for our review on July 1, 1991.
- September 25, 1991. EPA approved the revised Texas water quality standards, including full approval of the revised criteria for priority toxic pollutants.

If additional information is submitted during the public comment period asserting that the State has not fully complied with section 303(c)(2)(B) it will be necessary at that time to respond to those comments and reevaluate the Agency's determination of full compliance.

Region 7

Iowa has not been included in today's proposed rulemaking because the State has adopted revised criteria for priority toxic pollutants in response to the section 303(c)(2)(B) requirement and received full EPA approval.

The State's actions to respond to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:

- March 19, 1990—The Iowa Environmental Protection Commission adopted aquatic life use protection criteria for several priority toxic pollutants.
- April 9, 1990—The State submitted the adopted aquatic life criteria to EPA with a proposed effective date of May 23, 1990.
- May 3, 1990—The State submitted draft human health criteria to EPA.
- June 1, 1990—The State resubmitted draft human health criteria to EPA.
- July 11, 1990—The State published a notice of intended action concerning standards revisions for human health criteria and scheduled public hearings
- August 1, 2, and 7, 1990—The State held public hearings at three locations in the State.
- September 17, 1990—The State scheduled adoption by the

Environmental Protection Commission for October 15, 1990.

- December 19, 1990. Standards become effective.
- June 11, 1991. EPA approved the revised State water quality standards as satisfying the requirement of section 303(c)(2)(B).

EPA fully approved the criteria for priority toxic pollutants adopted by Iowa on June 11, 1991, as being consistent with Option 1 of the December 12, 1988 guidance.

If additional information is submitted during the public comment period asserting that the State has not fully complied with section 303(c)(2)(B) it will be necessary at that time to respond to those comments and reevaluate the Agency's determination of full compliance.

EPA has withheld approval of the aquatic life criteria revisions until the State completes and submits all of the revisions and documentation necessary under section 303(c)(2)(B).

This proposed rulemaking would Federally promulgate the criteria necessary to bring the State into full compliance with section 303(c)(2)(B). To fully protect State designated uses, and to ensure that the required criteria are adopted, EPA proposes to apply broadly the criteria in proposed § 131.36(b). At a minimum, EPA proposes to apply, to all appropriate State waters, the criteria in proposed § 131.36(b) for all priority toxic pollutants which are not the subject of approved State criteria. EPA also proposes to promulgate Federal criteria for priority toxic pollutants where any previously approved State criteria are insufficiently stringent to fully protect all designated uses, or where such previously approved State criteria are not applicable to all appropriate State designated uses. EPA invites public comment regarding any specific priority pollutants or water bodies for which Federal criteria may not be necessary to protect State designated uses.

For reasons which are fully discussed in the preamble, EPA has not attempted to determine the specific priority pollutants and water bodies that require criteria. However, EPA has determined that at least some Federal criteria are necessary to protect designated uses. This determination is supported by information in the record which demonstrates that priority toxic pollutants are discharged or present in surface waters at levels that can reasonably be expected to interfere with State designated uses. For some priority toxic pollutants, available data clearly demonstrate use impairment and the need for toxics criteria. For most priority

toxic pollutants, however, available data on the discharge and presence of priority toxic pollutants are spatially and temporally limited. Nevertheless, EPA believes that the data for many of these pollutants are sufficient to satisfy the "reasonable expectation" test established in section 303(c)(2)(B). The information in the record which demonstrates that priority toxic pollutants are discharged or present and that Federal criteria are necessary may be summarized as follows:

- Priority toxic pollutants on the State section 304 (l) short list including metals for which revised state criteria have not been adopted and approved.
- State efforts since 1987 to adopt additional numeric criteria for priority toxic pollutants, as described above. The State has initiated (but not completed) efforts to adopt new or revised chemical-specific, numeric criteria for ____ priority toxic pollutants. These efforts represent evidence of the State's recognition of the need for numeric criteria for these priority toxic pollutants.
- Regional Ambient Fish Tissue Monitoring data indicating elevated fish flesh concentrations of pesticides which are not currently covered with approved state criteria.
- STORET data indicating the presence in surface waters of priority toxic pollutants which are not currently covered with approved state criteria.

Kansas is included in today's proposal because although the state adopted numeric criteria for a few priority toxic pollution before the 1987 amendments, the state has not completed a review of their numeric criteria for priority toxic pollutants in response to the statutory requirements and the Environmental Protection Agency (EPA) has reason to believe that at least some additional criteria are necessary to comply with section 303(c)(2)(B). Therefore, EPA has determined for purposes of today's proposed rulemaking that the State is not currently in compliance with section 303(c)(2)(B) because it has not adopted water quality standards consistent with section 303(c)(2)(B) which have been fully approved by the appropriate EPA Regional Administrator.

Kansas adopted some criteria for priority toxic pollutants prior to the passage of section 303(c)(2)(B) on May 1, 1986 (State Regulation K.A.R. 28-16-28e). EPA approved these criteria on June 19, 1986, and most of these criteria are not affected by today's proposed rulemaking. (Those not affected are aquatic life criteria for nickel, silver, zinc, aldrin, chlordane, DDT, dieldrin,

endosulfan, endrin, heptachlor, lindane, and PCBs).

The state's actions to respond to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:

- January 1990—The state submitted a preliminary draft of numeric criteria for EPA prior to starting an internal and external review of water quality standards revisions.
- July 1990—The state stopped all action on the standards revisions citing concerns over the costs of compliance.
- January 1991—The state submitted a draft package of standards revisions to EPA including numeric criteria to satisfy section 303(c)(2)(B) and set a date of June 1991 for final adoption.

This proposed rulemaking would Federally promulgate the criteria necessary to bring the State into full compliance with section 303(c)(2)(B). To fully protect State designated uses, and to ensure that the required criteria are adopted, EPA proposes to apply broadly the criteria in proposed § 131.36(b). At a minimum, EPA proposes to apply, to all appropriate State waters, the criteria in proposed § 131.36(b) for all priority toxic pollutants which are not the subject of approved State criteria. EPA also proposes to promulgate Federal criteria for priority toxic pollutants where any previously-approved State criteria are insufficiently stringent to fully protect all designated uses, or where such previously-approved State criteria are not applicable to all appropriate State designated uses. EPA invites public comment regarding any specific priority pollutants or water bodies for which Federal criteria may not be necessary to protect State designated uses.

For reasons which are fully discussed in the preamble, EPA has not attempted to determine the specific priority pollutants and water bodies that require criteria. However, EPA has determined that at least some Federal criteria are necessary to protect designated uses. This determination is supported by information in the record which demonstrates that priority toxic pollutants are discharged or present in surface waters at levels that can reasonably be expected to interfere with State designated uses. For some priority toxic pollutants, available data clearly demonstrate use impairment and the need for toxics criteria. For most priority toxic pollutants, however, available data on the discharge and presence of priority toxic pollutants are spatially and temporally limited. Nevertheless, EPA believes that the data for many of these pollutants are sufficient to satisfy the "reasonable expectation" test

established in section 303(c)(2)(B). The information in the record which demonstrates that priority toxic pollutants are discharged or present and that Federal criteria are necessary may be summarized as follows:

- Priority toxic pollutants on the state section 304(1) short and mini lists for which State criteria have not been adopted and approved, including metals.
- State efforts since 1987 to adopt additional numeric criteria for priority toxic pollutants, as described above. The State has initiated (but not completed) efforts to adopt new or revised chemical-specific, numeric criteria for ____ priority toxic pollutants. These efforts represent evidence of the State's recognition of the need for numeric criteria for these priority toxic pollutants.
- STORET data indicating the presence in surface water of priority toxic pollutants which are not currently covered with approved state criteria.

