

Subject Matter Code: C-25 Hardness

Comment ID: CTR-026-005

Comment Author: Cal. Department of Fish & Game

Document Type: State Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-25 Hardness

References:

Attachments? N

CROSS REFERENCES

Comment: 6. TOTAL HARDNESS DEPENDENT FRESHWATER METALS CRITERIA

The DFG does not object to the development of freshwater metals criteria that take into account the effect of total hardness on metals toxicity, with the exception of the comments on criteria development stated above. The DFG does recommend, though, that the proposed rule clarify the tables (page 42169) that reflect this approach. The tables may be viewed as the specific criteria rather than examples of metals criteria based on the total hardness value of 100 mg/l CaCO₃.

Response to: CTR-026-005

EPA acknowledges the commenter's concern that the hardness-dependent metals criteria may be incorrectly misconstrued as single fixed values, particularly since fixed numbers and hardness-dependent numbers appear in the same table. However, footnote "e" of the table explains the hardness dependency. EPA does not know of a better manner in which to present this information, and the commenter did not offer an alternative as to how to make the information clearer to the a casual reader.

Subject Matter Code: C-26 Avrging pds&Exceedence Freq.

Comment ID: CTR-003-002
Comment Author: City of Riverside
Document Type: Local Government
State of Origin: CA
Represented Org:
Document Date: 09/22/97
Subject Matter Code: C-26 Avrging pds&Exceedence Freq.
References:
Attachments? N

CROSS REFERENCES

Comment: 2) We agree with commentors who argued that a 4-day average period and a once in three year exceedance frequency is unnecessarily restrictive for chronic criteria exceedances. In fact, it would seem reasonable to assume that isolated exceedances of chronic criteria would have no discernable long term effect on a water body. Further, so long as acute criteria are not also exceeded, a rapid recovery period would seem likely, What case studies and/or laboratory results does EPA have to support this finding? Also, what data is EPA relying on for the three year excursion frequency for acute failures? Based on the evidence of recent major environmental calamities, aquatic systems appear to right themselves very quickly after initial cleanup, typically within one year.

Response to: CTR-003-002

See response to CTR-020-014.

Comment ID: CTR-009-007
Comment Author: City of Thousand Oaks
Document Type: Local Government
State of Origin: CA
Represented Org:
Document Date: 09/22/97
Subject Matter Code: C-26 Avrging pds&Exceedence Freq.
References:
Attachments? Y

CROSS REFERENCES

Comment: The rule states that the CMC "equals the highest concentration of a pollutant to which aquatic life can be exposed for a short period of time without deleterious effects." What is a "short period of time" defined as? This definition, as it stands, is vague to the point it will require, and be subject to, various interpretations by different entities and individuals. It puts the regulated community in the position of having to make independent judgments as to what the proscribed activity is, case-by-case. This is inappropriate, and will lead to unnecessary conflict. The City recommends that EPA define "short period of time" more precisely, and present the scientific basis for such definition in the final rule.

Response to: CTR-009-007

EPA does not agree that it is necessary to further define "short period of time" within the rule. The reason that it is not numerically specified is that the appropriate averaging period varies from pollutant to pollutant, and is not as well defined as, nor is as important as, the criteria concentrations, which are numerically specified in the rule. EPA is deferring to the State implementation procedures for the application of acute averaging periods into NPDES permit limit calculations, because these implementation procedures primarily involve mixing zone policies, which are at State responsibility, and are not part of this rule.

Comment ID: CTR-020-008

Comment Author: City of Stockton

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: C-26 Avrging pds&Exceedence Freq.

References:

Attachments? Y

CROSS REFERENCES

Comment: II. Use of New Scientific Information The City acknowledges and supports the EPA's update of several water quality criteria including those for mercury, cadmium and arsenic. While a number of criteria were updated to reflect current scientific information, there are a few notable exceptions. The following briefly addresses the key updates and omissions that should be addressed in the final publication of this rule.

4. Averaging Period for Acute Criteria

The proposed rule does not establish a specific averaging period for acute criteria, apparently abandoning the published criteria recommendation that acute criteria should be applied as one hour averages. EPA now states that the exposure time should be "short." While Stockton concurs that a one hour averaging period is not supported by the underlying data and is inconsistent with the permit development procedures in EPA's 1991 Technical Support Document for Water Quality-based Toxics Control ("TSD"), the failure to explain why EPA is no longer recommending a one hour averaging period will lead to confusion and misapplication of the criteria. At a minimum, EPA should explain that "short" means at least 24 hours so that inconsistencies in permitting do not occur.

Thus, the final CTR should discuss the technical basis for this change and identify the acceptable exposure period.

Response to: CTR-020-008

EPA does not agree. The appropriate acute averaging period is not necessarily greater or equal to 24 hours for each of the pollutants. See response to CTR-009-007.

Comment ID: CTR-020-009

Comment Author: City of Stockton

Document Type: Local Government

State of Origin: CA
Represented Org:
Document Date: 09/24/97
Subject Matter Code: C-26 Averging pds&Exceedence Freq.

References:

Attachments? Y

CROSS REFERENCES

Comment: II. Use of New Scientific Information The City acknowledges and supports EPA's update of several water quality criteria including those for mercury, cadmium and arsenic. While a number of criteria were updated to reflect current scientific information, there are a few notable exceptions. The following briefly addresses the key updates and omissions that should be addressed.

(a) EPA's Characterization of Metals as Fast Acting Toxicants is Erroneous

Water quality criteria established pursuant to Section 304(a) of the CWA classify pollutants as acute, chronic, or human health-based depending on the pollutant's mode of toxicological activity. The classification of a pollutant significantly affects the manner in which criteria are applied and effluent limitations are derived. Many factors affect the proper translation of water quality criteria into NPDES permit limits, including modeling, permit averaging periods, low flow return frequency, mixing zones, and assumptions made in the modeling process. In addition, criteria require appropriate "duration" and "frequency of exposure" factors which are directly related to the time required for exposure to a pollutant to elicit a biological response (e.g., mortality). Any arbitrary reduction of the allowable exposure period (or the acceptable return frequency) establishes more stringent criteria than necessary to ensure use protection.

EPA's proposed acute averaging period recommendation (short) has a substantial effect on mixing zone calculations. This policy assumes that short term exposures to concentrations slightly in excess of the acute criteria can produce mortality to swimming or drifting organisms (ie., the "fast acting toxicant assumption"). If 24-48 hour exposures are acceptable, the acceptable and protective mixing zones would increase substantially. This reduces the costs of compliance and the need to construct expensive diffusers except in situations where true acute toxicity concerns exist.

The CWA section 304(a) criteria and EPA's 1991 TSD establish EPA's position on criteria application. As more fully set forth below, EPA's assumption that all heavy metals are "fast acting toxicants" is not supported by EPA's recently completed research which was expressly intended to evaluate this issue as part of the February 15, 1995 National Toxics Rule settlement. EPA has recently acknowledged this fact with respect to copper in its Marine Copper Criteria published on April 14, 1995. Consistent with its CWA section 304 mandate, EPA must modify all metals criteria to accurately reflect the latest information regarding the toxicological rate of action for metals. To do otherwise is arbitrary and capricious, and EPA must provide the public with the results of the recent scientific research about characteristics of each pollutant and their proper averaging period.

Response to: CTR-020-009

EPA does not agree. EPA has not assumed that all toxicants are fast-acting for purposes of applying the CMC to define permit limits. The provisions of the rule were specifically designed not to incorporate such an assumption. EPA is deferring to the State implementation procedures for the application of acute averaging periods into NPDES permit limit calculations.

Comment ID: CTR-020-010
Comment Author: City of Stockton
Document Type: Local Government
State of Origin: CA
Represented Org:
Document Date: 09/24/97
Subject Matter Code: C-26 Avrging pds&Exceedence Freq.
References:
Attachments? Y
CROSS REFERENCES

Comment: II. Use of New Scientific Information The City acknowledges and supports EPA's update of several water quality criteria including those for mercury, cadmium and arsenic. While a number of criteria were updated to reflect current scientific information, there are a few notable exceptions. The following briefly addresses the key updates and omissions that should be addressed in the final publication of this rule.

(1) Short (One Hour) Acute Averaging Period for Metals is Unnecessarily Restrictive and Without Any Technical Basis

The chronology of EPA's one hour averaging period illustrates a continued adherence to the outdated "fast acting toxicant" assumption that is unsupported. As the following discussion shows, the Agency has acknowledged a dearth of scientific support for the one hour assumption through repeated Freedom of Information Act ("FOIA") requests. Recently EPA released the analytical data underlying its time/toxicity assumptions for metals which confirm metals are not "fast acting."

Acute criteria are generally developed based on 48-96 hour exposures.(*1) In establishing its criteria, EPA arbitrarily reduced "acute" exposures to one hour without any supporting data and continues to assert that the one hour or short acute averaging period is appropriate. Actually, acute criteria underwent two transformations. EPA initially determined the 96 hour no effect concentration to establish the numeric criteria; it then arbitrarily reduced the allowable exposure period from 96 hours to one hour without a corresponding adjustment to the numeric criteria or a determination that this additional adjustment was necessary.

(2) Initial Agency Research on Issue

EPA has been in the process of reconsidering the historically recommended one hour acute averaging period for over eight years. In October 1989, the Agency completed an internal report specifying that existing averaging periods for acute and chronic criteria may be unduly restrictive and that more reasonable approaches may be implemented.(*2)

In response to comments on EPA's 1991 TSD, the Agency admitted that:

The one hour acute averaging period was derived primarily from the data on response time for toxicity to ammonia, a "fast acting toxicant."(*3)

Research performed by Mancini (1983), cited in the 1991 TSD, verifies EPA's assumption is incorrect.(*4) Erickson (1989) noted that for fathead minnows, copper LC50s increase gradually by a

factor of two (2) between the 96 hour and 12 hour exposure durations. LC50s were ten-fold higher at two to three hours than at 96 hours.(*5) This is hardly a "fast acting" toxicant. Research by Brown (1974) indicated that a one hour exposure of rainbow trout to copper elicited no acute response at twenty times 96-hour LC50 concentrations.(*6)

(3) EPA Commits to Reevaluate the Fast Acting Toxicant Assumption

At the January 1993 Annapolis Conference, EPA and academic scientists, including state regulatory officials, called on the Agency to assess whether overly conservative assumptions are leading to permit limitations which can be orders of magnitude more stringent than needed to protect aquatic life uses. EPA identified several high priority research goals, including the accurate assessment of toxicological kinetics of metals and committed to address whether metals are, in fact, "fast acting" toxicants.(*7)

At a public meeting of EPA's Criteria Review Committee in June 1993, the Science Advisory Board presented copper mortality data that confirmed copper concentrations many orders of magnitude higher than current acute criteria would be required to elicit mortality within a one hour exposure time (Exhibit 3). EPA stated its intention was to utilize such time/mortality studies to derive an appropriate criteria averaging period:

The Committee tentatively intends to incorporate the use of a kinetic model of toxicity into the Guidelines. This model allows more rigorous use of data from toxicity tests, and should better represent the effects of time-varying concentrations occurring in ambient applications... The data on the time course of mortality would yield a rate coefficient indicating how quickly mortality occurs. This rate coefficient would replace the current averaging period.(*8)

Unfortunately, EPA revealed a lack of urgency in addressing the toxicological speed of action issue for metals, leaving many dischargers exposed to unnecessarily stringent requirements. An October 27, 1993 letter from the Assistant Administrator for Water stated:

"...the analysis is not yet complete. Once completed, we will circulate it for public review... Completion, of course, is dependent on available resources, particularly in light of competing statutory and court-ordered mandates."(*9)

Ironically, EPA in the same letter disclosed that the one hour averaging period for metals is a "default value" without any technical basis:

"EPA does not have any specific data on metals discharged near or above criteria levels showing acute impacts in one which is expected to be protective for both fast-acting and slower toxicants."(*10)

In early 1994, EPA asserted it was actively addressing the recommendations made at the Annapolis Conference that toxicant speed of action be revised, and in correspondence to the Pennsylvania League of Cities and Municipalities, the Agency asserted that data analyses were underway at that time:

"You have raised several questions concerning the speed of action of toxic effects of metals. We agree that this issue warrants further investigation. Our plan is to definitively address the issue with a new criteria methodology which will explicitly incorporate data with regard to speed of action on a pollutant-by-pollutant basis. Our present policy is to make a single, conservative assumption on speed of action for all pollutants, in the absence of appropriate data and methodologies to do the pollutant-by-pollutant analysis. We are investigating whether we have sufficient information to issue interim guidance now, modifying this policy on speed of action for some pollutants or classes of

pollutants."(*11)

(4) Results of Analysis Confirm Metals Are Not Fast Acting

In a February 28, 1994 response to a FOIA request, EPA acknowledged that data pertaining to toxicity/time relationships for metals are available and that preliminary analyses of available data indicate that the one hour period is unnecessarily conservative:

...the averaging period for copper, zinc, and lead would be about 1 day, while cadmium and arsenite would have an averaging period of about 2.5 days.

... for the above metals [copper, zinc, lead, cadmium, and arsenite] their action can be "fast" in the sense that a short exposure can be lethal, but only at somewhat higher concentrations than those which are lethal for exposures of a day or longer. Even the more fast-acting of the above metals would not require an averaging period as short as a few hours, but a major fraction of a day or longer.(*12)

In an August 22, 1994 letter to Rep. Robert Borski, EPA's Assistant Administrator for Water asserted that the Agency was diligently pursuing completion of studies to better define the toxicological speed of action for metals.

"Consistent with the recommendations from this group, EPA hopes to improve our water quality based approach and better characterize the conservative and nonconservative assumptions associated with the methodology. This would include the guidance addressing fast- and slow-acting metals in the Spring of 1995."(*13)

In September 1994, the EPA Aquatic Life Guidelines Committee met to address issues concerning the derivation of aquatic life criteria, including potential modifications to earlier assumptions related to the speed of action:

"Whereas the 1985 Guidelines use only the survival results at the end of 48- or 96-hour tests, the new framework would also use survival counts taken at various times throughout the tests. These data would be evaluated within the framework of a kinetic-based toxicity model (Mancini, 1983; Erickson, et al., 1989), intended to consider the speed at which effects appear in different individuals and different concentrations."(*14)

From the most recent Agency information available, it is apparent that EPA has completed the studies and re-evaluations of criteria development data necessary to derive appropriate averaging periods for metals. EPA has indicated to at least one state that studies of the toxicological kinetics of metals have been completed and that the Agency has concluded that a 24 hour acute averaging period is protective of aquatic life uses based on those studies, as follows:

"The NJDEP has discussed criteria durations with Charles Delos, Ecological Risk Assessment Branch, Health and Ecological Criteria Division, USEPA, Washington, D.C. Our understanding is that the recent reevaluation of "fast acting" toxicants has been completed for cadmium, chromium, copper, lead, mercury, nickel, silver and zinc. The results of that reevaluation indicate that an acute criteria duration of 24 hours would be protective for these metals."(*15)

EPA acknowledged that a 24 hour acute averaging period is appropriate for copper in its April 14, 1995 Ambient Water Quality Criteria for Copper - Saltwater Copper Addendum. This conclusion was consistent with the evaluation presented by Erickson in 1993 and the subsequent letter to the New Jersey

DEP.

(5) Conclusion

Based on the data provided by EPA pursuant to FOIA, there is no scientific basis to assume all pollutants, particularly metals, are "fast acting" toxicants and that the time period necessary to ensure avoidance of acute impacts is "short." In newly issued marine criteria, the Agency acknowledged that a 24 hour averaging period is appropriate for copper (one of the fastest acting metals) and thus should similarly modify criteria application procedures for other metals to be consistent with the available data. The continued application of a one hour or short averaging period for metals in the CTR is scientifically flawed, inconsistent with the available data, and arbitrary and capricious. EPA should re-propose the CTR with the metals acute averaging periods changed from one hour to 24 hours consistent with the research and EPA's conclusions on the marine copper criteria. To the degree that data are available regarding other constituents, the appropriate acute averaging period should be specified for these criteria. If no information is available and the criteria are based upon 96 hour no effect results, the applicable averaging period should not be less than 24 hours, which constitutes a significant margin of safety given the data available in the record and the 96 hour exposure duration used to establish the acute criteria.

(*1) See, USEPA's Ambient Water Quality Criteria for Copper (1984); Ambient Water Quality Criteria for Cadmium (1984); Ambient Water Quality Criteria for Lead (1984); and Ambient Water Quality Criteria for Zinc (1997).

(*2) Report on the Feasibility of Predicting the Effects of Fluctuating Concentrations on Aquatic Organisms and Possible Application to Water Quality Criteria USEPA ORD (September 21, 1989).

(*3) EPA's Technical Support Document Responsiveness Summary (1991) at 8.

(*4) Mancini, J. A Method for Calculating Effects on Aquatic Organisms of Time Varying Concentrations. 17 Water Res. 1355-1362 (1983).

(*5) Erickson, R., Kleiner, C., Flandt, J., Highland, T. Report on the Feasibility of Predicting the Effects of Fluctuating Concentrations on Aquatic Organisms and Possible Application to Water Quality Criteria. USEPA Duluth Laboratory (September 1989).

(*6) Brown, V.M., et al. Aspects of Water Quality and the Toxicity of Copper to Rainbow Water Research, Vol. 8, p. 797-803 (1974).

(*7) Memorandum from Martha G. Prothro, USEPA, dated April 1, 1993.

