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Use classificaton	Applicable criteria
FW2	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, SE2, 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 classificaton	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 classificaton	Applicable criteria
Class I	This classification is assigned the criteria in: Column C(I)—all. Column C(II)—all. Column D(III)—all, except #16.
Class II	This classification is assigned the criteria in: Column B(I)—all. Column B(III)—all. Column C(I)—all. Column C(II)—all. Column D(III)—all, except #16.
Class III–VII	Each of these classifications is assigned the criteria in: Column B(I)—all. Column B(III)—all. Column D(III)—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 classificaton	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 classificaton	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 classificaton	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(II)—#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 5—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, 103, 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 13).....	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.	
Class 2 Cold Water A.L.	
Class 1 Warm Water A.L.	
Class 2 Warm 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 these aquatic life uses) are further assigned the criteria set forth below.

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
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 8, 10
Uncompahgre 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.
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.
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)i	This classification is assigned the criteria in: Column B(I)—#'s 9, 10, 53. Column B(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)(A)ii	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 B(III)—#'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)i	This classification is assigned the criteria in: Column C(I)—all. Column C(III)—#'s 9, 10, 13, 53. Column D(II)—#'s 9, 10, 53. Column D(III)—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. Column D(III)—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.
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.

(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, 103, 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 C(I) 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 I

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(l) 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 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 reproposed 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 28, 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 19, 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 68 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 instream;

—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 28, 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, 1988 (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 38 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, 1988 (State Regulation K.A.R. 28–16–28e). EPA approved these criteria on June 19, 1988, 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(l) 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 sumbitted 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 rulemakingbecause the State has adopted revised criteria for priority toxic pollutants in response to the section 393(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 enplaning 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(l) 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 I 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 it's 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 28, 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 28, 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).
—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 suificient 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 20 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.

[FR Doc. 91-27270 Filed 11-18-91; 8:45 am]
BILLING CODE 6560-50-M

Environmental
Toxicology
International, Inc.

The Myth of 10^{-6} As a Definition of Acceptable Risk

(Or, "In Hot Pursuit of Superfund's Holy Grail")

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Presented at the

84th Annual Meeting of the
Air and Waste Management Association

Vancouver, B.C., Canada

June 1991

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INTRODUCTION

It is difficult to imagine a criterion in wider use in U.S. environmental legislation than 10^{-6}. It guides the use of pesticides and food additives; it defines our allowable exposure to groundwater contamination and incinerators. It is the most influential determinant we have in deciding what emissions should be allowed from stacks, how a hazardous waste site should be cleaned up, and how much Alar to leave on apples.

10^{-6} is a shorthand description for an increased lifetime chance of 0.000001 in one (or one chance in 1,000,000) of developing cancer due to lifetime exposure to a substance. It is an upper-bound limit which is not likely to underestimate risk. 10^{-5} represents 1 chance in 100,000, and so on. 10^{-6} numerically represents an increase of approximately 0.0003% over our current chance of one in three (or 3.33×10^{-1}) from developing cancer from all causes in the U.S.

Background level of exposure to environmental contaminants is estimated at 10^{-3} to 10^{-2}.[1] The vast majority of our exposure to carcinogens is thought to be due to those that occur naturally in our foods.[2] 10^{-6} is therefore 1,000 to 100,000 times less than our current risk of background exposure to environmental contaminants or developing cancer from all causes. As 10^{-6} is an upper-bound estimate of risk, not an absolute or average value, the difference may actually be much greater.

The past, present, and future costs of achieving compliance with such a stringent criterion are virtually incalculable; certainly many billions of dollars have been spent in attempting to achieve this goal for cleanups at hazardous waste sites in the U.S. As a result, determining the origins of 10^{-6} is of considerable social, scientific, and economic interest.

Recent research has revealed that there is no sound scientific, social, economic or other basis for the selection of 10^{-6} as a cleanup goal for hazardous waste sites. Remarkably, this criterion, which has cost society billions of dollars, has never received widespread debate or even thorough regulatory or scientific review. It is an arbitrary level proposed 30 years ago for completely different regulations (animal drug residues), the circumstances of which do not apply to hazardous waste site regulation. As a result, implementing i consistently has frequently been socially, politically, technically, and economically infeasible. Although the benefits of 10^{-6} generally have not been shown to outweigh the significant costs of attaining this goal, many state cleanup guidelines still advocate or require the use of 10^{-6}.

Under these circumstances, communicating the meaning of 10^{-6} and the definition of "acceptable risk" poses considerable challenges to those responsible for explaining risk. The origin of 10^{-6} relative to its use as a criterion of "acceptable risk" is explored below.

THE SURPRISING ORIGINS OF 10^{-6}

Recently, we conducted an extensive review to determine the origin of 10^{-6} as a criterion of "acceptable risk."[3] We began with an informal telephone survey of affected agencies and an extensive literature search. The conclusions of this survey include the following:[3]

1. *None of the officials contacted at any federal or state agency currently using 10^{-6} as a criterion knew the basis of this criterion, nor is there any readily available documentation that specifically describes the origin of 10^{-6}.*

The extensive literature search included numerous toxicological, medical, regulatory, pollution, environmental, and governmental databases, that were queried back to the origin of each database (usually the mid-1970's). Not finding any written documentation, the authors began calling a "Who's Who" of the environmental industry. The contacts included:

- The White House
- The U.S. Environmental Protection Agency
- The EPA's Science Advisory Board
- The EPA's Risk Assessment Forum
- The Food and Drug Administration
- The U.S. Department of Agriculture
- The U.S. Conference of Mayors
- Oak Ridge National Laboratories
- The Congressional Office of Technology Assessment
- The Natural Resources Defense Council
- Citizen's Clearinghouse for Hazardous Waste
- Greenpeace
- Two former EPA Administrators
- A former state environmental commissioner
- Rockefeller University
- Environmental divisions of major law firms
- Staff members of several Congressmen
- And many other contacts in government and industry

Despite widespread use of this criterion, none of the agencies could cite the source of 10^{-6}, although there was almost universal surprise that the origin of 10^{-6} was not readily available. We were offered many good theories, but no written documentation. A sample of the responses:

- "My mind is a complete blank."
- "My, what an interesting question!"
- "I think it came from pesticides legislation or the Delaney Clause."
- "It came from the FDA in the 1950's."
- "It was derived from the Virtually Safe Dose used in the Safe Drinking Water Act."
- "It's an economic criterion."
- "It's based on the chance of being hit by lightening which is one-in-a-million."
- "I just assumed it was because one-in-a-million sounded like such a nice phrase."
- "It was selected because it was 'doable'. Or at least that's what we thought at the time."
- "It was a purely political decision made by several of the major agencies behind closed doors in the 1970's. I doubt very much you'll get anyone to talk to you about it."
- And our favorite, "You really shouldn't be asking these questions" (this from one of the federal agencies).

2. *The concept of 10^{-6} was originally an arbitrary number, finalized by the U.S. Food and Drug Administration fourteen years ago as a screening level of "essentially zero" or* de minimis *risk. This concept was traced back to a 1961 proposal by two scientists from the National Cancer Institute regarding determining "safety" levels in carcinogenicity testing.*[3]

The proposal for *de minimis* risk was contained in a 1973 notice in the Federal Register entitled "Compounds Used in Food-Processing Animals: Procedures for Determining Acceptability of Assay Methods Used for Assuring the Absence of Residues in Edible Products of Such Animals," commonly called the "Sensitivity of Method" regulations.[4] The term *de minimis* is an abbreviation of the legal concept, "*de minimis non curat lex*: the law does not concern itself with trifles." In other words, 10^{-6} was developed as a level of risk below which was considered a "trifle" and not of regulatory concern.

The purpose of these proposed rules was to set forth guidelines with regard to appropriate assay methods for carcinogenic animal drugs "which may be administered to food-producing animals, but for which no residue is permitted in human food" under the Delaney Clause of 1958. The rules were specifically prompted by the use of diethylstilbestrol (DES) as a growth promoter in cattle.

In adopting a threshold of safety, the FDA referred to a 1961 article by Nathan Mantel and Kay Bryan, originators of the well-known Mantel-Bryan equation, on the subject of safety testing in animal studies. Mantel, a biostatistician at the National Cancer Institute, had been asked by the Director of the Institute to develop guidelines for the number of laboratory animals required to establish the safety of a substance. This in turn was in response to a request by the Secretary of the Department of Health, Education and Welfare to the NCI to help establish which cancer-causing substances were "safe" and at what levels following the Thanksgiving cranberry scare of 1959. (Trace residues of a cancer-causing herbicide were found in supplies of cranberries shortly before the holiday, prompting the Secretary to recommend against buying cranberries that year. This in turn set off a mild panic which nearly devastated the cranberry industry.)

In their 1961 article, Mantel and Bryan reasonably pointed out that to define the parameters of safety testing, one must first come up with a definition of safety. For the purposes of discussion, they said, we'll assume "safe" is equal to one chance in 100,000,000 of developing cancer. Asked how he came up with the number of one in one hundred million, Mantel replied, "We just pulled it out of a hat." After all, defining "safe" was not the focus of their article. But this is the ultimate origin of 10^{-6}.

FDA initially adopted this "one in 100,000,000" in their 1973 proposal, but changed this value to one in 1,000,000 by the time the final rule was issued in 1977. "One in one million" was thus established as the "maximum lifetime risk that is essentially zero", or the level below which no further regulatory consideration would be given regarding the safety of residues of a carcinogenic animal drug. Only two comments were received on these proposed rules, despite a specific request from the FDA Commissioner for public comment on the setting of one-in-a-million risk as a threshold of "essentially zero" risk.

3. *In the FDA legislation, the regulators specifically stated that this level of "essentially zero" was* not *to be interpreted as equal to an acceptable level of residues in meat products.*[4]

Nevertheless, many current regulations and guidance documents have done exactly that: interpreted this "essentially zero" level developed by the FDA, a level below which there would be no regulatory consideration given regarding safety, as a maximum "acceptable" level of risk.

