

**QUESTIONS AND ANSWERS ON
THE ROLE OF WATER QUALITY STANDARDS
IN CSO PROGRAM IMPLEMENTATION**

EXTERNAL WORKING DRAFT

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TABLE OF CONTENTS

INTRODUCTION	1
I. GENERAL	2
II. WATER QUALITY-BASED REQUIREMENTS FOR CSOs	3
III. APPROACHES TO ACHIEVING WQS	5
IV. TOTAL MAXIMUM DAILY LOADS	6
V. SENSITIVE AREAS	7
VI. MONITORING AND MODELING	9
VII. REVIEW AND REVISION OF WQS	11
VIII. SITE-SPECIFIC CRITERIA	13
IX. MODIFICATION OF DESIGNATED USES	14
X. VARIANCES	18
XI. ANTIDegradation	21
XII. OTHER CRITERIA	21
XIII. PERMITTING ISSUES	23
BIBLIOGRAPHY	25

1 INTRODUCTION

2 The main purpose of the Combined Sewer Overflow (CSO) Control Policy published on
3 April 19, 1994, is to expedite the compliance of municipalities with CSOs with the requirements
4 of the Clean Water Act (CWA). The key principles of the CSO Control Policy are:

5 · Providing clear levels of control that would be presumed to meet appropriate
6 health and environmental objectives;

7 · Providing sufficient flexibility to municipalities, especially financially
8 disadvantaged communities, to consider the site-specific nature of CSOs and to
9 determine the most cost-effective means of reducing pollutants and meeting CWA
10 objectives and requirements;

11 · Allowing a phased approach to implementation of CSO controls considering a
12 community's financial capability; and

13 · Review and revision, as appropriate, of water quality standards (WQS) and their
14 implementation procedures when developing CSO control plans to reflect site-
15 specific wet weather conditions.

16 This document is designed to help municipalities better understand WQS and how they are
17 applied during CSO program implementation. Thus, the purpose of this document is twofold:

18 · To describe how WQS will be translated into requirements for CSOs in NPDES
19 permits; and

20 · To explain the WQS review and revision process (i.e., the last principle of the
21 CSO Control Policy) and how this process can be integrated by municipalities into
22 their CSO program implementation.

23 This document is not intended to replace but rather supplement other EPA WQS guidance
24 documents. Such water quality standards documents are referenced as appropriate throughout this
25 document and compiled in a bibliography. For more detailed information on WQS, the reader
26 should refer to these documents.

1 **I. GENERAL**

2 **1. What are water quality standards?**

3 Water quality standards are State-adopted or Federally promulgated rules that serve as the
4 goals for a water body and the legal basis for the water quality-based NPDES permit
5 requirements. WQS consist of State-designated uses for water bodies, criteria to protect
6 those uses, an anti-degradation policy to maintain and protect existing uses and water
7 quality, and other policies affecting the implementation of the standards.

8 **2. What are water quality criteria?**

9 This term has two meanings under the CWA. Water quality criteria are enforceable
10 elements of State WQS expressed as numeric constituent concentrations, levels, or
11 narrative statements that represent a quality of water that supports a particular use. When
12 criteria are met, water quality will generally protect the designated use. The term is also
13 used to describe the scientific guidance documents issued under Section 304(a) of the
14 CWA.

15 **3. What are narrative water quality criteria?**

16 Narrative criteria form the basis for limiting toxicity where the chemical causing toxicity
17 is not known or where a specific toxic pollutant can be identified as causing the toxicity
18 but for which there is no numeric criterion. Narrative criteria that apply to a broad range
19 of pollutants are often expressed in general terms (e.g., no toxic pollutants in toxic
20 amounts). WQS also generally include more specific narrative criteria. For example, the
21 criteria may require that the water be free from substances that:

- 22 . Settle to form objectionable color, odor, taste, or turbidity
- 23 . Float as debris, scum, oil, or other matter to form nuisances
- 24 . Produce objectionable color, odor, taste, or turbidity
- 25 . Injure or are toxic or produce adverse physiological responses in humans,
26 animals, or plants
- 27 . Produce undesirable or nuisance aquatic life.

28 **4. What EPA guidance regarding WQS is available?**

- 29 . EPA's primary guidance on WQS is the *Water Quality Standards*
30 *Handbook*, Second Edition, August 1994 (EPA-823-B-94-005a). In
31 addition, EPA has published numerous other documents on WQS and the
32 WQS program. Selected documents are listed in the bibliography.

1 **5. In general, what is the relationship between the CSO Control Policy and WQS?**

2 The fundamental objective of the CSO Control Policy is the attainment of WQS. EPA
3 expects this objective to be accomplished through the development and inclusion of CSO-
4 related water quality-based effluent limits in NPDES permits. See section II for an
5 explanation of how these limits will be expressed in NPDES permits.

6 **II. WATER QUALITY-BASED REQUIREMENTS FOR CSOS**

7 **1. How will water quality based-limits for CSOs be expressed in the Phase I permit?**

8 As stated in the CSO Control Policy, the Phase I permit should at least require that the
9 permittee comply with applicable WQS, no later than the date allowed under the State's
10 WQS. These requirements are expected to be expressed in the Phase I permit in both a
11 generic fashion (e.g., permittee shall not discharge any pollutant at a level that could
12 cause or contribute to an in-stream excursion above numeric or narrative criteria of State
13 WQS) and in the form of specific narrative limitations taken from the State WQS (e.g.,
14 permittee shall not discharge any floating debris, oil, grease, scum, foam, or other
15 objectionable material that may result in amounts sufficient to be unsightly or otherwise
16 objectionable or to constitute a nuisance under State law). The Phase I permit is not
17 likely to include performance-based standards (e.g., number of overflow events allowed
18 per year) or numeric water quality-based limits because the permit writer may not have
19 the data necessary to do so. These data are expected to be generated and collected by the
20 permittee during the term of the Phase I permit as part of the long-term control plan
21 (LTCP) development.

22 **2. How will water quality-based limits for CSOs be expressed in the Phase II permit?**

23 The Phase II permit should include narrative WQS as described in the previous question.
24 As stated in the CSO Control Policy, the Phase II permit should also contain:

25 Water quality-based effluent limits under 40 CFR 122.44(d)(1) and
26 122.44(k), requiring, at a minimum, compliance with, no later than
27 the date allowed under the State's WQS, the numeric performance
28 standards for the selected CSO controls, based on average design
29 conditions specifying at least one of the following:

- 30 i) a maximum number of overflow events per year for
31 specified design conditions consistent with II.C.4.a.i
32 (Section II.C.4.a.i specifies no more than an average of four
33 overflow events per year, provided that the permitting
34 authority may allow up to two additional overflow events
35 per year); or

- 1 ii) a minimum percentage of capture of combined sewage by
2 volume for treatment under specified design conditions
3 consistent with II.C.4.a.ii; (Section II.C.4.a.ii of the CSO
4 Control Policy requires elimination or capture for treatment
5 of no less than 85 percent by volume of the combined
6 sewage collected in the combined sewer system (CSS)
7 during precipitation events on a system-wide annual average
8 basis); or
- 9 iii) a minimum removal of the mass of pollutants discharged
10 for specified design conditions consistent with II.C.4.a.iii;
11 (Section III.C.4.a.iii requires elimination or removal of no
12 less than the mass of pollutants identified as causing water
13 quality impairment for the volumes that would be treated
14 under Section III.C.4.a.ii); or
- 15 iv) performance standards and requirements that are consistent
16 with II.C.4.b of the CSO Control Policy (Section II.C.4.b of
17 the CSO Control Policy allows a permittee to demonstrate
18 that a selected CSO control program is adequate to meet
19 water quality-based CWA requirements).