Missouri has not been included in today's proposed rulemaking because the State has adopted revised criteria for priority toxic pollutants in response to the section 303(c)(2)(B) requirement and received full EPA approval.

The State's actions to respond to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:

- March 17, 1989—Missouri Clean Water Commission adopted additional numeric criteria for priority toxic pollutants for aquatic life use protection.
- April 15, 1989—The adopted criteria became effective under State law.
- October 13, 1989—EPA approved criteria with a recommendation that Missouri review the need for additional human health criteria.
- August 6, 1990—The State held a public meeting to discuss human health criteria revisions.
- August 23, 1990—The State scheduled a public hearing and adoption before the Missouri Clean Water Commission for October 23, 1990.
- December 12, 1990. Clean Water Commission adopts water quality standards.
- January 30, 1991. Standards submitted to EPA for review.
- March 4, 1991. Standards become effective in State.
- June 11, 1991. EPA approves standards as complying with section 303(c)(2)(B).

EPA fully approved the criteria for priority toxic pollutants adopted by Missouri on June 11, 1991 as being consistent with Option 1 of the December 12, 1988 guidance.

If additional information is submitted during the public comment period asserting that the State has not fully complied with section 303(c)(2)(B) it will be necessary at that time to respond to those comments and reevaluate the Agency's determination of full compliance.

Nebraska has not been included in today's proposed rulemaking because the State has adopted revised criteria for priority toxic pollutants in response to the section 303(c)(2)(B) requirement and received full EPA approval.

The State's actions to respond to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:

- May 20, 1988—The state adopted numeric criteria for aquatic life protection for priority toxic pollutants.
- August 29, 1988—The adopted criteria became effective under state law.
- October 18, 1988—EPA approved Nebraska's Water Quality Standards noting that the need for additional human health criteria must be evaluated.
- December 1, 1989—The state adopted some numeric priority toxic pollutant criteria for a human health use (drinking water supply).
- February 20, 1990—The adopted criteria became effective under state law.
- January 17, 1990—DEC proposed human health fish consumption criteria for priority toxic pollutants.
- February 16, 1990—The state adopted the proposed human health fish consumption numeric criteria.
- June 27, 1990—The human health fish consumption numeric criteria became effective under state law.
- August 10, 1990—The state proposed revisions to mixing zone provisions of State Water Quality Standards which affect the application of numeric criteria.
- September 21, 1990—The state adopted proposed revisions to mixing zone policies.
- August 2, 1991. EPA approved the revised Nebraska water quality standards, including full approval of the revised criteria for priority toxic pollutants.

If additional information is submitted during the public comment period asserting that the State has not fully complied with section 303(c)(2)(B) it will be necessary at that time to respond to those comments and reevaluate the Agency's determination of full compliance.

Region 8

Colorado is included in today's proposal because, although Colorado has completed a review and adopted numeric criteria for some priority toxic pollutants in response to the statutory requirement, EPA has reason to believe that at least some additional criteria are necessary to comply with section 303(c)(2)(B). Therefore, EPA has determined for purposes of today's proposed rulemaking that the State is not currently in compliance with section 303(c)(2)(B) because it has not adopted water quality standards consistent with section 303(c)(2)(B) which have been fully approved by the appropriate EPA Regional Administrator.

Colorado's actions to respond to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:

- June 5, 1989—Region VIII notified the State that the priority pollutant standards under consideration for adoption would not fully satisfy the requirements of section 303(c)(2)(B).
- August 17, 1989—Colorado completed its triennial review and revised the State's Basic Standards and Methodologies. The revised Standards were submitted to EPA for review on October 6, 1989. The revised Basic Standards and Methodologies included new numeric criteria for some of the priority toxic pollutants; however, not all of the priority toxic pollutants for which EPA has developed 304(a) criteria were included in the revised State rule.
- January 17, 1990—Region VIII sent a letter to the State explaining the requirements for full compliance with section 303(c)(2)(B). The letter explained that where a State selected an option 2 approach to full compliance (i.e., option 2 as described in EPA's December 12, 1988 guidance and the Region's January 17, 1990 letter to the State), the burden was on the State to demonstrate that additional criteria beyond those already adopted were not needed.
- February 5, 1990—In a letter from the Colorado Water Quality Control Division to EPA Region VIII, Colorado notified EPA that it intended to meet the full compliance requirements by way of option 2. To date, however, the documentation supporting full compliance with option 2 has not been received.
- July 9, 1990—Region VIII sent a letter to the State commenting on what the Region considered to be needed revisions to the State's Basic Standards and Methodologies. In the letter, the Region again advised the State that the current toxics

provisions of the Basic Standards and Methodologies were incomplete and subject to the federal promulgation. The letter explained the Agency's approach to the upcoming promulgation, and the proposed regulatory language and criteria values to be promulgated were enclosed for State review.

- July 12, 1990—In a memorandum to the State, Region VIII provided additional information on compliance with the toxic requirements and the upcoming federal promulgation. The memorandum included a listing of EPA published and modified toxics criteria which could be used in proposing needed amendments to the existing toxics provisions in the Basic Standards and Methodologies (modified criteria were based on the most recent information in IRIS).
- August 13, 1990—Region VIII sent an improved version of the toxics criteria chart to the State staff.
- September 19, 1990. Region VIII sent to the State a "strawman" data analysis which provided stream-specific information regarding the priority toxic pollutants that may require adoption of criteria to satisfy the option 2 full compliance requirements of section 303(c)(2)(B).
- February 21, 1991. The State proposed amendments to the Basic Standards and Methodologies for its July triennial review hearing. The proposed amendments include: (1) Revisions and additions to the existing aquatic life criteria, and (2) application of EPA's human health criteria to all class 1 waters and any class 2 waters which provide an exposure pathway via consumption of contaminated aquatic organisms and/or drinking water.
- May 21, 1991. Region VIII sent a letter to the State detailing three deficiencies in the State's February 21, 1991 proposed revisions to the Basic Standards and Methodologies: (1) Failure to explain why health-based standards applicable to water supply segments were not included for more than 40 priority toxic pollutants addressed by section 304(a) guidance, (2) failure to explain why health-based standards applicable to aquatic life segments were not included for more than 20 priority toxic pollutants addressed by section 304(a) guidance, and (3) failure to finally resolve within the Basic Standards and Methodologies the applicability of: (a) The numeric aquatic life and human health standards for inorganics, and (b) certain human health numeric standards (i.e., those that address human exposure from water and fish

consumption) for organics. The Region VIII letter notified the State that these deficiencies would need to be addressed to satisfy the full compliance requirements and to ensure that Colorado would not be affected by the Federal section 303(c)(2)(B) promulgation.

- July 1, 1991. The State held a public hearing on the proposed standards revisions. At the hearing, EPA submitted written testimony that identified the specific issues and options related to section 303(c)(2)(B) compliance.
- August 20, 1991. In a letter to the State, EPA Region VIII approved the August 17, 1989 toxics criteria adopted by Colorado as partially fulfilling the requirements of section 303(c)(2)(B). The letter clearly indicated that additional State action would be required to achieve full compliance.
- October 8, 1991. The State Water Quality Control Commission adopted additional numeric criteria for priority toxic pollutants, including criteria for all such toxics addressed by EPA section 304(a) criteria guidance. The adopted standards were intended to resolve all issues related to section 303(c)(2)(B) compliance. Because EPA has not yet had sufficient opportunity to review and approve these standards, today's proposal is based on the standards previously adopted by the State on August 17, 1989.