An analogy to automobiles is that if we could not measure when a car were standing completely still, the FDA might consider one mile per hour a "virtually safe" rate of speed. Below this rate either speed is unmeasurable, or the costs of such measurements outweigh the benefits of the information gained.

In a sense, this criterion of one mile per hour has been misinterpreted to be a maximum "acceptable" rate of speed for driving a car on the highway without risk of dying in a car crash. The former is a *screening* level below which no regulatory consideration would be given to risks; the latter is a *safety* decision that takes into account cost-benefit considerations of highway safety, the road conditions, type and weight of automobile, etc.

Cleaning up all hazardous waste sites to a 10^{-6} level of "essentially zero" risk is therefore comparable to limiting highway traffic to 1 mph. The cost-benefits tradeoffs need to be evaluated more carefully in selecting a final cleanup number, using 10^{-6} as a starting point instead of a goal.

HOW IS 10^{-6} USED?

A review of the evolution of 10^{-6} reveals that *perception* of risk is a major determinant of the circumstances under which this criterion is used.

1. *10^{-6} is not consistently applied to all environmental legislation. Rather, it seems to be applied according to the general* perception *of the risk associated with the source being regulated. Specifically, 10^{-6} has been applied almost exclusively to hazardous waste sites, pesticides, and selected carcinogens, but not to air, drinking water, or other sources perceived to be of less risk.*

Cleanup levels for a given contaminant are not consistent and vary by orders of magnitude. From these past site cleanup decisions, we can see that what is determined to be "acceptable" is not a set value; the threshold of "acceptability" varies among countries, among states, and among different cities of the same state. Furthermore, the lack of consistent quality among risk assessments has resulted in similar sites with widely differing cleanup levels, all claiming to have been cleaned up to 10^{-6}.

Less well known are the extreme differences even among various divisions of the same agency for the same substance. For example, there are six orders of magnitude (one million-fold) difference in target risk within different EPA regulations for arsenic.[5] We suggest the differences are in part due to the *perception* of risk associated with the particular regulatory decision: the greater the perceived risk, the narrower the gap between "essentially zero" and what the public

will allow as "acceptable risk." As a result, some sources that actually pose a higher risk to society, such as automobile emissions, are regulated less stringently simply because they are *perceived* to pose less risk than such sources as hazardous waste management facilities, whether or not the data support that assumption.

2. *Although it has been in widespread use for hazardous waste sites for many years, the concept of 10^{-6} as a criterion of acceptable risk has never been legislatively mandated in any EPA regulations. In fact, the target range of 10^{-6} to 10^{-4} as a range of "generally acceptable risk" was not actually codified into EPA Superfund legislation until 1990 with the passage of the revised National Contingency Plan.*

   How did this misconception arise? As the concept of risk assessment was broadened over two decades from carcinogenic animal drugs at the FDA to a host of other decisions and agencies (including food, water, air, hazardous waste, and others), the 10^{-6} concept was carried along as well. In the opinion of a former FDA counsel, the concept of 10^{-6} was repeated so often that it took on the stature of a firm regulatory policy, although the record clearly indicates otherwise. Unfortunately, in adopting 10^{-6} for other purposes, the original intent of 10^{-6} as a screening level was lost and still is not recognized today.

   We could find no reference to 10^{-6} as a criterion for "acceptable risk" in any published EPA regulation or guidelines. The guidance published in 1984 by the Office of Science and Technology Policy[6] made no mention of any target risk whatsoever with which to compare results of health risk assessments, nor did EPA's proposed or final Guidelines for Carcinogenic Risk Assessment.[7,8]

   The first use of "acceptable risk" in any environmental guidance appears to have been a part of the Superfund Public Health Evaluation Manual, issued in 1986 and now superseded by the 1990 National Contingency Plan.[9] The original Superfund guidelines stated: "... remedies considered should reduce ambient chemical concentrations to levels associated with a carcinogenic risk range of 10^{-4} to 10^{-7}." This range was modified to 10^{-4} to 10^{-6} in the final NCP.

3. *In codifying 10^{-6} for the first time in hazardous waste site rules, the National Contingency Plan specifically designates 10^{-6} as a starting point for discussion of acceptable target risk at a site or "point of departure," not the ultimate goal.[9] This is consistent with the original intent of the use of 10^{-6} as a level below which regulatory consideration was not warranted, i.e., as a starting point for discussion.*

   The plan specifically states 10^{-6} should not be presumed to be the final target risk for hazardous waste sites, but a "point of departure" for deciding an appropriate target level. 10^{-6} to 10^{-4} is given as a range of "generally acceptable risk," with the option given for even 10^{-4} to be exceeded in some circumstances.

   Because no two sites are alike, the guidance then lists several site-specific or remedy-specific factors that can be used to assist in the selection of a final risk level. This approach is consistent with EPA's requirement to develop protective strategies for hazardous waste sites, not eliminate risk.

4. *The use of a single value of "acceptable risk" has never been used in EPA hazardous waste site regulation -- only a range of values.*

In an analysis of the final NCP by one of the EPA attorneys who drafted the rule, the attorney states:

> "The use of a *range* of acceptable risk is general practice for most government programs...[It] affords the Agency the flexibility to take into account different situations, different kinds of threats, and different kinds of technical remedies. If a single risk level had been adopted (e.g., at the more stringent end of the risk range), fewer alternatives would be expected to pass the protectiveness threshold and qualify for consideration in the balancing phase of the remedy selection process."[10]

The use of 10^{-6} as a definition of acceptable risk thus has no scientific or regulatory basis. Its use appears to be arbitrary and generally applied where risks are perceived to be high relative to other risks, regardless of the available data.

SO WHAT IS AN ACCEPTABLE LEVEL OF RISK?

Much has been written about determining the acceptability of risk. The general consensus of the literature is that "acceptability" of a risk is a judgment decision properly made by those exposed to the hazard or their designated health officials. It is not a scientifically-derived value or a decision made by outsiders to the process. Acceptability is based on many factors, such as the number of people exposed, the consequences of the risk, the degree of control over exposure, and perhaps 40 or so other factors. The degree of risk acceptable at hazardous waste sites has never been formally quantified, but it does vary with each site, and it is clear that the public tolerates a very low threshold of acceptable risk at hazardous waste sites in part because hazardous waste ranks very high with many of these factors.

Travis *et al.* attempted to answer this question indirectly by quantifying the risk levels associated with 132 federal regulatory decisions, and thus determine a *de facto* level of acceptable risk.[11] If a consistent threshold of risk could be shown in other federal health and safety decisions, that could provide guidance for comparable protection of hazardous waste sites. From this effort they rather convincingly concluded that the *de facto* level of acceptable risk in federal regulatory decisions has been shown to be approximately 10^{-4}.

This level, which is 100 times greater than 10^{-6}, is likely due to several factors. We suggest that chief among those reasons is that *perception* of risk drives the regulatory decision on what constitutes the level of "acceptable" risk. This notion is supported by recent findings of the U.S. EPA Science Advisory Board,[12] which ranks hazardous waste near the bottom of its list of actual risks to the public, but near the top of the agency's priorities, which in turn are dictated by public perceptions and Congressional funding. In response to these findings, U.S. EPA Administrator Reilly has undertaken a major reorganization of the EPA to refocus its efforts on the major sources of actual risk and their reduction.[13]

A second reason we believe 10^{-6} has been so widely applied to hazardous waste sites is that unlike decisions about air contamination, pesticides, and other agency reviews made at the federal level, hazardous waste site cleanup decisions are made on a very local and site-specific basis. What seems "doable" at the local level, such as spending a million dollars for cleaning up a site in return for virtual elimination of risk, often does not seem "doable" on a larger scale, as when thousands of sites at perhaps several million dollars per site are the cost of reducing risk to levels well below those considered "acceptable" by other public health standards.

What does this mean for current and pending state environmental policy? We suspect that many agencies will begin to adopt policies such as that established by the New Jersey Department of Environmental Protection, Division of Environmental Quality (DEQ), in their guidance for risk assessments for municipal solid waste incineration facilities. This policy quite succinctly states:

> "Incremental risks from a new source which are less than one in a million are considered by the DEQ to be negligible. Incremental risks greater than one in ten thousand are deemed unacceptable. Risks between these two limits are judged on a case-by-case basis."[14]

SUMMARY AND CONCLUSIONS

It has been nearly two decades since the FDA introduced the concept of risk assessment in its efforts to deal with DES as a growth promoter in cattle. As part of this effort, the threshold of one-in-a-million risk of developing cancer was established as a screening level to determine what carcinogenic animal drug residues merited further regulatory consideration.

Since then, the use of risk assessment and 10^{-6} (or variations thereof) have been greatly expanded to almost all areas of chemical regulation, to the point where today clearly one-in-a-million risk means different things to different agencies. What the FDA intended to be a *lower* regulatory level of "zero risk" below which no consideration would be given as to risk to human health, many federal and state agency decisions somehow came to consider a *maximum* or *target* level of "acceptable" risk.

As 10^{-6} seemed like a reasonably conservative level (or "doable," according to many of those we spoke with), it was adopted first for a few chemicals and exposure pathways, then more chemicals and exposure pathways, and so forth. Not until the rule came into widespread use or until everyone was limited to one mile per hour on the freeway, so to speak, and it was costing billions of dollars to eliminate risk -- did it become readily apparent that the "zero risk" screening criterion was not intended to be interpreted as "acceptable risk." Accordingly, the benefits of the 10^{-6} criterion applied to hazardous waste sites will rarely exceed the risks and costs, and the criterion is thus unsuitable for regular implementation or enforcement.

Furthermore, 10^{-6} as a criterion for "acceptable risk" has not been applied to other sources of exposure that pose considerably more risk to public health than hazardous waste, such as automobile emissions, radon, or sources of benzene. The primary reason for the inconsistent application of this criterion appears to be that public perception of risk has driven the regulatory management of these sites

to a greater degree than supported by the actual data. Reorganizing the EPA's priorities towards issues of actual rather than perceived risk is a major goal of EPA Administrator Reilly.