(*8) Aquatic Life Guidelines Status Report No. 3 (June 16, 1993).

(*9) Letter from Robert Perciasepe, USEPA, to Congressman Tim Holden, dated October 25, 1994.

(*10) Id. See also, February 22, 1994 letter and ten attachments from C. Delos (EPA) to Jay Himes (Pennsylvania League of Cities and Municipalities) in response to a FOIA request (attached in part hereto as Exhibit 4).

(*11) Letter from Robert Perciasepe, USEPA, to Jay Himes, Pennsylvania League of Cities and Municipalities, dated March 30, 1994.

(*12) Memorandum from Russell Erickson, USEPA, to Charles Delos, USEPA, in response to FOIA request, dated February 28, 1993.

(*13) Letter from Robert Perciasepe, USEPA, to Congressman Robert A. Borski, dated August 22, 1994.

(*14) Delos, C. "Possible Revisions to EPA's Procedure for Deriving Aquatic Life Criteria." Presented at Water Environment Federation (October, 1994), cited in correspondence dated August 17, 1994 as expressing the Aquatic Life Guidelines Committee's views on criteria revision.

(*15) Letter from Lewis J. Nagy, Assistant Commissioner, Policy and Planning, New Jersey Department of Environmental Protection, to Robert Perciasepe, USEPA, dated May 5, 1995.

Response to: CTR-020-010

EPA does not agree that a "short period of time" equals one hour. In consideration of the developments described in the comment, the one-hour averaging period that EPA had previously specified for the CMC, for example in the 1991 TSD, was not incorporated into the rule. See also responses to CTR-020-009 and CTR-009-007.

Comment ID: CTR-020-014

Comment Author: City of Stockton

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: C-26 Avrging pds&Exceedence Freq.

References:

Attachments? Y

CROSS REFERENCES

Comment: II. Use of New Scientific Information

The City acknowledges and supports EPA's update of several water quality criteria including those for mercury, cadmium and arsenic. While a number of criteria were updated to reflect current scientific information, there are a few notable exceptions.

The following briefly addresses the key updates and omissions that should be addressed in the final publication of this rule.

3. Chronic Criteria Averaging Periods

Chronic criteria averaging periods have not been updated despite a commitment by EPA to reevaluate this factor as part of the NTR settlement. EPA acknowledges that the chronic criteria are based primarily upon 28 day or longer tests. The chronic criteria are set at the continuous exposure, no effect level. There is no clear rationale why the continuous-safe exposure period was reduced to four days. This affects the selection of design flow used to apply the criteria (7/Q/10 vs. 30/Q/5) and the manner in which the chronic criteria may be applied to wet weather flows. Given EPA's conclusion that these

criteria establish long term no effect exposure levels, continued use of a four day averaging period is unduly restrictive and inconsistent with EPA's regulatory mandate to only establish criteria and implementing procedures that are "necessary" to protect aquatic life uses (40 C.F.R. section 131.2)

(a) Continued Recommendation of Four Day Averaging Is Inconsistent with the National Guidelines

The National Guidelines and EPA's 1991 TSD recognize that the federally recommended return frequency and low flow (7/Q/10) for applying chronic criteria were based on studies of ecosystems recovering from high exposures (spills) causing acute stress. The application of acute criteria to stringent low flows and use of acute bioassay tests has addressed that concern and prevents acute stress from occurring more frequently than once in ten years. Therefore, it is no longer rational to conclude that minor chronic stress needs to be regulated as rigorously as avoidance of acute stresses (which was one of the underlying purpose of the reduced averaging period and return frequency policy). To a certainty, there is no information in EPA's record showing that exceeding chronic criteria levels over a four day period once in three years has ever been associated with discernible adverse impacts. To the opposite, field studies reported in the 1991 TSD indicate that chronic criteria are very conservative and that longer term exposures which allow four day averages well above the chronic value do not result in adverse impacts on beneficial uses when applied on a once in three year exceedance frequency.

The preamble to the CTR speculates that it is necessary to utilize a four day averaging period to reflect the shorter life span of certain organisms. The only organisms with such short life spans are insects that reproduce rapidly and abundantly. The conservative three year return frequency is not related to the time period necessary for insects to recover from minor chronic stress. This value was based on fish re-population which occurs much more slowly. Accordingly, there is no apparent technical relationship between the underlying basis for the acceptable return frequency and the need to add further conservatism to the chronic averaging period. As the return frequency was based on fish populations, the acceptable averaging period should also reflect that type of organism. Clearly, a thirty day averaging period, consistent with the duration of the chronic tests, should be acceptable and fully protective of beneficial uses.

EPA's latest research, which was released pursuant to FOIA requests, indicates that for chronic criteria, a two to five percent exceedance frequency (versus 0.4 percent) should not result in adverse use impacts and would be acceptable. Moreover, as noted above, all research on the standards to permits process confirms that the existing procedures add an additional "level of protection" to conservatively developed criteria. Given this information, EPA should update its chronic criteria application procedures to at least reflect those found approvable - chronic criteria thirty day averaging for Maryland and Colorado

Response to: CTR-020-014

The final rule has been modified to allow the state, with EPA approval subsequent to public comment, to use alternate values for the chronic averaging period and for the exceedance frequency. EPA is certain that the four-day chronic averaging period and three-year return interval provide, at a minimum, a very high degree of protection, as explained in the 1991 Technical Support Document for Water Quality-based Toxics Control. Nevertheless, to allow consideration of current and future developments in the science underlying these parameters, the rule incorporates the flexibility of allowing the State to use of alternate values, with EPA approval, following public comment on any change.

Comment ID: CTR-020-015

Comment Author: City of Stockton
Document Type: Local Government
State of Origin: CA
Represented Org:
Document Date: 09/24/97
Subject Matter Code: C-26 Avrging pds&Exceedence Freq.
References:
Attachments? Y
CROSS REFERENCES

Comment: II. Use of New Scientific Information

The City acknowledges and supports EPA's update of several water quality criteria including those for mercury, cadmium and arsenic. While a number of criteria were updated to reflect current scientific information, there are a few notable exceptions.

The following briefly addresses the key updates and omissions that should be addressed in the final publication of this rule.

4. Statistical Modeling

The proposed rule specifies the exceedance frequency (once in three years) and averaging period and list a number of return flows that may be used to ensure that the specified return frequency is not exceeded. The preamble also discusses the availability of alternate modeling approaches to more directly demonstrate that criteria compliance will occur as intended, such as statistical or probabilistic modeling. However, the CTR itself fails to specify that statistical modeling may be used to apply the criteria. This should be clarified in the final rule.

Response to: CTR-020-015

EPA favors the use of statistical and dynamic modeling and does not intend for the rule to preclude such modeling. In implementing the rule's criteria, the state may employ either steady state design flows or statistical or dynamic modeling.

Comment ID: CTR-035-020
Comment Author: Tri-TAC/CASA
Document Type: Trade Org./Assoc.
State of Origin: CA
Represented Org:
Document Date: 09/25/97
Subject Matter Code: C-26 Avrging pds&Exceedence Freq.
References:
Attachments? N
CROSS REFERENCES

Comment: p. 42174 --Chronic Averaging Period In general, we believe that EPA's proposed use of 4-day averaging periods for chronic (CCC) averaging periods is too short. The averaging period of four days recommended in EPA guidance is much shorter than the toxicity tests upon which the chronic criteria are

based, which is typically 20-30 days. This has the effect of incorporating an additional level of conservatism that has been estimated to be equivalent to a safety factor of two (Delos, 1990). Therefore, EPA should adopt longer averaging periods for chronic criteria for some constituents (for instance, for those metals for which the scientific studies show that metals do not act as fast as the criteria averaging periods would indicate). We recommend that EPA review the toxicity tests used and establish averaging periods that match the effects duration, even if they are different for different criteria. In addition, EPA should provide that any NPDES permits issued after the CTR is finalized should be subject to a reopener to allow for the insertion of a different averaging period in effluent limitations if the ongoing EPA analysis of the chronic design conditions as part of the revisions to the 1985 guidelines (referenced on p. 42174) leads to longer averaging periods.

Response to: CTR-035-020

EPA does not agree that a 4-day chronic averaging period is always too short. This averaging period is primarily based on the shortest duration in which effects appear in the Ceriodaphnia 7-day chronic test. However, EPA agrees that the 4-day chronic averaging period may not be appropriate for all pollutants, and has modified the final rule to allow use of alternate averaging periods. See also responses to CTR-020-014 and CTR-060-012.

Comment ID: CTR-035-028

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-26 Avrging pds&Exceedence Freq.

References:

Attachments? N

CROSS REFERENCES

Comment: p. 42182 -- Averaging Period for Acute Criteria (CMCs) EPA should identify a specific duration for acute (CMC) criteria beyond the current description of "short term" and provide an explanation of this choice. We believe that in many cases (e.g. metals) recent data suggest that the constituents are not as fast-acting as once-believed and that 24-hours is a more appropriate acute averaging period than the 1-hour averaging period previously used. Therefore, we recommend that EPA adjust the acute averaging periods to reflect such information.

Response to: CTR-035-028

See responses to CTR-009-007, CTR-020-010, and CTR-020-014.

Comment ID: CTR-035-031

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-26 Avrging pds&Exceedence Freq.

References:

Attachments? N

CROSS REFERENCES

Comment: p. 42184 -- Frequency of exceedence We believe that adoption in the regulation of the proposed exceedence frequency, once in three years for acute and chronic criteria, should be deferred until EPA completes its review of this issue. As EPA points out, there are numerous scientific issues being reexamined. For streams in and areas, for instance, EPA should consider that annual flooding and scouring may occur, as well as droughts (leading to no flow during the dry season), and the natural communities adapted to these environments may be capable of recovering from such major disturbances in a year or less. Since EPA does not include any evidence in this rulemaking to support the application of this allowable frequency in California, we recommend that EPA not formalize this policy in the CTR.

Response to: CTR-035-031

See response to CTR-020-014.

Comment ID: CTR-036-007a

Comment Author: County of Orange

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-26 Avrging pds&Exceedence Freq.

References: Letter CTR-036 incorporates by reference letters CTR-013, CTR-018, CTR-031, CTR-034 and CTR-040

Attachments? N

CROSS REFERENCES G-03

Comment: We are concerned that EPA has preempted the State's flexibility by establishing averaging periods for applying acute and chronic aquatic life criteria and for establishing low flow conditions that must be used in developing limits based on the proposed criteria. We recommend that such implementation issues remain within State authority.

Response to: CTR-036-007a

See response to CTR-020-009.

Comment ID: CTR-037-007

Comment Author: Hampton Roads Sanitation Dist.

Document Type: Sewer Authority

State of Origin: VA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-26 Avrging pds&Exceedence Freq.

References:

Attachments? N

CROSS REFERENCES

Comment: 7. EPA is requiring, by rule, that the averaging period for the CMC be 1 hour. However, EPA is also working towards new methods to calculate water quality criteria which acknowledge that the CMC averaging period should probably be closer to 24 hours. This is not being acknowledged in the rule even though the Agency has released this information at various meetings. The one hour averaging period for the CMC is overly stringent and should not be adopted by rule. The averaging period for the CMC being proposed is not technically defensible and arbitrary, therefore it should be removed from the rule until EPA finalizes its study of the issue.

Response to: CTR-037-007

See responses to CTR-020-010 and CTR-020-009.

Comment ID: CTR-037-009

Comment Author: Hampton Roads Sanitation Dist.

Document Type: Sewer Authority

State of Origin: VA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-26 Avrging pds&Exceedence Freq.

References:

Attachments? N

CROSS REFERENCES

Comment: 9. EPA is requiring that criteria not be exceeded more than once every three years, on average, EPA, however, is ignoring the fact that this exceedance rate is based on catastrophic events and that minor exceedances require much less time for biological communities to reach their pre-exceedance conditions. This rule is adopting a requirement which often-times will be overly protective with little or no environmental benefit. The basis of the three year exceedance requirement has been acknowledged by EPA's Aquatic Life Criteria Work Group as conservative and unnecessary when exceedances are minor. The rule must be modified to accommodate minor exceedances if justified scientifically. EPA must technically justify the exceedance frequency that it is requiring by rule to insure that resources will not be expended needlessly by permittees.

Response to: CTR-037-009

See response to CTR-020-014.

Comment ID: CTR-040-018a

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-26 Avrging pds&Exceedence Freq.

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES G-03

C-30

C-24e

Comment: V. Recommendation: Delete all provisions in the Rule that preempt the States flexibility in permitting. The Rule provides specific direction on the adoption of averaging periods, low flow values, effluent limitations for criteria not being adopted as a part of the Rule, and that the aquatic life criteria be applied to all waters irrespective of designated use, etc..

* The Preamble and the Rule's economic analysis make a point that the State has considerable flexibility in establishing permit limitations. In making, that point, EPA implies that the State may implement the criteria in a manner that would have little or no adverse economic impact on dischargers.

* However, the Rule contains a number of implementation provisions that are not required under Section 303(c)(2)(B), but serve to preempt the State's flexibility. These provisions include, but are not necessarily limited to the adoption of averaging periods and low flow values, directives regarding the establishment of effluent limitations for criteria that are not being adopted as a part of the Rule, and application of the aquatic life criteria to all waters irrespective of the designated use.

* Not only does EPA not have a duty to adopt these provisions, but also the provisions are more restrictive than those required by the CWA or EPA regulations, They clearly restrict the State's flexibility. In fact, other states have adopted, and EPA has approved, implementation provisions (e.g., averaging periods and low flow values) which are less restrictive.

* For these reasons, EPA should remove all such implementation provisions from the Rule.

Response to: CTR-040-018a

EPA does not agree that the averaging periods and low flow values apply to the criteria other than those adopted by this rule. They do not to apply to other State criteria. However, EPA agrees that other averaging periods and exceedence frequencies may be appropriate for the criteria concentrations included in this rule, and has provided for such in the final rule. See response to CTR-020-014.

Comment ID: CTR-060-012

Comment Author: San Diego Gas and Electric

Document Type: Electric Utility

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-26 Avrging pds&Exceedence Freq.

References:

Attachments? N

CROSS REFERENCES

Comment: PROVISIONS SDG&E DOES NOT SUPPORT

As described in the following comments SDG&E does not support the following provisions:

Over-conservativeness of chronic aquatic criteria due to averaging period

The preamble to the rule (see 62 Fed. Reg. at 42,174, Col. 2) states that most of the toxicity tests used to calculate the chronic criteria were conducted over a 28 day period. However, even though the preamble (see 62 Fed. Reg. at 42,174, Col. 1) acknowledges that "...aquatic organisms can generally tolerate higher concentrations of pollutants over shorter periods of time", EPA proposes in this rule to set the chronic averaging period to 4 days. Consequently, concentrations from longer term (i.e., 28-days) tests, which would generally result in lower concentrations which are considered toxic, are being implemented as 4-day average criteria, even though criteria developed from toxicity tests conducted over a 4-day period would generally result in criteria which are higher. This approach results in criteria that are more restrictive than necessary to protect the state's beneficial uses. The criteria should either: 1) be restated as 28-day average criteria; or 2) be recalculated as criteria representative of 4-day average tests.

Response to: CTR-060-012

The averaging period is shorter than the toxicity tests on which the criterion is based because (a) exposure concentrations in the toxicity tests are nearly constant, (b) exposure concentrations in the field, over the duration of the averaging period, can be rather variable, and (c) variable concentrations yield greater toxicity than a constant concentration equal to the mean of the variable concentrations. Consequently, if the laboratory toxicity tests had employed variable concentrations, the reported effect concentrations (as the mean over the test duration) would be lower than if the test employed constant concentrations. To account for this phenomenon, the criteria averaging period is shorter than the tests on which the criterion is based. Note, however, that EPA is employing flexibility into the rule in order to provide for advances in the state of the science in setting averaging periods. See the response to CTR-020-014.

Subject Matter Code: C-27 Additive/Synergistic Effects

Comment ID: CTR-026-002b

Comment Author: Cal. Department of Fish & Game

Document Type: State Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-27 Additive/Synergistic Effects

References:

Attachments? N

CROSS REFERENCES C-17b

C-29

Comment: 2. PARTIAL PROTECTION BY THE PROPOSED AQUATIC LIFE CRITERIA
(FRESHWATER OR SALTWATER)

On page 42168, the proposed rule includes the following language: "EPA's guidelines are designed to derive criteria that protect aquatic communities by protecting most of the species and their uses most of the time." The CTR goes on to state that this approach results in only a "small possibility" of substantial overprotection or underprotection. Obviously, it is underprotection that is of concern to the DFG. The DFG has very serious concerns that criteria are being proposed that protect "most" of the species "most" of the time. We are aware of the protocols that require a minimum of eight specified families be used to develop criteria and that it may be difficult to determine criteria that are one hundred percent protective; however, this does not preclude the real possibility that certain designated uses and aquatic organisms will not be maintained, and or protected, as a result of the proposed criteria. The DFG is also concerned that criteria and protocols developed for specific constituents do not take into account the additive or synergistic effects that contaminant combination may have on aquatic organisms. Another factor that needs to be considered is bioaccumulation, as well as the effect this may have on organisms at higher trophic levels.

As trustee of all the fish and wildlife resources in the State, it is our agency's responsibility to ensure appropriate protection of all fish and wildlife resources, not just "most", and this includes adequate water quality standards. Due to our concerns and the very real possibility of underprotection to aquatic organisms and designated uses, the DFG believes that it may be appropriate to derive the criteria as proposed, and subsequently develop some additional safety factors for inclusion. It is our understanding that this approach was used in the formulation of water quality objectives for protection of aquatic organisms in the California Ocean Plan. In the short term, the safety factor could possibly be realized by the development of a comprehensive biological monitoring program to determine whether the proposed criteria are indeed fully protective.