This proposed rulemaking would Federally promulgate the criteria necessary to bring the State into full compliance with section 303(c)(2)(B). To fully protect State designated uses, and to ensure that the required criteria are adopted, EPA proposes to apply broadly the criteria in proposed § 131.36(b). At a minimum, EPA proposes to apply, to all appropriate State waters, the criteria in proposed § 131.36(b) for all priority toxic pollutants which are not the subject of approved State criteria. EPA also proposes to promulgate Federal criteria for priority toxic pollutants where any previously approved State criteria are insufficiently stringent to fully protect all designated uses, or where such previously approved State criteria are not applicable to all appropriate State designated uses. For example, to fully protect aquatic life uses from the impacts of inorganic priority toxic pollutants (including metals), EPA proposes to promulgate aquatic life criteria for only those particular segments and inorganic substances for which State aquatic life criteria have not been applied. EPA invites public comment regarding any specific priority pollutants or water bodies for which

Federal criteria may not be necessary to protect State designated uses.

For reasons which are fully discussed in the preamble, EPA has not attempted to determine the specific priority pollutants and water bodies that require criteria. However, EPA has determined that at least some Federal criteria are necessary to protect designated uses. This determination is supported by information in the record which demonstrates that priority toxic pollutants are discharged or present in surface waters at levels that can reasonably be expected to interfere with State designated uses. For some priority toxic pollutants, available data clearly demonstrate use impairment and the need for toxics criteria. For most priority toxic pollutants, however, available data on the discharge and presence of priority toxic pollutants are spatially and temporally limited. Nevertheless, EPA believes that the data for many of these pollutants are sufficient to satisfy the "reasonable expectation" test established in section 303(c)(2)(B). The information in the record which demonstrates that priority toxic pollutants are discharged or present and that Federal criteria are necessary may be summarized as follows:

- State efforts since 1987 to adopt additional numeric criteria for priority toxic pollutants, as described above. These efforts represent evidence of the State's recognition of the need for numeric criteria for these priority toxic pollutants.
- Presence in surface waters of the State of priority pollutants for which sufficient State numeric criteria have not been adopted, based on surface water monitoring data in STORET.
- Discharge to surface waters of priority pollutants for which sufficient State numeric criteria have not been adopted, based on data in the Toxics Release Inventory data base and/or the Permit Compliance System data base.

North Dakota has not been included in today's proposed rulemaking because the State has adopted revised criteria in response to the section 303(c)(2)(B) requirement and received full EPA approval.

The State's response to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:

- May 1, 1989. North Dakota completed its triennial review and revised the State's standards. The revised standards were submitted to EPA for review on September 20, 1989. The revised standards included new numeric criteria for some of the priority toxic pollutants; however, not

all of the priority toxic pollutants for which EPA has developed 304(a) criteria were included in the revised State rule.

- January 17, 1990. Region VIII sent a letter to the State explaining the requirements for full compliance with section 303(c)(2)(B). The letter explained that the burden was on the State to demonstrate that additional criteria beyond those already adopted were not needed.
- February 7, 1990. In a letter from the North Dakota Water Supply and Pollution Control Division to EPA Region VIII, North Dakota notified EPA that it intended to meet the full compliance requirements by way of option 1 (i.e., an option 1 approach as described in EPA's December 12, 1988 guidance document and the Region's January 17, 1990 letter to the State).
- July 12, 1990. In a memorandum to the State, Region VIII provided additional information on compliance with the toxics requirements and the upcoming federal promulgation. The memorandum included a listing of EPA published and modified toxics criteria which could be used in proposing needed amendments to the existing toxics provisions in the State standards (modified criteria were based on the most recent information in IRIS).
- August 13, 1990. Region VIII sent an improved version of the toxics criteria chart to the State staff.
- October 16, 1990. The Region approved the previously adopted State standards as partially fulfilling the section 303(c)(2)(B) requirements and notified the State that the standards would be considered incomplete pending completion of the full compliance requirements. The Regional WQS review letter also notified the State that the incomplete portions of the State rule would be subject to the proposed federal promulgation.
- November 15, 1990. North Dakota adopted additional standards for the priority toxic pollutants. The amended standards include criteria for all of the priority pollutants for which EPA has published 304(a) criteria plus additional criteria based on the most recent information in EPA's IRIS data base. The amended standards meet the requirements for full compliance with section 303(c)(2)(B). The amended standards became effective February 1, 1991, and the standards were submitted by the State for EPA review and approval on February 25, 1991.
- March 8, 1991. Region VIII approved the amended State water quality standards and advised the State that the amended standards met the full compliance requirements of section 303(c)(2)(B).
- If additional information is submitted during the public comment period asserting that the State has not fully complied with section 303(c)(2)(B) it will be necessary at that time to respond to those comments and reevaluate the Agency's determination of full compliance.
- South Dakota has not been included in today's proposed rulemaking because the State has adopted revised criteria for priority toxic pollutants in response to the section 303(c)(2)(B) requirement and received full EPA approval.
- South Dakota's actions to respond to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:
 - October 8, 1987. South Dakota completed its triennial review and revised the State's Standards. The revised Standards were submitted to EPA for review on May 5, 1989. The revised Standards included a reference to EPA's Water Quality Criteria, 1986 as the numeric criteria incorporated in State Standards; however, the State did not include or identify certain information needed to distinguish which specific EPA criteria had been adopted as State Standards.
 - January 17, 1990. Region VIII sent a letter to the State explaining the requirements for full compliance with section 303(c)(2)(B). The letter explained that incorporation of EPA's national criteria into State Standards by reference to EPA's Quality Criteria for Water, 1986 was acceptable; however, such a reference would have to include sufficient information to identify the specific numeric criteria which comprised State Standards. The needed information was not provided prior to today's proposal.
 - February 13, 1990. Region VIII sent a letter to the State further explaining the issues that would have to be clarified before the Region would be able to grant final approval of the toxics portion of the State water quality standards.
 - March 8, 1990. South Dakota further amended the State Standards to clarify the role of the Department of Natural Resources in applying the criteria in Quality Criteria for Water, 1986; however, the new amendments did not address the specific information needed to satisfy the full compliance requirements for section 303(c)(2)(B).
 - July 12, 1990. Region VIII sent additional information to the State on

compliance with the toxics requirements and the upcoming federal promulgation. The memorandum included a listing of EPA published and modified toxics criteria which could be used in proposing needed amendments to the existing toxics provisions in the State standards (modified criteria were based on the most recent information in IRIS).

—August 13, 1990. Region VIII sent an improved version of the toxics criteria chart to the State staff.

—November 6, 1990. Region VIII sent additional information to the State further delineating the specific application information that would be needed to achieve approval of the toxics provisions of the water quality standards.

—March 6, 1991. In a letter from the Division of Environmental Regulation, South Dakota provided a complete interpretation of the toxics control provisions in section 74:03:02:14, the section of the South Dakota water quality standards which incorporates EPA's Quality Criteria for Water, 1986 by reference. The State's letter included a listing of the specific criteria which are considered to be standards of the State. The list included all of the published 304(a) criteria and identified the uses to which the criteria applied.

—March 13, 1991. The Region approved the adopted State criteria as fulfilling the section 303(c)(2)(B) requirements.

If additional information is submitted during the public comment period asserting that the State has not fully complied with section 303(c)(2)(B) it will be necessary at that time to respond to those comments and reevaluate the Agency's determination of full compliance.

Utah has not been included in today's proposed rulemaking because the State has adopted revised criteria in response to the section 303(c)(2)(B) requirement and received full EPA approval.

The State's response to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:

—April 21, 1988. Utah completed its triennial review and revised the State's standards. The revised standards were submitted to EPA for review on February 10, 1989. The revised standards included new numeric criteria for some of the priority toxic pollutants for which EPA has developed 304(a) criteria were included in the revised State rule.

—January 17, 1990. Region VIII sent a letter to the State explaining the

requirements for full compliance with section 303(c)(2)(B). The letter explained that the burden was on the State to demonstrate that additional criteria beyond those already adopted were not needed.