A lack of a sound basis for extrapolating the use of 10^{-6} from its very specific origins to a wide variety of other non-related applications partly explains the extreme difficulty agencies have had in implementing 10^{-6} as a goal. Such extrapolations face costs and benefits that are often not in balance (e.g., OMB's unwillingness to approve recent hazardous waste incineration rules because of EPA's inability to fully account for and justify the costs of implementing these rules -- i.e., $288 million dollars per case of cancer avoided).[15]

The discovery of a lack of a sound basis for the choice of 10^{-6} offers opportunities for introducing health-based considerations into the discussion of how to clean up hazardous waste sites, particularly when so many sites demand attention for cleanup and funds are limited. As the federal and state agencies review their position on the "Holy Grail" of 10^{-6} as a goal that is frequently sought but rarely found, it's interesting to know that in the absence of a well-established basis for 10^{-6}, the door is wide open for discussion about the appropriateness of 10^{-6} or any other criterion. Of particular interest is the need for clarification of 10^{-6} as a screening level of "essentially zero" risk, as it was originally intended, vs. its frequent use at hazardous waste sites as a goal of maximum "acceptable risk."

This is an opportunity to create cleanup criteria with a more sound basis, instead of presenting an obstacle to further decisic n-making regarding important health and environmental matters. The solution to developing better criteria for environmental contaminants is not to adopt arbitrary thresholds of "acceptable risk" in an attempt to manage the public's perception of risk. Rather, the solution is to standardize the *process* by which risks are assessed, and to undertake efforts to narrow the gap between the public's understanding of actual vs. perceived risk. A more educated public with regard to the sources of real environmental risk will greatly facilitate the regulatory agencies' ability to prioritize their efforts and standards to reduce overall risks to public health.

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ALASKA PULP CORPORATION

4/29/92

Lloyd Jones
Alaska Legislature
PO Box (MS3100)
Juneau, AK 99811

Lloyd:

Here is a paper on the role of 10^{-6} as a determinant in risk assessment. Although the paper's main topic is hazardous waste clean-up, the topic does have relevance to water permits, state-federal environmental issues and discussions of risk.

Essentially, the paper states:

1) Very few people know where the term 10^{-6} originated – even those in regulatory agencies – or that the number was basically pulled out of a hat.
2) 10^{-6} is not consistently applied to environmental legislation.
3) 10^{-6} represents an increase of only 0.0003% over our current 1 in 3 chance of developing cancer.
4) In the evolution of risk assessment, agencies have interchanged the concepts of average risk, acceptable risk and zero risk.
5) Perception of risk drives the public or political process to stricter definitions of acceptable risk.
6) The cost to achieve 10^{-6} risk may be exceedingly high and not have any appreciable impact to public health or the environment.

I hope you will find this well-documented article both interesting and enlightening.

Respectfully,

Rollo Pool

TELECOPIER (907) 747 5588
TELEPHONE (907) 747 2211

ALASKA PULP CORPORATION
4600 SAWMILL CREEK ROAD • SITKA, ALASKA 99835-9639

April 9, 1992

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To Honorable Lloyd Jones	From Frank Poppel
Co.	Co. APC
Dept.	Phone # 747-2255
Fax # 465-3922	Fax # 747-2268

John Sandor
Commissioner
Alaska Department of
Environmental Conservation
P.O. Box O
Juneau, Alaska 99811-1800

RE: Proposed NPDES Permit for Alaska Pulp Corporation - Sitka

Dear Commissioner:

Based on a very cursory assessment of the preliminary draft (AK000053-1) of March 20, it appears it will cost Alaska Pulp Corporation (APC) in excess of $104 million in capital costs and $33 million annual costs for interest, depreciation, operations and maintenance to comply with the proposed permit. This translates to a cost of production increase of $190 per ton of pulp.

These proposed costs come at a time when our head to head British Columbia competitor has not yet installed even secondary treatment and has enjoyed a 12 million annual pollution control cost advantage over each of the two Alaska mills for more than the past ten years. The artificially reduced operating costs of Canadian mills and other international competitors preclude us from passing along these huge cost increases to the consumer. There is currently a soft market for our type of pulp and there is still the capacity to further increase production at some of the lowest cost producing plants.

The proposed permit is also competitively unfair to the Alaska mills compared to Lower 48 competitors because it imposes a significantly higher level of severity than noticed in recent Northwest mill permits.

In addition to the costs associated with a NPDES permit, APC is still faced with the costs of a new air permit, costly land fill closures, a million dollar mill drinking water change and storm (rain) water run-off control.

Under these conditions, no prudent banker would even consider the lending of money to fund such modifications, bringing into serious question the mill's ability to finance such huge costs.

The proposed permit will clearly require significant process changes and major equipment additions. We are presently detailing these and will get them to you soon. However, in 1983, EPA itself recognized the scope of equipment and process changes and the related costs needed for major reduction in effluent levels then required ($60 million in capital costs and $10.3 million in O&M costs for changes for less onerous than those required here).

As you know, our pulp is used in a very complex chemical process as compared to most pulps which are mechanically processed for paper making. The technology to support some of the apparently required changes has not yet been proven in the market place and would raise very serious doubts in the users as to the continued suitability of our product for their needs.

The proposed permit unfortunately ignores non-water quality impacts such as land fill and air emissions. These impacts are magnified because APC has no land fill area for sludge and bio-solids.

I urge the State to seek to have EPA agree to continue the existing NPDES permit for most parameters for another five year term or the remaining economic life of the mill. During that period, several parameters could be identified for effluent reduction. For example, I am confident that the more high profile issues important to this area such as color in the water could be significantly improved given time and flexibility.

APC has operated in Sitka for more than thirty years and intends to attempt to stay, but it must be recognized there is a limit to our ability to absorb these huge costs.

Yours very truly,

Franklin C. Roppel
Executive Vice President

FCR:cs

cc: Governor Hickel

United States
Environmental Protection
Agency

Region 10
1200 Sixth Avenue
Seattle WA 98101

Alaska
Idaho
Oregon
Washington

EPA

MAR 26 1992

Reply To
Attn Of: WD-137

Richard Stokes, Regional Supervisor
Alaska Department of Environmental Conservation
Southeast Region
410 Willoughby Avenue
Suite 105
Juneau, Alaska 99801-1795

Re: Preliminary Draft NPDES Permits
- Ketchikan Pulp Company (AK-000092-2)
- Alaska Pulp Corporation (AK-000053-1)

Dear Mr. Stokes,

Enclosed for your review are copies of the preliminary draft National Pollutant Discharge Elimination System (NPDES) permits and supporting documentation for the referenced facilities. In accordance with established procedures between our agencies, this preliminary review should be completed within a two-week time frame. Upon completing the review, we plan to send the drafts to public notice.

EPA is sharing copies of these documents with the companies and other organizations or private parties who have requested a copy of the earliest draft possible. We will also share the documents with any other interested parties upon request. We wish to emphasize that we are not soliciting comment from outside parties, because we believe that any formal dialogue at this time could compromise the public participation process.

We call your attention to the mixing zone section of the fact sheet. EPA is proposing mixing zones for pollutants with aquatic life criteria; the dimensions of these zones are based on the guidelines set forth in the standards. EPA is not proposing a mixing zone for pollutants with risk-based, human health criteria. In addition, no mixing zone is proposed for any pollutants in the discharge to Sawmill Creek from Alaska Pulp Corporation. If your agency authorizes different mixing zones than those described in the fact sheet, EPA will revise the permit accordingly.

Please contact Carla Fisher (206) 553-1756 or Ben Cope (206) 553-1442 with comments on the drafts.

Sincerely,

Gregory L. Kellogg, Acting Chief
Water Permits and Compliance Branch

Enclosures

cc: Office of Management and Budget, Juneau
Robert Higgins, Ketchikan Pulp Company
Edward Oetken, Alaska Pulp Company
Margaret Twitchell, Sierra Club Legal Defense Fund
Rick Della, ENSR
Don Muller

PRELIMINARY DRAFT
March 23, 1992

Permit No.: AK-000092-2
Application No.: AK-000092-2

United States Environmental Protection Agency
Region 10
1200 Sixth Avenue
Seattle, Washington 98101

AUTHORIZATION TO DISCHARGE UNDER THE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Clean Water Act, 33 U.S.C. § 1251 et seq., as amended by the Water Quality Act of 1987, P.L. 100-4 (the "Act"),

KETCHIKAN PULP COMPANY
(Ketchikan Pulp Mill)

is authorized to discharge from its pulping facility located in Ketchikan, Alaska

to receiving waters named Ward Cove,

in accordance with discharge point(s), effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective

This permit and the authorization to discharge shall expire at midnight,

Signed this day of

Director, Water Division, Region 10
U.S. Environmental Protection Agency

TABLE OF CONTENTS

I. EFFLUENT LIMITATIONS

A. During the effective period of this permit, the Permittee is authorized to discharge from outfalls 001, 002, 003, and stormwater outfalls subject to the restrictions set forth herein. This permit does not authorize the discharge of any waste streams, including spills and other unintentional or non-routine discharges of pollutants, that are not part of the normal operation of the facility as disclosed in the permit application, or any pollutants that are not ordinarily present in such waste streams.

B. The Permittee shall not discharge beyond the existing log boom any floating solids, visible foam in other than trace amounts, or oily wastes that produce a sheen on the surface of the receiving water.

C. The Permittee shall not discharge sludge, including sludge removed from wastewater treatment facilities during cleaning or maintenance periods. All sludge recirculated to the aeration basin is considered a removed substance, subject to the restrictions set forth in the Removed Substances clause of this permit (Part IV.F.), and the Permittee shall not discharge it directly from the aeration basin to the receiving waters.

D. The Permittee shall submit annual certification to EPA that it has not used pentachlorophenol as a biocide and that it does not intend to use pentachlorophenol.

E. The Permittee shall limit discharges as specified in Table 1 below. All figures represent maximum effluent limits unless otherwise indicated. The Permittee shall comply with the following effluent limits at all times unless otherwise indicated (e.g., pH), regardless of the frequency of monitoring or reporting required by other provisions of this permit.