20 The CSO Control Policy expects that communities will institute controls to achieve one
21 of the above criteria. Even where these controls are instituted, it is likely that some
22 discharges (e.g., an average of four overflows per year for a specified design condition),
23 although required by the CSO Control Policy in Section II.C.6 to receive treatment to the
24 greatest extent practicable, will not meet existing WQS where designated uses
25 traditionally have been developed to apply under all flow conditions. In this case, the
26 permittee may wish to discuss with the State the initiation of a review of current WQS
27 including a discussion of whether designated uses are adequately defined. See Section
28 IX below for additional discussion on modification of designated uses.

29 Discharges within the criteria above (e.g., 85% of the volume of the combined sewage
30 collected in the CSS during precipitation events) are expected to be required to receive
31 at a minimum, primary clarification, and disinfection and dechlorination where
32 appropriate. These discharges after such treatment must also meet WQS. When
33 sufficient supporting information has been collected and it is technically feasible to do so,
34 EPA expects the permit writer to develop and include numeric water quality-based
35 effluent limits for these discharges, as appropriate. For example, where a WQS exists for
36 chlorine residual, the permit writer may develop and apply a numeric water quality-based
37 limit for chlorine residual.

- 1 **4. Does EPA have authority to enforce an NPDES water quality-based permit condition**
2 **that generally prohibits the discharge of any pollutant at a level that could**
3 **contribute to an in-stream excursion above a water quality criterion?**

4 EPA believes it has authority under the CWA Section 309 to enforce such a condition and
5 has routinely included this general requirement for compliance with water quality criteria
6 in permits. This type of provision is particularly appropriate in the case of CSOs because
7 of the difficulty in setting numeric water quality-based effluent limits.

- 8 **5. What effect does the recent case of *Northwest Environmental Advocates v. City of***
9 ***Portland* [11 F.3d 900 (9th Cir. 1993)] have on the response to Question 4?**

10 This case involved a citizen suit brought under Section 505 of the CWA against the City
11 of Portland, Oregon involving CSOs. One component of the court's holding was that it
12 interpreted Section 505 to require that, in order to be enforceable, WQS must be
13 translated into end-of-pipe permit limitations. Because this case was a citizen suit
14 addressing what citizens have the authority to enforce and, therefore, did not address EPA
15 enforcement authority, the impact on EPA's ability to enforce such a permit condition is
16 unclear. Although EPA agrees with the court holding on several issues, it disagrees with
17 this component of the ruling. The citizen's group has sought rehearing before the full
18 court. EPA has filed an amicus brief supporting the Northwest Environmental Advocates'
19 position of WQS enforceability. The motion for rehearing is pending as of February
20 1995.

21 **III. APPROACHES TO ACHIEVING WQS**

22 All permits are required by the CWA to include conditions to ensure that WQS are
23 attained. The CSO Control Policy provides two alternative approaches to achieve this
24 result: the "demonstration" and the "presumption" approach. The demonstration approach
25 requires the permittee to demonstrate how compliance with WQS will be achieved; the
26 presumption approach allows a permittee to choose from performance-based criteria
27 presented in the CSO Control Policy at Section II.C.4 where the level of control needed
28 to attain WQS is unknown at the time of permit issuance.

- 29 **1. Under what circumstances is it appropriate for a permittee to use the presumption**
30 **approach?**

31 The presumption approach is only appropriate when there are no data suggesting that the
32 use of this approach will not allow the achievement of WQS. If subsequent data suggest
33 that the permittee is not contributing to the achievement of WQS, the permittee is
34 expected to be required to return to the planning process to "demonstrate" how WQS will
35 be achieved.

- 1 **2. In the presumption approach described in the CSO Control Policy, the third**
2 **criterion is the "elimination or the capture for treatment of no less than the mass**
3 **of the pollutants identified as causing water quality impairment." How does the**
4 **permittee identify the pollutants causing water quality impairment?**

5 Pollutants identified as causing water quality impairment are defined as those pollutants
6 that will cause or contribute to an in-stream excursion of a WQS, including designated
7 uses and water quality criteria. The CSO Control Policy includes a minimum control that
8 requires the permittee to characterize the CSO impacts and the efficacy of CSO controls.
9 As part of this effort the permittee will be expected to determine the relative contributions
10 of pollutants from CSOs and how they affect water quality.

- 11 **3. If WQS are not being met in the receiving water body because of pollutant sources**
12 **other than CSOs, how will the permittee demonstrate compliance with WQS?**

13 If pollutant sources other than CSOs are contributing to in-stream exceedances of water
14 quality criteria, then the permittee should consult with the NPDES permitting authority
15 and other appropriate agencies regarding whether a total daily maximum load (TMDL)
16 has been or is in the process of being developed. TMDLs are discussed in more detail
17 in the next section. In cases where no TMDL has been developed, the permittee should
18 coordinate with the NPDES permitting authority and the WQS authority to discuss how
19 to demonstrate compliance with WQS in light of the other sources of pollutants.

20 **IV. TOTAL MAXIMUM DAILY LOADS**

- 21 **1. What is a Total Maximum Daily Load (TMDL)?**

22 A TMDL is a technically sound and legally defensible tool used by a State to calculate
23 and apportion to identified sources the allowable amount of pollutants that may be
24 discharged into a water body without exceeding numeric water quality criteria. Section
25 303(d) of the CWA requires States to establish TMDLs for water bodies that do not or
26 are not expected to meet WQS after technology-based controls are implemented.

- 27 **2. How is the TMDL calculated?**

28 Various data are needed to develop a TMDL. The TMDL is the sum of the waste load
29 allocations (WLA) and the load allocations (LA) and includes a margin of safety to
30 account for uncertainty about the relationship between pollutant loads and water quality.
31 The WLA are the pollutant loads from point sources, and the LA are the portion of
32 pollutants from nonpoint sources, including background sources.

- 33 **3. How will the contribution of CSOs be considered in the development of TMDLs?**

34 Water bodies that are identified as not meeting WQS will be placed on the State's 303(d)
35 list and prioritized for the development of TMDLs. If these water bodies include CSO-

1 impacted waters, the CSO contribution to the impairment can be calculated and a waste
2 load allocation developed for the CSOs. Since CSOs are episodic in nature, a wet
3 weather scenario may be more appropriate than a steady state calculation to determine the
4 CSO allocation. Once an allocation is developed, it is likely to be reflected as a CSO-
5 related condition in the permit. EPA is currently developing a guidance that presents
6 approaches for loading and impact analyses of steady and episodic sources for estimating
7 TMDLs. This guidance, entitled "Technical Guidance for Estimating Total Daily
8 Maximum Loads (TMDLs): Integrating Steady-State and Episodic Point and Nonpoint
9 Sources," will be available [date to be determined].

10 **4. How does a State develop a TMDL? How is this process integrated with the CSO**
11 **planning process?**

12 The TMDL development process is one of five steps in the water quality-based approach
13 to pollution control:

- 14 . Identification of water quality-limited water bodies
- 15 . Priority ranking and targeting of water bodies
- 16 . Development of TMDLs including the WLA and LA
- 17 . Implementation of control actions to achieve individual WLA
- 18 . Assessment of control actions.

19 EPA suggests that States adopt a phased approach for the development of TMDLs for
20 water quality-limited water bodies where limited information is available. Under a phased
21 approach, a TMDL is developed and control actions are implemented using the best
22 available information, best professional judgment (BPJ), and a margin of safety that
23 accounts for uncertainties. The phased TMDL approach should incorporate a schedule
24 for obtaining information (through monitoring and modeling) to reassess WLA and LA
25 to ensure attainment of WQS.