—January 31, 1990. In a letter from the Utah Bureau of Water Pollution Control to EPA Region VIII, Utah notified EPA that it intended to meet the full compliance requirements by way of option 1 (i.e., an option 1 approach as described in EPA's December 12, 1988 guidance document and the Region's January 17, 1990 letter to the State).

—July 12, 1990. In a memorandum to the State, Region VIII provided additional information on compliance with the toxics requirements and the upcoming federal promulgation. The memorandum included a listing of EPA published and modified toxics criteria which could be used in proposing needed amendments to the existing toxics provisions in the State standards (modified criteria were based on the most recent information in IRIS).

—August 13, 1990. Region VIII sent an improved version of the toxics criteria chart to the State staff.

—November 29, 1990. The Region approved the previously adopted State standards as partially fulfilling the section 303(c)(2)(B) requirements and notified the State that the standards would be considered incomplete pending completion of the full compliance requirements. The Regional water quality standards review letter also notified the State that the incomplete portions of the State rule would be subject to the provisions of the proposed federal promulgation.

—January 18, 1991. Utah adopted additional standards for the priority toxic pollutants. The amended standards include criteria for all of the priority pollutants for which EPA has published 304(a) criteria. The amended standards meet the requirements for full compliance with section 303(c)(2)(B). The amended standards were submitted by the State for EPA review and approval on February 13, 1991.

—March 8, 1991. Region VIII approved the amended State water quality standards and advised the State that the amended standards met the full compliance requirements of section 303(c)(2)(B).

If additional information is submitted during the public comment period asserting that the State has not fully complied with section 303(c)(2)(B) it will

be necessary at that time to respond to those comments and reevaluate the Agency's determination of full compliance.

Wyoming has not been included in today's proposed rulemaking because the State has adopted revised criteria in response to the section 303(c)(2)(B) requirement and received full EPA approval.

The State's response to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:

—January 17, 1990. Region VIII sent a letter to the State explaining the requirements for full compliance with section 303(c)(2)(B). The letter explained that the burden was on the State to demonstrate that additional criteria beyond those already adopted were not needed.

—February 12, 1990. In a letter from the Wyoming Water Quality Division of the Department of Environmental Quality, Wyoming notified EPA that it intended to meet the full compliance requirements by way of option 1 (i.e., an option 1 approach as described in EPA's December 12, 1988 guidance document and the Region's January 17, 1990 letter to the State).

—May 29, 1990. Region VIII provided written comments for the Wyoming Environmental Quality Council triennial review hearing. The Region's comments further explained the requirements for full compliance with section 303(c)(2)(B).

—July 12, 1990. In a memorandum to the State, Region VIII provided additional information on compliance with the toxics requirements and the upcoming federal promulgation. The memorandum included a listing of EPA published and modified toxics criteria which could be used in proposing needed amendments to the existing toxics provisions in the State standards (modified criteria were based on the most recent information in IRIS).

—July 19, 1990. Region VIII provided additional written comment to the Wyoming Environmental Quality Council. The Region's comments provided further information on the toxics requirements, including specific lists of published and modified criteria for the priority pollutants which would meet the full compliance requirements.

—August 13, 1990. Region VIII sent an improved version of the toxics criteria chart to the State staff.

—October 3, 1990. Wyoming adopted additional standards for the priority toxic pollutants. The amended standards include criteria for all of the

priority pollutants for which EPA has published 304(a) criteria plus additional criteria based on the most recent information in EPA's IRIS data base. The amended standards meet the requirements for full compliance with section 303(c)(2)(B). The amended standards became effective November 29, 1990, and the standards were submitted by the State for EPA review and approval on December 24, 1990. Clarification of the legal standing of the newly adopted rule was provided with a memorandum from the State dated January 12, 1991.

—March 8, 1991. Region VIII approved the amended State water quality standards and advised the State that the amended standards met the full compliance requirements of section 303(c)(2)(B).

If additional information is submitted during the public comment period asserting that the State has not fully complied with section 303(c)(2)(B) it will be necessary to respond to those comments and reevaluate the Agency's determination of full compliance.

Montana has not been included in today's proposed rulemaking because the State has adopted revised criteria in response to the section 303(c)(2)(B) requirement and received full EPA approval. The State's response to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:

—September 23, 1988. The State adopted final water quality standards which included numeric criteria for the priority toxic pollutants (by reference to EPA's Quality Criteria for Water, 1986 through update #2 1987 including supporting information).

—December 9, 1988. The State submitted the adopted water quality standards with a State Attorney General certification to EPA for approval/disapproval.

—March 8, 1989. EPA approved the portion of the revised State water quality standards which responded to the requirements of section 303(c)(2)(B) (other portions of the revised standards were disapproved).

If additional information is submitted during the public comment period asserting that the State has not fully complied with section 303(c)(2)(B) it will be necessary to respond to those comments and reevaluate the Agency's determination of full compliance.

Region 9

American Samoa has not been included in today's proposed rulemaking because it has adopted revised criteria for priority toxic pollutants in response

to the section 303(c)(2)(B) requirement and received full EPA approval.

American Samoa's response to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:

—January 1990. American Samoa submitted draft water quality standards revisions to EPA and the public for review.

—February 1990. American Samoa held a public hearing on its proposed water quality standards revisions.

—September 7, 1990. The American Samoa Environmental Commission adopted its proposed water quality standards revisions which include numeric criteria for priority toxic pollutants.

—September 20, 1990. American Samoa submitted the adopted water quality standards to EPA for approval/disapproval.

—September 25, 1990. American Samoa submitted the State Attorney General certification.

—September 27, 1990. EPA approved the revised American Samoa water quality standards, including full approval of the revised numeric criteria for priority pollutants.

EPA fully approved the criteria for priority toxic pollutants adopted by American Samoa on September 27, 1990 based on a determination that the criteria are consistent with option 1 of the December 12, 1988 section 303(c)(2)(B) guidance document.

If additional information is submitted during the public comment period asserting that American Samoa has not fully complied with section 303(c)(2)(B), it will be necessary at that time to respond to those comments and reevaluate the Agency's determination of full compliance.

Arizona is included in today's proposal because, although the State adopted numeric criteria for some priority toxic pollutants before the 1987 amendments, the State has not completed a review of their numeric criteria for priority toxic pollutants in response to the statutory requirement and EPA has reason to believe that at least some additional criteria are necessary to comply with section 303(c)(2)(B). Therefore, EPA has determined for purposes of today's proposed rulemaking that the State is not currently in compliance with section 303(c)(2)(B) because it has not adopted water quality standards consistent with section 303(c)(2)(B) which have been fully approved by the appropriate EPA Regional Administrator.

The State's actions to respond to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:

—Late 1988. The State submitted a series of discussion papers to EPA and the public.

—June 7, 1989. The State submitted draft water quality standards revisions to EPA for review prior to issuing proposed standards for public comment.

—December 11, 1989. The State transmitted a Surface Water Quality Standards Triennial Review Briefing Book, dated December 8, 1989, to EPA and the public.

—February 15, 1990. The State submitted, to EPA and the public, draft proposed revisions to its Surface Water Quality Standards.

—March 16, 1990. The State submitted Proposed Surface Water Quality Standards Rules to EPA and the public.

—During 1988-90, the State held several public meetings and roundtables regarding the proposed water quality standards.

—October 26, 1990. Arizona prepared revised draft water quality standards which were released for comment October 29, 1990.

—December 14, 1990. EPA provided written comments to the States.

—January 15, 1991. Arizona prepared a re-draft of the water quality standards for review and comment.

—February 13, 1991. EPA provided written comments to the States.