Table 1 - Effluent Limitations

Parameter (units)	Outfall(s)[1/]	Limits on Daily Discharge		
		Monthly Average	Operating Average	Maximum (Minimum)
Five Day Biochemical Oxygen Demand (BOD_5) (lb/day) Nov. - May	001+002+003	---	30,200	58,100
Five Day Biochemical Oxygen Demand (BOD_5) (lb/day) June - Oct.	001+002+003 +stormwater outfalls	10,000	---	18,000
Dissolved Oxygen (mg/l) June - Oct.	001+002+003 +stormwater outfalls	---	---	(5)
Total Suspended Solids (TSS) (lb/day)	001+002+003	---	51,000	94,600
6-44 7.5-35 P 70-7100 S				
Chronic Toxicity (TU_c)[2/]	001,002	---	---	16
Chronic Toxicity (TU_c)[2/]	003 >100	---	---	83
2,3,7,8-TCDD (ug/day)[3/]	15 ppq 001	--- 3ppq - stormwater	---	1.5 .02 ppq
2,3,7,8-TCDD (ug/day)[3/]	002	---	---	1.1 .02 ppq
Chloroform (ug/l)	268 720 22 001,002,003	16	---	31
2,4,6-Trichlorophenol (ug/l)	13 9 001,002	3.6	---	7.2
Manganese (ug/l)[4/]	1140 430 001,002	100	---	200
Mercury (ug/l)[4/]	3.91 0.25 001,002	.3	---	.6
Copper (ug/l)[4/]	10 8 001,002	20	---	41
Copper (ug/l)[4/]	73 003	107	---	215
ickel (ug/l)[4/]	22 19 001,002	81	---	163

Table 1 - Effluent Limitations (Cont.)

Parameter (units)	Outfall(s)[1/]	Limits on Daily Discharge		
		Monthly Average	Operating Average	Maximum (Minimum)
Color (color units)	619 477 001,002	35	---	70
Total Hydrocarbons (ug/l)[5/]	2100 2400 001,002	105	---	210
Sulfide (ug/l)	1195 792 001,002	23	---	46
pH	001,002	Shall not be greater than 9.0 Standard Units for more than 7 hours 26 minutes in any calendar month, or for more than 60 minutes continuously at any time, and shall not ever be less than 5.0 or greater than 11 Standard Units.		
pH	003	Shall not be less than 5.0 or greater than 9.0 Standard Units for more than 7 hours 26 minutes in any calendar month, or for more than 60 minutes continuously at any time, and shall not ever be less than 4.5 or greater than 11.8 Standard Units.		

NOTES:

1/ For BOD_5 and TSS only, limitations apply to the total combined discharges from the listed outfalls, as shown by the "+" symbol. For Dissolved Oxygen only, the limitations apply to the flow-weighted average concentration (see definitions) for the listed outfalls, also shown by the "+" symbol. For all other pollutants, limitations apply to discharges at the individual outfall(s) listed.

2/ Chronic toxic units, see Definitions.

3/ If the concentration of 2,3,7,8-TCDD in the final effluents is below the minimum level (ML) achievable with EPA method 1613 (10 picograms per liter, pg/l) compliance with this limit shall be determined by measurement of the combined bleach plant effluent or, if necessary, individual bleach plant wastestreams. If monitoring of individual bleach plant wastestreams is used, the loading (ug/day) for each wastestream with concentrations of 2,3,7,8-TCDD exceeding the ML will be added and reported on the DMR. If the concentrations of 2,3,7,8-TCDD in all of the bleach plant wastestreams are below the minimum level, the Permittee shall report the effluent loading as "non-detect" and shall be considered to be in compliance with the effluent limit.

4/ Metals limits are expressed as total recoverable metals.

5/ see Definitions.

F. The Permittee shall limit discharges from the sanitary waste treatment system as specified in Table 2 below. All figures represent maximum effluent limits. All limits shall be met at a point after treatment and prior to commingling with other waste streams. This point of compliance shall be designated outfall 001A. The Permittee shall comply with the following effluent limits at all times, regardless of the frequency of monitoring or reporting required by other provisions of this permit.

Table 2-Sanitary Wastes

Parameter	Discharge Limitations	
	Monthly Average	Weekly Average
BOD_5	30 mg/l	45 mg/l
TSS	30 mg/l	45 mg/l
Fecal Coliform Bacteria	200/100 ml	400/100 ml
Total Residual Chlorine	----	1.0 mg/l

II. BEST MANAGEMENT PRACTICES PLAN.

A. Purpose. It is the purpose of the BMP program to prevent or minimize the discharge and potential discharge of pollutants from the facility to the waters of the United States through normal operations, plant site runoff, spillage, sludge or waste disposal, or drainage from material storage. Pollution that cannot be prevented or reduced shall be recycled or treated to the extent practicable and discharged into the environment in an environmentally safe manner. The BMP program will thereby serve to protect and maintain the chemical, physical, and biological integrity of the receiving waters.

B. BMP Plan. The Permittee shall submit a BMP plan to EPA within six months of the effective date of the permit. The Permittee shall operate and maintain the facility in accordance with the BMP plan and the standard management practices included within the plan.

1. Form and structure of the BMP Plan. The BMP Plan shall be documented in narrative form, including any necessary plot plans, drawings or maps, and shall be developed in accordance with good engineering practices. The BMP Plan shall be organized and composed in the following structure:

(a) Name and location of the facility.

(b) Statement of BMP policy.

(c) Structure, functions and procedures of the Best Management Practices Committee.

(d) Specific objectives for the prevention and reduction of pollutant discharges and potential pollutant discharges at the facility in accordance with the purpose of the BMP program, including at least the following:

(i) minimization of the number and quantity of pollutants discharged or potentially discharged at the facility,

(ii) minimization of the toxicity of wastestreams discharged or potentially discharged at the facility,

(iii) prevention of the entry of pollutants into the wastestreams,

(iv) minimization of contamination of stormwater runoff and snowmelt.

(e) Specific management practices and standard operating procedures to achieve the above objectives, including opportunities to meet the objectives through at least the following:

(i) modification of equipment, technology, processes, and procedures,

(ii) reformulation or redesign of products,

(iii) substitution of materials,

(iv) improvement in management, training, inventory control, materials handling and/or general operational phases of the facility.

(f) Risk identification and assessment.

(g) Incidents that result in unanticipated discharges.

(h) Materials compatibility.

(i) Good housekeeping.

(j) Preventive maintenance.

(k) Inspections and records.

(l) Security.

(m) Employee training.

(n) Review and approval by plant manager.

2. Documentation. The Permittee shall maintain a copy of the BMP plan at the facility and provide it for inspection upon request. The Permittee shall submit the BMP plan to EPA and the Alaska Department of Environmental Conservation (ADEC) on or before January 31st of each year of operation under this permit.

3. Review and amendment. The Permittee shall review and evaluate the adequacy of the BMP plan annually in light of applicable technological developments, modifications of the facility and its processes, and the condition of the receiving waters. The Permittee shall revise the BMP plan as necessary and appropriate.

C. Conditions for modification. If the BMP program proves to be ineffective in achieving its general purpose or specific

objectives, the BMP program and/or NPDES permit shall be subject to modification to incorporate revised BMP requirements.

III. MONITORING, RECORDING AND REPORTING REQUIREMENTS

A. Monitoring Requirements. The Permittee shall monitor all effluent as specified in Tables 3 and 4 below, subject to the other monitoring and reporting requirements set forth in this permit.

Table 3 - Monitoring Requirements

Parameter	Outfall(s)	Monitoring Requirements		
		Sample Frequency	Sample Type	Sampling Point
Five Day Biochemical Oxygen Demand (BOD_5)[1/] (lb/day)	001,002,003	Daily	24-hour Composite	Final Effluent
	stormwater	See Part III.D.	See Part III.D.	See Part III.D.
Dissolved Oxygen (mg/l)[1/]	001,002,003	Daily	Grab	Final Effluent
	stormwater	See Part III.D.	See Part III.D.	See Part III.D.
Total Suspended Solids (TSS) (lb/day)[1/]	001,002,003	Daily	24-hour Composite	Final Effluent
Acute Toxicity (TU_A) (See also Part III.C.)	001,002,003	Quarterly	Grab	Final Effluent
Chronic Toxicity (TU_C) (See also Part III.C.)	001,002,003	Monthly	Grab	Final Effluent
2,3,7,8-TCDD (ug/day) (See also Part III.B.)	001,002	Quarterly	See Part III.B.	See Part III.B.
2,3,7,8-TCDF (ug/day) (See also Part III.B.)	001,002	Quarterly	See Part III.B.	See Part III.B.
AOX (lbs/day) (See also Part III.B.)	001,002	Weekly	See Part III.B.	See Part III.B.
Chlorinated Organics (See also Part III.B.)	001,002	Quarterly	See Part III.B.	Final Effluent

Table 3 - Monitoring Requirements (Cont)

Parameter	Outfall(s)	Monitoring Requirements		
		Sample Frequency	Sample Type	Sampling Point
Chloroform (ug/l)	001,002	Weekly	Grab	Final Effluent
2,4,6-Trichlorophenol (ug/l)	001,002	Weekly	Grab	Final Effluent
Pentachlorophenol (ug/l)	001,002	Quarterly	Grab	Final Effluent
Mercury (ug/l)[2/]	001,002	Weekly	24-hour Composite	Final Effluent
Manganese (mg/l)[2/]	001,002	Weekly	24-hour Composite	Final Effluent
Copper (ug/l)[2/]	001,002,003	Weekly	24-hour Composite	Final Effluent, Sludge
Nickel (ug/l)[2/]	001,002	Weekly	24-hour Composite	Final Effluent
Temperature	001,002	Continuous Record	NA	Final Effluent
Turbidity	001,002	Monthly	24-Hour Composite	Final Effluent
pH[3/]	001,002,003	Continuous Record	NA	Final Effluent
	stormwater	See Part III.D.	See Part III.D.	See Part III.D.
Color	001,002	Weekly	24-Hour Composite	Final Effluent
Total Hydrocarbons	001,002	Weekly	Composite[4/]	Final Effluent

Table 3 - Monitoring Requirements (Cont)

Parameter	Outfall(s)	Monitoring Requirements		
		Sample Frequency	Sample Type	Sampling Point
Effluent Flow (MGD)	001,002,003	Continuous Record	NA	NA
Production (Air Dried Tons per Day)	NA	Monthly	NA	NA
Biocides	NA	Annual[5/]	NA	NA

NOTES FOR TABLE 3:

1/ For BOD_5 and TSS only, the Permittee shall report the total combined discharge from the listed outfalls. For Dissolved Oxygen only, the Permittee shall report the flow-weighted average concentration from the listed outfalls.