Response to: CTR-026-002b

EPA agrees that the numeric values of those criteria that are not expressed as formulas do not account for additive or synergistic effects. However, EPA does not agree that this would mean that the criteria are not sufficient to protect the designated use. EPA has examined the potential for additivity. Data available to EPA suggest that in real world situations, additivity is usually not a significant issue, because most of the toxic stress is usually attributable to a single pollutant, even in systems receiving complex mixtures of discharges from large metropolitan areas.

To illustrate this, consider some 50 samples that EPA collected throughout New York Harbor, an large area extending from the Hudson River to New York Bight, and receiving a large volume of wastewater and runoff from a highly diverse set of discharges, representing a wide range of municipal, industrial, and agricultural activities. Six metals, Ag, Cd, Cu, Ni, Pb, and Zn were measured using clean techniques. For each sample, the toxic equivalents of each metal were calculated as the metal concentration divided by the its criterion. Assuming perfect additivity of toxicity, the toxic equivalents in each sample were added together to obtain the total toxic equivalents. One metal consistently dominated the toxic equivalents in each sample. On average, the combined toxic equivalents of all six metals was only 10 percent greater than the toxic equivalent of the dominant single metal. Among the 50 samples, the maximum ratio of the combined toxic equivalents to the dominant single toxic equivalent was only 19 percent greater than the single dominant toxic equivalent. Consequently, even assuming perfect additivity, the combined contribution of the other metals was minor compared to the contribution of the dominant toxicant.

The comment provides no data indicating that additivity or synergism are in reality significant problems. Nevertheless, the rule's provisions are capable of handling such problems if they exist. First, criteria expressed as formulas with hardness account for the effects of hardness (or lack thereof) and of parameters covarying with hardness. Second, the rule's provision for the water-effect ratio represents the current best technique for adjusting for unknown additive, synergistic, or antagonistic effects, if they exist. Consequently, EPA believes that its criteria are fully protective. Also see response to CTR-026-002a.

Nevertheless, as the commenter represents the State of California, EPA notes that to allay its concerns, if any remain, the State may adopt its own standards more stringent than those promulgated here by EPA.

Comment ID: CTR-029-002e
Comment Author: Center for Marine Conservation
Document Type: Environmental Group
State of Origin: CA
Represented Org:
Document Date: 09/25/97
Subject Matter Code: C-27 Additive/Synergistic Effects
References:
Attachments? N
CROSS REFERENCES C-17a
C-17b
A
C-22
C-29

Comment: The Center for Marine Conservation (CMC) is a nationwide, nonprofit advocacy group dedicated to the conservation and enhancement of coastal and ocean life and resources. CMC submits these comments on behalf of its 16,000 members in California and over 120,000 members nationwide.

CMC applauds EPA's efforts to bring California into compliance with the Clean Water Act 303(c)(2)(B). Implementing numeric criteria that will protect the beneficial uses of California's waters is of great importance to the health of coastal and marine ecosystems, and so to CMC and its members. The

reliance in many areas of the state on narrative criteria threatens the health of most of the state's waters, thereby impacting both human health and the health of the state's economy that relies on clean water.

While CMC strongly supports the swift adoption of an Enclosed Bays and Estuaries Plan and an Inland Surface Waters Plan that contain numeric criteria for toxic pollutants, CMC also is concerned that many of the specific criteria contained in the proposed rule are weaker than those contained in published guidance. CMC also believes that the proposed rule can better protect certain subpopulations from harm caused by consumption of contaminated fish and shellfish. Finally, CMC is concerned that the economic analysis of the proposed rule over-emphasizes costs and under-reports the many benefits of improving water quality throughout the state. These three points are reviewed below.

In Light of Significant Threats to Water Quality, the Proposed Rule Should Contain the Most Stringent Criteria That Are Scientifically Defensible

Many of the criteria in the proposed rule are weaker than criteria in current published guidance. The proposed rule summarily states that the difference between the proposed, weaker criteria and the published guidance documents is "insignificant"(*4); however, in light of the current contamination problems in California's waters today, any move backwards, particularly when spread out over the state, must be viewed as significant.

Any weakening of the criteria should be subject to close scrutiny and the most rigorous analysis, which the proposed rule itself does not do. Among other things, the criteria in the proposed rule may be underprotective because additive and synergistic effects were not considered; and because the effects on wildlife, which can be particularly significant for bioaccumulative chemicals, were ignored.(*5) In addition, the proposed rule contains dissolved rather than total recoverable metals criteria, despite the fact that EPA acknowledges that total recoverable metals criteria are "scientifically defensible" and that they are more protective than dissolved metals criteria because they consider "sediment, food-chain effects and other fate-related issues," rather than simply water column impacts.(*6)

Clean Water Act section 303(c)(2)(B) mandates the development of numeric criteria that will "support such designated uses [that are adopted by the State]." The statistics available on the health of the state's waters indicates that their use already is significantly threatened or impaired by toxics. The strongest criteria supportable by science are necessary to reverse this trend and begin to restore the state's waters.

(*4) 62 Fed. Reg. 42159, 42168 (Aug. 5, 1997).

(*5) Id. at 42168.

(*6) Id. at 42172.

Response to: CTR-029-002e

See response to CTR-026-002b.

Subject Matter Code: C-28 Detection Limits

Comment ID: CTR-005-009
Comment Author: Novato Sanitary District
Document Type: Sewer Authority
State of Origin: CA
Represented Org:
Document Date: 09/23/97
Subject Matter Code: C-28 Detection Limits
References:
Attachments? Y
CROSS REFERENCES

Comment: 8. EPA should not adopt criteria for any pollutant where the method detection limit exceeds the objective and there is insufficient detectable, reliable data to determine if the pollutant could reasonably be expected to interfere with designated uses. The proposed rule includes criteria for a number of constituents where there is insufficient data to determine whether the discharge of such pollutants could reasonably be expected to interfere with the designated uses. EPA has chosen to promulgate criteria for these constituents even though section 303 (c)(2)(B) of the Clean Water Act requires States to adopt numeric criteria only for constituents "...the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses."

Clearly, this "play-it-safe" approach goes beyond the requirements of the Clean Water Act and is therefore unnecessary. By taking this approach, however, EPA is unable to fulfill its duty (under Presidential Order 12866, the Unfunded Mandates Reform Act), and the Regulatory Flexibility Act) to assess the costs, benefits, and impacts of the rule on local government and small entities. While this may be the "safe" approach for EPA, it places dischargers throughout the State at risk. As analytical detection limits improve down the road, dischargers may find they are unable to achieve the criteria without costly end-of-pipe controls. But, by then, it will be too late for EPA to evaluate the costs and benefits of the criteria and alternative criteria. For these reasons, EPA should not adopt criteria for those constituents. If EPA does not do this, it should evaluate the costs and benefits of the criteria, as well as alternative criteria, using worst case assumptions (i.e., assume that discharge levels and ambient levels are at the detection limits).

Response to: CTR-005-009

See response to CTR 034-010b and CTR-060-010

EPA disagrees that the Agency should exclude those criteria that are below the method detection limits from this rule. EPA's water quality standards regulation at 40 CFR 131.11 requires that criteria be adopted by the States at concentrations necessary to protect the designated use. Given this requirement, consideration of analytical detectability is not an appropriate factor to consider when calculating water quality criteria to protect designated uses since they are not related to actual environmental impacts. In consideration of both statutory (CWA Section 303(c)) and regulatory (the Water Quality Standards Regulation at 40 CFR 131.11) requirements that water quality standards, which includes water quality criteria, must be protective of the designated uses of waterbodies, EPA has determined that such consideration of analytical detection limit is not an appropriate factor to consider in developing the water quality criteria component of water quality standards since the detection limits are not related to actual

environmental impacts. This has been EPA's longstanding position since the inception of the water quality standards program in 1965 (see also EPA's discussion on this issue in the National Toxics Rule at 57 FR 60876, 57 FR 60870).

EPA's methodology for deriving aquatic life criteria are primarily based on laboratory bioassays with sensitive aquatic organisms. The results from these tests are analyzed by mathematical procedures outlined in EPA's aquatic life criteria methodology guidelines. EPA's human health criteria are based on protocols generally using toxicity studies performed on laboratory animals such as rats and mice. Thus, EPA's aquatic life and human health criteria are based solely on health effects without regard to chemical analytical methods or techniques. Deleterious effects can occur to both humans and aquatic organisms at concentrations that are below the analytical detection levels.

As previously noted, EPA's Water Quality Standards Regulation requires that criteria be adopted at concentrations that are necessary to protect designated uses. The criteria promulgated today meet that requirement while EPA's policy with respect to regulatory compliance, which is discussed below, takes analytical sensitivity and precision into consideration.

In the preamble of the proposed rule, EPA referenced the Agency's 1990 guidance (Strategy for the Regulation of Discharges of PHDDs and PHDFs from Pulp and Paper Mills to Waters of the United States, memorandum from the Assistant Administrator for Water to the Regional Water Management Division Directors and NPDES State Directors) on how water quality based effluent limits for constituents with water quality criteria that are below the sensitivity of official analytical methods can be established. However, EPA acknowledges that in more recent guidance than that cited in the preamble to the proposed rule the Agency recommends use of the Minimum Level (ML) rather than the Method Detection Limit (MDL) for reporting sample results to assess compliance with a water quality based effluent limitation (WQBEL). See Technical Support Document for Water Quality-based Toxics Control, U.S. EPA Office of Water, EPA/505/2-90-001 (March 1991) at page 111. The ML, also called the quantification level, is the level at which the entire analytical system gives recognizable mass spectra and acceptable calibration points, i.e., the point at which the method can reliably quantify the amount of pollutant in the sample. More recently, in the Final Great Lakes Water Quality Guidance (see 50 FR 15424, March 23, 1995), EPA included a provision which allowed permitting authorities to utilize the minimum level (ML) for the method specified in the permit to monitor the amount of pollutant in an effluent down to the quantification level. States can use their own procedures to average and otherwise account for monitoring data, e.g., quantifying results below the ML. These results are then used to assess compliance with the WQBEL. See 40 CFR Part 132, Appendix F, Procedure 8.B.

Further, EPA notes that the purpose of today's rule is to establish ambient water quality criteria for priority toxic pollutants in California. Implementation of the criteria, including compliance with water quality based effluent limitations in permits are outside the scope of today's rule. However, the State of California, in its draft implementation procedures for the criteria included in today's rule (entitled "Draft Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California," September 11, 1997) has proposed provisions to address this issue. The State has elected to utilize the minimum levels in determining compliance with WQBELs.

EPA disagrees that there is insufficient data to support the inclusion of priority toxic pollutants in today's rule. In EPA's December 12, 1988 guidance to States on complying with CWA Section 303(c)(2)(B) (Notice of Availability published at 54 FR 346, January 5, 1989), EPA noted that at a minimum, States should adopt criteria for a pollutant if that pollutant was currently present or could potentially be present in State waters the future. EPA's guidance highlighted the Agency's position that any information indicating that a pollutant was discharged or present in a waterbody is justification that a pollutant could

be reasonably expected to interfere with the designated uses, and therefore would need to be included in a State's water quality standards regulation. EPA has determined that adequate information exists in the rulemaking record to show that the priority toxic pollutants in today's rule can be reasonably expected to interfere with the designated uses of waters in California. Moreover, since these criteria are ambient criteria, they do not in and of themselves require control of a discharge. Only where a discharge has a reasonable potential to exceed the water quality criterion would an effluent limit for that pollutant be placed in an NPDES permit. See Response to CTR-003-010b and CTR-036-005.

In promulgating today's rulemaking, EPA is complying with the same Section 303(c)(2)(B) guidance issued to the States. Thus, the lack of widespread monitoring data or data that does not meet analytical detection limitations is not a sufficient basis for excluding numeric criteria for priority toxics from today's rule. As EPA previously stated, consideration of analytical detection limits is not appropriate in establishing criteria. EPA also notes that the commenters did not submit any analyses or information to support the assertion that the coverage of priority toxic pollutants included in today's rule is based on insufficient or reliable data. In addition, EPA further notes that the priority toxic pollutants included in today's rule are the same priority toxic pollutants that the State of California had previously adopted in the Inland Surface Waters Plan and Enclosed Bays and Estuaries Plan to comply with CWA Section 303(c)(2)(B). Thus, the inclusion of the numeric criteria for priority toxic pollutants in today's rule is justified.

EPA disagree with the commenter's assertion that the Agency, by including criteria that are below detection limits, cannot comply with statutory requirements of UMRA, RFA and Executive Order 12866. (See Sections G, I, and J of the preamble for EPA's analysis of this rule's compliance with these statutes and the executive order, respectively). EPA notes that the criteria included in today's rule establish ambient water quality criteria in California to comply with CWA Section 303(c)(2)(B) to protect the designated uses of the State's waterbodies. As EPA noted in the responses to comments raised on establishing criteria below detection limits, EPA's policy with respect to regulatory compliance for the criteria takes analytical sensitivity into account.

Comment ID: CTR-011-002

Comment Author: City of Simi Valley

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: C-28 Detection Limits

References: Letter CTR-011 incorporates by reference letters CTR-027 and CTR-034

Attachments? Y

CROSS REFERENCES

Comment: It is not possible to determine what risk levels would be needed to preclude end-of-pipe treatment for other human health criteria because in most cases the method detection limits exceed the criteria (see Table 2). The City recommends that EPA delay adoption of criteria for these constituents until sufficient detected data is available to assess attainability and perform the economic analysis required by Presidential Order 12866 and the Unfunded Mandates Reform Act. We understand that Section 303 (c)(2)(B) of the Clean Water Act does not require EPA to adopt criteria for constituents that could reasonably be expected to interfere with designated uses. In the absence of data on certain constituents, EPA could easily defend a position not to adopt criteria for those constituents.

Response to: CTR-011-002

See response to CTR-005-009.

Comment ID: CTR-013-004

Comment Author: County of Los Angeles

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-28 Detection Limits

References: Letter CTR-013 incorporates by reference letter CTR-027

Attachments? N

CROSS REFERENCES

Comment: In addition, we would like to emphasize the following concerns which greatly impact the Los Angeles County Stormwater Program:

4. The proposed rule adopts criteria for pollutants where the method detection limit exceeds the criteria, and there is insufficient detectable, reliable data to determine if the pollutant could reasonably be expected to interfere with designated uses. The proposed rule contains many criteria in which the criteria are less than current acceptable laboratory detection limit. In other words, if a stormwater sample indicated a non-detect value in its stormwater discharge for certain pollutants, it cannot be determined if the proposed criteria were exceeded or if exceeded, what would be the reductions and costs necessary to achieve compliance.

If the proposed rule is adopted with these criteria, the discharger may find that they are in violation of the criteria, as laboratory techniques are improved in the future. By that time, the discharger has no recourse to require the USEPA to evaluate the cost and benefit of the criteria or alternative criteria. Furthermore, in that event, the discharger may face enforcement action and costly end-of-pipe controls.

We recommend that the USEPA not adopt criteria for any pollutant where the method detection limit exceeds the criteria and there is insufficient detectable, reliable data to determine if the pollutant could reasonably be expected to interfere with designated uses.

Response to: CTR-013-004

See response to CTR-005-009.

Comment ID: CTR-020-020

Comment Author: City of Stockton

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: C-28 Detection Limits

References:

Attachments? Y

CROSS REFERENCES

Comment: IV. Compliance / Detection Level

The rule specifies that limits may be set below the detection level for a pollutant but that compliance will be determined upon detection level for the pollutant. Thus, a non-detect will be considered in compliance with a permit limitation. The City concurs with the position that a non-detect reading should be considered in compliance with a limitation that is set below the reliable detection level.

Response to: CTR-020-020

See response to CTR-005-009.

Comment ID: CTR-021-005b

Comment Author: LeBoeuf, Lamb, Green & MacRae

Document Type: Local Government

State of Origin: CA

Represented Org: City of Sunnyvale

Document Date: 09/25/97

Subject Matter Code: C-28 Detection Limits

References: Letter CTR-021 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES C-13

E-01c

R

S

Comment: It is with a sense of reluctance that Sunnyvale joins in CASA/Tri-TAC's adverse comments on the CTR and the EA, and Sunnyvale does so in a spirit of constructive criticism and with an expectation that the Agency will make the necessary adjustments in its approach towards the CTR before the final rule is promulgated. In addition, in the same spirit and with the same expectation, Sunnyvale would like to make the following points on its own behalf:

2. Obligation to Assess Alternative Cancer Risk Levels for Human Health-Based Criteria. Sunnyvale is gravely concerned that EPA has used the wrong approach in proposing to establish human health criteria for organic pollutants, particularly those pollutants for which the proposed criteria are below the method level of detection ("MDL"). Sunnyvale recommends that EPA should thoroughly assess all of the potential impacts, including costs and benefits, of the 10E-4 and 10E-5 risk levels before proposing the human health-based criteria. As pointed out in the EOA Letter, there is a significant potential for advancing technology to lower the MDL for many pollutants to the point where laboratory equipment is able to measure some or all of the organic compounds for which EPA is proposing to establish criteria at the new level. It is intuitively obvious that the costs of attaining criteria set at the 10E-6 level will be significantly greater than attainment of a 10E-5 or 10E-4 level, particularly where, as pointed out in the EOA Letter, the only available method of treatment is granular activated carbon. Sunnyvale is concerned that the EA does not adequately address the potential for these costs, and, consequently, does not take these potential costs into account in determining whether to exercise its flexibility in choosing whether to

use a 10-4 , 10-5 or 10-6 cancer risk level as the basis for its CTR promulgation.