—May 8, 1991. Arizona approval by the Governor's Regulatory Review Council on May 7, 1991 of the Navigable Water Quality Standards proposed rules and the Economic Impact Statement.

Also announced the schedule of oral proceedings and availability of the proposed rules.

Today's proposed rulemaking would Federally promulgate the criteria necessary to bring the State into full compliance with section 303(c)(2)(B). To fully protect State designated uses, and to ensure that the required criteria are adopted, EPA proposes to apply broadly the criteria in proposed § 131.36(b). At a minimum, EPA proposes to apply, to all appropriate State waters, the criteria in proposed § 131.36(b) for all priority toxic pollutants which are not included in approved State criteria. EPA also proposes to promulgate the § 131.36(b) criteria where any previously-approved State criteria are insufficiently stringent to fully protect all designated uses, or where such previously-approved State criteria are not applicable to all waters with relevant State designated uses. EPA invites public comment regarding any specific priority pollutants or water bodies for which Federal criteria may

not be necessary to protect State designated uses.

For reasons which are fully discussed in the preamble, EPA has not attempted to determine the specific priority pollutants and water bodies that require criteria. However, EPA has determined that at least some Federal criteria are necessary to protect designated uses. This determination is supported by information in the record which demonstrates that priority toxic pollutants are discharged or present in surface waters at levels that can reasonably be expected to interfere with State designated uses. For some priority toxic pollutants, available data clearly demonstrate use impairment and the need for section 303(c)(2)(B) criteria. For most priority toxic pollutants, however, available data on the discharge and presence of such pollutants are spatially and temporally limited. Nevertheless, EPA believes that the data for many of these pollutants are sufficient to satisfy the "reasonable expectation" test established in section 303(c)(2)(B). The information in the record which demonstrates that priority toxic pollutants are discharged or present and that section 303(c)(2)(B) criteria are necessary may be summarized as follows:

- Priority toxic pollutants on the State Section 304(l) lists (as updated), and supporting documentation, for which State criteria have not been adopted and approved, including metals, dioxin, and some organics.
- State efforts since 1987 to adopt additional numeric criteria for priority toxic pollutants, as described above. The State has initiated (but not completed) efforts to adopt new or revised chemical-specific, numeric criteria for 126 priority toxic pollutants. These efforts represent evidence of the State's recognition of the need for numeric criteria for these priority toxic pollutants.
- STORET data indicating the presence in surface waters of a majority of the priority toxic pollutants which are not covered with approved State criteria.
- Discharge to surface waters of priority pollutants for which sufficient State numeric criteria have not been adopted, based on data in the Toxics Release Inventory database and/or the Permit Compliance System database.

California is included in today's proposal because, although the State has completed a review and adopted numeric criteria for some priority toxic pollutants for some waters in response to the statutory requirement, EPA has reason to believe that at least some

additional criteria are necessary to comply with section 303(c)(2)(B). Therefore, EPA has determined for purposes of today's proposed rulemaking that the State is not currently in compliance with section 303(c)(2)(B) because it has not adopted water quality standards consistent with section 303(c)(2)(B) which have been fully approved by the appropriate EPA Regional Administrator.

For ocean waters, the State adopted revised criteria on March 22, 1990, and EPA fully approved those criteria on June 23, 1990. Regarding inland waters and bays and estuaries, the State adopted numeric criteria for some priority toxic pollutants before the 1987 amendments and a few site specific criteria since 1987. Included among these criteria are numeric criteria for copper, cadmium and zinc applicable to the Sacramento River and its tributaries upstream of Hamilton City adopted by the State on August 16, 1984, and approved by EPA on August 7, 1985. Since the 1987 amendments, the State adopted numeric monthly mean and maximum criteria for selenium in the San Joaquin River from the mouth of the Merced River to Vernalis and monthly mean criteria in flows to Grasslands Water District, San Luis National Wildlife Refuge, and Los Banos State Wildlife Area on September 21, 1989; EPA approved these criteria on April 13, 1990, and, at the same time, disapproved selenium criteria for other locations. These approved numeric criteria comply with section 303(c)(2)(B) and are not amended by today's proposed rulemaking. Subsequent to these specific efforts, the State completed a review of their numeric criteria for priority toxic pollutants for State inland waters and bays and estuaries and transmitted them to EPA. EPA has reason to believe that at least some additional criteria are necessary to comply with section 303(c)(2)(B). In addition, several parties have petitioned State Court to restrain the SWRCB from utilizing the standards for inland waters and bays and estuaries.

The State's actions, regarding inland waters and bays and estuaries, to respond to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:

- October 6, 1989. The State issued a staff report proposing methodologies for development of water quality criteria for statewide plans.
- December 1, 1989. EPA submitted written comments to State on its proposed methodology.
- January 29, 1990. The State issued draft water quality standards for

inland surface waters and enclosed bays and estuaries for EPA and public review.

- February 28 and March 5, 1990. The State held public hearings on proposed standards revisions.
 - March 29, 1990. EPA submitted written comments to the State on proposed standards revisions.
 - August 16, 1990. The State held a public workshop on development and implementation of standards for agricultural drains and ephemeral streams. (EPA testified.)
 - August 22, 1990. EPA submitted written comments to the State on development and implementation of standards for agricultural drains and ephemeral streams.
 - November 2, 1990. The State issued revised draft water quality standards for EPA and public review.
 - December 7, 1990. EPA submitted written comments on the revised draft water quality standards.
 - December 10, 1990. The State held a hearing on the revised draft standards. (EPA testified.)
 - February 8, 1991. EPA provided written comments to the State re: the agricultural drains section of the Inland Surface Waters Plan.
 - March 26, 1991. The State issued drafts of the Statewide Water Quality Control Plans for Inland Surface Waters and Enclosed Bays and Estuaries.
 - March 27, 1991. EPA provided written comments to the San Francisco Bay Regional Water Quality Control Board re: proposed interim objectives for toxic pollutants in the South Bay.
 - April 10, 1991. EPA provided written comments to the State re: The Statewide Water Quality Control Plans for Inland Surface Waters and Enclosed Bays and Estuaries.
 - April 10, 1991. EPA provided written comments to the State re: EPA's position on how to proceed with dioxin related programs.
 - April 11, 1991. The State adopted the Statewide Waters Quality Control Plans for Inland Surface Water and Enclosed Bays and Estuaries.
 - May 10, 1991. The State transmitted to EPA the Statewide Waters Quality Control Plans for Inland Surface Water and Enclosed Bays and Estuaries.
- Today's proposed rulemaking would Federally promulgate the criteria necessary to bring the State into full compliance with section 303(c)(2)(B). To fully protect State designated uses, and to ensure that the required criteria are adopted, EPA proposes to apply broadly the criteria in proposed § 131.36(b). At a

minimum, EPA proposes to apply, to all State inland waters and bays and estuaries, the criteria in proposed § 131.36(b) for all priority toxic pollutants which are not included in EPA approved State criteria. EPA also proposes to promulgate section 303(c)(2)(B) criteria for priority toxic pollutants where any previously-approved State criteria are insufficiently stringent to fully protect all designated uses, or where such previously-approved State criteria are not applicable to all waters with relevant State designated uses. EPA invites public comment regarding any specific priority pollutants or water bodies for which Federal criteria may not be necessary to protect State designated uses.