2/ The Permittee shall conduct analyses for total recoverable and dissolved metals. After the first year of monitoring, the Permittee may request to decrease the monitoring frequency. Such request shall set forth in detail the rationale for the decreased monitoring frequency and the effects, if any, such reduction will have on the efficacy of the Permittee's effluent monitoring.

3/ The Permittee shall submit the following pH information each month with the DMR for that month:

For each excursion outside the range of 5-9:

1) Outfall number
2) Date of the excursion
3) Maximum or minimum pH during the excursion
4) The duration of the excursion, in minutes
5) The total number of excursions exceeding 60 minutes
6) The total duration of each excursion

In addition, for each outfall the Permittee shall report:

1) The number of excursions outside the range of 5 to 11 for outfalls 001 and 002
2) The number of excursions outside the range of 4.5 to 11.9 for outfall 003

4/ Analyses for total hydrocarbons shall be conducted using Method 503B from Standard Methods for the Examination of Water and Wastewater, 16th edition. A composite sample shall be defined as the flow-weighted average concentration (see definitions) of 4 individually analyzed grab samples collected over a 24-hour period.

5/ The Permittee shall submit to EPA annually a report of the amounts and types of biocides used. This report shall be submitted with the December DMR.

The Permittee shall monitor effluent from the sanitary waste treatment system as specified in Table 4 below, subject to the other monitoring and reporting requirements set forth in this permit. All samples shall be collected after treatment and prior to commingling with other waste streams.

Table 4-Sanitary Wastes

Parameter	---Monitoring Requirements--- Frequency	Sample Type
BOD_5	2/week	24-hour composite
TSS	2/week	24-hour composite
Fecal Coliform Bacteria	2/week	Grab
Total Residual Chlorine	2/week	Grab

B. Chlorinated Organics Monitoring.

1. Beginning the first calendar quarter after the effective date of this permit, the Permittee shall conduct a 24-hour composite sampling program at each bleach line, the final effluent (001 and 002), and wastewater sludge from the permitted facility. The purpose of the monitoring program is to document current rates of formation of 2,3,7,8-TCDD, 2,3,7,8-TCDF, and AOX, and characterize the final effluent and sludge in terms of TSS, 2,3,7,8-TCDD, and 2,3,7,8-TCDF. This sampling program shall monitor waste streams that are representative of the facility's typical waste streams.

2. The Permittee shall collect twenty-four hour composite samples at the following locations and analyze them for 2,3,7,8-TCDD, 2,3,7,8-TCDF, and AOX:

Bleach Line

- Fully bleached pulp

- Combined bleach plant wastewater prior to mixing with other process wastewaters and non-contact cooling waters. Individual bleach plant filtrates may be

sampled and composited on a flow-weighted basis prior to analysis, or analyzed separately. Installation of flow monitoring equipment for bleach plant process wastewaters may be necessary.

Final Effluent

- Final effluent from 001 and 002 prior to discharge and prior to mixing with non-contact cooling waters.

3. To the extent that quarterly monitoring for AOX coincides with the weekly AOX monitoring required in Part III.A. of this permit, quarterly results may be used to satisfy that requirement.

4. The Permittee shall collect grab samples at the following location and analyze them for 2,3,7,8-TCDD, 2,3,7,8-TCDF, and Extractable Organic Halogens (EOX):

Wastewater Treatment Sludge

- Combined primary and secondary dewatered sludge or other sludge removed from the wastewater treatment system.

5. The Permittee shall determine mass flow rates of the sampled wastewaters and pulp, and shall record process information during the sampling event as required for the USEPA/Paper Industry Cooperative Dioxin Study (104 Mill Study).

6. Samples collected pursuant to paragraphs 2 and 4 above, shall be analyzed for 2,3,7,8-TCDD and 2,3,7,8-TCDF by USEPA Method 1613 or other methods explicitly approved by EPA.

The Permittee shall analyze samples for AOX by USEPA method 1650, SCAN-W 9:89 or ISO/DIS 9562 until the EPA Method 1650 for AOX is formally promulgated, after which time that method shall be used. Both the suspended and dissolved fractions of the wastewater shall be included in all analyses.

EOX analysis shall be conducted (using ethyl acetate as a solvent) in accordance with the method contained in the following document:

Martin, J.T. and Y. Takahashi, "Total Extractable and Leachable Organic Halides in Soils and Sediments", Chemical and Biological Characterization of Sludges, Sediments, Dredge Spoils, and Drilling Muds, ASTM STP 976. J.J. Lichtenberg, J.A. Winter, C.I. Weber and L. Fradkin, Eds, ASTM, Philadelphia, 1988.

7. The Permittee shall report the results of the monitoring program and the process information for each 24-hour sampling event not later than 60 days after the end of each calendar quarter.

8. Beginning the first calendar quarter after the effective date of this permit, the Permittee shall conduct quarterly monitoring of the final effluent for the following groups of compounds:

   a. Resin Acids
   b. Fatty Acids
   c. Chlorophenols
   d. Guaiacols
   e. Catechols
   f. Miscellaneous Organics
      6-chlorovanillin
      a-terpineol
      5,6-dichlorovanillin
      2-methyl-2-cyclopenten-1-one
      3,4,5-trichlorosyringol
      3-methyl-2-cylopentene-1-one
      Dimethyl-2-cylopenten-1-one

The Permittee shall collect and analyze 24-hour composite samples in accordance with standard protocols. The Permittee shall submit sample results with the DMR for the last month of the calendar quarter (i.e., DMRs for March, June, September, and December). After one year of monitoring, if all samples for all compounds in any one of the above groups are non-detect, monitoring for that group may be discontinued.

C. Toxicity Testing Requirements.

Chronic Tests

The Permittee shall conduct chronic toxicity testing for determining the toxicity of the effluent from outfalls 001, 002, and 003 in accordance with subsections 1 - 5 and 11 - 16, below.

1. The Permittee shall conduct chronic toxicity testing once per month with one of the following organisms:

   (a) Sand dollar (Dendraster excentricus)
   (b) Green, purple or red sea urchin (Strongylocentrotus droebbachiensis, Strongylocentrotus purpuratus, Strongylocentrotus franciscanus, respectively)
   (c) Pacific oyster (Crassostrea gigas)
   (d) Bay mussel (Mytilus edulis)

Species shall be selected based on availability of organisms in spawning condition. At least two tests per year shall be conducted using Pacific oyster.

2. All test organisms and procedures for the bivalve larvae tests shall be in accordance with:

   Standard Practice for Conducting Static Acute Toxicity Tests with the Larvae of Four Species of Bivalve Molluscs, designation: E 724-89. American Society for Testing and Materials (ASTM). 1989.

   All test organisms and procedures for the echinoderm tests shall be in accordance with:

   (a) Improved Methodology for a Sea Urchin Sperm Cell Bioassay for Marine Waters. Dinnel, P.A., J.M. Link, and Q.J. Stober. 1987. arch. Environ. Contam. Toxicol. 16:23-32; or

   (b) Methodology and Validation of a Sperm Cell Toxicity Test for Testing Toxic Substances in Marine Waters, Dinnel, et al., FRI-UW-8306, November 1983; and

   EPA Region 10 Guidance for Conducting Effluent Toxicity Tests Using West Coast Sea Urchins and Sand Dollars.

3. The toxicity testing on each organism shall include a series of six test solutions, ranging from zero percent effluent (control) to 100%. Based on available data, dilutions shall be selected that will bracket the expected no observable effects concentration (NOEC, see definitions) of the effluent. In addition, one dilution will be used that corresponds with the dilution necessary to show compliance with the applicable permit limit. Salinity adjustments shall be used, if appropriate. For compliance purposes, test results shall be reported in chronic toxic units (see definitions).

4. In addition to reporting TU_c, the Permittee shall report the NOEC and the EC_{50} (see definitions) of the effluent in control water.

5. All reporting, quality assurance criteria and statistical analyses used for chronic tests shall be in accordance with Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms EPA/600/4-87/028 and individual test protocols. The report of results shall include all relevant information

outlined in Section 10, Report Preparation, of the EPA document.

Acute Tests

The Permittee shall conduct acute toxicity tests of the effluent from outfalls 001, 002, and 003 on a quarterly basis in accordance with sections 6 - 16, below.

6. The Permittee shall conduct 96-hour static renewal or flow-through tests for estimating toxicity of the effluent to the inland silverside (Menidia beryllina).

7. The Permittee shall conduct testing according to the guidelines set forth in Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms (Fourth Edition), EPA/600/4-90/027.

8. The toxicity testing shall include a series of six test solutions, ranging from zero percent effluent (control) to 100%. Salinity adjustments shall be made as necessary. Based on available data, dilutions shall be selected that will bracket the expected LC_{50} (see definitions). Test results shall be reported in acute toxic units (see definitions). In addition, the Permittee shall report the LC_{50} of the effluent in control water, as well as the 95 percent confidence limits of the LC_{50}, calculated using an internally consistent scheme based on the moving average angle, graphical, or probit method, as appropriate.

9. In conducting acute tests, the Permittee shall also report responses that could reasonably be expected to result in ecological death (e.g., cessation of swimming behavior) and, if possible, the Permittee shall determine a 96-hour EC_{50}.

10. All reporting, quality assurance criteria and statistical analyses used for acute tests shall be in accordance with Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms (Fourth Edition), EPA/600-4-90/027. The report of acute test results shall include all relevant information outlined in Section 12 of this document.

Both Types of Toxicity Tests

Paragraphs 11-16 below apply to all toxicity tests described in paragraphs 1-10.

11. Testing shall be conducted on grab samples of effluent. Each sample collected shall be large enough to provide

enough effluent to conduct the toxicity tests, as well as chemical tests required in paragraph 12., below.