26 If the permittee has been allocated a wasteload for its CSOs based on a phased TMDL,
27 the permittee should consider this during development of its long-term control plan. A
28 key element of the permittee's long-term plan is the development of a post-construction
29 monitoring program to assess whether the implemented CSO controls are sufficient to
30 achieve WQS. This post-construction monitoring program should be integrated with the
31 monitoring requirements of the phased TMDL to ensure that all necessary data are
32 collected to assess compliance with WQS. If the CSOs with controls in place continue
33 to contribute to exceedances of WQS, the permittee may be required to implement
34 additional CSO controls.

35 **V. SENSITIVE AREAS**

1 **1. What are sensitive areas? Who decides which areas are sensitive?**

2 Sensitive areas are environmentally susceptible water body areas that necessitate special
3 consideration during the CSO planning process. Section II.C.3 of the CSO Control Policy
4 states that the highest priority should be given to controlling CSOs to sensitive areas. At
5 a minimum, the CSO Control Policy prescribes that sensitive areas will include:
6 1) Outstanding National Resource Waters,¹ 2) National Marine Sanctuaries,² 3) waters
7 with threatened or endangered species and their habitat, 4) waters with primary contact
8 recreation, 5) public drinking water intakes or their designated protection areas, and
9 6) shellfish beds. The initial identification of sensitive areas should be made by the
10 NPDES permitting authority and the permittee in consultation with State and Federal
11 agencies. The final determination of sensitive areas will be made by the permit writer.

12 **2. Do CSOs have to be eliminated from sensitive areas?**

13 The CSO Control Policy states that to provide for the highest level of protection where
14 physically possible and economically achievable, existing overflows to sensitive areas
15 should be eliminated or relocated, unless elimination or relocation creates more of an
16 environmental threat than additional treatment. Elimination or prohibition of any new or
17 significantly increased overflows to designated sensitive areas should also be considered!
18 If elimination or relocation is not physically possible or economically achievable or
19 creates more of a threat the permit should require:

20 · Necessary level of treatment to meet the WQS for full protection of existing and
21 designated uses

22 · A reassessment based on consideration of new or improved techniques to
23 eliminate or relocate overflows, or of changes that influence economic
24 achievability for each subsequent permit term.

25 ¹**Outstanding National Resource Waters** - The WQS regulations at 40 CFR §131.12 (Antidegradation Policy) stipulate that
26 States must develop and adopt Statewide antidegradation policies and identify methods for implementing those policies. The
27 policies and antidegradation methods must be consistent with various requirements, including "(3) Where high quality waters
28 constitute an outstanding National resource, such as waters of National and State parks and wildlife refuges and waters of
29 exceptional recreational or ecological significance, that water quality shall be maintained and protected." These Outstanding
30 National Resource Waters are designated by States and subject to EPA approval.

31 ²**National Marine Sanctuaries** - Under the Marine Protection, Research, and Sanctuaries Act (16 U.S.C. §§1431-1445), the
32 Secretary of Commerce may designate any discrete area of the marine environment as a National Marine Sanctuary (NMS). To
33 be designated as such, 1) the area must be of national significance, 2) existing governmental authorities must be inadequate to
34 ensure conservation and management of the area, and 3) the size and nature of the areas will allow coordinated management. The
35 National Oceanic and Atmospheric Administration is responsible for management and tracking of the sanctuaries. Currently, there
36 are 13 NMSs: 1) Channel Islands NMS, 2) Cordall Bank NMS, 3) Fagatele Bay NMS, 4) Florida Keys NMS, 5) Flower Garden
37 Banks NMS, 6) Gray's Reef NMS, 7) Hawaiian Islands Humpback Whale NMS, 8) Key Largo NMS, 9) Lone Key NMS, 10)
38 Monterey Bay NMS, 11) Olympic Coast NMS, 12) Point Reyes-Farallon Islands NMS, 13) Stellwagen Bank NMS.

1 **3. How does the CSO Control Policy definition of a "sensitive area" relate to State-**
2 **designated uses?**

3 The permittee and permitting authority should determine how sensitive areas listed in the
4 CSO Control Policy compare to State-designated uses. In some cases, the State may have
5 designated a use that corresponds to a sensitive area as identified in the CSO Control
6 Policy. For example, a State may have adopted primary contact recreation as a
7 designated use. In such a case, the permittee and permitting authority should identify all
8 CSO impacted water bodies with this designation as sensitive areas for the purposes of
9 CSO Control Policy implementation. In other cases, the State may not have adopted a
10 designated use for which there is a sensitive area classification (e.g., State waters may be
11 inhabited by an endangered species but there is no specific State designation as such).
12 In this case, the permittee and permitting authority along with other appropriate parties
13 (e.g., U.S. Fish and Wildlife Service) should determine whether or not the particular CSO-
14 impacted water body should be classified as sensitive for the purposes of CSO Control
15 Policy implementation.

16 **VI. MONITORING AND MODELING**

17 **1. What if a permittee's monitoring results indicate WQS are being met prior to the**
18 **initiation of the long-term planning process?**

19 The CWA requires permittees to implement both technology-based and water quality-
20 based controls. Although the receiving water may be meeting WQS, the permit writer
21 should still require the permittee to implement technology-based controls. During
22 Phase I, technology-based controls will be determined by the permit writer on a BPJ basis
23 and are likely to be the nine minimum controls (NMC). During Phase II, technology-
24 based controls may be refined to reflect site-specific conditions based on the NMC
25 documentation provided by the permittee during Phase I.

26 In addition, all permittees should be required to develop and implement a long-term
27 control plan. The CSO Control Policy provides for flexibility in long-term plan
28 development and implementation to accommodate the permittee's current CSO control
29 efforts (Section I.C). Long-term plan requirements will be incorporated into the permit
30 or other enforceable mechanism. In all cases, the permittee will be required to conduct
31 a sensitive areas evaluation and compliance monitoring.

32 **2. What types of information and data are needed to effectively coordinate a CSO-**
33 **related WQS review?**

34 The specific information and data needed to coordinate a CSO-related WQS review will
35 be determined by the permittee and NPDES permitting authority in conjunction with the
36 WQS authority. In general, the following types of data are essential to the integration of
37 CSO activities with review and revision of WQS:

- 1 · Information on the designated uses of the receiving water body including
2 an assessment of competing uses.

- 3 · Designated use impairment data, including data on severity and geographic
4 extent of use impairment (e.g., how many beaches are closed for how long
5 due to high bacteriological counts).

- 6 · Information on the location of sensitive areas, including swimming areas,
7 shellfish propagation or harvesting beds, fish spawning areas, and drinking
8 water supply intakes.

- 9 · Water quality criteria, as well as data on severity, geographic extent,
10 duration, and frequency of water quality criteria excursions.

- 11 · Constituents of discharges that may lead to water quality criteria
12 excursions.

- 13 · Sediment data, including data on severity and geographic extent of any
14 sediment contamination.

- 15 · Timing of CSO events, including data that answer the following questions:
 - 16 – Is there a correlation between a CSO event and the need for the
17 use to be met (e.g., do CSO events occur during primary contact
18 recreation periods or fish development stages or spawning periods)?
 - 19 – How much precipitation causes a CSO event?
 - 20 – How much average time is there between CSO events?

- 21 · Average number of CSO events per year.

- 22 · Available daily flow data.

- 23 · Appropriate meteorological, soils, and land use data and data for watershed
24 modeling that are available.

- 25 · Pollutant loadings from NPDES-permitted facilities and nonpoint sources,
26 which may include storm water and CSOs (defined as point sources under
27 the NPDES program) and agricultural lands, road ways, and forestry
28 operations.

29 **VII. REVIEW AND REVISION OF WQS**

1 **1. Does EPA anticipate the promulgation of wet weather standards in the near future?**

2 EPA has no plans to develop wet weather criteria; rather, the CSO Control Policy
3 encourages States to use the flexibility in Federal and State regulations and guidance to
4 review and revise WQS as necessary to more precisely define designated uses to more
5 accurately correlate designated uses with wet weather conditions.