For reasons which are fully discussed in the preamble, EPA has not attempted to determine the specific priority pollutants and water bodies that require criteria. However, EPA has determined that at least some additional Federal criteria are necessary to protect designated uses. This determination is supported by information in the record which demonstrates that priority toxic pollutants are discharged or present in surface waters at levels that can reasonably be expected to interfere with State designated uses. For some priority toxic pollutants, available data clearly demonstrate use impairment and the need for section 303(c)(2)(B) criteria. For most priority toxic pollutants, however, available data on the discharge and presence of such pollutants are spatially and temporally limited. Nevertheless, EPA believes that the data for many of these pollutants are sufficient to satisfy the "reasonable expectation" test established in section 303(c)(2)(B). The information in the record which demonstrates that priority toxic pollutants are discharged or present and that section 303(c)(2)(B) criteria are necessary may be summarized as follows:

- priority toxic pollutants discussed in the State Section 304(1) lists, and supporting documentation, for which State criteria have not been adopted and approved, including metals, dioxin, and some organics,
- State efforts since 1987 to adopt additional numeric criteria for priority toxic pollutants for inland waters and bays and estuaries, as described above. The State has completed efforts to adopt new or revised chemical-specific, numeric criteria for 68 priority toxic pollutants. These efforts represent evidence of the State's recognition of the need for

numeric criteria for these priority toxic pollutants.

- STORET data indicating the presence in inland waters and bays and estuaries of priority toxic pollutants which are not covered with approved State criteria (e.g., detection of more than 40 priority toxic pollutants in the water column).
- Discharge to surface waters of priority pollutants for which sufficient State numeric criteria have not been adopted, based on data in the Toxics Release Inventory database and/or the Permit Compliance System database.

The Commonwealth of the Northern Mariana Islands (CNMI) is included in today's proposal because, although the State adopted numeric criteria for some priority toxic pollutants before the 1987 amendments, the State has not completed a review of their numeric criteria for priority toxic pollutants in response to the statutory requirement and EPA has reason to believe that at least some additional criteria are necessary to comply with section 303(c)(2)(B). Therefore, EPA has determined for purposes of today's proposed rulemaking that the State is not currently in compliance with section 303(c)(2)(B) because it has not adopted water quality standards consistent with section 303(c)(2)(B) which have been fully approved by the appropriate EPA Regional Administrator.

The Commonwealth's actions to respond to the 1987 section 303(c)(2)(B) requirements can be summarized as follows:

- March 22, 1990. The Commonwealth transmitted a letter to EPA indicating that its water quality standards revision process had been delayed.
- March 28, 1991. CNMI submitted draft water quality standards revisions to EPA for review.
- May 22, 1991. EPA provided comments to CNMI re: the draft revised standards.

Today's proposed rulemaking would Federally promulgate the criteria necessary to bring the State into full compliance with section 303(c)(2)(B). To fully protect State designated uses, and to ensure that the required criteria are adopted, EPA proposes to apply broadly the criteria in proposed § 131.36(b). At a minimum, EPA proposes to apply, to all appropriate State waters, the criteria in proposed § 131.36(b) for all priority toxic pollutants which are not included in approved State criteria. EPA also proposes to promulgate the § 131.36(b) criteria where any previously-approved State criteria are insufficiently stringent to fully protect all designated uses, or

where such previously-approved State criteria are not applicable to all waters with relevant State designated uses. EPA invites public comment regarding any specific priority pollutants or water bodies for which Federal criteria may not be necessary to protect State designated uses.

For reasons which are fully discussed in the preamble, EPA has not attempted to determine the specific priority pollutants and water bodies that require criteria. However, EPA has determined that at least some Federal criteria are necessary to protect designated uses. This determination is supported by information in the record which demonstrates that priority toxic pollutants are discharged or present in surface waters at levels that can reasonably be expected to interfere with State designated uses. For some priority toxic pollutants, available data clearly demonstrate use impairment and the need for toxics criteria. For most priority toxic pollutants, however, available data on the discharge and presence of priority toxic pollutants are spatially and temporally limited. Nevertheless, EPA believes that the data for many of these pollutants are sufficient to satisfy the "reasonable expectation" test established in section 303(c)(2)(B). The information in the record which demonstrates that priority toxic pollutants are discharged or present and that Federal criteria are necessary may be summarized as follows:

- CNMI efforts since 1987 to adopt additional numeric criteria for priority toxic pollutants, as described above. CNMI has initiated (but not completed) efforts to adopt new or revised chemical-specific, numeric criteria for 108 priority toxic pollutants. These efforts represent evidence of the CNMI's recognition of the need for numeric criteria for these priority toxic pollutants.
- STORET data indicating the presence in CNMI waters of priority toxic pollutants which are not covered with approved CNMI criteria.

Guam has not been included in today's proposed rulemaking because Guam has adopted revised criteria for priority toxic pollutants in response to the section 303(c)(2)(B) requirement and received full EPA approval.

Guam's response to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:

- July 2, 1987. Guam adopted revised water quality standards which include numeric criteria for priority toxic pollutants.

- August 1987. Guam submitted the adopted water quality standards with an Attorney General certification to EPA for approval/disapproval.
- September 30, 1987. EPA approved the revised Guam water quality standards, including full approval of the revised numeric criteria for priority toxic pollutants. EPA fully approved the criteria for priority toxic pollutants adopted by Guam on July 2, 1987. It has been determined since that time that the criteria are consistent with option 1 of the December 12, 1988 section 303(c)(2)(B) guidance document.

If additional information is submitted during the public comment period asserting that Guam has not fully complied with section 303(c)(2)(B), it will be necessary at that time to respond to those comments and reevaluate the Agency's determination of full compliance.

Hawaii is included in today's proposal because, although the State has completed a review and adopted numeric criteria for some priority toxic pollutants in response to the statutory requirement, EPA has reason to believe that at least some additional criteria are necessary to comply with section 303(c)(2)(B). Therefore, EPA has determined for purposes of today's proposed rulemaking that the State is not currently in compliance with section 303(c)(2)(B) because it has not adopted water quality standards consistent with section 303(c)(2)(B) which have been fully approved by the appropriate EPA Regional Administrator.

The State's actions to respond to the 1987 section 303(c)(2)(B) requirements can be summarized as follows:

- January 8, 1990. The State adopted revised criteria.
- February 9, 1990. Hawaii submitted the adopted water quality standards with a State Attorney General certification to EPA for approval/disapproval.
- May 9, 1990. EPA approved Hawaii's water quality standards noting that omission of human health limits for five toxic metals precluded full satisfaction of the section 303(c)(2)(B) requirement.
- May 29, 1990. The State responded to the EPA approval indicating plans to adopt human health limits for the five toxic metals.
- July 13, 1990. EPA clarified portions of the May 1990 approval letter.

Because the State has adopted criteria for priority toxic pollutants using an option 1 approach as described in EPA's December 12, 1988 guidance document EPA is taking an approach of proposing

criteria for all remaining priority toxic pollutants which have been the subject of section 304(a)(1) criteria recommendations. EPA believes that the discharge or presence of these priority toxic pollutants can reasonably be expected to interfere with designated uses in the State and that Federal criteria therefore are necessary to protect Hawaii designated uses. This conclusion is based on the following information in the record:

- priority toxic pollutants on the State section 304(l) lists for which State criteria have not been adopted and approved, including these metals,
- STORET data indicating the presence in surface waters of these priority toxic pollutants.

Nevada is included in today's proposal because, although the State has completed a review and adopted numeric criteria for some priority toxic pollutants in response to the statutory requirement, EPA has reason to believe that at least some additional criteria are necessary to comply with section 303(c)(2)(B). Therefore, EPA has determined for purposes of today's proposed rulemaking that the State is not currently in compliance with section 303(c)(2)(B) because it has not adopted water quality standards consistent with section 303(c)(2)(B) which have been fully approved by the appropriate EPA Regional Administrator.