12. The Permittee shall conduct acute and chronic testing on split samples of effluent to the extent possible. In addition, a split of each sample collected shall be analyzed for the chemical and physical parameters required for the respective outfalls in Part III.A., above. When the timing of sample collection coincides with that of the sampling required in Part III.A., analysis of the split sample will fulfill the requirements of Part III.A. as well.

13. Dilution water for marine tests shall be high quality natural seawater. Artificial sea salts or concentrated brine may be used if the lab can achieve reliable results when conducting the specified test with the chosen medium.

14. Any tests that fail the criteria for control response as specified in the respective protocols shall be repeated on a freshly collected sample.

15. The Permittee shall submit the results of the toxicity tests in TUs with the DMR for the month in which the test is conducted. The full report for each test shall be submitted by the end of the month in which the DMR is submitted. Along with the results, the Permittee shall include: (1) the dates of sample collection and initiation of each toxicity test; (2) the type of production; and (3) the flow rate at the time of sample collection.

16. If EPA determines that any of the toxicity tests are inadequate for evaluating the Permittee's effluent, EPA may substitute alternative tests that will provide the required toxicity information.

D. Stormwater Monitoring Program.

The Permittee shall conduct a Stormwater Monitoring Program. The requirements of the program are as follows:

1. The Permittee shall identify all stormwater discharge locations at the facility, as well as the activities that may contribute to pollutant loads in stormwater from the facility site. The Permittee shall develop a site map to scale that shows all pertinent facilities. This requirement may be used as part of the BMP plan required under Part II of this permit.

2. The Permittee shall conduct a monitoring study of each stormwater outfall for the following pollutants:

Biochemical Oxygen Demand (BOD_5)
Chemical Oxygen Demand (COD)
Total Suspended Solids (TSS)
Dissolved Oxygen (DO)
Polynuclear Aromatic Hydrocarbons (PAH) - EPA Method 625 or equivalent
Total Hydrocarbons - Standard Methods 16th edition, 503B or equivalent
Benzene - EPA Method 624 or equivalent
Ethylbenzene - EPA Method 624 or equivalent
Toluene - EPA Method 624 or equivalent
Xylene - EPA Method 624 or equivalent
pH
oil & grease

Sampling shall be conducted during at least three different storm/discharge conditions. One of the three conditions monitored shall be the first 20 minutes of a storm event after a dry period.

Based on data generated above, EPA may modify the permit to include additional monitoring and/or limitations on any discharges that show reasonable potential to contribute to violations of water quality standards.

3. During the summer months (June through October) of the permit term, the Permittee shall monitor the BOD_5 and DO of each stormwater outfall twice per month using grab samples. In addition, the Permittee shall monitor the flow at each outfall, using estimates if necessary. Samples shall be collected at least one week apart, and each sample shall be taken during the first 20 minutes of a storm event. For the purpose of this subpart, a storm event shall mean the onset of precipitation sufficient to collect a sample from the stormwater outfall.

The Permittee shall add the monthly average BOD_5 loading (lbs/day) from the stormwater discharges to the monthly average BOD_5 loading from outfalls 001, 002, and 003. The Permittee shall use stormwater DO concentrations and flow estimates in the calculation of the flow-weighted average concentration (along with the values for outfalls 001, 002, and 003) for each stormwater sampling day. These aggregate values shall be reported in accordance with Part III.G. of this permit, and shall be used as the basis for determining compliance with the effluent limits.

4. Information satisfying requirements 1 and 2 above shall be submitted to EPA within 6 months of the effective date of the permit. Results from ongoing BOD_5 and DO monitoring shall be submitted with the monthly DMRs.

E. Receiving Water Monitoring Program.

The Permittee shall conduct a Water Quality Monitoring program on the waters of Ward Cove according to the following:

Water Column Monitoring

1. The Permittee shall collect samples every two weeks at the stations indicated on Attachment 1. The date, time, weather conditions, and tide level and stage shall be noted and reported for each sample collected.

2. Such samples shall be analyzed for sulfite waste liquor (SWL), dissolved oxygen (DO), pH, salinity, temperature, Secchi disk depth, turbidity, and color.

3. The Permittee shall analyze for DO, temperature, pH, salinity, and turbidity every meter for the first five meters from the surface, then every five meters to the bottom. This profile shall be repeated from the bottom to the surface. All measurements shall be made using properly calibrated probes.

4. For SWL and color, the Permittee shall collect samples at depths of 1 and 5 meters from the surface with a suitable device for obtaining depth-specific water samples, such as a VanDorn bottle.

5. Station positioning, sample collection, analysis, and QA/QC shall be in accordance with Recommended Protocols and Guidelines for Measuring Selected Environmental Variables in Puget Sound (USEPA Region 10, 1986). Sulfite waste liquor determinations shall be made using the Pearl-Benson method as described by Barnes, et al., TAPPI 46 (6): 347-351.

6. All monitoring results shall be included in a report and submitted along with the DMR for the month in which samples are taken. The report shall include all relevant quality assurance/quality control (QA/QC) information, including but not limited to instrumentation, laboratory procedures, and sample collection methodology.

Sediment Monitoring

1. The Permittee shall conduct monitoring annually at stations 41 through 49, listed on Attachment 1. The Permittee shall establish two additional stations near the shoreline between stations 41 and 43. The Permittee shall collect a minimum of 3 replicates at each station for analysis.

2. The sediment samples shall be analyzed for the following parameters:

   a. all congeners of TCDD
   b. all congeners of TCDF
   c. total organic carbon (TOC)
   e. polynuclear aromatic hydrocarbons (PAH)
   f. cadmium, arsenic, and zinc
   g. phenol, 4-methylphenol, and benzoic acid
   h. acid volatile sulfides (AVS).
   i. sediment toxicity
   j. EOX

3. Station positioning, sample collection, analysis, and QA/QC shall be in accordance with Recommended Protocols and Guidelines for Measuring Selected Environmental Variables in Puget Sound (USEPA Region 10, 1986). EOX analysis shall be conducted (using ethyl acetate as a solvent) in accordance with the method contained in the following document:

   Martin, J.T. and Y. Takahashi, "Total Extractable and Leachable Organic Halides in Soils and Sediments", Chemical and Biological Characterization of Sludges, Sediments, Dredge Spoils, and Drilling Muds, ASTM STP 976. J.J. Lichtenberg, J.A. Winter, C.I. Weber and L. Fradkin, Eds, ASTM, Philadelphia, 1988.

4. The results shall be submitted by December 31st of each year in a report that includes thorough discussions of the sampling and analytical methodologies used and QA/QC procedures.

Bioaccumulation Monitoring

1. The Permittee shall implement a bioaccumulation monitoring program in the vicinity of the discharge. Monitoring shall be conducted annually for all congeners of TCDD and TCDF, and percent lipid.

2. The study shall be conducted using tissues from three organisms that are effective indicators of bioaccumulation.

3. Within 90 days of the effective date of this permit, the Permittee shall submit to EPA for approval a monitoring plan that justifies the selection of specific organisms, tissues, sampling locations, monitoring dates, and analytical procedures to be used in the monitoring program. Sampling and analytical procedures shall be consistent with those used by EPA's ORD Duluth Laboratory for the draft Bioaccumulation of Selected Pollutants in Fish - A National Study - Volumes 1 and 2 (EPA/506/6-90-001a and 001b) December 1990. Upon approval, the plan shall become an enforceable part of this permit.

4. The results shall be submitted by December 31st of each year in a report that includes thorough discussions of the sampling and analytical methodologies used and QA/QC procedures.

F. Representative Sampling (Routine and Non-Routine Discharges). The Permittee shall collect all effluent samples from the effluent stream prior to discharge into the receiving waters. Samples and measurements shall be representative of the volume and nature of the monitored discharge.

In order to ensure that the effluent limits set forth in this permit are not violated at times other than when routine samples are taken, the Permittee shall collect additional samples at the appropriate outfall(s) and analyze them for the parameters limited in Part I.E. of this permit, whenever any discharge occurs that may reasonably be expected to cause or contribute to a permit violation that is unlikely to be detected by a routine sample.

The Permittee shall collect such additional samples as soon as possible after the spill or discharge. The samples shall be analyzed in accordance with paragraph H., below. In the event of an anticipated bypass, as defined in Part VI.G. of this permit, the Permittee shall collect and analyze additional samples as soon as the bypassed effluent reaches the outfall. The Permittee shall report all additional monitoring in accordance with paragraph I., below.

G. **Reporting of Monitoring Results.** The Permittee shall summarize monitoring results each month on the Discharge Monitoring Report (DMR) form (EPA No. 3320-1). The Permittee shall submit reports monthly, postmarked by the 10th day of the following month. The Permittee shall sign and certify all DMRs, and all other reports, in accordance with the requirements of Part V.E. of this permit ("Signatory Requirements"). The Permittee shall submit the legible originals of these documents to the Director, Water Division, with copies to ADEC at the following addresses:

United States Environmental Protection Agency
Region 10
1200 Sixth Avenue, WD-135
Seattle, Washington 98101

Alaska Department of Environmental Conservation
Southcentral Region
3601 "C" Street, Suite 1334
Anchorage, Alaska 99503

H. Monitoring Procedures. Monitoring must be conducted according to test procedures approved under 40 CFR 136, unless other test procedures have been specified in this permit.

I. **Additional Monitoring by Permittee.** If the Permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR 136 or as specified in this permit, the Permittee shall include the results of this monitoring in the calculation and reporting of the data submitted in the DMR. The Permittee shall indicate on the DMR whenever it has performed additional monitoring, and shall explain why it performed such monitoring.

Upon request by the Regional Administrator, the Permittee shall submit results of any other sampling, regardless of the test method used.

J. **Records Contents.** All effluent monitoring records shall bear the hand-written signature of the person who prepared them. In addition, all records of monitoring information shall include:

1. the date, exact place, and time of sampling or measurements;

2. the names of the individual(s) who performed the sampling or measurements;

3. the date(s) analyses were performed;

4. the names of the individual(s) who performed the analyses;

5. the analytical techniques or methods used; and

6. the results of such analyses.