EPA is required by Executive Order 12866, the Regulatory Flexibility Act and the Unfunded Mandates Reform Act to identify and analyze alternatives to a proposed rule. We cannot understand, therefore, why EPA has done such a cursory analysis in the preamble to the CTR and the EA of the alternatives to the use of the most stringent (10E-6) risk level for establishing criteria for human health effects of pollutants, particularly organic pollutants. EPA cannot base its selection of the 10E-6 level based upon previous regulatory pronouncements by the State of California. Any new determination by the State will be subject to the analytical requirements of Section 13241 of the Porter-Cologne Act and by review by the Office of Administrative Law. Thus, it is not a foregone conclusion that the State will ultimately select the 10E-6 level. EPA has its own legal requirements to fulfill. Accordingly, we ask that EPA not promulgate the final human health criteria for the pollutants of concern unless and until it has adequately analyzed the costs and other implications of the various alternatives to the 10E-6 level.

In conclusion, we are entirely supportive of many of EPA's innovative approaches towards development of the CTR, particularly as regards the toxic metals. However, we believe that EPA has needlessly failed to comply with many of its legal obligations, particularly as regards the development of human health-based criteria on cancer risk levels of organic pollutants. We urge the Agency to reconsider its position in the matters covered by this letter (as amplified by the EOA Letter) and the CASA/Tri-TAC letter. Sunnyvale pledges its continued participation in place-based watershed management planning in the South Bay, its cooperation with the Agency in making a success of the WPI, and to an ongoing effort by the Agency and others to reach water quality goals in the South Bay. We thank you for the opportunity to comment on the proposed CTR.

Response to: CTR-021-005b

See response to CTR-005-009.

Comment ID: CTR-027-004

Comment Author: California SWQTF

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-28 Detection Limits

References: Letter CTR-027 incorporates by reference letters CTR-001, CTR-036 and CTR-040

Attachments? N

CROSS REFERENCES

Comment: 4. The proposed rule adopts criteria for pollutants where the method detection limit exceeds the criteria, and there is insufficient detectable, reliable data to determine if the pollutant could reasonably be expected to interfere with designated uses. The proposed rule contains criteria for many pollutants in which the criteria are less than acceptable laboratory detection limits (e.g. N-Nitrosodi-n-propylamine has an analytical detection limit of 0.5 ppb and the proposed human health criteria of 0.005 ppb). Thus, if a stormwater agency notes a non-detect value in its stormwater discharge for N-Nitrosodi-n-propylamine, it cannot determine if the proposed criterion was exceeded.

Section 303(c)(2)(B) notes that States must adopt numeric criteria for constituents when "...the discharge

or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses." However, the proposed rule includes criteria for a number of constituents where there are insufficient detected data to determine whether the discharge of such pollutant could reasonably be expected to interfere with the designated uses. Furthermore, one cannot determine the reduction and costs necessary to achieve compliance.

If the proposed rule is adopted with these criteria, the discharger may find that they are in violation of the criteria as laboratory techniques are improved in the future. By that time the discharger has no recourse to require USEPA to evaluate the cost and benefit of the criteria or alternative criteria. Moreover, in that event, the discharger may face enforcement action and costly end-of-pipe controls.

Recommendation: USEPA should not adopt criteria for any pollutant where the method detection limit exceeds the criteria and there is insufficient detectable, reliable data to determine if the pollutant could reasonably be expected to interfere with designated uses.

Response to: CTR-027-004

See response to CTR-005-009.

Comment ID: CTR-030-009
Comment Author: Utility Water Act Group
Document Type: Trade Org./Assoc.
State of Origin: DC
Represented Org:
Document Date: 09/25/97
Subject Matter Code: C-28 Detection Limits
References:

Attachments? Y

CROSS REFERENCES

Comment: E. EPA Needs to Clarify its Quantification Discussion and Delete References to the 1990 Dioxin Strategy

EPA states that "the use of analytical detection limits are [sic] appropriate for determining compliance" with the NPDES permit limits. 62 Fed. Reg, at 42,183, col. 3. The use of the term "detection" in that statement, rather than "quantification," may create concision and UWAG urges EPA to use the latter term. Over the past few years, EPA has consistently stated that, for determining compliance with WQBELs calculated at a level below the quantification level, the quantification level will serve as the compliance level. Use of the detection level in that context is entirely inappropriate. Measurements above the detection level, but below the quantification level, are sufficiently reliable to establish the mere presence - but not the amount - of a pollutant in a wastewater sample. Such measurements, therefore, cannot serve as the basis of compliance. Not only has EPA adopted that conclusion>(*3) but the U.S. Court of Appeals for the District of Columbia Circuit just ruled on that very issue by holding:

A standard with which compliance cannot be assessed - and it is agreed that compliance with an effluent limitation set below the level of quantification simply cannot be assessed - is no standard at all for purposes of due process.

American Iron and Steel Institute v. U.S. EPA, 115 F.3d 979, 994 (1997) (AISI).

In addition, EPA's references to its 1990 dioxin strategy document, "Strategy for the Regulation of Discharges of PHDDs and PHDFs from Pulp and Paper Mills to Waters of the U.S." (Dioxin Strategy), are troubling. As described below, the Dioxin Strategy contains two significant flaws and thus citation to it may cause confusion in the regulated community. First, the Dioxin Strategy consistently references detection limits, rather than quantification levels. The above discussion explains UWAG's concerns with that approach.

The second major flaw of the Dioxin Strategy is its approval of the application of WQBELs to internal plant waste streams. The Dioxin Strategy states:

Where final, end-of-pipe effluent limitations are determined to be impractical or infeasible to measure, permitting authorities can, in accordance with the requirements of 40 CFR 122.45(h), establish limitations for internal plant waste streams from bleached plant processes.

Dioxin Strategy, p. 20.

As recently clarified by the AISI Court, the Clean Water Act provides no authority for the establishment of anything other than end-of-pipe WQBELS. In AISI, the petitioners challenged EPA's Great Lakes Water Quality Rule, including its requirement that each permit establish a pollutant minimization program (with effluent limitations for internal plant waste streams containing the pollutant) for each pollutant with an end-of-pipe limitation below the level of quantification. Although the Court agreed with EPA that the Clean Water Act allows monitoring of discharges from internal sources, it concluded that EPA could not impose a "point-source WQBEL upon a facility's internal waste streams." 115 F.3d at 996. Thus, the Dioxin Strategy's suggestion that it is appropriate to impose internal waste stream WQBELS is contradicted by the AISI Court.

For the reasons set forth in this subsection, UWAG requests that EPA remove all references to the Dioxin Strategy from the California Water Quality Standards rulemaking. UWAG encourages EPA to reference instead its "Questions and Answers on the Great Lakes Water Quality Guidance-Set 2", dated March 20, 1996 (GLI Q&A-2). In the GLI Q&A-2, the Agency explicitly allowed states to specify - directly within NPDES permits -- that analytical results below the level of quantification may be deemed to be in compliance with the established daily maximum WQBEL, and that zero may be used in lieu of measurements below the quantification level for averaging purposes in evaluating compliance with monthly average WQBELS. GLI Q&A-2, p. 28.

(*3) EPA's official position is that "[q]uantification of measurements below the [quantification level]. . . are [sic] not acceptable. . . ." 61 Fed. Reg. 3412 (col. 1) (Jan. 31, 1996).

Response to: CTR-030-009

See response to CTR-005-009.

Comment ID: CTR-033-003a

Comment Author: San Bernardino Muncpl Wtr Dept

Document Type: Water District
State of Origin: CA
Represented Org:
Document Date: 09/25/97
Subject Matter Code: C-28 Detection Limits
References: Letter CTR-033 incorporates by reference letter CTR-020
Attachments? Y
CROSS REFERENCES E-01n

Comment: Experiments to determine whether a chemical is carcinogenic are performed (on animals) with high concentrations to produce statistically significant results within the time frame of the experiment. The numbers are then extrapolated to determine an estimated "safe" concentration for human populations. All of the factors in the extrapolation process use conservative assumptions (one in a million risk, bioaccumulation potential, carcinogenic potential, etc.) which builds in and multiplies safety factors. For 39 of the constituents in the CTR, the extrapolated criteria levels are below current levels of detection.

The EPA recognizes this as the proposed rule states: "EPA is aware that the criteria proposed today for some of the priority toxic pollutants are at concentrations less than EPA's current analytical detection limits. Analytical detection limits have never been an acceptable basis for setting water quality criteria since they are not related to actual environmental impacts. The environmental impacts of a pollutant are based on a scientific determination, not a measuring technique that is subject to change. Setting the criteria at levels that reflect adequate protection tends to be a forcing mechanism to improve analytical detection methods. See 1985 Guidelines p. 21. As the methods improve, limits closer to the actual criteria necessary to protect aquatic life and human health become measurable. The Agency does not believe it is appropriate to propose or promulgate criteria that are not sufficiently protective." The rule goes on to add, "the use of detection limits are appropriate for determining compliance with National Pollutant Discharge Elimination System (NPDES) permit limits."

Since the criteria are established on high dosage results that cannot be substantiated at low levels due to statistical significance and inability to see beyond detection limits, the values are predictions. Questions that come to mind are, what would this procedure determine for fat-soluble vitamins A, D and K? In high doses, these vitamins are harmful, though in low dosages, valuable. For constituents below detection, these determinations cannot be scientifically verified by analyses, only mathematically generated based on worst case assumptions. Although caution is warranted when establishing criteria, future unforeseen levels and effects cannot be predicted.

While the EPA believes that compliance determinations are based on detection limits, to assume no cost in the economic analysis for values that are below detection is not a valid assumption. As noted above, the detection limits will be forced to lower levels, and therefore become moving compliance targets without additional economic review should detection's begin to occur.

In summary, the detection levels should serve as the criteria with a "<" designator. The criteria for the affected constituents should be reviewed on a regular basis to reflect current approved analytical techniques, with lower levels promulgated after appropriate economic evaluations.

Response to: CTR-033-003a

See response to CTR-005-009.

Comment ID: CTR-034-010a
Comment Author: SCAP
Document Type: Trade Org./Assoc.
State of Origin: CA
Represented Org:
Document Date: 09/25/97
Subject Matter Code: C-28 Detection Limits
References: Letter CTR-034 incorporates by reference letter CTR-035
Attachments? N
CROSS REFERENCES C-21

Comment: * SCAP recommends that EPA defer adoption of criteria contained in the draft CTR which are typically below detection limits. While we understand EPA's rationale for setting criteria that may not be detectable based on EPA's determination of the criteria needed to adequately protect aquatic life and human health, we believe that EPA has not fulfilled its duties under the Clean Water Act, Unfunded Mandates Act, and E.O. 12866. In accordance with federal water quality standards regulations, EPA is required to review water quality data and information on discharges to specific water bodies where toxic pollutants may be adversely affecting water quality or the attainment of the designated water use or where the levels of toxic pollutants are at a level to warrant concern and must adopt criteria for such toxic pollutants applicable to the water body sufficient to protect the designated use (see 40 CFR section 131.11). Thus, if the pollutant has not been detected, there is no basis for determining whether the chemical is adversely affecting water quality or the attainment of designated uses.

Further, EPA cannot make an accurate determination of the costs and benefits of promulgating CTR criteria for those criteria that are below detection levels. It is quite likely that detection limits for some substances will improve in the near future, and dischargers previously projecting full attainment will no longer be able to comply. For instance, a SCAP member agency was issued an NPDES permit in the early 1990s containing effluent limits for a number of toxic pollutants. In this agency's case, lindane was not being detected at the time of permit issuance (and the detection level was higher than the permit limit). Yet, in the following years, the detection level dropped and this agency began to experience exceedences of the permit limit. Lindane cannot be readily controlled at the source by normal industrial waste source control methods because it is in widespread use by consumers. Therefore, the only reliable option for the POTW to come into compliance may be to add end-of-pipe treatment, a very expensive proposition. This scenario is likely to happen again with many of the criteria being proposed in the CTR. The potential compliance costs could be high, yet the Economic Analysis for the draft CTR could not estimate such costs. For all of the above reasons, EPA should defer adoption of these criteria until they can be detected and EPA can more fully determine the potential economic impacts of promulgation of the CTR. Instead, we recommend that a watershed approach be used to address these pollutants (see below).

Response to: CTR-034-010a

See response to CTR-005-009.

Comment ID: CTR-035-005
Comment Author: Tri-TAC/CASA
Document Type: Trade Org./Assoc.
State of Origin: CA

Represented Org:
Document Date: 09/25/97
Subject Matter Code: C-28 Detection Limits
References:
Attachments? N
CROSS REFERENCES

Comment: EPA should defer adoption of criteria for any pollutant where the method detection limit exceeds the objective and there are insufficient reliable data to determine if the pollutant could reasonably be expected to interfere with attainment of designated uses. We believe that because of the inability to detect these substances and the lack of monitoring information indicating water quality use impairment, that EPA has not fulfilled its obligations under the Clean Water Act to conduct a water body-specific analysis of the need to promulgate criteria, nor has EPA fulfilled its obligations under the Unfunded Mandates Act and Executive Order 12866 to analyze the costs and benefits of proposed criteria that cannot be detected or for which insufficient monitoring data are available. We believe that the costs to comply with criteria for organic pollutants that are currently below detection levels could amount to as much as \$630 million per year for the POTW sector.

Response to: CTR-035-005

Comment ID: CTR-035-012b
Comment Author: Tri-TAC/CASA
Document Type: Trade Org./Assoc.
State of Origin: CA
Represented Org:
Document Date: 09/25/97
Subject Matter Code: C-28 Detection Limits
References:
Attachments? N
CROSS REFERENCES C-21

Comment: 1. Comments on Proposed Rule A. General Comments p. 42166-67 --Legal Basis

EPA argues that:

EPA does not believe that it is necessary to support the criteria proposed today on a pollutant-specific, water body-by-water-body basis. For EPA to undertake an effort to conduct research and studies of each stream segment or water body across the State of California to demonstrate that for each toxic pollutant for which EPA has issued CWA section 304(a) criteria guidance there is a 'discharge or presence' of that pollutant which could reasonably 'be expected to interfere with' the designated use would impose an enormous administrative burden and would be contrary to the statutory directive for swift action manifested by the 1987 addition of section 303(c)(2)(B) to the CWA.

Contrary to EPA's argument, we believe that the requirement in Section 303 of the CWA that States adopt water quality standards where there is a discharge or presence of toxic pollutants in the affected waters which could reasonably be expected to interfere with designated uses, applies to EPA. EPA's claim that such a review would impose an "enormous administrative burden" is not compelling, since States, in their adoption of water quality standards, must perform this pollutant specific review of each stream

segment under the express terms of Section 303(c)(2)(B). EPA's own regulations require that, in promulgating water quality standards for a State, EPA is subject to "the same policies, procedures, analyses, and public participation requirements established for States in these regulations" (40 CFR section 131.22). The regulations require States to "review water quality data and information on discharges to specific water bodies where toxic pollutants may be adversely affecting water quality or the attainment of the designated water use or where the levels of toxic pollutants are at a level to warrant concern and must adopt criteria for such toxic pollutants applicable to the water body sufficient to protect the designated use"(40 CFR section 131.11)(emphasis added). Thus, the regulations regarding the adoption of water quality standards do not suggest that States adopt uniform water quality standards for every water body merely because there may be a large amount of work required to determine the appropriate water quality standards for each water body. We especially believe this issue to be pertinent to pollutants for which the proposed CTR criteria are below detection levels. We therefore recommend that EPA defer the adoption of criteria for constituents which are below detection limits until such time as data are available demonstrating that particular toxic pollutants are being discharged to specific water bodies at levels to warrant concern. The pollutants in this category include the following: aldrin, alpha-BHC, beta-BHC, chlordane, 4,4'-DDD, 4,4'-DDT, 4,4'-DDE, dieldrin, 2,3,7,8-TCDD (dioxin), endosulfan I, endosulfan II, endrin, endrin aldehyde, heptachlor, heptachlor epoxide, toxaphene, PCB-1016, PCB-1221, PCB-1232, PCB-1242, PCB-1248, PCB-1254, PCB-1260, hexachlorobenzene, n-nitrosodi-n-propylamine, pentachlorophenol, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene. EPA, upon determining that promulgation of a 303(c)(2)(B) criterion is necessary, should promulgate the criterion on a water body-specific basis. Also, EPA would need to conduct an economic impact analysis at that time. Finally, as with the CTR, EPA must pursue adoption of these criteria through a rulemaking process, allowing opportunities for public review and comment in accordance with the Clean Water Act and Administrative Procedures Act.

Response to: CTR-035-012b

See response to CTR-005-009.

Comment ID: CTR-036-006

Comment Author: County of Orange

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-28 Detection Limits

References: Letter CTR-036 incorporates by reference letters CTR-013, CTR-018, CTR-031, CTR-034 and CTR-040

Attachments? N

CROSS REFERENCES

Comment: Appropriateness of the Technical Criteria in the CTR

The proposed rule includes a number of technical elements that are of concern.