The State's actions to respond to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:

- May 24, 1988. The State held a public hearing on its proposed water quality standards revisions.
- September 12, 1988. The State submitted draft water quality standards revisions to EPA and the public for review.
- September 20, 1988. EPA provided comments to Nevada regarding its proposed water quality standards for toxics.
- October 21, 1988. The State submitted revisions to the Nevada toxic material definition and bioassay procedures to EPA and the public for review.
- November 10, 1988. The State held a public hearing on its proposed water quality standards revisions.
- November 29, 1988. The State held a public hearing on its proposed water quality standards revisions. (Revisions to the definition of "toxic" were adopted following this hearing.)
- May 31, 1989. The State submitted draft water quality standards revisions to EPA and the public for review.

- June 22, 1989. EPA provided comments to Nevada regarding its proposed standards for toxics.

- August 9, 1989. The State submitted draft water quality standards revisions to EPA and the public for review.
 - August 22, 1989. The State submitted draft water quality standards revisions and rationale to EPA.
 - September 18, 1989. EPA provided comments on Nevada's proposed water quality standards for toxics.
 - September 27, 1989. The State held a public hearing on its proposed water quality standards revisions. (Revisions to the bioassay requirements as part of the narrative toxics standard were adopted following this hearing.)
 - February 26, 1990. The State submitted draft water quality standards revisions to EPA and the public for review.
 - March 27, 1990. EPA provided comments on Nevada's proposed February 26, 1990 toxics standards.
 - March 28, 1990. The State held a public hearing on its proposed water quality standards revisions.
 - May 2, 1990. EPA provided comments regarding the latest proposed standards revisions.
 - May 2, 1990. The State adopted water quality standards revision which included some numeric criteria for priority toxic pollutants.
 - August 23, 1990. State transmitted approved water quality standards revisions without a State Attorney General Certification to EPA for approval/disapproval.
 - September 28, 1990. The State Attorney General certified the May 2, 1990 adoption.
 - January 16, 1991. EPA approved in part and disapproved in part standards adopted by the State and notified them of the actions they needed to take pursuant to the disapproval and that they had not fully satisfied section 303(c)(2)(B).
 - March 14, 1991. The State responded to the January 1991 approval/disapproval of standards.
- Today's proposed rulemaking would Federally promulgate the criteria necessary to bring the State into full compliance with section 303(c)(2)(B). To fully protect State designated uses, and to ensure that the required criteria are adopted, EPA proposes to apply broadly the criteria in proposed § 131.36(b). At a minimum, EPA proposes to apply, to all appropriate State waters, the criteria in proposed § 131.36(b) for all priority toxic pollutants which are not included in approved State criteria. EPA also

proposes to promulgate the § 131.36(b) criteria where any previously-approved State criteria are insufficiently stringent to fully protect all designated uses, or where such previously-approved State criteria are not applicable to all waters with relevant State designated uses. EPA invites public comment regarding any specific priority pollutants or water bodies for which Federal criteria may not be necessary to protect State designated uses.

For reasons which are fully discussed in the preamble, EPA has not attempted to determine the specific priority pollutants and water bodies that require criteria. However, EPA has determined that at least some Federal criteria are necessary to protect designated uses. This determination is supported by information in the record which demonstrates that priority toxic pollutants are discharged or present in surface waters at levels that can reasonably be expected to interfere with State designated uses. For some priority toxic pollutants, available data clearly demonstrate use impairment and the need for criteria. For most priority toxic pollutants, however, available data on the discharge and presence of such pollutants are spatially and temporally limited. Nevertheless, EPA believes that the data for many of these pollutants are sufficient to satisfy the "reasonable expectation" test established in section 303(c)(2)(B). The information in the record which demonstrates that priority toxic pollutants are discharged or present and that section 303(c)(2)(B) criteria are necessary may be summarized as follows:

- State efforts since 1987 to adopt additional numeric criteria for priority toxic pollutants, as described above. The State has initiated (but not completed) efforts to adopt new or revised chemical-specific, numeric criteria for 108 priority toxic pollutants. These efforts represent evidence of the State's recognition of the need for numeric criteria for these priority toxic pollutants.
- Presence in surface waters of the State of priority pollutants for which sufficient State numeric criteria have not been adopted, based on surface water monitoring data in STORET.
- Discharge to surface waters of priority pollutants for which sufficient State numeric criteria have not been adopted, based on data in the Toxics Release Inventory database and/or the Permit Compliance System database.

The Trust Territories of the Pacific Islands (Palau) has not been included in today's proposed rulemaking because

Palau has adopted revised criteria for priority toxic pollutants in response to the section 303(c)(2)(B) requirement and received full EPA approval.

Palau's response to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:

- November 7, 1990. Palau adopted revised water quality standards which include numeric criteria for priority toxic pollutants.
- December 12, 1990. Palau submitted the adopted water quality standards with an Attorney General certification to EPA for approval/disapproval.
- January 11, 1991. EPA approved the revised Palau water quality standards, including full approval of the revised numeric criteria for priority toxic pollutants.

EPA fully approved the criteria for priority toxic pollutants adopted by Palau on January 11, 1991 based on a determination that the criteria are consistent with option 1 of the December 12, 1988 section 303(c)(2)(B) guidance document.

If additional information is submitted during the public comment period asserting that Palau has not fully complied with section 303(c)(2)(B), it will be necessary at that time to respond to those comments and reevaluate the Agency's determination of full compliance.

Region 10

Alaska is included in today's proposal because although the State had previously adopted all section 304(a) criteria by reference, the State Attorney General has decided that the adoption by reference is invalid. Based on information in the record (see below), EPA has reason to believe that at least some criteria are necessary to comply with section 303(c)(2)(B). Therefore, EPA has determined for purposes of today's proposed rulemaking that the State is not currently in compliance with section 303(c)(2)(B) because it has not adopted water quality standards consistent with section 303(c)(2)(B) which have been fully approved by the appropriate EPA Regional Administrator.

Alaska's actions to respond to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:

- December 20, 1989. The State submitted draft water quality standards revisions to EPA and the public for review.
- April 6, 1990. The State held public hearings and accepted written comments on its proposed water quality standards revisions through this date.

—On November 4, 1991, Region 10 sent a letter to the State partially approving the State's incorporation by reference of EPA's toxic pollutant criteria; and noting the deficiencies which will be included in EPA's proposed rulemaking (e.g. Alaska's failure to adopt a human health criteria).

This proposed rulemaking would federally promulgate the criteria necessary to bring the State into full compliance with section 303(c)(2)(B). To fully protect State designated uses, and to ensure that the required criteria are adopted, EPA proposes to apply broadly the criteria in proposed § 131.36(b). At a minimum, EPA proposes to apply, to all appropriate State waters, the criteria in proposed § 131.36(b) for all priority toxic pollutants which are not the subject of approved State criteria. EPA also proposes to promulgate Federal criteria for priority toxic pollutants where any previously approved State criteria are insufficiently stringent to fully protect all designated uses, or where such previously approved State criteria are not applicable to all appropriate State designated uses. EPA invites public comment regarding any specific priority pollutants or water bodies for which Federal criteria may not be necessary to protect State designated uses.

For reasons which are fully discussed in the preamble, EPA has not attempted to determine the specific priority pollutants and water bodies that require criteria. However, EPA has determined that at least some Federal criteria are necessary to protect designated uses. This determination is supported by information in the record which demonstrates that priority toxic pollutants are discharged or present in surface waters at levels that can reasonably be expected to interfere with State designated uses. For some priority toxic pollutants, available data clearly demonstrate use impairment and the need for toxics criteria. For most priority toxic pollutants, however, available data on the discharge and presence of priority toxic pollutants are spatially and temporally limited. Nevertheless, EPA believes that the data for many of these pollutants are sufficient to satisfy the "reasonable expectation" test established in section 303(c)(2)(B). The information in the record which demonstrates that priority toxic pollutants are discharged or present and that Federal criteria are necessary may be summarized as follows:

- State efforts since 1987 to adopt additional numeric criteria for priority toxic pollutants, as described above.