K. Retention of Records. The Permittee shall retain records of all monitoring information, including but not limited to all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least five years from the date of the sample, measurement, report or application, or for the term of this permit, whichever is longer. This period may be extended by request of the Regional Administrator or ADEC at any time.

L. Twenty-four Hour Notice of Noncompliance Reporting.

1. The Permittee shall report the following occurrences of noncompliance by telephone within 24 hours from the time the Permittee becomes aware of the circumstances:

   a. any noncompliance that may endanger health or the environment;

   b. any unanticipated bypass that results in or contributes to an exceedance of any effluent limitation in the permit (See Part IV.G., "Bypass of Treatment Facilities");

   c. any upset that results in or contributes to an exceedance of any effluent limitation in the permit (See Part IV.H., "Upset Conditions"); or

   d. any violation of a maximum daily discharge limitation for any of the pollutants listed in the permit.

2. The Permittee shall also provide a written submission within five days of the time that the Permittee becomes aware of any event required to be reported under subpart 1 above. The written submission shall contain:

   a. a description of the noncompliance and its cause;

   b. the period of noncompliance, including exact dates and times;

   c. the estimated time noncompliance is expected to continue if it has not been corrected; and

   d. steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

3. The Regional Administrator may, at his sole discretion, waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the Water Compliance Section in Seattle, Washington, by telephone, (206) 553-1213.

4. Reports shall be submitted to the addresses in Part III.G. ("Reporting of Monitoring Results").

M. **Other Noncompliance Reporting.** The Permittee shall report all instances of noncompliance, not required to be reported within 24 hours, at the time that monitoring reports for Part III.G. are submitted. The reports shall contain the information listed in Part III.L.2. of this permit.

N. **Changes in Discharge of Pollutants.** The Permittee shall notify the Regional Administrator and ADEC as soon as it knows, or has reason to believe:

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any pollutant that is not limited in the permit, if that discharge may reasonably be expected to exceed any of the following "notification levels":

   a. One hundred micrograms per liter (100 ug/l);

   b. Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;

   c. Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or

   d. The level established by the Regional Administrator in accordance with 40 CFR 122.44(f).

2. That any activity has occurred or will occur that would result in any discharge, on a non-routine or infrequent basis, of any pollutant that is not limited in the permit, if that discharge may reasonably be expected to exceed any of the following "notification levels":

   a. Five hundred micrograms per liter (500 ug/l);

   b. One milligram per liter (1 mg/l) for antimony;

c. Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or

d. The level established by the Regional Administrator in accordance with 40 CFR 122.44(f).

IV. COMPLIANCE RESPONSIBILITIES

A. **Duty to Comply.** The Permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application. The Permittee shall give reasonable advance notice to the Regional Administrator and ADEC of any planned changes in the permitted facility or activity that may result in noncompliance with permit requirements.

B. Penalties for Violations of Permit Conditions.

1. Civil and Administrative Penalties. Sections 309(d) and 309(g) of the Act provide that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act shall be subject to a civil or administrative penalty, not to exceed $25,000 per day for each violation.

2. Criminal Penalties:

a. Negligent Violations. Section 309(c)(1) of the Act provides that any person who negligently violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act shall be punished by a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than 1 year, or by both.

b. Knowing Violations. Section 309(c)(2) of the Act provides that any person who knowingly violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act shall be punished by a fine of not less than $5,000 nor more than $50,000 per day of violation, or by imprisonment for not more than 3 years, or by both.

c. Knowing Endangerment. Section 309(c)(3) of the Act provides that any person who knowingly violates a permit condition implementing Sections 301, 302, 303, 306, 307, 308, 318, or 405 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury,

shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. A person that is an organization shall be subject to a fine of not more than $1,000,000.

d. False Statements. Section 309(c)(4) of the Act provides that any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under this Act or who knowingly falsifies, tampers with, or renders inaccurate any monitoring device or method required to be maintained under this Act, shall be punished by a fine of not more that $10,000, or by imprisonment for not more than 2 years, or by both.

Except as provided in permit conditions in Part IV.G., ("Bypass of Treatment Facilities") and Part IV.H., ("Upset Conditions"), nothing in this permit shall be construed to relieve the Permittee of the civil or criminal penalties for noncompliance.

C. **Need to Halt or Reduce Activity not a Defense.** It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with this permit.

D. **Duty to Mitigate.** The Permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

E. **Proper Operation and Maintenance.** The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems when the operation is necessary to achieve compliance with the conditions of the permit.

F. **Removed Substances.** Solids, sludges, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters. See also Part I.A.

G. Bypass of Treatment Facilities.

1. Bypass not exceeding limitations. The Permittee may allow any bypass to occur that does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs 2 and 3 of this Part.

2. Notice.

   a. Anticipated bypass. If the Permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass.

   b. Unanticipated bypass. The Permittee shall submit notice of an unanticipated bypass as required under Part III.L. ("Twenty-four Hour Notice of Noncompliance Reporting").

3. Prohibition of bypass.

   a. Bypass is prohibited, and the Regional Administrator or ADEC may take enforcement action against the Permittee for a bypass, unless:

      (1) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

      (2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment shall have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance; and

      (3) The Permittee submitted notices as required under paragraph 2 of this Part.

   b. The Regional Administrator and ADEC may approve an anticipated bypass, after considering its adverse effects, if the Regional Administrator and ADEC determine that it will meet the three conditions listed above in paragraph 3.a. of this Part.

H. Upset Conditions.

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the Permittee meets the requirements of paragraph 2 of this Part. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

2. Conditions necessary for a demonstration of upset. To establish the affirmative defense of upset, the Permittee must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

   a. An upset occurred and that the Permittee can identify the cause(s) of the upset;

   b. The permitted facility was at the time being properly operated;

   c. The Permittee submitted notice of the upset as required under Part III.L., Twenty-four Hour Notice of Noncompliance Reporting; and

   d. The Permittee complied with any remedial measures required under Part IV.D., Duty to Mitigate.

3. Burden of proof. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an upset has the burden of proof.

I. Toxic Pollutants. The Permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

J. Planned Changes. The Permittee shall give notice to the Regional Administrator and ADEC as soon as possible of any planned physical alterations or additions to the permitted facility whenever:

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source as determined in 40 CFR 122.29(b); or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged.

This notification applies to pollutants that are subject neither to effluent limitations in the permit, nor to notification requirements under Part III.N.

K. **Anticipated Noncompliance.** The Permittee shall also give advance notice to the Regional Administrator and ADEC of any planned changes in the permitted facility or activity that may result in noncompliance with this permit.

V. GENERAL PROVISIONS

A. **Permit Actions.** This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

B. **Duty to Reapply.** If the Permittee intends to continue an activity regulated by this permit after the expiration date of this permit, the Permittee must apply for and obtain a new permit. The application shall be submitted at least 180 days before the expiration date of this permit.

C. **Duty to Provide Information.** The Permittee shall furnish to the Regional Administrator and ADEC, within the time specified in the request, any information that the Regional Administrator or ADEC may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Regional Administrator or ADEC, upon request, copies of records required to be kept by this permit.

D. **Other Information.** When the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or that it submitted incorrect information in a permit application or any report to the Regional Administrator or ADEC, it shall promptly submit the omitted facts or corrected information.

E. **Signatory Requirements.** All applications, reports or information submitted to the Regional Administrator and ADEC shall be signed and certified.

1. All permit applications shall be signed as follows:

   a. For a corporation: by a responsible corporate officer.

   b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively.

c. For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official.

2. All reports required by the permit and other information requested by the Regional Administrator or ADEC shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described above and submitted to the Regional Administrator and ADEC, and

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company.

3. Changes to authorization. If an authorization under Part V.E.2. is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph V.E.2. must be submitted to the Regional Administrator and ADEC prior to or together with any reports, information, or applications to be signed by an authorized representative.

4. Certification. Any person signing a document under this Part shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

F. Availability of Reports. Except for data determined to be confidential under 40 CFR 2, all reports prepared in accordance

with this permit shall be available for public inspection at the offices of the Regional Administrator and ADEC. As required by the Act, permit applications, permits and effluent data shall not be considered confidential.

G. **Inspection and Entry.** The Permittee shall allow EPA, ADEC or one of their authorized representatives (including an authorized contractor acting as a representative of the Administrator), upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the Act, any substances or parameters at any location.

H. **Oil and Hazardous Substance Liability.** Nothing in this permit shall be construed to preclude any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties to which the Permittee is or may be subject under Section 311 of the Act.

I. **Property Rights.** The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

J. **Severability.** The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

K. **Transfers.** This permit may be automatically transferred to a new Permittee if:

1. The current Permittee notifies the Regional Administrator at least 30 days in advance of the proposed transfer date;

2. The notice includes a written agreement between the existing and new Permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and

3. The Regional Administrator does not notify the existing Permittee and the proposed new Permittee of his or her intent to modify, or revoke and reissue the permit.

If the notice described in paragraph 3 above is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph 2 above.

L. State Laws. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Act.

M. Reopener Clause.

1. This permit shall be modified, or alternatively, revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Act, as amended, if the effluent standard, limitation, or requirement so issued or approved:

   a. Contains different conditions or is otherwise more stringent than any condition in the permit; or

   b. Controls any pollutant or disposal method not addressed in the permit.

   The permit as modified or reissued under this paragraph shall also contain any other requirements of the Act then applicable.

2. This permit may be reopened to adjust the effluent limitation, or associated monitoring requirements for 2,3,7,8-TCDD (dioxin) if:

   a. additional data or facts related to the criterion for dioxin become available; or

   b. major advances in analytical techniques occur; or

   c. as a result of EPA's review of the risks posed by dioxin, a standard is adopted for dioxin that differs from the value used to derive the limits for this permit; or

d. the State of Alaska adopts, and EPA approves, water quality standards that contain a numeric criterion for dioxin that differs from the value used to derive the effluent limitation in this permit.

3. This permit may be reopened to adjust any effluent limitations if future water quality studies, waste load allocation determinations, or changes in water quality standards show the need for different requirements.