6 **2. What mechanisms are available for States to revise WQS to address wet weather
7 flows and CSO discharges?**

8 The WQS program has types of WQS revision that could potentially be used to address
9 such factors as the effects of wet weather and CSOs on receiving water bodies. These
10 include:

- 11 · Modification of a designated use, including partial uses reflecting situations
12 where a certain event (e.g., a storm) precludes the use from occurring [40
13 CFR Section 131.10(f)]
- 14 · Modification of a designated use to define the use with greater specificity
15 (e.g., warm water fishery in place of aquatic life protection use). [40 CFR
16 Section 131.10(c)]
- 17 · Site-specific criteria [40 CFR Section 131.11 (b)(1) (ii)]
- 18 · Temporary variances from water quality standards. [40 CFR Section
19 131.13]

20 The decision regarding the mechanism to be used to revise WQS to address wet weather
21 flows will be based on a variety of factors. The permittee should coordinate with the
22 NPDES permitting authority and State WQS authority to determine the most appropriate
23 option for a particular receiving water body. In addition, the public should be involved
24 early and throughout the process.

25 **3. How do the timing and coordination of the review of WQS and LTCP development
26 relate?**

27 The CSO Control Policy strongly emphasizes coordination of the development of the
28 LTCP with the review of WQS so that the CSO controls selected to be implemented will
29 allow achievement of the desired WQS. When developing the LTCP, the permittee
30 should meet with State WQS personnel, the NPDES permitting authority, and EPA
31 Regional personnel early and frequently. During these meetings, the entities should
32 evaluate the options for revising WQS as described previously and determine the most
33 appropriate option for the particular receiving water body. The entities should reach
34 consensus on which option to pursue (if any); agree on the data, information, and analyses
35 needed to support the development of the LTCP and the review of WQS; and identify the
36 responsibilities of each entity in that process. For example, if the entities decide to
37 pursue modifying a use to reflect wet weather conditions, they would have to identify the

1 party responsible for collecting data on the receiving water body, conducting the use
2 attainability analysis, etc. Many opportunities exist for permittees and the State to share
3 information as the LTCP is developed and the WQS are reviewed. This information
4 should assist States in determining the need for revisions to WQS and implementation
5 procedures to better reflect wet weather impacts of CSOs.

6 **4. If a State is revising or considering revisions to its WQS, should a permittee's LTCP**
7 **be developed based on existing or potentially revised WQS?**

8 The CWA requires permit writers to include permit conditions to require compliance with
9 WQS. These permit conditions should reflect current WQS as adopted by the State. The
10 permit writer should include a reopener clause that allows the permit to be revised if the
11 State adopts new WQS. Therefore, if the permittee is aware that WQS may be revised
12 to reflect wet weather conditions, the permittee should meet with the State WQS and
13 NPDES permitting authorities and identify when revisions are likely to occur and whether
14 the permittee's LTCP should reflect the current or proposed WQS. In any event, the
15 permittee's selected controls should be designed to allow cost effective expansion or
16 retrofitting if additional controls are subsequently determined to be necessary to meet
17 revised WQS.

18 **5. What legal and regulatory requirements must a State meet in the review and**
19 **revision of WQS?**

20 Section 303(c)(1) of the CWA requires States to hold public hearings to review their
21 WQS and, as appropriate, modify or adopt WQS, at least once every 3 years. In addition,
22 EPA regulations and the CWA require States to hold public hearings whenever a State
23 intends to change any element of its WQS. Hearings must be conducted in accordance
24 with State law, 40 CFR Part 131 Subpart C (EPA's Procedures for Review and Revision
25 of Water Quality Standards), and 40 CFR Part 25 (EPA's Public Participation Regulation).
26 Generally, 40 CFR Part 25 requires a State to give notice 45 days prior to the formal
27 public hearing that includes the time, location, agenda, major issues, and location of
28 supporting documents. In addition, whenever a State revises or adopts new WQS, they
29 must be submitted to the EPA Regional Administrator for review [Section 303(c)(2)(A)].
30 The submittal must include a Use Attainability Analysis (UAA), site-specific criteria
31 methodologies, general policies, and standard revisions, as appropriate. EPA requires the
32 State Attorney General to certify that the standards under review were legally adopted and
33 are enforceable in the State because State-adopted WQS remain in effect (even if
34 disapproved by EPA) until the State revises them or EPA promulgates a superseding rule.
35 The procedures for review and revision of WQS are discussed in Chapter 6 of the EPA
36 *Water Quality Standards Handbook—Second Edition*.

37 **6. What is the role of the public in the review of WQS associated with CSO program**
38 **implementation?**

39 Public participation and consensus building are key elements necessary for the successful
40 implementation of the CSO Control Policy. Many opportunities exist for public

1 involvement. The public should be encouraged to participate early in the CSO control
2 planning processes, especially during discussions regarding the review of WQS. Public
3 understanding and support of any decisions regarding the modification of designated uses
4 or the granting of variances are critical to the CSO control planning process.

5 **7. How long does it take EPA to review and approve or disapprove the WQS**
6 **submittal?**

7 Both the EPA Regional office and Headquarters review the draft and adopted State
8 standards. Upon submittal, EPA must notify the State within 60 days if the WQS are
9 approved or within 90 days if the WQS are disapproved. Upon disapproval, EPA must
10 send a letter to the Governor (or Governor's designee) specifying the revisions that must
11 be adopted to obtain full approval. Within 90 days after EPA notification, the State must
12 revise the standards to meet these requirements. If the State does not make and adopt the
13 required revisions, EPA may promulgate revised WQS. EPA may also grant a conditional
14 approval if there are minor deficiencies. EPA may approve or disapprove a State's WQS
15 in whole or in part.

16 **VIII. SITE-SPECIFIC CRITERIA**

17 States are required to adopt water quality criteria sufficient to protect designated uses.
18 As such, States may establish numeric criteria based on national criteria developed by
19 EPA under Section 304(a) of the CWA, develop other criteria using scientifically
20 defensible methods, or derive site-specific criteria.

21 **1. What are site-specific criteria?**

22 Site-specific criteria are criteria developed by a State to be specifically appropriate to the
23 water quality characteristics and/or species composition at a particular location. These
24 criteria are used where either 1) the background water quality parameters, such as total
25 suspended solids alkalinity or hardness, differ significantly from the laboratory water used
26 in developing the Section 304(a) criteria, or 2) the types of local aquatic organisms at the
27 site differ significantly from those actually used in the development of the Section 304(a)
28 criteria (i.e., are more or less sensitive than those included in the national criteria data
29 set).

30 **2. What procedures are recommended for developing site-specific criteria? Is**
31 **documentation of one of these procedures adequate justification for EPA approval**
32 **of a site-specific criterion?**

33 EPA's *Water Quality Standards Handbook—Second Edition*, revised August 1994,
34 contains three procedures for developing site-specific criteria by modifying the national
35 304(a) criteria:

- 1 · Recalculation procedure to account for differences in resident species
2 sensitivity to a chemical

- 3 · Indicator species (or water-effect ratio) procedure to account for
4 differences in biological availability and/or toxicity of a chemical caused
5 by different physical and/or chemical characteristics of a site water

- 6 · Resident species procedure to account for both differences in resident
7 species sensitivity and differences in the biological availability and/or
8 toxicity of a chemical due to physical and/or chemical characteristics of
9 the site waters.

10 Results of the site-specific criteria study, including methods and procedures followed,
11 should be submitted to EPA for review and approval. For further details on procedures
12 for developing site-specific criteria, see the EPA *Water Quality Standards Handbook—*
13 *Second Edition*.