We are concerned that the proposed rule contains criteria that have concentrations lower than current acceptable laboratory detection limits. We recommend that no criteria be adopted which are below the

detection limits and that no criteria be adopted when insufficient reliable data exists to determine that the pollutant could reasonably be expected to interfere with designated uses.

Response to: CTR-036-006

See response to CTR-005-009.

Comment ID: CTR-037-006

Comment Author: Hampton Roads Sanitation Dist.

Document Type: Sewer Authority

State of Origin: VA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-28 Detection Limits

References:

Attachments? N

CROSS REFERENCES

Comment: 6. EPA states that analytical detection limits are appropriate for determining compliance with NPDES permit limits, which directly conflicts with the Agency's most recent guidance which recommends that MLs be used to determine compliance. This statement completely ignores the issues of analytical variability and uncertainty in data at the MDL and between the MDL and the ML, even though all parties are in consensus that values of high uncertainty should not be used to make compliance decisions. This may be a typographical error, but it needs to be addressed. Furthermore, EPA must consider the analytical limitations of currently approved procedures when adopting criteria, Compliance with criteria can not be determined readily if sufficiently-sensitive approved procedures are not available.

Response to: CTR-037-006

See response to CTR-005-009.

Comment ID: CTR-038-009a

Comment Author: Sonoma County Water Agency

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-28 Detection Limits

References:

Attachments? Y

CROSS REFERENCES E-01n

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S

Comment: 8. EPA should not adopt criteria for any pollutant where the method detection limit exceeds the objective and there is insufficient detectable, reliable data to determine if the pollutant could

reasonably be expected to interfere with designated uses. The proposed rule includes criteria for a number of constituents where there is insufficient data to determine whether the discharge of such pollutants could reasonably be expected to interfere with the designated uses. EPA has chosen to promulgate criteria for these constituents even though section 303 (c)(2)(B) of the Clean Water Act requires States to adopt numeric criteria only for constituents "...the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses." Clearly, this "play-it-safe" approach goes beyond the requirements of the Clean Water Act and is therefore unnecessary. By taking this approach, however, EPA is unable to fulfill its duty (under Presidential Order 12866, the Unfunded Mandates Reform Act, and the Regulatory Flexibility Act) to assess the costs, benefits, and impacts of the rule on local government and small entities. While this may be the conservative approach for EPA, it places dischargers throughout the State at risk. As analytical detection limits improve, dischargers may find they are unable to achieve the criteria without costly end-of-pipe controls. But, by then, it will be too late for EPA to evaluate the costs and benefits of the criteria and alternative criteria. For these reasons, EPA must not adopt criteria for those constituents. If EPA does adopt criteria for those constituents, EPA must evaluate the costs and benefits of the criteria, as well as alternative criteria, using worst case assumptions (i.e., assume that discharge levels and ambient levels are at the detection limits). With respect to the District's discharge and Schell Slough and Second Napa Slough, the criteria in this category include, but are not necessarily limited to, the following : benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, aldrin, 4,4'-DDD, 4,4'-DDE, dieldrin, endosulfan I, endosulfan II, endosulfan sulfate, heptachlor, heptachlor epoxide, toxaphene, PCB-1016, OCB-1221, PCB-1232, PCB-1242, PCB-1248, PCB-1254, PCB-1260, and hexachlorobenzene (see Table 3).

Response to: CTR-038-009a

See response to CTR-005-009.

Comment ID: CTR-040-017

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-28 Detection Limits

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES

Comment: IV. Recommendation: Do not adopt criteria for any pollutant where the method detection limit exceeds the water quality objective and for which there is insufficient detectable, reliable data to determine if the pollutant could reasonably be expected to interfere with designated uses.

* The proposed Rule includes criteria for a number of constituents where there is insufficient data to determine whether the discharge of such pollutants could reasonably be expected to interfere with the designated uses. EPA has chosen to promulgate criteria for these constituents even though section 303(c)(2)(B) of the CWA requires states to adopt numeric criteria only for constituents "...the discharge or presence of which in the affected waters could reasonably be expected to interfere with those

designated uses adopted by the State, as necessary to support such designated uses." Clearly, this "play-it-safe" approach goes beyond the requirements of the CWA and is therefore unnecessary.

* By taking this approach, however, EPA is unable to fulfill its duty under Presidential Executive Order 12866, the Unfunded Mandates Reform Act, and the Regulatory Flexibility Act to assess the costs, benefits, and impacts of the Rule on local governments and other entities.

* While this may be the "safe" approach for EPA, it places dischargers throughout the State at risk. As analytical detection limits improve, dischargers may find they are unable to achieve the criteria without costly end-of-pipe controls. But, by then, it will be too late for EPA to evaluate the costs and benefits of the criteria and alternative criteria.

* For these reasons, EPA must set aside the "play-it-safe" approach and not adopt criteria for those constituents.

* If EPA does not do this, it must evaluate the costs and benefits of the criteria for these constituents, as well as alternative criteria, using, worst case assumptions (discharge levels and ambient levels are at the detection limits).

Response to: CTR-040-017

See response to CTR-005-009.

Comment ID: CTR-041-008a
Comment Author: Sacramento Reg Cnty Sanit Dist
Document Type: Sewer Authority
State of Origin: CA
Represented Org:
Document Date: 09/25/97
Subject Matter Code: C-28 Detection Limits
References:
Attachments? N
CROSS REFERENCES E-01n

Comment: 3. Recommend Against Adopting Criteria with Insufficient Detectable Data

The District strongly recommends that the EPA not adopt criteria where the method detection limit exceeds the objective and there is insufficient detectable, reliable data to determine if the pollutant could reasonably be expected to interfere with designated uses. The proposed rule includes criteria for a number of constituents where there is insufficient data to determine whether the discharge of such pollutants could reasonably be expected to interfere with the designated uses. EPA has chosen to promulgate criteria for these constituents even though section 303 c(2)(B) of the Clean Water Act requires States to adopt numeric criteria only for constituents "...the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses." EPA has chosen a "safe approach" which clearly goes beyond the Clean Water Act and is clearly unnecessary. This approach does not allow EPA to fulfill its duty (under Presidential Order 12866, the Unfunded Mandates Reform Act and the Regulatory Flexibility Act) to assess the costs, benefits, and impacts of the rule on local government and small

entities. While this may be the safe approach for EPA, it places dischargers throughout the State at risk.

As analytical detection limits improve, dischargers may find they are unable to achieve the criteria without costly end-of-pipe controls. But, by then, it will be too late for EPA to evaluate the costs and benefits of the criteria and alternative criteria. For these reasons, EPA should not adopt criteria for those constituents. If EPA does adopt these criteria, EPA should, prior to that, evaluate the costs and benefits of the criteria, as well as alternative criteria, using worst case assumptions (i.e., assume that discharge and ambient levels are at the detection limits). The criteria in this category include the following: Aldrin, Alpha-BHC, Beta-BHC, Chlordane, 4,4'-DDD, 4,4'-DDT, 4,4'-DDE, Dieldrin, Endosulfan I, Endosulfan II, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, Toxaphene, PCB- 1016, PCB-1221, PCB-1232, PCB-1242, PCB-1248, PCB-1254, PCB-1260, Hexachlorobenzene, N-Nitrosodipropylamine, Pentachlorophenol, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenzo(a,h)anthracene, and Indeno(1,2,3-cd)pyrene.

Response to: CTR-041-008a

See response to CTR-005-009.

Comment ID: CTR-042-003
Comment Author: Cal. Dept. of Transportation
Document Type: State Government
State of Origin: CA
Represented Org:
Document Date: 09/26/97
Subject Matter Code: C-28 Detection Limits
References:
Attachments? Y
CROSS REFERENCES

Comment: 3. The CTR fails to adequately address non-detected pollutants.

In numerous instances, the CTR adopts water quality criteria for pollutants that exceed the method detection limit. In these cases, insufficient data exists to determine if these pollutants will interfere with designated beneficial uses. Without such data, EPA is unable to demonstrate that there is a "discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State" that would require the adoption of water quality standards to support such designated uses. See CWA section 303(c)(2)(B).

Furthermore, without such data, dischargers are unable to determine the controls necessary to meet the CTR criteria. As detection limits are lowered over time through the implementation of new laboratory techniques, dischargers may find that they are in violation of the criteria, are subject to enforcement actions and citizen suits, and must install costly end-of-pipe treatment technologies. This scenario can be avoided if EPA delays the adoption of all criteria that exceed currently available method detection limits.

Request: Caltrans requests that EPA delay the adoption of all CTR water quality criteria that exceed currently available method detection limits until such time that there exists sufficient, detectable, reliable data to determine if the pollutant could reasonably be expected to interfere with designated beneficial uses.

Response to: CTR-042-003

See response to CTR-005-009.

Comment ID: CTR-043-008
Comment Author: City of Vacaville
Document Type: Local Government
State of Origin: CA
Represented Org:
Document Date: 09/26/97
Subject Matter Code: C-28 Detection Limits
References:
Attachments? Y
CROSS REFERENCES

Comment: 8. EPA should not adopt criteria for any pollutant where the method detection limit exceeds the objective and there is insufficient detectable, reliable data to determine if the pollutant could reasonably be expected to interfere with designated uses. The proposed rule includes criteria for a number of constituents where there is insufficient data to determine whether the discharge of such pollutants could reasonably be expected to interfere with the designated uses. EPA has chosen to promulgate criteria for these constituents even though section 303 (c)(2)(B) of the Clean Water Act requires States to adopt numeric criteria only for constituents "...the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses." Clearly, this approach goes beyond the requirements of the Clean Water Act and is therefore unnecessary. Additionally, this approach does not allow EPA to fulfill its duty (under Presidential Order 12866, the Unfunded Mandates Reform Act, and the Regulatory Flexibility Act) to assess the costs, benefits, and impacts of the rule on local government and small entities. While this may be the conservative approach for EPA, it places dischargers throughout the State at risk. As analytical detection limits improve, dischargers may find they are unable to achieve the criteria without costly end-of-pipe controls. But, by then, it will be too late for EPA to evaluate the costs and benefits of the criteria and consider alternative criteria. For these reasons, EPA should not adopt criteria for those constituents. If EPA does adopt criteria for those constituents, EPA should evaluate the costs and benefits of the criteria, as well as alternative criteria, using worst case assumptions (i.e., assume that discharge levels and ambient levels are at the detection limits).

Response to: CTR-043-008

See response to CTR-005-009.

Comment ID: CTR-044-009a
Comment Author: City of Woodland
Document Type: Local Government
State of Origin: CA
Represented Org:
Document Date: 09/26/97
Subject Matter Code: C-28 Detection Limits
References:

Attachments? Y
CROSS REFERENCES E-01c
R
S

Comment: We have reviewed the proposed CTR and offer the following comments:

8. EPA should not adopt criteria for any pollutant where the method detection limit exceeds the objective and there is insufficient detectable, reliable data to determine if the pollutant could reasonably be expected to interfere with designated uses. The proposed rule includes criteria for a number of constituents where there is insufficient data to determine whether the discharge of such pollutants could reasonably be expected to interfere with the designated uses. EPA has chosen to promulgate criteria for these constituents even though section 303 (c)(2)(B) of the Clean Water Act requires States to adopt numeric criteria only for constituents "... the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses." Clearly, this approach goes beyond the requirements of the Clean Water Act and is therefore unnecessary. Additionally, this approach does not allow EPA to fulfill its duty (under Presidential Order 12866, the Unfunded Mandates Reform Act, and the Regulatory Flexibility Act) to assess the costs, benefits, and impacts of the rule on local government and small entities. While this may be the conservative approach for EPA, it places dischargers throughout the State at risk. As analytical detection limits improve, dischargers may find they are unable to achieve the criteria without costly end-of-pipe controls. But, by then, it will be too late for EPA to evaluate the costs and benefits of the criteria-and-consider alternative criteria. For these reasons, EPA should not adopt criteria for those constituents. If EPA does adopt criteria for those constituents, EPA should evaluate the costs and benefits of toxic criteria, as well as alternative criteria, using worst case assumptions (i.e., assume that discharge levels and ambient levels are at the detection limits).

Response to: CTR-044-009a

See response to CTR-005-009.

Comment ID: CTR-052-018
Comment Author: East Bay Dischargers Authority
Document Type: Sewer Authority
State of Origin: CA
Represented Org:
Document Date: 09/26/97
Subject Matter Code: C-28 Detection Limits
References: Letter CTR-052 incorporates by reference letters CTR-035 and CTR-054
Attachments? Y
CROSS REFERENCES

Comment: C. RECOMMENDATIONS FOR MODIFICATIONS TO THE CTR AND EA

Do not adopt criteria for any pollutant where the method detection limit exceeds the objective. As noted in the second paragraph of B.1, above, attainability issues will likely occur in the future as technology develops lower detection limits. There is no reason to adopt criteria for toxicants than cannot be properly measured. Once proper MDLs exist, each item can be reevaluated and the CTR (or the State Plans) can

be amended. Regulatory agencies must first determine if any of these toxicants are present in the water body to determine if an objective is warranted. The toxicants that should be removed from the CTR include the following: TCDD and equivalents, Hexachlorobenzene, Aldrin, Chlordane, 4,4'-DDT, 4,4'-DDE, 4,4'-DDD, Dieldrin, Endrin, Heptachlor Epoxide, Polychlorinated biphenyls (PCBs), and Toxaphene. There may be other toxicants where MDL is an issue for other POTWS.

Response to: CTR-052-018

See response to CTR-005-009.

Comment ID: CTR-054-009

Comment Author: Bay Area Dischargers Assoc.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-28 Detection Limits

References:

Attachments? Y

CROSS REFERENCES

Comment: EPA should not adopt criteria for any pollutant where the method detection limit exceeds the objective and there is insufficient detectable, reliable data to determine if the pollutant could reasonably be expected to interfere with designated uses. The proposed rule includes criteria for a number of constituents where there is insufficient data to determine whether the discharge of such pollutants could reasonably be expected to interfere with the designated uses. EPA has chosen to promulgate criteria for these constituents even though section 303 (c)(2)(B) of the Clean Water Act requires States to adopt numeric criteria only for constituents "...the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses." Clearly, this "play-it-safe" approach goes beyond the requirements of the Clean Water Act and is therefore unnecessary. Moreover, this approach does not allow EPA to fulfill its duty (under Presidential Order 12866, the Unfunded Mandates Reform Act, and the Regulatory Flexibility Act) to assess the costs, benefits, and impacts of the rule on local government and small entities. While this may be the safe approach for EPA, it places dischargers throughout the State at risk. As analytical detection limits improve, dischargers may find they are unable to achieve the criteria without costly end-of-pipe controls. But, by then, it will be too late for EPA to evaluate the costs and benefits of the criteria and alternative criteria. For these reasons, EPA should not adopt criteria for those constituents. If EPA does adopt these criteria, EPA should, prior to that, evaluate the costs and benefits of the criteria, as well as alternative criteria, using worst case assumptions (i.e., assume that discharge levels and ambient levels are at the detection limits). The criteria in this category include the following: Aldrin, Alpha-BHC, Beta-BHC, Chlordane, 4,4'-DDD, 4,4'-DDT, 4,4'-DDE, Dieldrin, Endosulfan I, Endosulfan II, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, Toxaphene, PCB-1016, PCB-1221, PCB-1232, PCB-1242, PCB-1248, PCB-1254, PCB-1260, TCDD equivalents Hexachlorobenzene, N-Nitroso-di-propylamine, Pentachlorophenol, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenzo(a,h)anthracene, and Indeno(1,2,3-cd)pyrene (see Attachment 2).

Response to: CTR-054-009

See response to CTR-005-009.

Comment ID: CTR-056-014

Comment Author: East Bay Municipal Util. Dist.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/22/97

Subject Matter Code: C-28 Detection Limits

References: Letter CTR-056 incorporates by reference letter CTR-054

Attachments? N

CROSS REFERENCES

Comment: Third, regarding the criteria being proposed for adoption in the draft CTR, EBMUD recommends that EPA should:

* NOT adopt criteria for any pollutant where the method detection limits (MDLs) for EPA required analytical procedures defined in 40CFR 136 exceeds the objective. In these cases there is insufficient detectable data to reliably determine if the pollutant of concern could reasonably be expected to interfere with attainment of designated uses. Furthermore, there is no assurance that technological advancements or improved methodology would permit MDLs to be further reduced before interim permit limits became final.

Response to: CTR-056-014

See response to CTR-005-009.

Comment ID: CTR-057-004

Comment Author: City of Los Angeles

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-28 Detection Limits

References:

Attachments? N

CROSS REFERENCES

Comment: Analytical Detection Limits

At the time the ISWP was undergoing public review, the City's analytical detection capabilities for trace organics were also being improved. For example, the detection limit for lindane (γ-hexachlorocyclohexane) was lowered from 20 ng/L in 1989 to the present detection level of 4 ng/L. At the detection limit of 20 ng/L, the practical quantitation limit (PQL) was 100 ng/L, and lindane had not yet been detected in Tillman effluent. After the new NPDES permit was issued in 1991, the effluent limit for lindane was set at 19 ng/L. With the improvement in the lindane detection limit to 4 ng/L and

the PQL at 20 ng/L, the Tillman plant began to detect lindane consistently at levels of about 30 ng/L for the past 6 years. The plant thus unknowingly inherited a lindane compliance problem. Since the ISWP did not contain a provision for this situation to be addressed, the plant began to experience chronic lindane violations that continue to this day. As described previously in our comments on the EA, the probable cost for treating lindane was estimated to be approximately \$40 million per year.