4. This permit may be reopened to establish limits for AOX when sufficient data are available to establish a limit based on best available technology.

VI. DEFINITIONS

1. Acute toxic unit (TU_a) is a measure of acute toxicity. The number of acute toxic units in the effluent is calculated as 100/LC50, where the LC50 is measured in percent effluent.

2. ADEC means the Alaska Department of Environmental Conservation.

3. Administrator means the Administrator of the USEPA, or an authorized representative.

4. AOX is defined as Adsorbable Organic Halogens. The Permittee shall analyze samples for AOX by USEPA method 1650, SCAN-W 9:89 or ISO/DIS 9562 until the EPA Method 165C for AOX is formally promulgated, after which time that method shall be used.

5. Bypass means the intentional diversion of waste streams from any portion of a treatment facility.

6. Chronic toxic unit (TU_c) is a measure of chronic toxicity. The number of chronic toxic units in the effluent is calculated as 100/NOEC, where the NOEC is measured in percent effluent.

7. Daily discharge means the discharge of a pollutant during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the daily discharge is the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in concentration, rates, or other units, the daily discharge is the average measurement of the pollutant over the day.

8. Daily maximum. See Maximum daily discharge.

9. DMR means discharge monitoring report.

10. EC_{50} is a point estimate of the effluent concentration that would cause an observable adverse effect (such as death, immobilization, or serious incapacitation) in 50 percent of the test organisms exposed.

11. EPA means the United States Environmental Protection Agency.

12. Final effluent means effluent at, or upstream from, the point where a permitted outfall enters navigable waters, and through which all waste streams pass that are discharged from the outfall.

13. Flow-weighted average concentration is defined as the sum of the product of discharge flows and corresponding concentrations, divided by the sum of discharge flows.

14. Grab sample is a single sample or measurement taken at a specific time or over as short a period of time as is feasible. See Part III.F. (Representative Sampling).

15. LC_{50} means the concentration of effluent that is acutely toxic to 50 percent of the test organisms exposed.

16. Maximum daily discharge limitation or daily maximum means the highest allowable daily discharge.

17. Minimum daily discharge limitation means the lowest allowable daily discharge.

18. Monthly average means the average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

19. NOEC means no observable effect concentration. The NOEC is the highest tested concentration of an effluent at which no adverse effects are observed on the test organisms at a specific time of observation.

20. Operating Average means the total units discharged during a monitoring month divided by the number of days in that period that the production or commercial facility operated. The Permittee shall calculate the number of days as the number of hours of operation during the month divided by twenty-four (24).

21. QA/QC means quality assurance/quality control.

22. Regional Administrator means the EPA Region 10 Regional Administrator, or an authorized representative.

23. Severe property damage means substantial physical damage to property, damage to the treatment facilities that causes them to

become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

24. Sludge means settled solids.

25. Stormwater outfall means a conveyance for stormwater runoff or snowmelt.

26. Total Hydrocarbons means those compounds measured using the Gruenfields IR partition infrared methods specified in the 16th edition of Standard Methods for the Examination of Water and Wastewater (method 5038).

27. 24-hour composite sample shall mean a flow-proportioned mixture of not less than 8 discrete aliquots. Each aliquot shall be a grab sample of not less than 100 ml and shall be collected and stored in accordance with procedures prescribed in the most recent edition of Standard Methods for the Examination of Water and Wastewater.

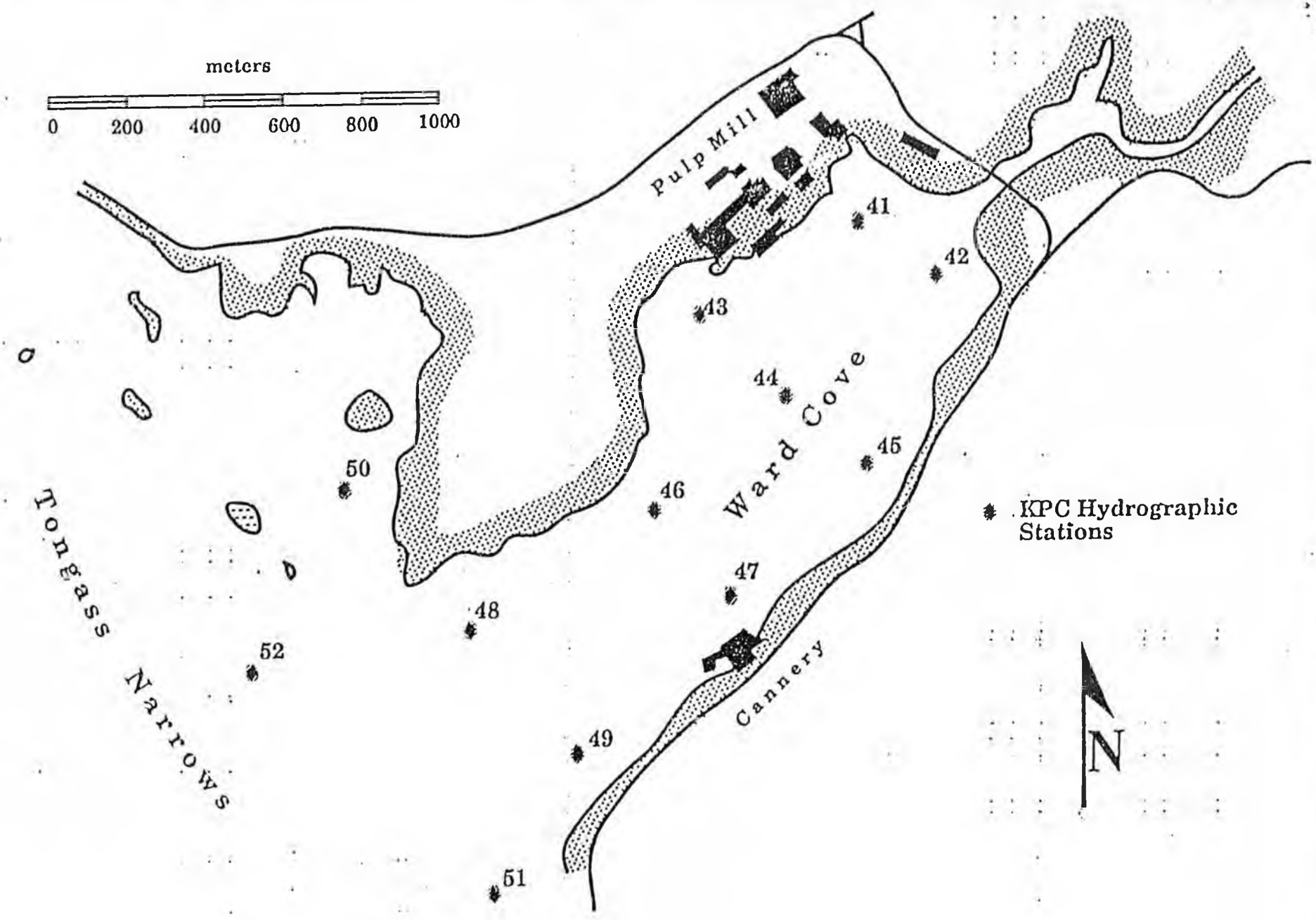
28. Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

29. Waste stream means any non-de minimus stream of pollutants within the Permittee's facility that enters any permitted outfall or navigable waters. This includes spills and other unintentional, non-routine or unanticipated discharges.

30. Weekly average means the average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

31. 2,3,7,8-TCDD is defined as 2,3,7,8-tetrachlorodibenzo-p-dioxin. EPA method 1613 or an equivalent method acceptable to EPA shall be used to analyze for TCDD.

32. 2,3,7,8-TCDF is defined as 2,3,7,8-tetrachlorodibenzofuran. EPA Method 1613 or an equivalent method acceptable to EPA shall be used to analyze for TCDF.



ATTACHMENT 1
STATION LOCATIONS FOR RECEIVING WATER MONITORING PROGRAM

PRELIMINARY DRAFT
March 23, 1992

FACT SHEET

United States Environmental Protection Agency
Region 10
Park Place Building, 13th Floor
1200 Sixth Avenue, WD-134
Seattle, Washington 98101
(206) 553-1214

Date:

Permit No.: AK-000092-2

PROPOSED REISSUANCE OF A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE POLLUTANTS PURSUANT TO THE PROVISIONS OF THE CLEAN WATER ACT (CWA)

Ketchikan Pulp Company
Mile 8-1/2 North Tongass Highway
Ketchikan, Alaska 99835

has applied for reissuance of an NPDES permit to discharge pollutants pursuant to the provisions of the CWA. This fact sheet includes (a) the tentative determination of the Environmental Protection Agency (EPA) to reissue the permit, (b) information on public comment, public hearing and appeal procedures, (c) the description of the current discharge, (d) a listing of tentative effluent limitations, schedules of compliance and other conditions, and (e) a sketch or detailed description of the discharge location. We call your special attention to the technical material presented in the latter part of this document.

Persons wishing to comment on the tentative determinations contained in the proposed permit reissuance may do so by the expiration date of the Public Notice. All written comments should be submitted to EPA as described in the Public Comments Section of the attached Public Notice.

After the expiration date of the Public Notice, the Director, Water Division, will make final determinations with respect to the permit reissuance. The tentative determinations contained in the draft permit will become final conditions if no substantive comments are received during the Public Notice period.

If no substantive comments are received, the permit will become effective immediately. If comments are received, the permit will become effective 30 days after the final determinations are made, unless a request for an evidentiary hearing is submitted within 30 days after receipt of the final determinations.

The proposed NPDES permit and other related documents are on file and may be inspected at the above address any time between 8:30 a.m. and 4:00 p.m., Monday through Friday. Copies and other information may be requested by writing to EPA at the above address to the attention of the Water Permits Section, or by calling

(206) 553-1214. This material is also available from the EPA Alaska Operations Office, Room 537, Federal Bldg., 222 W. 7th Avenue, #19, Anchorage, Alaska 99513, or EPA Alaska Operations Office, 3200 Hospital Drive, Suite 101, Juneau, Alaska 99801.