14 **3. How can site-specific criteria be used to account for CSOs?**

15 EPA does not expect that States will develop site-specific criteria solely based on the
16 condition that a CSO occurs in the stream segment or to account for other wet weather
17 flows. However, it is possible that a State may want to adopt site-specific criteria for a
18 CSO-impacted stream segment based on the factors given previously (i.e., difference in
19 background water quality parameters of types of local aquatic organisms).

20 **IX. MODIFICATION OF DESIGNATED USES**

21 **1. The CSO Control Policy encourages States to define more explicitly their**
22 **recreational use. What does this mean?**

23 Many States define recreational uses and aquatic life uses generally. For example, the
24 recreational use for a particular water body might be defined simply as primary contact
25 recreation. In certain circumstances, however, it may be appropriate for a State to more
26 explicitly define the conditions under which primary contact recreation is the desired use.
27 For example, if primary contact is the designated use and a CSS analysis determines that
28 CSOs occur only in the winter (or during certain months) when there is no swimming,
29 a seasonal use designation may be appropriate. Alternately, a State may want to define
30 a designated use according to the conditions when primary contact recreation may not
31 exist, such as during a particular type of storm event. In modifying designated uses,
32 however, States must ensure that:

- 33 · During other seasons or when a storm has passed, the use is fully protected

- 34 · Adjustments do not preclude the attainment of WQS downstream.

1 **2. The CSO Control Policy encourages States to define their aquatic life uses more**
2 **explicitly. What does this mean?**

3 Although States may have defined aquatic life uses generally, the CSO Control Policy
4 encourages States, where appropriate, to do so more explicitly. For example, States are
5 encouraged to define the type of fishery to be protected, such as cold water fishery or
6 warm water fishery, rather than simply "fishery."

7 **3. How does more explicitly defining recreational or aquatic life uses fit within the**
8 **regulatory structure of the Federal regulations related to designated uses (40 CFR**
9 **131.10)?**

10 The CSO Control Policy refers to a more explicit definition of general recreational or
11 aquatic life uses as a "modification" to a designated use. For the purposes of determining
12 what regulatory requirements apply to a modification and what demonstration a State
13 must perform, EPA considers a modification to be equivalent to the establishment of a
14 "sub-category" of a use at 40 CFR 131.10(c). Thus, in order to more explicitly define
15 designated uses, a State must conduct a UAA in accordance with 40 CFR 131.10(g).

16 **4. The CSO Control Policy refers to a State adopting a "partial use," a term that does**
17 **not appear in the Federal regulations related to designated uses (40 CFR 131.10).**
18 **What does the term "partial use" mean?**

19 The term "partial use" in the CSO Control Policy refers to a State limiting a designated
20 use to specific conditions, such as a particular season or type of storm event. For the
21 purposes of 40 CFR 131.10, the State should consider the adoption of a partial use
22 designation to be equivalent to the adoption of a sub-category and is required to conduct
23 a UAA in accordance with 40 CFR 131.10(g).

24 **5. What is the procedure for modifying a designated use?**

25 To modify a use to one requiring less stringent criteria, the State must conduct a UAA
26 as described in 40 CFR 131.10(g). A UAA may be conducted if the State can
27 demonstrate that attaining the designated use is not feasible because of the following
28 conditions:

- 29 1. Naturally occurring pollutant concentrations
- 30 2. Natural, ephemeral, intermittent, or low flow conditions or water levels
31 (unless these conditions may be compensated for by effluent discharges
32 without violating State water quality conservation requirements)
- 33 3. Human-caused conditions or sources of pollution that cannot be remedied
34 or that would cause more environmental damage to correct than to leave
35 in place

- 1 4. Dams, diversions, or other types of hydrologic modifications and it is not
2 feasible to restore the water body to its original condition or to operate
3 such modification in a way that would result in attainment of use
- 4 5. Physical conditions related to the natural features of the water body (e.g.,
5 lack of a proper substrate, cover, flow, depth, pools, riffles, and other
6 factors not related to water quality)
- 7 6. Controls more stringent than technology-based limits and Section 306 of
8 the CWA that would result in substantial and widespread economic and
9 social impact.

10 **6. What steps are involved in performing a use attainability analysis?**

11 A UAA is a structured scientific assessment of the physical, chemical, biological, and
12 economic factors described in 40 CFR 131.10(g) and listed in the previous question
13 affecting the attainment of a use. Guidance for conducting a UAA is contained in EPA's
14 *Water Quality Standards Handbook—Second Edition*, revised August 1994. A UAA
15 comprises three steps:

16 **Conduct a water body survey and assessment.** This assessment
17 identifies the existing uses of the water body, determines whether the
18 designated uses are impaired, and identifies the reasons for the impairment.
19 In performing this assessment, a full range of physical, chemical, and
20 biological characteristics of the water body may be evaluated (see Chapter
21 2 of the *Water Quality Standards Handbook*).

22 If it is determined that the use cannot be attained because of physical,
23 chemical, and/or biological characteristics, then the next two steps are not
24 necessary.

25 **Define required reductions in pollutant loadings.** Mathematical models
26 are used to define and allocate to various sources the amount of reduction
27 in pollutant loadings necessary to achieve the designated use. This
28 information is then used to determine the technology/controls necessary to
29 achieve the required pollutant reductions.

30 **Perform economic impact assessment.** After identifying the technology
31 necessary to meet the pollutant loading reduction (i.e., to attain the
32 designated use), an economic assessment may be conducted to determine
33 whether requiring a control more stringent than technology-based limits
34 will cause widespread and substantial economic and social impact. It is
35 important to note that the economic impact assessment should address only
36 the incremental cost of meeting the water quality-based controls.

1 Detailed guidance on conducting a UAA can be found in the following documents:
2 *Technical Support Manual: Waterbody Surveys and Assessments for Conducting Use*
3 *Attainability Analyses, Volume I.* Criteria and Standards Division, Washington, DC.
4 (Source #4, 1983c); *Technical Support Manual: Waterbody Surveys and Assessments for*
5 *Conducting Use Attainability Analyses, Volume II, Estuarine Systems.* Criteria and
6 Standards Division, Washington, D.C. (Source #4, 1984a); and *Technical Support*
7 *Manual: Waterbody Surveys and Assessments for Conducting Use Attainability Analyses,*
8 *Volume III, Lake Systems.* Criteria and Standards Division, Washington, D.C.
9 (Source #4, 1984b).

10 **7. What is "substantial and widespread economic and social impact"?**

11 EPA has not defined "substantial and widespread economic and social impact." Although
12 EPA is responsible for approving a State's WQS, the State is responsible for the
13 individual case and determining where there are substantial and widespread economic and
14 social impacts, or where important social and economic development would be
15 inappropriately precluded. However, the analysis of economic impacts must demonstrate
16 that:

- 17 1. The polluting entity, whether privately or publicly owned, would face
18 substantial financial impacts due to the costs of the necessary pollution
19 controls (substantial impacts or would interfere with development), and
- 20 2. The affected community will bear significant adverse impacts if the entity
21 is required to meet existing or proposed WQS (widespread impacts or
22 important development).

23 Guidance for conducting an economic impact assessment is contained in *Interim*
24 *Economic Guidance for Water Quality Standards Workbook* (EPA, Date)³.

25 **8. What documentation is a State required to submit for a UAA conducted to support**
26 **the modification of a designated use to address wet weather conditions?**

27 The specific documentation to support this UAA will be developed by the State. Thus,
28 the State WQS authority should work closely with the EPA Regional office during
29 preparation of the submission to ensure the appropriate and satisfactory documentation
30 for the UAA.