This unanticipated problem, driven by improvements made in analytical methods, should likewise be anticipated in the CTR for criteria that are proposed to be set below PQLs. One possible approach would be to designate these criteria as "target numeric criteria" that would serve as placeholders until such time that improvements to detection levels (which can always be assumed to be achievable) are realized. Practical criteria could be established in the interim based on current method detection levels, which would be adjusted downward to eventually reach the target criteria levels.

Another strong justification for setting appropriate detection limit-specific criteria is based on contingency economic considerations. When "hard" criteria are set below PQLs, no compliance problem at the level between the criteria and the PQLs can be identified and taken into consideration by the EA. The EPA's economic analysis is thus inherently flawed from this point of view, because detection limits effectively represent a level of ignorance (or lack of data) that the EA does not now address.

Response to: CTR-057-004

See response to CTR-005-009.

Comment ID: CTR-059-006a

Comment Author: Los Angeles County Sanit. Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-28 Detection Limits

References: Letter CTR-059 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES E-01c

S

Comment: Due to the time constraints of the comment period, we have focused our review and comments primarily on those criteria that we anticipate may cause compliance issues for one or more of the Sanitation Districts' WRPs (see below). Based on our initial review of the proposed rule, the Sanitation Districts recommend that adoption of some of the criteria be deferred. As explained in the attached comments, we believe that there are significant scientific issues regarding the human health criteria for several trihalomethanes that call into question the accuracy and appropriateness of the proposed criteria. In addition, we recommend that EPA defer adoption of those criteria that are below detection limits and that have not been demonstrated to be adversely affecting water quality or the attainment of designated uses on a water body-specific basis in California. In addition, we recommend that EPA not adopt criteria for effluent dependent waters, unless they have been adjusted to reflect the characteristics of this type of water body.

Criteria Below Detection Limits

We believe that there are fundamental problems with EPA's decision to adopt criteria that are below detection limits. This issue relates to EPA's statutory and regulatory obligations in establishing water quality criteria; namely, that EPA is subject to the same policies, procedures, analyses, and public participation requirements as States pursuant to 40 CFR section 131. These regulations require States to "review water quality data and information on discharges to specific water bodies where toxic pollutants may be adversely affecting water quality or the attainment of the designated water use or where the levels of toxic pollutants are at a level to warrant concern and must adopt criteria for such toxic pollutants applicable to the water body sufficient to protect the designated use." (40 CFR section 131.11) For criteria where the method detection limit exceeds the objective, there are inadequate data to determine if the pollutant could reasonably be expected to interfere with attainment of designated uses. We believe that because of the inability to detect these substances and the lack of monitoring information indicating water quality use impairment EPA has not been able to fulfill its obligations to conduct a water body-specific analysis of the need to promulgate criteria.(*1)

(*1)U.S. Environmental Protection Agency, Economic Analysis of the Proposed California Water Quality Toxics Rule, Office of Water (EPA-820-B-96-001, July 1997), p. 8-18.

Second, EPA has not fulfilled its obligations under the Unfunded Mandates Reform Act and Executive Order 12866 to analyze the costs and benefits of promulgating proposed criteria which cannot be detected or for which insufficient monitoring data are available.

Given these deficiencies, we recommend that EPA defer the adoption of criteria for constituents which are below detection limits until such time as EPA has demonstrated that the levels of toxic pollutants being discharged are at a level to warrant concern. As an alternative, EPA could defer to the State for promulgation of criteria for such compounds on a water body-specific basis as part of the State's continuous water quality planning process.

Response to: CTR-059-006a

See response to CTR-005-009.

Comment ID: CTR-060-010
Comment Author: San Diego Gas and Electric
Document Type: Electric Utility
State of Origin: CA
Represented Org:
Document Date: 09/26/97
Subject Matter Code: C-28 Detection Limits
References:
Attachments? N
CROSS REFERENCES

Comment: PROVISIONS SDG&E DOES NOT SUPPORT

As described in the following comments SDG&E does not support the following provisions:

EPA needs to clarify its quantification discussion

The preamble to the rule (see 62 Fed. Reg. at 42,183, Col. 3) states that "EPA does believe, however, that the use of analytical detection limits are appropriate for determining compliance with National Pollutant Discharge Elimination System (NPDES) permit limits." SDG&E believes that the use of detection limits for this purpose is inappropriate. First, analytical results that are above the detection limit, but less than the quantitation limit only establish the presence of a analyte, not the actual concentration of the pollutant in the sample. Therefore, results below the quantitation limit do not provide a reliable value for determining compliance with a permit limit. Second, the document ("Strategy for the Regulation of Discharges of PHDDs and PHDFs from Pulp and Paper Mills to Waters of the U.S.") (the "Dioxin Strategy") that is referenced as the basis for using the detection limit for compliance determinations is from May 21, 1990. The Agency has expressed significant changes in its position since that time. For instance, EPA's guidance document dated March 20, 1996 ("Questions and Answers on the Great Lakes Water Quality Guidance-Set 2"; p. 28.) allows states to specify that analytical results below the level of quantification may be deemed to be in compliance with the established water quality-based effluent limitation. Additionally, a U.S. Court of Appeals for the District of Columbia Circuit ruling in 1997 held that:

A standard with which compliance cannot be assessed - and it is agreed that compliance with an effluent limitation set below the level of quantification simply cannot be assessed - is no standard at all for purposes of due process.

American Iron and Steel Institute v. U.S.EPA, 115 F.3d 979, 994 (1997) (AISI).

Rather than reference the Dioxin Strategy, EPA should reference its "Questions and Answers on the Great Lakes Water Quality Guidance-Set 2", dated March 20, 1996.

Response to: CTR-060-010

See response to CTR-005-009.

Comment ID: CTR-066-015b
Comment Author: Delta Diablo Sanitation Dist.
Document Type: Sewer Authority
State of Origin: CA
Represented Org:
Document Date: 09/26/97
Subject Matter Code: C-28 Detection Limits
References:
Attachments? N
CROSS REFERENCES E-01n

Comment: The areas with which we find concerns and the requested changes include the following:

A further problem with the analysis relates to the establishment of criteria that are below analytical detection. Our District finds 34 separate criteria that fall into this category. Lacking this credible data, it was not possible to conduct cost-benefit analyses or determine that any set of control measures would or could lead to compliance. This fundamental inability to utilize established rulemaking procedures mandates further work prior to the promulgation of the criteria.

Response to: CTR-066-015b

See response to CTR-005-009.

Comment ID: CTR-067-003
Comment Author: Ojai Valley Sanitary District
Document Type: Sewer Authority
State of Origin: CA
Represented Org:
Document Date: 09/26/97
Subject Matter Code: C-28 Detection Limits
References:
Attachments? N
CROSS REFERENCES

Comment: * OVSD recommends that EPA defer adoption of criteria contained in the draft CTR, which are typically below achievable detection limits. OVSD understands that EPA's rationale for setting criteria below achievable limits is based on EPA's determination of the criteria needed to adequately protect aquatic life and human health. However, if a pollutant has never been detected in OVSD's treatment plant receiving water, there is no basis for determining whether the chemical is adversely affecting water quality or the attainment of designated uses.

Response to: CTR-067-003

See response to CTR-005-009.

Comment ID: CTR-082-009b
Comment Author: City of Burbank
Document Type: Local Government
State of Origin: CA
Represented Org:
Document Date: 09/24/97
Subject Matter Code: C-28 Detection Limits
References:
Attachments? N
CROSS REFERENCES E-01n

Comment: The subject rule has a significant impact on our facility discharge and the citizens of the City. We therefore present the following comments for your consideration to re-open the comment period for this rule in order to facilitate a more complete review by public and in particular by those in the POTW community:

* A further problem with the analysis relates to the establishment of criteria that are below analytical detection. Lacking credible data, it was not possible to conduct cost-benefit analyses or determine that any set of control measures would or could lead to compliance. This fundamental inability to utilize established rulemaking procedures mandates further work prior to the promulgation of the criteria.

Response to: CTR-082-009b

See response to CTR-005-009.

Comment ID: CTR-085-018b
Comment Author: Camarillo Sanitary District
Document Type: Sewer Authority
State of Origin: CA
Represented Org:
Document Date: 09/24/97
Subject Matter Code: C-28 Detection Limits
References:
Attachments? N
CROSS REFERENCES E-01n

Comment: The District supports the following positions of CASA and SCAP where changes need to be made in the proposed California Toxics Rule:

* A further problem with the economic analysis relates to the establishment of criteria that are below analytical detection. Lacking credible data, it was not possible to conduct cost analysis or determine that any set of control measures would or could lead to compliance. This fundamental inability to utilize established rule making procedures mandates further work to the promulgation of the criteria.

Response to: CTR-085-018b

See response to CTR-005-009.

Comment ID: CTR-089-003
Comment Author: Las Virgenes Mncpl Water Dist.
Document Type: Sewer Authority
State of Origin: CA
Represented Org:
Document Date: 09/24/97
Subject Matter Code: C-28 Detection Limits
References:
Attachments? N
CROSS REFERENCES

Comment: While the draft regulations demonstrate clear progress on these and other issues, there remain some unresolved problems that could compromise our ability to serve our customers. We offer these comments in the hope of minimizing those potential impacts.

Analytical Detection Limits

Criteria for nine pollutants(*1) appear to have been set at levels lower than we can detect in either our laboratory or by commercial laboratories in our region, including those used by the Los Angeles

Regional Water Quality Control Board (RWQCB). While we consistently do not find these pollutants in our discharge, our detection capabilities are limited by the methods available to us for regular monitoring. Some of the proposed limits are so low that our equipment and analytical methods are incapable of detecting them, whether they are present or not. Thus, regardless of the quality of our discharge, there is no practical way to demonstrate compliance with the proposed limits for these nine pollutants.

The Los Angeles RWQCB, which must enforce these limits, is aware of this shortcoming, which applies to both the CTR and the closely-related National Toxics Rule (NTR). Recognizing the "catch-22" inherent to the proposed criteria, they have proposed an alternative, administrative method of compliance. While this alternative will allow us to comply with the CTR in a purely administrative sense, the fact remains that we cannot actually demonstrate that our discharge meets the proposed criteria for these nine pollutants. This makes our district, the RWQCB and even the USEPA vulnerable to third-party lawsuits and creates a potential for negative public perception and bad press. As recent experience has shown(*2), advocates for public health and the environment are notoriously unforgiving of "administrative compliance". It is also unclear to us whether the administrative remedy proposed by the RWQCB is consistent with the State Implementation Policy for the CTR. This is something we could not determine in the 30 days provided to review the CTR.

(*1) Cadmium, copper, lead, mercury, selenium, silver, chloroform, chlorobromo-methane and dichlorobromomethane

(*2) During the public debates over the reauthorization of the Safe drinking Water Act, the Natural Resources Defense Council aired a number of television and press stories on the safety of public drinking water supplies, based in large part on selective interpretations of NPDES permit conditions and violations. The adoption of pollutant limits that cannot be verified exposes a vary large portion of the water and wastewater industry to allegations of health and environmental risks that can neither be proven or denied.

Response to: CTR-089-003

See response to CTR-005-009.

Comment ID: CTR-090-006

Comment Author: C&C of SF, Public Util. Commis.

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-28 Detection Limits

References: Letter CTR-090 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES

Comment: Major Concerns About the Proposed Criteria and Rule

1. The Proposal is Based on Poor Data and Will Not Result in Better Water Quality for California. We

stated that our own attainability analysis and that of BADA show that San Francisco,) will be impacted by this rule. Unfortunately, due to the short time for review, the poor quality of data and basis for statements and assumptions in the proposal and the problem with detection limits we cannot specifically say what will be the cost to Sari Francisco. One analysis tell us it could be \$2.3 million per year annualized costs and another analysis tells us it could be much more. We strongly recommend major revision to the proposal and the economic analysis before final promulgation for the following reasons:

For many of the pollutants the detection limit is above the proposed criteria and there is insufficient water quality data to determine if the constituent could reasonably be expected to interfere with designated uses;

Response to: CTR-090-006

See response to CTR-005-009.

Comment ID: CTR-090-011

Comment Author: C&C of SF, Public Util. Commis.

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-28 Detection Limits

References: Letter CTR-090 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES

Comment: We recommend that EPA:

3. Not adopt criteria for any pollutants where the method detection limit exceeds the objective. Instead these can be trigger points or temporary limits. (see more discussion in attachments)

If these changes cannot be made in the rule, the rule should not be promulgated.

Response to: CTR-090-011

See responses to CTR-004-002 (Category E-01; Cost Analysis) and CTR-034-10b (Category C-21; Legal Concerns).

Comment ID: CTRH-001-020

Comment Author: Phil Bobel

Document Type: Public Hearing

State of Origin: CA

Represented Org: Tri-TAC

Document Date: 09/17/97

Subject Matter Code: C-28 Detection Limits

References:

Attachments? N

CROSS REFERENCES

Comment: The second point I'll make is about the numeric criteria themselves. There's a number of reasons that we will amplify on in the written comments why we don't believe all of those should be finalized as proposed.

And the example I'd like to deal with here is the group that are below the detection level, where you're proposing a criteria that's substantially below the current detection limit. Dioxin is an example; there are others.

It would be easy to say, and we will say, that because of that situation you weren't able to do an analysis -- an economic analysis, an attainable analysis. You weren't able to tell what impact this would actually have in the real world, because all of the standard setting was below where you had data.

And so how could you possibly know whether or not the standard could be achieved, when it would be achieved, or how much it would cost, or if it could be achieved? We believe that to be a pretty fundamental shortcoming of this whole business, when you're in that area below detection limits.

But there's even a more fundamental thing I'd like the EPA to think about for those pollutants. And that is: Just how are we going to proceed? Even if you manage to get your standard finalized as proposed, what would the next step be, where you've got a standard that's below the detection limits where we can take the normal next steps?

So I think we need more creativity in this area as well. It's an area where we're going to have to all put our heads together and say, "How do we approach the set of pollutants where the level of interest -- the levels at which we're interested in the pollutant is so very low?" Maybe there is some fundamentally different approach we need to take here, and maybe now is a good time to stop, brainstorm about it, do some creative thinking.

I don't think the old -- the TMDR translated to permit limits, that's not the future for those kind of pollutants. It ain't going to work. So now would be a good time to slow down, do some rethinking of how to go about proceeding on those.

So with those two points, I'll stop and thank you for your time.

(Five-minute recess in proceedings.)

Response to: CTRH-001-020

See response to CTR-005-009.

Comment ID: CTRH-001-028
Comment Author: Michelle Pla
Document Type: Public Hearing
State of Origin: CA
Represented Org: S.F. Public Utilities Com
Document Date: 09/17/97
Subject Matter Code: C-28 Detection Limits

References:

Attachments? N

CROSS REFERENCES

Comment: I think Phil had mentioned taking a look at the numeric criteria and things regarding the ones below detection limits. I would agree with that comment. And I think we need to again think outside the box about how we can deal with those issues.

Response to: CTRH-001-028

See response to CTR-005-009.

Comment ID: CTRH-001-038

Comment Author: Robert Reid

Document Type: Public Hearing

State of Origin: CA

Represented Org: CASA

Document Date: 09/17/97

Subject Matter Code: C-28 Detection Limits

References:

Attachments? N

CROSS REFERENCES

Comment: Third point, the basis for adopting a number of the specific criteria, we believe, is inadequate. These criteria fall into several categories. An example of one of these is the establishment of criteria that are below analytic detection limits, mentioned before, as was done for dioxin and a number of other parameters.

Lacking credible data it was not possible to conduct cost-benefit analysis or to determine that any set of control measures would or could lead to compliance. This fundamental inability to utilize established rulemaking procedures mandates further work prior to the establishment of criteria.

Response to: CTRH-001-038

See response to CTR-005-009.

Comment ID: CTRH-002-003

Comment Author: Chris Compton

Document Type: Public Hearing

State of Origin: CA

Represented Org: County of Orange

Document Date: 09/18/97

Subject Matter Code: C-28 Detection Limits

References:

Attachments? N

CROSS REFERENCES

Comment: Are the criteria appropriate?

We're concerned that the proposed rule contains criteria that have concentrations lower than the current acceptable laboratory detection limits. We recommend that no criteria be adopted which are below the method detection limits and that no criteria be adopted when insufficient reliable data exists to determine that pollutant could reasonably be expected to interfere with designated uses.

Response to: CTRH-002-003

See response to CTR-005-009.

Subject Matter Code: C-29 Bioaccumulation

Comment ID: CTR-026-002c
Comment Author: Cal. Department of Fish & Game
Document Type: State Government
State of Origin: CA
Represented Org:
Document Date: 09/25/97
Subject Matter Code: C-29 Bioaccumulation
References:
Attachments? N
CROSS REFERENCES C-17b
C-27

Comment: 2. PARTIAL PROTECTION BY THE PROPOSED AQUATIC LIFE CRITERIA
(FRESHWATER OR SALTWATER)

On page 42168, the proposed rule includes the following language: "EPA's guidelines are designed to derive criteria that protect aquatic communities by protecting most of the species and their uses most of the time." The CTR goes on to state that this approach results in only a "small possibility" of substantial overprotection or underprotection. Obviously, it is underprotection that is of concern to the DFG. The DFG has very serious concerns that criteria are being proposed that protect "most" of the species "most" of the time. We are aware of the protocols that require a minimum of eight specified families be used to develop criteria and that it may be difficult to determine criteria that are one hundred percent protective; however, this does not preclude the real possibility that certain designated uses and aquatic organisms will not be maintained, and or protected, as a result of the proposed criteria. The DFG is also concerned that criteria and protocols developed for specific constituents do not take into account the additive or synergistic effects that contaminant combination may have on aquatic organisms. Another factor that needs to be considered is bioaccumulation, as well as the effect this may have on organisms at higher trophic levels.