The State has initiated (but not completed) efforts to adopt new or revised chemical-specific, numeric criteria for 103 priority toxic pollutants. These efforts represent evidence of the State's recognition of the need for numeric criteria for these priority toxic pollutants.

- STORET data indicating the presence in surface waters of priority toxic pollutants which are not currently covered with approved State criteria.
- Discharge to surface waters of priority pollutants for which sufficient State numeric criteria have not been adopted, based on data in the Toxics Release Inventory database and/or the Permit Compliance System database.

Idaho is included in today's proposal because although the State adopted some numeric criteria for human health protection for some priority toxic pollutants before the 1987 amendments, the State has not completed a review of their numeric criteria for priority toxic pollutants in response to the statutory requirement. Furthermore, the State's criteria protecting human health are based only on drinking water maximum contaminant levels; fish consumption is not protected, and EPA has reason to believe that at least some additional criteria are necessary to comply with section 303(c)(2)(B). Therefore, EPA has determined for purposes of today's proposed rulemaking that the State is not currently in compliance with section 303(c)(2)(B) because it has not adopted water quality standards consistent with section 303(c)(2)(B) which have been fully approved by the appropriate EPA Regional Administrator.

Idaho's action to respond to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:

- July 23, 1990. The State submitted draft water quality standards revisions to EPA and the public for review.

This proposed rulemaking would federally promulgate the criteria necessary to bring the State into full compliance with section 303(c)(2)(B). To fully protect State designated uses, and to ensure that the required criteria are adopted, EPA proposes to apply broadly the criteria in proposed § 131.36(b). At a minimum, EPA proposes to apply, to all appropriate State waters, the criteria in proposed § 131.36(b) for all priority toxic pollutants which are not the subject of approved State criteria. EPA also proposes to promulgate Federal criteria for priority toxic pollutants where any previously approved State criteria are insufficiently stringent to fully protect all designated uses, or where such

previously approved State criteria are not applicable to all appropriate State designated uses. EPA invites public comment regarding any specific priority pollutants or water bodies for which Federal criteria may not be necessary to protect State designated uses.

For reasons which are fully discussed in the preamble, EPA has not attempted to determine the specific priority pollutants and water bodies that require criteria. However, EPA has determined that at least some Federal criteria are necessary to protect designated uses. This determination is supported by information in the record which demonstrates that priority toxic pollutants are discharged or present in surface waters at levels that can reasonably be expected to interfere with State designated uses. For some priority toxic pollutants, available data clearly demonstrate use impairment and the need for toxics criteria. For most priority toxic pollutants, however, available data on the discharge and presence of priority toxic pollutants are spatially and temporally limited. Nevertheless, EPA believes that the data for many of these pollutants are sufficient to satisfy the "reasonable expectation" test established in section 303(c)(2)(B). The information in the record which demonstrates that priority toxic pollutants are discharged or present and that Federal criteria are necessary may be summarized as follows:

- Priority toxic pollutants on the State Section 304(l) short list for which State criteria have not been adopted and approved, including metals and some organics.
- STORET data indicating the presence in surface waters of priority toxic pollutants which are not currently covered with approved State criteria.
- Discharge to surface waters of priority pollutants for which sufficient State numeric criteria have not been adopted, based on data in the Toxics Release Inventory database and/or the Permit Compliance System database.

Oregon has not been included in today's proposed rulemaking because the State has adopted revised criteria for priority toxic pollutants in response to the section 303(c)(2)(B) requirement and received full EPA approval.

The State's response to the 1987 section 303(c)(2)(B) requirement can be summarized as follows.

- August 28, 1987. The State adopted revised water quality standards which included numeric criteria for priority toxic pollutants.
- January 26, 1988. The State submitted the adopted water quality standards

with a State Attorney General certification to EPA for approval/disapproval.

- March 9, 1988. EPA approved the revised State water quality standards, including full approval of the revised numeric criteria for priority toxic pollutants.

EPA fully approved the criteria for priority toxic pollutants adopted by Oregon on February 12, 1989 as being consistent with option 2 of the December 12, 1988 section 303(c)(2)(B) guidance document.

If additional information is submitted during the public comment period asserting that the State has not fully complied with section 303(c)(2)(B) it will be necessary at that time to respond to those comments and reevaluate the Agency's determination of full compliance.

Washington is included in today's proposal because although the State adopted numeric criteria for some priority toxic pollutants before the 1987 amendments, the State has not adopted numeric criteria for any human health based criteria for priority pollutants, and EPA has reason to believe that at least some additional criteria are necessary to comply with section 303(c)(2)(B). Therefore, EPA has determined for purposes of today's proposed rulemaking that the State is not currently in compliance with section 303(c)(2)(B) because it has not adopted water quality standards consistent with section 303(c)(2)(B) which have been fully approved by the appropriate EPA Regional Administrator.

Washington adopted 26 freshwater and marine criteria which EPA fully approved on March 4, 1988 (see below). The State has not completed a review of their criteria for priority toxic pollutants in response to the statutory requirement and EPA has reason to believe that at least some additional criteria are necessary to comply with section 303(c)(2)(B).

The State's actions to respond to the 1987 section 303(c)(2)(B) requirement can be summarized as follows:

- February 9, 1988. The State submitted the adopted water quality standards with a State Attorney General certification to EPA for approval/disapproval.

- March 4, 1988. EPA approved the revised State water quality standards.
- July 20, 1990. Washington released its proposed water quality standards with public comments accepted through this date.

This proposed rulemaking would federally promulgate the criteria

necessary to bring the State into full compliance with section 303(c)(2)(B). To fully protect State designated uses, and to ensure that the required criteria are adopted, EPA proposes to apply broadly the criteria in proposed § 131.36(b). At a minimum, EPA proposes to apply, to all appropriate State waters, the criteria in proposed § 131.36(b) for all priority toxic pollutants which are not the subject of approved State criteria. EPA also proposes to promulgate Federal criteria for priority toxic pollutants where any previously-approved State criteria are insufficiently stringent to fully protect all designated uses, or where such previously-approved State criteria are not applicable to all appropriate State designated uses. EPA invites public comment regarding any specific priority pollutants or water bodies for which Federal criteria may not be necessary to protect State designated uses.

For reasons which are fully discussed in the preamble, EPA has not attempted to determine the specific priority pollutants and water bodies that require criteria. However, EPA has determined

that at least some Federal criteria are necessary to protect designated uses. This determination is supported by information in the record which demonstrates that priority toxic pollutants are discharged or present in surface waters at levels that can reasonably be expected to interfere with State designated uses. For some priority toxic pollutants, available data clearly demonstrate use impairment and the need for toxics criteria. For most priority toxic pollutants, however, available data on the discharge and presence of priority toxic pollutants are spatially and temporally limited. Nevertheless, EPA believes that the data for many of these pollutants are sufficient to satisfy the "reasonable expectation" test established in section 303(c)(2)(B). The information in the record which demonstrates that priority toxic pollutants are discharged or present and that Federal criteria are necessary may be summarized as follows:

—Priority toxic pollutants on the State Section 304(l) short list for which State criteria have not been adopted

and approved, including metals and some organics.

—State efforts since 1987 to adopt additional numeric criteria for priority toxic pollutants, as described above. The State has initiated (but not completed) efforts to adopt new or revised chemical-specific, numeric criteria for 91 priority toxic pollutants. These efforts represent evidence of the State's recognition of the need for numeric criteria for these priority toxic pollutants.

—STORET data indicating the presence in surface waters of priority toxic pollutants which are not currently covered with approved State criteria.

—Discharge to surface waters of priority pollutants for which sufficient State numeric criteria have not been adopted, based on data in the Toxics Release Inventory database and/or the Permit Compliance System database.

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