31 It is anticipated that the monitoring and modeling efforts during the LTCP development
32 process will supply information and data needed to support the UAA. For this reason,
33 it is critical that EPA Regional office and State WQS personnel be involved early in the
34 LTCP process.

35 ³ This publication has not been released as of March, 1995.

1 **9. Have any States adopted partial uses for CSO-impacted water bodies?**

2 Yes. The State of Massachusetts has developed a CSO WQS policy that recognizes the
3 limited circumstances under which uses may not be attainable in water bodies impacted
4 by CSOs. The primary goal of the Massachusetts policy is the elimination of receiving
5 water impacts from CSOs and full protection of designated uses. Under this policy, CSOs
6 are expected to be removed by separating sewers when feasible or by relocating sewers
7 to less sensitive areas. When infeasible due to substantial and widespread economic and
8 social impact, CSO-impacted segments may be reclassified to "partial use" segment,
9 indicating occasional short-term impairment caused by CSOs. In "partial use" segments,
10 impacts will be minimized to the maximum extent feasible to protect critical uses. In
11 addition, other States are in the process of reviewing and revising their WQS to address
12 wet weather conditions.

13 **X. VARIANCES**

14 **1. What is a variance from a WQS?**

15 A variance is a temporary modification in the WQS granted to a specific discharger. The
16 authority for variances is found at 40 CFR Section 131.13. Individual variances are
17 subject to EPA approval. The basis for this provision is given in the Decision of the
18 General Counsel Opinion No. 58 (44 FR 39508, March 29, 1977). This decision states
19 that it is environmentally preferable to grant a temporary variance to maintain the more
20 stringent standards for all other dischargers and constituents than to downgrade WQS.

21 More than 30 States have the authority to grant variances. Although most States include
22 variance provisions in their WQS, they use a variety of processes to issue the variance.
23 Variances are typically granted through the WQS process, through the permits process,
24 or through other administrative proceedings.

25 **2. Under what circumstances might a variance be the appropriate mechanism to**
26 **address wet weather flows?**

27 The use of a variance may be appropriate in CSO-impacted waters when it is not certain
28 whether a WQS can be attained or when compliance with WQS is attainable in the
29 foreseeable future. A WQS variance may be appropriate where a State does not yet have
30 the data necessary to know whether or not a standard can be attained. It may also be
31 appropriate when it is known that a WQS can be met eventually, but not immediately.
32 Variances provide an alternative to downgrading WQS and allow the permitting authority
33 to issue permits that include achievable WQS.

1 **3. What demonstration is required in order for a specific variance or general variance**
2 **provision to be approved by EPA?**

3 A State must conduct a UAA. The State WQS authority should coordinate with the EPA
4 Regional office during the preparation of the submission to ensure that it is adequate to
5 satisfy Regional policy and requirements. LTCP monitoring and modeling efforts will
6 likely generate data needed to support the demonstration; thus the State should involve
7 the EPA Regional office during the LTCP process.

8 **4. What is required for EPA to approve a State-adopted variance?**

9 EPA can approve a variance if:

- 10 1. The variance is included as part of the State WQS regulations;
- 11 2. The variance is granted based on a demonstration that meeting the standard
12 is unattainable based on one or more of the grounds outlined in 40 CFR
13 131.10(g);
- 14 3. The justification submitted by the State includes documentation that
15 treatment more advanced than that required by Section 303(c)(2)(A) and
16 (B) has been carefully considered, and that alternative effluent control
17 strategies have been evaluated;
- 18 4. The more stringent water quality criterion is binding upon all other
19 dischargers on the receiving water body;
- 20 5. The discharger who is given the variance for one particular constituent is
21 required to meet applicable criteria for other constituents;
- 22 6. The variance is granted for a specific period of time and must be
23 rejustified upon expiration but at least every 3 years (as part of the
24 triennial review);
- 25 7. The discharger must meet the standard upon expiration of this time period
26 or must make a new demonstration of unattainability;
- 27 8. Reasonable progress is being made toward meeting the standard; and
- 28 9. The variance is subject to the same public review as other changes in
29 WQS.

30 Guidance to conduct the economic assessment to demonstrate substantial and widespread
31 economic and social impact (item 3 above) is contained in the *Interim Economic*
32 *Guidance for Water Quality Standards Workbook*, (EPA, Date).

1 With a variance provision, NPDES permits with CSO conditions could be written such
2 that reasonable progress is made toward attaining the standard without violating Section
3 402(a)(1) of the CWA, which states that NPDES permits must meet the applicable WQS.

4 States must provide an opportunity for public review and comment on all variances. If
5 the State uses the permit as the mechanism to grant the variance, then the notice of the
6 permit must clearly state that the variance modifies the State's WQS. If the variance is
7 approved, the State appends the variance to its standards and reviews the variance every
8 3 years to examine whether conditions have changed.

9 **5. Are high flow exemptions to WQS standards based on CSOs acceptable?**

10 The concept of high and low flow exemptions in WQS was discussed in the *Guidelines*
11 *for State and Areawide Water Quality Management Program Development*, (EPA, 1976),
12 which was the predecessor document to the *Water Quality Standards Handbook*, (EPA,
13 1983). This document states that "Water quality standards should protect water quality
14 in critical high flow situations, and individual sources or categories of sources, such as
15 nonpoint sources, should not be categorically exempt from compliance with water quality
16 standards." This document further states that "Extreme high flow, like extreme low flow
17 is not a required design criterion for sources severely affected by extreme conditions:
18 However, permits and nonpoint source controls should assure that in extreme high flow
19 situations, man-induced incremental pollution will not result in severe and long-lasting
20 water quality impacts." This guidance was used by EPA as the basis for disapproving and
21 promulgating the nullification of a State of Ohio regulation authorizing the exemption of
22 all parameters at high flows.

23 Although the high flow exemption is not directly addressed in the *Water Quality*
24 *Standards Handbook*, the guidance does state in a related discussion that while States may
25 designate a critical low stream flow below which numerical water quality criteria do not
26 apply, narrative criteria must be met at all flows. The rationale for this statement is the
27 language in Section 303(c)(2)(A) of the CWA that WQS comprise the designated uses of
28 the navigable waters involved and the water quality criteria for such water body based on
29 the uses. Some uses may be reasonably exempted at very low or very high flows (e.g.,
30 swimming). For these uses, the numeric criteria protecting those uses may also be
31 exempt. Narrative criteria still provide the minimal level of protection. Other uses, such
32 as public drinking water supply and aquatic life survival, must be protected at virtually
33 all flows. Therefore, noncompliance with numeric criteria at high flows for certain uses
34 could be acceptable under specific conditions.

35 The CSO policy does not promote high flow exemptions to WQS as a mechanism for
36 addressing CSOs, but rather suggests the consideration of other mechanisms such as the
37 removal of a designated use, partial use designation, or WQS variance.

1 **XI. ANTIDegradation**

2 **1. Do the antidegradation provisions of WQS apply to CSO-impacted water bodies?**

3 Yes, the antidegradation provisions of WQS apply to CSO-impacted water bodies. 40
4 CFR Section 131.12 requires each State to adopt an antidegradation policy that is
5 designed to maintain and protect existing uses and water quality, to provide protection for
6 high quality waters, and to provide protection for "outstanding national resource waters."

7 EPA's antidegradation policy represents a three-tiered approach to maintaining and
8 protecting various levels of water quality and uses. At the base, the existing uses of a
9 water segment and the quality level necessary to protect the uses must be maintained.
10 This establishes the absolute floor of water quality. The second level provides protection
11 of actual water quality in segments where quality exceeds levels necessary to support
12 propagation of fish, shellfish, and wildlife and recreation (fishable/swimmable). In such
13 segments, limited water quality degradation can be allowed after it has been shown
14 through a demonstration process, which includes public participation, that water quality
15 will continue to support the "fishable/swimmable" use and will protect all existing uses.
16 The third tier provides special protection of waters that are important, unique, or
17 ecologically sensitive and for which the ordinary use classifications may not suffice and
18 are classified as "Outstanding National Resource Waters."