As trustee of all the fish and wildlife resources in the State, it is our agency's responsibility to ensure appropriate protection of all fish and wildlife resources, not just "most", and this includes adequate water quality standards. Due to our concerns and the very real possibility of underprotection to aquatic organisms and designated uses, the DFG believes that it may be appropriate to derive the criteria as proposed, and subsequently develop some additional safety factors for inclusion. It is our understanding that this approach was used in the formulation of water quality objectives for protection of aquatic organisms in the California Ocean Plan. In the short term, the safety factor could possibly be realized by the development of a comprehensive biological monitoring program to determine whether the proposed criteria are indeed fully protective.

Response to: CTR-026-002c

The commentor is correct in stating that the values EPA is promulgating the California Toxics Rule for the protection of aquatic life are designed to protect most species most of the time. EPA understands the commentor's concern that this does not ensure protection of every species and that for some specific constituents additivity, synergism, and food web accumulation may not be considered. These limitations are a factor of the state of the science in modeling, aquatic toxicology, and chemistry rather than an

oversight by the Agency. In fact, the Agency's strategic planning and goals for the next five to ten years is to move towards criteria and guidance that address these very issues.

If the State believes there are critical species or designated uses that will not be protected by the proposed values, then a site specific criterion can be derived using the species recalculation procedure and the new criterion adopted.

With regards to the approach, the commentor suggests to increase the conservatism of the values by establishing safety factors, this is within the purview of the State. A State may always adopt a scientifically defensible value more stringent than that established by EPA. EPA has not used safety factors in promulgating these criteria, however, because EPA's methodology for deriving aquatic life criteria already incorporates rigorous data analysis procedures, including an extrapolation procedure, designed to protect a very high percentage of species, and to protect nearly all individuals even in species more sensitive than nearly all other species. This yields criteria that are adequately protective of the aquatic life uses designated by the state. Though they have limitations of their own, EPA is very supportive of States establishing biomonitoring programs. Comprehensive biomonitoring programs provide information about the health of aquatic systems that simply cannot be obtained through toxicity testing and chemistry.

Comment ID: CTR-029-002f

Comment Author: Center for Marine Conservation

Document Type: Environmental Group

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-29 Bioaccumulation

References:

Attachments? N

CROSS REFERENCES C-17a

C-17b

A

C-22

C-27

Comment: The Center for Marine Conservation (CMC) is a nationwide, nonprofit advocacy group dedicated to the conservation and enhancement of coastal and ocean life and resources. CMC submits these comments on behalf of its 16,000 members in California and over 120,000 members nationwide.

CMC applauds EPA's efforts to bring California into compliance with the Clean Water Act 303(c)(2)(B). Implementing numeric criteria that will protect the beneficial uses of California's waters is of great importance to the health of coastal and marine ecosystems, and so to CMC and its members. The reliance in many areas of the state on narrative criteria threatens the health of most of the state's waters, thereby impacting both human health and the health of the state's economy that relies on clean water.

While CMC strongly supports the swift adoption of an Enclosed Bays and Estuaries Plan and an Inland Surface Waters Plan that contain numeric criteria for toxic pollutants, CMC also is concerned that many of the specific criteria contained in the proposed rule are weaker than those contained in published guidance. CMC also believes that the proposed rule can better protect certain subpopulations from harm

caused by consumption of contaminated fish and shellfish. Finally, CMC is concerned that the economic analysis of the proposed rule over-emphasizes costs and under-reports the many benefits of improving water quality throughout the state. These three points are reviewed below.

In Light of Significant Threats to Water Quality, the Proposed Rule Should Contain the Most Stringent Criteria That Are Scientifically Defensible

Many of the criteria in the proposed rule are weaker than criteria in current published guidance. The proposed rule summarily states that the difference between the proposed, weaker criteria and the published guidance documents is "insignificant"(*4); however, in light of the current contamination problems in California's waters today, any move backwards, particularly when spread out over the state, must be viewed as significant.

Any weakening of the criteria should be subject to close scrutiny and the most rigorous analysis, which the proposed rule itself does not do. Among other things, the criteria in the proposed rule may be underprotective because additive and synergistic effects were not considered; and because the effects on wildlife, which can be particularly significant for bioaccumulative chemicals, were ignored.(*5) In addition, the proposed rule contains dissolved rather than total recoverable metals criteria, despite the fact that EPA acknowledges that total recoverable metals criteria are "scientifically defensible" and that they are more protective than dissolved metals criteria because they consider "sediment, food-chain effects and other fate-related issues," rather than simply water column impacts.(*6)

Clean Water Act section 303(c)(2)(B) mandates the development of numeric criteria that will "support such designated uses [that are adopted by the State]." The statistics available on the health of the state's waters indicates that their use already is significantly threatened or impaired by toxics. The strongest criteria supportable by science are necessary to reverse this trend and begin to restore the state's waters.

(*4) 62 Fed. Reg. 42159, 42168 (Aug. 5, 1997).

(*5) Id. at 42168.

(*6) Id. at 42172.

Response to: CTR-029-002f

Economic Analysis: I can't respond to this, not my bailiwick.

As the commentor states, the specific numbers proposed in the rule are not necessarily the same as those in existing criteria documents. The Agency disagrees with the commentor's suggestion that because they are different they are less protective. The Agency believes the values proposed in the rule are sufficiently stringent to protect the designated uses of the waters of California. The proposed values meet the aquatic life criteria derivation requirements and have undergone Agency review and public comment.

EPA understands the commentor's concern that this does not ensure protection of every species and that for some specific constituents additivity, synergism, and bioaccumulation may not be considered. These limitations are a factor of the state of the science in modeling, aquatic toxicology, and chemistry rather than an oversight by the Agency. In fact, the Agency's strategic planning and goals for the next five to ten years is to move towards criteria and guidance that address these very issues.

The metals criteria proposed in the rule are for the dissolved concentration rather than the total recoverable concentration. This is consistent with Agency policy and scientific investigations that the dissolved form of metals is that which most closely reflects the bioavailable fraction of metals in the water column. From modeling and research that has been conducted it is understood that if the dissolved criterion is met in the water column then there should not be metal toxicity in the sediment because the sediment interstitial water cannot contain more metal than the overlying water column (Ankley et al., 1996). This does not preclude small amounts of bioaccumulation of metal but to date we have not been able to demonstrate that the bioaccumulation translates into any toxic effect on higher level consumers (Lee et al., 1998; Hare et al, 1994; Hansen et al., 1996). In other words, the data so far indicates that increased body burden does not translate into increased toxicity.

The dissolved concentration must be translated into a permit limitation which is based on total recoverable. This ensures that acceptable total mass loadings are not exceeded and to ensure that the potential transformation of pollutants in effluents upon entering and mixing with the receiving water are accounted for.. In the very near future, the Agency will be publishing sediment guidelines for metals. These guidelines will compliment the water column values to ensure metals are holistically assessed and addressed.

Ankley, G. T., D. M. Di Toro, et al. (1996). "Technical basis and proposal for deriving sediment quality criteria for metals." *Environ. Tox. Chem.* 15(12): 2056-2066.

Hansen, D.J., J.D. Mahony, W.J. Berry, S. Benyi, J. Corbin, S. Pratt and M.B. Able. 1996. Chronic effect of cadmium in sediments on colonization by benthic marine organisms: An evaluation of the role of interstitial cadmium and acid volatile sulfide in biological availability. *Environ. Toxicol. Chem* 15:2136-2137.

Hare, L., R. Carignan and M.A. Huerta-Diaz. 1994. A field experimental study of metal toxicity and accumulation by benthic invertebrates; implication for the acid volatile sulfide (AVS) model. *Limnol. Oceanogr.* 39:1653-1668.

Lee, B.-G., H.-S. Jeon, S.N. Luoma, J.-S. Yi, C.-H. Koh. 1998. Effects of AVS (Acid Volatile Sulfide) on the bioaccumulation of Cd, Ni, and Zn in bivalves and polychaetes. Abstract: 19th Annual Meeting of the Society of Environmental Toxicology and Chemistry. Charlotte, NC.

Comment ID: CTR-097-002

Comment Author: Mark Shaw

Document Type: Citizen

State of Origin: CA

Represented Org:

Document Date: 10/03/97

Subject Matter Code: C-29 Bioaccumulation

References:

Attachments? N

CROSS REFERENCES

Comment: The standards are too weak in that they fail to adequately account for the bioaccumulation of mercury in fish tissue. Studies of the Great Lakes indicate that such bioaccumulation is four to twenty

times greater than what the EPA projects for California.

Response to: CTR-097-002

The agency disagrees that the proposed criteria fail to adequately account for the bioaccumulation of mercury in fish tissue. The 1980 hg criterion, which is being used nationally until a new national HH criterion is derived, does use what is in effect a BAF (practical bioconcentration factors: PBCF) to account for biomagnification. As stated in the Preamble, the HH criterion is based on an average of "practical bioconcentration factors" for mercury as described in Ambient Water Quality Criteria for Mercury (EPA 440/5-80-058; Pages C-100-101). Because these PCBFs are derived from average mercury residues from commonly consumed aquatic organisms exposed in various water bodies (lakes, rivers, estuaries, oceans) and overall average total mercury concentrations in water, they incorporate potential mercury uptake indirectly from the food chain and directly from water.

Under Section 304 (a) of the Clean Water Act, EPA is required to establish National recommended water quality criteria. As such, the criteria must be applicable across all regions of the United States and, though considered protective of aquatic organisms, are based on central tendencies rather than solely site or State-specific data. However, if the State believe there are critical species or designated uses that may not be sufficiently protected by the National-based promulgated values, a site-specific criterion can be derived using appropriate data and adopted.

Please refer to the response for CTR-002-076 for additional discussion regarding bioaccumulation.

Comment ID: CTR-099-003
Comment Author: Emil A. Lawton, Ph.D.
Document Type: Citizen
State of Origin: CA
Represented Org:
Document Date: 10/03/97
Subject Matter Code: C-29 Bioaccumulation
References:
Attachments? N
CROSS REFERENCES

Comment: Then, too, the levels for dioxin and mercury are materials that bioaccumulate. You should know that each consumption up the food chain biomagnifies by a factor of 10. Where are your scientists?

Response to: CTR-099-003

See response to CTR-097-002.

Subject Matter Code: C-30 Narrative Criteria

Comment ID: CTR-038-010
Comment Author: Sonoma County Water Agency
Document Type: Sewer Authority
State of Origin: CA
Represented Org:
Document Date: 09/25/97
Subject Matter Code: C-30 Narrative Criteria
References:
Attachments? Y

CROSS REFERENCES

Comment: 9. EPA should delete recommendations that permit authorities utilize EPA or other criteria that have not been adopted as a part of the CTR as a basis for permit limits under the narrative toxicity criteria for toxics. The Preamble in E.3.b and the rule in footnote n to the criteria listed in 131.38(b)(2) recommend that the permitting authority base permit limits on criteria that are not being adopted as a part of the rule. This is not only unnecessary and inappropriate, but, in essence, it effectively constitutes adoption of those non-CTR criteria without considering costs and benefits or otherwise complying with Federal law and regulations.

Response to: CTR-038-010

EPA is requiring nothing in the CTR in the language cited by the commenter. For pollutants for which no criteria are promulgated as part of this rule, EPA is simply restating that according to existing law under the CWA, not affected by this rule, that permit writers are required to implement the narrative criteria, and that for arsenic, EPA recommends, but does not require, that permit writers may use the value California established for arsenic. EPA is not promulgating a criterion for arsenic in today's rule pending a review of the risk assessment for arsenic. Because the rule is simply restating what is required under existing law, these statements are not a cost of the CTR, but of prior existing law under the CWA and its implementing regulations.

Comment ID: CTR-040-018c
Comment Author: County of Sacramento Water Div
Document Type: Storm Water Auth.
State of Origin: CA
Represented Org:
Document Date: 09/25/97
Subject Matter Code: C-30 Narrative Criteria
References: Letter CTR-040 incorporates by reference letter CTR-027
Attachments? Y

CROSS REFERENCES C-26

G-03
C-24e

Comment: V. Recommendation: Delete all provisions in the Rule that preempt the States flexibility in permitting. The Rule provides specific direction on the adoption of averaging periods, low flow values,

effluent limitations for criteria not being adopted as a part of the Rule, and that the aquatic life criteria be applied to all waters irrespective of designated use, etc..

* The Preamble and the Rule's economic analysis make a point that the State has considerable flexibility in establishing permit limitations. In making, that point, EPA implies that the State may implement the criteria in a manner that would have little or no adverse economic impact on dischargers.

* However, the Rule contains a number of implementation provisions that are not required under Section 303(c)(2)(B), but serve to preempt the State's flexibility. These provisions include, but are not necessarily limited to the adoption of averaging periods and low flow values, directives regarding the establishment of effluent limitations for criteria that are not being adopted as a part of the Rule, and application of the aquatic life criteria to all waters irrespective of the designated use.

* Not only does EPA not have a duty to adopt these provisions, but also the provisions are more restrictive than those required by the CWA or EPA regulations, They clearly restrict the State's flexibility. In fact, other states have adopted, and EPA has approved, implementation provisions (e.g., averaging periods and low flow values) which are less restrictive.

* For these reasons, EPA should remove all such implementation provisions from the Rule.

Response to: CTR-040-018c

EPA has adopted recommendations for averaging periods and low flow values because these are intrinsic to ensuring that the numeric values are protective of the designated use. These factors are part of the ambient condition necessary, see preamble to the proposed CTR and Technical Support Document for Water Quality Based Toxics Control, U.S. EPA 1991, Section 2.3, and Appendix D.

The commenter asserts, but does not provide examples of situations where EPA has approved averaging periods and low flow values that are less restrictive than those incorporated into the final rule. Without specific examples provided, it is difficult for EPA to analyze any distinctions between these situations and the current rule. As a general matter, however, EPA uses the averaging period and low flow value when it promulgates criteria as representing EPA's best scientific judgement about these factors given all the uncertainties in deriving these factors. See Technical Support Document for Water Quality Based Toxics Control, U.S. EPA 1991, Section 2.3, and Appendix D. If a particular state elected to vary from EPA's recommendations, EPA would evaluate the basis presented and the particular facts of a given situation, and might render a different judgement. The commenter provided no specific critiques of the values used or information upon which EPA should base a decision to adjust these factors, and thus EPA has not changed them in response to comment.

Comment ID: CTR-041-011
Comment Author: Sacramento Reg Cnty Sanit Dist
Document Type: Sewer Authority
State of Origin: CA
Represented Org:
Document Date: 09/25/97
Subject Matter Code: C-30 Narrative Criteria
References:
Attachments? N

CROSS REFERENCES

Comment: 6. Permit Authorities' Utilization of Criteria Not Adopted as Part of CTR

EPA should delete recommendations that permit authorities utilize EPA or other criteria that have not been adopted as part of the CTR as a basis for permit limits under the narrative toxicity criteria for toxics. The Preamble in E.3.b and the rule in footnote n to the criteria listed in 131.38(b)(2) recommend that the permitting authority base permit limits on criteria that are not being adopted as a part of the rule. This is not only unnecessary and inappropriate, but, in essence, it constitutes adoption of those non-CTR criteria without considering costs and benefits or otherwise complying with Federal law and regulations.

Response to: CTR-041-011

See response to CTR-038-010.

Comment ID: CTR-043-009
Comment Author: City of Vacaville
Document Type: Local Government
State of Origin: CA
Represented Org:
Document Date: 09/26/97
Subject Matter Code: C-30 Narrative Criteria
References:
Attachments? Y
CROSS REFERENCES

Comment: 9. EPA should delete recommendations that permit authorities utilize EPA or other criteria that have not been adopted as a part of the CTR as a basis for permit limits under the narrative toxicity criteria for toxics. The Preamble in E.3.b and the rule in footnote n to the criteria listed in 131.38(b)(2) recommend that the permitting authority base permit limits on criteria that are not being adopted as a part of the rule. This is not only unnecessary and inappropriate, but, in essence, it constitutes adoption of those non-CTR criteria without considering costs and benefits and without complying with applicable Federal laws and regulations.

Response to: CTR-043-009

See response to CTR-038-010.

Comment ID: CTR-044-010
Comment Author: City of Woodland
Document Type: Local Government
State of Origin: CA
Represented Org:
Document Date: 09/26/97
Subject Matter Code: C-30 Narrative Criteria
References:

Attachments? Y

CROSS REFERENCES

Comment: We have reviewed the proposed CTR and offer the following comments:

9. EPA should delete recommendations that permit authorities utilize EPA or other criteria that have not been adopted as a part of the CTR as a basis for permit limits under the narrative toxicity criteria for toxics. The Preamble in E.3.b and the rule in footnote n to the criteria listed in 131.38(b)(2) recommend that the permitting authority base permit limits on criteria that are not being adopted as a part of the rule. This is not only unnecessary and inappropriate, but, in essence, it constitutes adoption of those non-CTR criteria without considering costs and benefits and without complying with applicable Federal laws and regulations.

Response to: CTR-044-010

See response to CTR-038-010.