19 A State may not issue a permit in violation of its antidegradation policy or it will be
20 subject to EPA's discretionary veto and to citizen suits. In addition, TMDLs must be
21 developed consistent with the State antidegradation policy.

22 **XII. OTHER CRITERIA**

1 **1. What are sediment quality criteria and what role do they play in the implementation**
2 **of the CSO Control Policy?**

3 Sections 104(n)(1), 304(a)(1), and 304(a)(2) of the CWA authorize EPA to develop
4 criteria that set the maximum amount of pollutant that can be detected in the sediment
5 and apply these criteria through the NPDES program. To date, EPA has developed
6 sediment quality criteria for five organic pollutants (acenaphthene, dieldrin, endrin,
7 fluoranthene, and phenanthrene) using an equilibrium partitioning (EqP) approach, based
8 on ambient aquatic life criteria. EPA is also developing a methodology for developing
9 sediment criteria for metals.

10 Sediments in aquatic environments may accumulate or adsorb higher concentrations of
11 pollutants than the overlying waters. Pollutants adsorbed into the sediment may then be
12 desorbed and reintroduced into the water body over a long time period, thereby impairing
13 the designated uses of the water body and contributing to toxicity. Geochemical and
14 other processes determine the bioavailability of pollutants for desorption and
15 reintroduction into the overlying water. Sediments contaminated with pollutants may be
16 resuspended by high turbulent flows, dredging, or boats. Uncontaminated sediment may
17 impact freshwater biota beneficial uses. Such impacts could include interference with
18 sight feeding fish species (e.g., salmonids); loss of juvenile and over-wintering habitat;
19 loss of adult holding habitat; and loss of spawning habitat.

20 CSOs that contain both industrial and municipal discharges can be a source of sediment
21 quality contamination. As part of the preliminary characterization, the permittee will
22 determine 1) if narrative or numeric sediment quality criteria apply in the receiving water
23 body and 2) if sediment contamination has been identified. If sediment quality problems
24 exist, the permittee should consider including sediment sampling as a potential component
25 of the monitoring and modeling process and of the post-construction compliance
26 monitoring program, where appropriate.

27 **2. What are biological criteria and what role do they play in implementation of the**
28 **CSO Control Policy?**

29 Biological criteria are narrative or numerical criteria (e.g., number of types of organisms
30 and number of organisms) that describe the biological condition of aquatic communities.
31 The structure and function of a healthy biological community within a specified habitat,
32 its diversity and abundance of organisms, trophic structure, and species composition
33 provide critical information about water quality. In addition, biological criteria provide
34 a benchmark against which water bodies may be compared.

35 CSOs can cause impairment of applicable biological criteria through such processes as
36 scour, sedimentation, and changes in habitat. At this time, biological criteria as tools may
37 not be sophisticated enough to apply as permit limits. However, water quality
38 management programs can be enhanced by using biological criteria. For example,
39 biological criteria can be used to designate or refine a water body's aquatic life uses,
40 identify the causes of aquatic life use impairment (e.g., physical scouring), or develop

1 priorities for controls (e.g., reduce sediment loadings if loss of habitat is the primary
2 cause of community degradation).

3 The CSO Control Policy identifies biological assessment as a potential component of the
4 characterization, monitoring, and modeling process and of the post-construction
5 compliance monitoring program. EPA is testing the use of rapid bioassessments (RBAs)
6 to perform biological assessments. RBAs are a fast and cost-effective means of
7 evaluating the status of aquatic systems and of obtaining a snapshot of a water body's
8 ecological health. RBAs are primarily a screening tool for identifying generic causes of
9 biological impairment based on habitat, organic enrichment, and toxicants. RBAs
10 compare habitat and biological measures for studied systems to empirically defined
11 reference conditions. Based on these comparisons, a percent similarity and corresponding
12 level of impairment (e.g., none, slight, moderate, and severe) can be computed.

13 **3. Should a permittee consider physical habitat impacts of CSOs, such as changes in**
14 **hydrology, scour, and siltation, during the LTCP process?**

15 Physical habitat impacts from CSOs that result in nonattainment of designated use, such
16 as support of a warm water fishery, should be considered as part of the LTCP during the
17 permittee's evaluation of whether CSO alternatives will achieve compliance with WQS:

18 **4. What role does whole effluent toxicity testing play in implementation of the CSO**
19 **Control Policy?**

20 Regional policies regarding the imposition of whole effluent toxicity testing vary.
21 However, the NPDES regulations at 40 CFR Section 122.44(d)(1)(v) require (with
22 exceptions) that when the permitting authority determines that a discharge causes, has the
23 reasonable potential to cause, or contributes to an in-stream excursion above a narrative
24 WQS criterion, the permit must contain effluent limits for whole effluent toxicity. In
25 instances where it is not known whether CSOs will cause or have the potential to cause
26 or contribute to an in-stream excursion of narrative WQS, this determination may be
27 based on toxicity testing data. Where toxicity testing data gathered as part of CSO
28 monitoring (conducted during LTCP development and post-construction compliance
29 monitoring) indicate that the CSO may cause or contribute to an in-stream excursion of
30 the narrative WQS, the permit writer is required to include whole effluent toxicity
31 requirements.

32 **XIII. PERMITTING ISSUES**

33 **1. Can compliance schedules for WQS be included in permits?**

34 Compliance schedules may be included in permits to ensure that CSOs achieve
35 compliance with WQS where such schedules are authorized by the State WQS or the
36 State regulations implementing the WQS. The CWA provides that, after July 1, 1977,
37 all discharges, which includes CSOs, must be subject to permit limits that achieve

1 applicable WQS. Under the CWA, States are responsible for establishing the stringency
2 of WQS, as well as "whether limited forms of relief such as variances, mixing zones, and
3 compliance schedules should be granted..." Hence, where compliance schedules are
4 authorized as part of a State's WQS or as part of the State's regulations that implement
5 their WQS, such schedules satisfy the requirement of the CWA that permits contain limits
6 necessary to meet WQS. (See *In the Matter of Star-Kist Caribe, Inc.*, NPDES Appeal
7 No. 88-5, EPA, April 16, 1990 [Order on Petition for Reconsideration] and May 26, 1992
8 [Order Denying Modification Request].)

9 States may allow compliance schedules for post-July 1, 1977, WQS or for pre-July 1,
10 1977, WQS if the State has revised or newly interpreted the standard. Lacking such State
11 authority, compliance schedules are not allowed in permits to achieve compliance with
12 WQS whether EPA or the State prepared the permit, because EPA's authority regarding
13 the imposition of WQS compliance schedules is derived from the State's authority. As
14 of April 1992, 23 States and Territories have adopted provisions in either their WQS or
15 permit regulations authorizing compliance schedules for limits based on post-July 1977
16 WQS.

BIBLIOGRAPHY

- 1
- 2 EPA. 1976. *Quality Criteria for Water 1976* (the "Red Book"). Office of Water and Hazardous
3 Materials. Washington, DC. GPO #055-001-01049-4. (Source #3.)
- 4 EPA. 1980a. Notice of Water Quality Criteria Documents. Criteria and Standards Division.
5 Washington, DC. 45 F.R. 79318, November 28, 1980.
- 6 EPA. 1983c. *Technical Support Manual: Waterbody Surveys and Assessments for Conducting*
7 *Use Attainability Analyses, Volume I*. Criteria and Standards Division. Washington, DC.
8 (Source #4.)
- 9 EPA. 1983d. *Technical Guidance Manual for Performing Waste Load Allocations, Book II,*
10 *Streams and Rivers: Chapter 1—Biochemical Oxygen Demand/Dissolved Oxygen*.
11 Monitoring and Data Support Division. Washington, DC. EPA 440/4-84-020.
12 (Source #4.)
- 13 EPA. 1983e. *Technical Guidance Manual for Performing Waste Load Allocations, Book II,*
14 *Streams and Rivers: Chapter 2—Nutrient/Eutrophication Impacts*. Monitoring and Data
15 Support Division. Washington, DC. EPA 440/4-84-021. (Source #4.)
- 16 EPA. 1983f. *Technical Guidance Manual for Performing Waste Load Allocations, Book II,*
17 *Streams and Rivers: Chapter 2—Nutrient/Eutrophication Impacts*. Monitoring and Data
18 Support Division. Washington, DC. EPA 440/4-84-019. (Source #4.)
- 19 EPA. 1984a. *Technical Support Manual: Waterbody Surveys and Assessments for Conducting*
20 *Use Attainability Analyses, Volume II, Estuarine Systems*. Criteria and Standards
21 Division. Washington, DC. (Source #4.)
- 22 EPA. 1984b. *Technical Support Manual: Waterbody Surveys and Assessments for Conducting*
23 *Use Attainability Analyses, Volume III, Lake Systems*. Criteria and Standards Division.
24 Washington, DC. (Source #4.)
- 25 EPA. 1984d. *State Water Quality Standards Approvals: Use Attainability Analysis Submittals*.
26 (Memorandum from Director, Criteria and Standards Division to Director, Water
27 Management Division, Region I; November 28.) Washington, DC. (Source #5.)
- 28 EPA. 1984e. *Technical Guidance Manual for Performing Waste Load Allocations, Book II,*
29 *Streams and Rivers: Chapter 3—Toxic Substances*. Office of Water Regulations and
30 Standards. Washington, DC. EPA 440/4-84-022. (Source #4.)
- 31 EPA. 1985b. *Guidelines for Deriving National Water Quality Criteria for the Protection of*
32 *Aquatic Organisms and Their Uses*. Office of Water Regulations and Standards.
-

- 1 Washington, DC. 45 F.R. 79341, November 28, 1980, as amended at 50 F.R. 30784, July
2 29, 1985. NTIS #PB 85-227049. (Source #1.)
- 3 EPA. 1985e. *Interpretation of the Term "Existing Use."* (Memorandum from Director, Criteria
4 and Standards Division to Water Quality Standards Coordinator, Region IV; February 21.)
5 Washington, DC. (Source #5.)
- 6 EPA. 1985f. *Selection of Water Quality Criteria in State Water Quality Standards.*
7 (Memorandum from Director, Office of Water Regulations and Standards to Water
8 Division Directors, Regions I-X; February 28.) Washington, DC. (Source #5.)
- 9 EPA. 1985g. *Variances in Water Quality Standards.* (Memorandum from Director, Office of
10 Water Regulations and Standards to Water Division Directors; March 15.) Washington,
11 DC. (Source #5.)
- 12 EPA. 1985h. *Antidegradation, Waste Loads, and Permits.* (Memorandum from Director, Office
13 of Water Regulations and Standards to Water Management Division Directors, Regions
14 I-X.) Washington, DC. (Source #5.)
- 15 EPA. 1985i. *Antidegradation Policy.* (Memorandum from Director, Criteria and Standards
16 Division to Water Management Division Directors, Regions I-X; November 22.)
17 Washington, DC. (Source #5.)
- 18 EPA. 1986a. *Quality Criteria for Water* (the "Gold Book") Office of Water Regulations and
19 Standards. Washington, DC. EPA 440/5-86-001. USGPO #955-002-00000-8.
20 (Source #3.)
- 21 EPA. 1986b. *Ambient Water Quality Criteria for Bacteria.* Office of Water Regulations and
22 Standards. Washington, DC. EPA 440/5-84-002. PB 86-158045. (Source #1.)
- 23 EPA. 1986c. *Technical Guidance Manual for Performing Waste Load Allocations, Book VI,*
24 *Design Conditions.* Office of Water Regulations and Standards. Washington, DC. EPA
25 440/4-87-002. (Source #4.)
- 26 EPA. 1986d. *Technical Guidance Manual for Performing Waste Load Allocations, Book VI,*
27 *Design Conditions: Chapter 1—Stream Design Flow for Steady-State Modeling.* Office
28 of Water Regulations and Standards. Washington, DC. EPA 440/4-87-004. (Source #4.)
- 29 EPA. 1986f. *Determination of "Existing Uses" for Purposes of Water Quality Standards*
30 *Implementation.* (Memorandum from Director, Criteria and Standards Division to Water
31 Management Division Directors, Regions I-X, WQS Coordinators, Regions I-X; April 7.)
32 Washington, DC. (Source #5.)

WORKING DRAFT: DO NOT QUOTE OR CITE

- 1 EPA. 1986. *Technical Guidance Manual for Performing Waste Load Allocations, Book IV,*
2 *Lakes, Reservoirs, and Impoundments: Chapter 3—Toxic Substances.* Office of Water
3 Regulations and Standards. Washington, DC. EPA 440/4-87-002. (Source #4.)
- 4 EPA. 1988e. *Guidance for State Implementation of Water Quality Standards for CWA Section*
5 *303(c)(2)(B).* Office of Water. Washington, DC. (Source #4.)
- 6 EPA. 1989f. *EPA Designation of Outstanding National Resource Waters.* (Memorandum from
7 Acting Director, Criteria and Standards Division to Regional Water Management Division
8 Directors; May 25.) Washington, DC. (Source #5.)
- 9 EPA. 1989h. *Designation of Recreation Uses.* (Memorandum from Director, Criteria and
10 Standards Division to Director, Water Management Division, Region IV; September 7.)
11 Washington, DC. (Source #5.)
- 12 EPA. 1989i. *Water Quality Criteria to Protect Wildlife Resources.* Environmental Research
13 Laboratory. Corvallis, OR. EPA 600/3-89-067. NTIS #PB 89-220016. (Source #1.)
- 14 EPA. 1990a. *Biological Criteria, National Program Guidance for Surface Waters.* Office of
15 Water Regulations and Standards. Washington, DC. EPA 440/5-90-004. (Source #4.)
- 16 EPA. 1991a. *Technical Support Document for Water Quality-based Toxics Control.* Office of
17 Water. Washington, DC. EPA 505/2-90-001. NTIS #PB 91-127415. (Source #1.)
- 18 EPA. 1991c. *Guidance for Water Quality-based Decisions: TMDL Process.* Office of Water.
19 Washington, DC. EPA 440/4-91-001. (Source #6.)
- 20 EPA. 1991i. *Policy on the Use of Biological Assessments and Criteria in the Water Quality*
21 *Program.* (Memorandum from Director, Office of Science and Technology to Water
22 Management Division Directors, Regions I-X; June 19.) Washington, DC. (Source #2.)
- 23 EPA. 1992b. *Interim Guidance on Interpretation and Implementation of Aquatic Life Criteria*
24 *for Metals.* 57 F.R. 24041. Office of Science and Technology. Washington, DC.
25 (Source #2.)
- 26 EPA. 1993f. *Office of Water Policy and Technical Guidance on Interpretation and*
27 *Implementation of Aquatic Life Metals Criteria.* Office of Water. Washington, DC.
28 (Source #4.)
- 29 EPA. 1994a. *Interpretation of Federal Antidegradation Regulatory Requirement.* Office of
30 Science and Technology. Washington, DC. (Source #5.)
- 31 All references and sources for obtaining references were taken from the *Water Quality Standards*
32 *Handbook*, Second Edition, August 1994 (EPA-823-B-94-005a).