Comment ID: CTR-053-002

Comment Author: Heal the Bay

Document Type: Environmental Group

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-30 Narrative Criteria

References: Letter CTR-053 incorporates by reference letter 6 and the comments on Dioxin, copper, and the compliance schedule from letter CTR-002

Attachments? N

CROSS REFERENCES

Comment: One of Heal the Bay's principle activities is providing comments on NPDES permits for inland, bay and estuary discharges. For years, we have relied on narrative standards and the regional Basin Plan requirements as tools to ensure that inland, bay and estuary discharges were not impacting the beneficial uses of the receiving waters. These tools have proven inadequate for achieving the desired goal of beneficial use protection. This is why numeric criteria, like those in the proposed California Toxics Rule, are so important. The primary obstacle to implementation of the State's ISW/EB&E Plan is the requirement for the State to perform an analysis under the California Environmental Quality Act ("CEQA") for any numeric criteria adopted that is more stringent than Federal criteria. The SWRCB does not have the resources to perform these analysis for the numeric criteria recommended by the task force groups. Therefore, to move implementation of the plans forward, it was agreed that EPA would revise the California Toxics Rule and, simultaneously, the State would develop the implementation policy for the ISW/EB&E Plans. We support this effort because we strongly believe that these plans must be implemented sooner, rather than later, in order to improve impaired water quality throughout California. Therefore, we agree with the California Toxics Rule as it is proposed and do not include detailed comment on the specific criteria for individual pollutants.

Response to: CTR-053-002

EPA appreciates the commenter's support of the proposed rule.

Comment ID: CTR-054-010
Comment Author: Bay Area Dischargers Assoc.
Document Type: Sewer Authority
State of Origin: CA
Represented Org:
Document Date: 09/25/97
Subject Matter Code: C-30 Narrative Criteria
References:
Attachments? Y
CROSS REFERENCES

Comment: EPA should delete recommendations that permit authorities utilize EPA or other criteria that have not been adopted as a part of the CTR as a basis for permit limits under the narrative toxicity criteria for toxics. The Preamble in E.3.b and the rule in footnote n to the criteria listed in 131.38(b)(2) recommend that the permitting authority base permit limits on criteria that are not being adopted as a part of the rule. This is not only unnecessary and inappropriate, but, in essence, it constitutes adoption of those non-CTR criteria without considering costs and benefits or otherwise complying with Federal law and regulations.

Response to: CTR-054-010

See response to CTR-038-010.

Comment ID: CTR-061-007
Comment Author: G. Fred Lee & Associates
Document Type: Academia
State of Origin: CA
Represented Org:
Document Date: 09/25/97
Subject Matter Code: C-30 Narrative Criteria
References:
Attachments? Y
CROSS REFERENCES

Comment: Page 42162, third column, first full paragraph, states,

"Criteria documents, along with any more recent scientific data and information, may be used to interpret a state's narrative criterion pursuant to 40 CFR 122.44(d)(1)(vi), and serve to establish State and EPA permit discharge limits pursuant to CWA section 301(b)(1)(c) which requires NPDES permits to contain limitations required to implement any applicable water quality standard established in the CWA."

This approach is technically invalid since it tends to over-regulate many of the chemical constituents for which water quality criteria exist and ignores the unregulated or under-regulated constituents.

Response to: CTR-061-007

See response to CTR-038-010.

Subject Matter Code: D Preamble Editorial Comments

Comment ID: CTR-022-001
Comment Author: SWRCB
Document Type: State Government
State of Origin: CA
Represented Org:
Document Date: 09/26/97
Subject Matter Code: D Preamble Editorial Comments
References:
Attachments? N

CROSS REFERENCES

Comment: Thank you for the opportunity to comment on the U.S. Environmental Protection Agency's (U.S. EPA) proposed California Toxic Rule (CTR). The State Water Resources Control Board (SWRCB) staff would like to recognize U.S. EPA's tremendous effort in producing the CTR. The SWCB staff are providing you with the following comments:

Page 42160: "Entities discharging pollutants to waters of the United States in California could be indirectly affected by this rulemaking....." Because the Clean Water Act requires that all NPDES permits include limits on discharges that are necessary to meet water quality standards, it appears that entities, such as industry and municipal discharges, could be directly affected by this rulemaking.

Response to: CTR-022-001

EPA disagrees with the commenter that the proposed CTR will directly impact municipal and industrial dischargers. The CTR promulgates water quality criteria which, by themselves, do not impact anyone. It is only when the State of California implements the water quality criteria through its water quality programs that impacts may occur. Different implementation methods can have significantly different impacts. Therefore, EPA's statement that the rule may indirectly impact entities discharging to waters of the U.S. in California is correct.

Comment ID: CTR-022-002
Comment Author: SWRCB
Document Type: State Government
State of Origin: CA
Represented Org:
Document Date: 09/26/97
Subject Matter Code: D Preamble Editorial Comments
References:
Attachments? N

CROSS REFERENCES

Comment: Thank you for the opportunity to comment on the U.S. Environmental Protection Agency's (U.S. EPA) proposed California Toxic Rule (CTR). The State Water Resources Control Board (SWRCB) staff would like to recognize U.S. EPA's tremendous effort in producing the CTR. The SWRCB staff are providing you with the following comments:

Page 42163: 3rd column under C. State of California Actions ...last paragraph... "...the Inland Surface Water Plan (ISWP), the Enclosed Bay and Estuary Plan..." should be edited to read ... the Inland Surface Waters Plan (ISWP), the Enclosed Bays and Estuaries Plan.

Response to: CTR-022-002

EPA agrees with the commenter that the name of the State of California's implementation plans, which were invalidated by a State Court ruling, are the "Inland Surface Waters Plan" and the "Enclosed Bays and Estuaries Plan." EPA has made this correction in the preamble to the final rule.

Comment ID: CTR-022-004

Comment Author: SWRCB

Document Type: State Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: D Preamble Editorial Comments

References:

Attachments? N

CROSS REFERENCES

Comment: Thank you for the opportunity to comment on the U.S. Environmental Protection Agency's (U.S. EPA) proposed California Toxic Rule (CTR). The State Water Resources Control Board (SWRCB) staff would like to recognize U.S. EPA's tremendous effort in producing the CTR. The SWRCB staff are providing you with the following comments:

Page 42207: Proposed rule, Section 131.38(d)(1): Please note that the basin plans, in general, identify waters subject to water quality standards in the chapters on beneficial uses. Many basin plans do not specify water quality objectives for the priority toxic pollutants.

Please reword the second and third sentences of this subsection to read:

"These criteria apply to waters identified in the Basin Plans. More particularly, these criteria apply to waters identified in the Basin Plan chapters designating beneficial uses for waters within the region."

Response to: CTR-022-004

EPA agrees with the commenter that the second and third sentences in section 131.38(d)(1) of the rule may be confusing. We have considered your suggestion and modified the language accordingly.

Comment ID: CTR-035-013

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: D Preamble Editorial Comments

References:

Attachments? N

CROSS REFERENCES

Comment: p. 42167 -- No Undue or Inappropriate Burden on the State of California or Its Dischargers

The preamble states that "Today's proposed rule would not impose any undue or inappropriate burden on the State of California or its dischargers." We must disagree with this statement. While EPA's intent with this statement is perhaps to compare California to other States where water quality criteria for toxic pollutants have already been adopted, EPA's own analysis determines that the rule will cost from \$15 to 87 million per year to implement which we believe to be a significant underestimate due to numerous uncertainties regarding whole categories of dischargers (i.e. nonpoint sources) and policies for implementation of the rule. Thus, it is both inaccurate and inappropriate for EPA to make the judgement that the rule will not impose an undue or inappropriate burden on the State or its dischargers.

Response to: CTR-035-013

EPA acknowledges the comment concerning the statement in the preamble that the CTR will not impose any undue or inappropriate burden on the State of California and its dischargers. EPA disagrees with the commenter that the statement in the preamble is inappropriate and inaccurate. The CTR promulgates water quality criteria for California that are required by the Clean Water Act under section 303(C)(2)(b), and that had been previously adopted by the State of California and approved by EPA. The State's criteria were rescinded after a State Court found that they had not been adopted in compliance with State law. Every other state in the nation, except California, is in substantial compliance with section 303(C)(2)(b) of the Clean Water Act. Thus, imposing these criteria on the State of California merely puts the State back into the position that it had been in, and into the same position as all other states in the nation. Thus, the criteria do not impose any undue or inappropriate burden.

With respect to the comment that the economic analysis for the proposed rule indicated that the rule would cost between 15 and 87 million dollars per year to implement, EPA acknowledges that the economic analysis indicates that some cost will be associated with how the State implements the CTR criteria into the NPDES permit program. Benefits, however, will also accrue. These costs are not significant pursuant to the language in Executive Order 12866, under which the economic analysis was completed. (See the discussion of costs and benefits in the preamble to the final rule under Executive Order 12866.)

Comment ID: CTR-035-015

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: D Preamble Editorial Comments

References:

Attachments? N

CROSS REFERENCES

Comment: pp. 42167-42181 -- Revised / Updated 304(a) Criteria

Please provide a table in the Preamble containing each criterion, indicating each parameter that has been changed since the promulgation in 1992 of the National Toxics Rule, references stating what documents or sources contain the pertinent information and when the changes were made, and directions for obtaining the documentation. This table should incorporate the information in the California Toxics Rule Administrative Record Matrix for human health criteria.

Response to: CTR-035-015

EPA acknowledges the comment that EPA provide a table in the preamble containing each criterion indicating how each had been changed since the National Toxics Rule, including references, documents, sources of information, when any changes were made, and directions for obtaining the information. For the aquatic life criteria, this information was provided in the preamble to the proposed rule and in the Administrative Record, and is again provided in the preamble to the final rule and in the Administrative Record. The preambles discuss and thoroughly explains all significant changes in aquatic life criteria from the National Toxics Rule. The Administrative Record contains all of the water quality criteria documents which explain how each aquatic life criterion was calculated, as well as the document entitled "The 1995 Updates: Water Quality Criteria Documents for the Protection of Aquatic Life in Ambient Water," dated September 1996. This document explains the basis of several recently updated aquatic life criteria.

The preamble also discusses and thoroughly explains several significant changes in human health criteria from the National Toxics Rule. The Administrative Record contains a document entitled The California Toxics Rule Administrative Record Matrix which contains information on the basis of each human health criterion promulgated in the CTR.

The information the commenter is requesting is contained in the preambles and the Administrative Record.

Comment ID: CTR-036-012

Comment Author: County of Orange

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: D Preamble Editorial Comments

References: Letter CTR-036 incorporates by reference letters CTR-013, CTR-018, CTR-031, CTR-034 and CTR-040

Attachments? N

CROSS REFERENCES

Comment: Equitable Considerations in Proposing the CTR

EPA's promulgation of the California Toxics Rule is unwarranted since California was in the process of revising the Inland Surface Waters Plan and the Enclosed Bays and Estuaries Plan that were overturned by the Superior Court in 1994. California and its water resources would be better served and better

protected by allowing the State Water Board to continue developing its statewide water quality plans unburdened by the strictures of the proposed rule.

EPA's purpose to 'help restore equity among the states; 62 Fed. Reg. 42161, also appears unfounded since the proposed rule differs in a number of ways from the criteria in the National Toxics Rule.

Response to: CTR-036-012

EPA disagrees with the comment that the CTR is unwarranted since California is in the process of revising its statewide plans, and that the State's water resources would be better served by allowing the State to continue its plans unburdened by the strictures of the proposed rule. The State's plans are not being revised; the State's plans are being completely redrafted and repromulgated by the State in compliance with State law, which the State failed to do when it adopted its plans in 1991. Thus, currently the State does not have any statewide plans in place for surface waters or enclosed bays and estuaries to revise. The rescinded plans contained, and thus the State currently lacks, both a comprehensive set of water quality objectives for priority toxic pollutants, as required by the Clean Water Act section 303(C)(2)(b), and implementation plans to implement the resulting water quality standards.

The CTR does not burden the State in any way. The State is intending to readopt its plans in two phases: the first phase will be implementation procedures and the second phase will include water quality objectives for priority toxic pollutants. In fact, the CTR will help restore a comprehensive water quality program to the State of California sooner than the completion of the two phases of the State's plans, since the State will soon complete phase one of its readoption, and EPA has completed its promulgation of the CTR. The CTR, which will create numeric water quality standards, and phase one of the State's plans, which will create implementation, will allow the State to effectively implement numeric water quality standards for priority toxic pollutants for inland surface waters and enclosed bays and estuaries as soon as the State completes phase one of its repromulgation.

When the State completes phase two, the readoption of its water quality objectives, EPA will stay the CTR after its review and approval of the statewide plan. Thus, the CTR does not hinder the State in any way, and in fact helps the State by allowing it to implement numeric water quality standards for toxic pollutants sooner than if EPA had not promulgated the CTR.

The commenter also noted that it appeared that EPA's stated purpose in the preamble to the proposed CTR, that the CTR would restore equity among the states, was unfounded because the proposed rule differed from the National Toxics Rule. EPA disagrees with this comment. The National Toxics Rule applied to several states that were not in substantial compliance with the Clean Water Act at 303(C)(2)(b) at that time. When it was promulgated, all states except those in the National Toxics Rule were in substantial compliance with the Clean Water Act water quality provisions. The State of California was required to rescind its water quality control plans after the finalization of the National Toxics Rule; thus, California became the only state in the nation that was in substantial noncompliance. Thus, the CTR restores equity among the states by restoring numeric water quality standards for toxics to California, as all other states in the nation.

The commenter also noted that the CTR differed in a number of substantial ways from the National Toxics Rule. EPA disagrees with this comment. The criteria in the CTR reflect updated information and do not substantially differ from the criteria in the National Toxics Rule. The CTR criteria reflect EPA's most recent water quality criteria guidance issued under Clean Water Act section 304(a). The preamble discusses these changes in detail. In addition, the Clean Water Act requires states to update their water

quality criteria every three years, and incorporate EPA's most recent 304(a) criteria guidance where appropriate (where a state has not adopted and/or EPA has not approved, different, scientifically-based water quality criteria). Thus, the states are required to incorporate these updates into their own water quality program

Comment ID: CTR-052-004

Comment Author: East Bay Dischargers Authority

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: D Preamble Editorial Comments

References: Letter CTR-052 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES

Comment: 1 . EPA has greatly understated the potential impacts of the CTR to the extent that statements in the preamble are completely misleading. On page 42160-1 of the Federal Register, EPA states:

"Potentially Affected Entities: Citizens concerned with water quality in California may be interested in this rulemaking. Entities discharging pollutants to waters of the United States in California could be indirectly affected by this rulemaking since water quality criteria are used to create water quality standards which in turn are used in developing National Pollutant Discharge Elimination System (NPDES) permit limits. Categories and entities which may ultimately be indirectly affected include:

CATEGORY --- Examples of potentially indirectly affected entities

----- INDUSTRY --- Industries discharging pollutants to surface waters in California.

MUNICIPALITIES --- Publicly-owned treatment works discharging pollutants to surface waters in California.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding NPDES regulated entities likely to be indirectly affected by this action. This table lists the types of entities that EPA is now aware could potentially be indirectly affected by this action." (emphasis added)

Based on the analysis prepared by BADA, CASA, and Tri-TAC, EPA's own acknowledgement that the CTR is primarily directed toward NPDES permit holders, the above statement is extremely misleading. EPA should be more forthcoming with information that is published in the Federal Register. If the CTR is promulgated in its current form, then the Authority recommends that the above statement be amended to read as follows:

"Affected Entities: Citizens concerned with water quality in California may be interested in this rulemaking. Entities discharging pollutants to waters of the United States in California will be directly affected by this rulemaking since water quality criteria are used to create water quality standards which in turn are used in developing National Pollutant Discharge Elimination System (NPDES) permit limits; Categories and entities which will be directly affected include:

CATEGORY --- Examples of directly affected entities ----- INDUSTRY ---
Industries discharging pollutants to surface waters in California.

MUNICIPALITIES --- Publicly-owned treatment works discharging pollutants to surface waters in California.

OTHER INDUSTRIES AND COMMERCIAL ESTABLISHMENTS --- Industries and commercial establishments discharging pollutants to publicly-owned treatment works.

MEMBERS OF THE PUBLIC --- Members of the public that pay fees to publicly-owned treatment works for wastewater collection and treatment services and/or buy products produced by the entities described as "Industry" or "Other industries and commercial establishments", above.

This table provides a guide for readers regarding NPDES regulated entities that will be directly affected by this action. This table lists the types of entities that EPA is aware will be directly affected by this action."

Response to: CTR-052-004

In response to the comment that the CTR preamble is misleading when it states that municipalities and industries may be indirectly impacted by the rule, see response to CTR-022-001.

Comment ID: CTR-061-015
Comment Author: G. Fred Lee & Associates
Document Type: Academia
State of Origin: CA
Represented Org:
Document Date: 09/25/97
Subject Matter Code: D Preamble Editorial Comments
References:
Attachments? Y
CROSS REFERENCES

Comment: Page 42182, second column, first paragraph, uses the term "valence states" for the two forms of Cr. A more appropriate term is "oxidation state" for elements with different numbers of electrons in their outer shell. In chemistry, "valence" as a number has a number of different meanings which are not the same as those used in this context.

Response to: CTR-061-015

EPA disagrees with the comment that it has used the term "valance state" incorrectly with respect to its references to Chromium, and that the correct term should be "oxidation state." EPA believes the terms are interchangeable as used in this context; both terms refer to the ability of an atom to combine with other atoms.
