February 28, 2007

*Via Electronic Mail and Hand-Delivery*

Tam Doduc, Chair
State Water Resources Control Board
1001 I Street, 25th Floor
Sacramento, CA 95812-0100

Attention: Song Her, Clerk to the Board
commentletters@waterboards.ca.gov

**Subject: Comments on California Environmental Quality Act (CEQA) Scoping for Proposed Methylmercury Objectives For Inland Surface Waters, Enclosed Bays, and Estuaries in California**

Chair Doduc & Members of the Board:

On behalf of the California Association of Sanitation Agencies (CASA), Tri-TAC, and the Southern California Alliance of Publicly Owned Treatment Works (SCAP), we are pleased to provide comments regarding CEQA scoping for proposed methylmercury objectives for inland surface waters, enclosed bays, and estuaries in California. We represent publicly owned treatment works (POTWs) located throughout California, many of which own and operate wastewater treatment plants that discharge to inland surface waters, enclosed bays, or estuaries, and we bring both statewide and regional perspectives to this issue.

The POTW community recognizes the environmental significance of mercury, and the daunting problem that mercury contamination poses in California, particularly in northern and central California, which have a well-known legacy of gold and mercury mining. It is also well-established that mercury cycles through the environment on a global scale, and air deposition can be a significant source leading to exceedances of water quality standards, regardless of contributions from local sources. On a global scale, natural sources, such as volcanos and emissions from the ocean, have been estimated to contribute about one-third of current worldwide mercury air emissions, and of the remaining two-thirds that are contributed by anthropogenic sources, approximately half are re-emissions and half are direct emissions.

Thus, much of the mercury currently circulating through the environment is mercury that was previously released, and is being re-emitted repeatedly from land and water surfaces.[1]

There are also significant scientific challenges involved with regulating mercury. For instance, EPA states in the Draft Guidance for Implementing the January 2001 Methylmercury Water Quality Criterion (August 2006) that "[a]s it cycles between the atmosphere, land, and water, mercury undergoes a series of complex chemical and physical transformations, many of which are not completely understood."[2] . One of the many important scientific issues is the extent to which total mercury is converted to methylmercury in the environment and bioaccumulates in the food chain. It is well-established that methylmercury is the form of mercury that poses the greatest risks to human health.[3]

Recognizing the importance of mercury as an environmental challenge in California, as well as the magnitude of the problem, we propose that the State Water Board consider a new and ambitious approach for addressing mercury, rather than the more traditional point source-oriented approach that has been followed in the past. We propose that the State Water Board develop a comprehensive **Mercury Strategy**. A Mercury Strategy will entail development of a robust and well-funded program of implementation to address all sources of mercury in the environment (including legacy contamination), not just adoption of water quality objectives and regulation of point sources through National Pollutant Discharge Elimination System (NPDES) permits. The State Water Board should also work with Cal-EPA to engage other agencies, including the Air Resources Board, Integrated Waste Management Board, and Department of Toxic Substances Control, in order to make this a multi-media strategy, since focusing narrowly on one medium (i.e., water) in the environment clearly will not work for mercury. This is necessary to coordinate mercury reduction efforts for maximum environmental benefit. To maximize effectiveness, a California Mercury Strategy should include pollution prevention and educational efforts, as well as remediation and discharge/emission control elements.

While we believe that such a strategy can yield meaningful environmental results, it must be recognized at the outset that implementation will be expensive and will take a long period of time to achieve. Moreover, mercury discharge reductions may not translate (at least not in the short term) into achievement of desired endpoints such as reduction or elimination of fish advisories.[4] For instance, in the Great Lakes, where the U.S. and Canadian governments, along with state and provincial governments, have been working to implement the Binational Toxics Strategy in a concerted and

---

[1] U.S. Environmental Protection Agency, Great Lakes National Program Office and Environment Canada, Great Lakes Binational Toxics Strategy Management Assessment for Mercury, Feb. 2006, p. 49. *Also see* www.epa.gov/mercury/control_emissions/global.htm. It should be noted that United States sources of emissions are estimated to account for only about 9% of global anthropogenic mercury emissions.

[2] U.S. Environmental Protection Agency, Draft Guidance for Implementing the January 2001 Methylmercury Water Quality Criterion, August 2006, p. 3.

[3] *Id.*

[4] *Id.*, p. 4 ("Elimination of methylmercury from fish is so slow that long-term reductions of mercury concentrations in fish are often due to growth of the fish ("growth dilution") . . . .")

coordinated fashion, binational mercury use and releases into the air and water environment have gone down significantly over the past 30 years. However, in the past 10-20 years, mercury levels in fish, bald eagles, herring gull eggs, and atmospheric deposition have not declined, and it is recognized that concomitant changes in water and wildlife will take many more years to accomplish.[5]

We believe it is clear that a new and different approach is needed in California to address mercury, and we hope that the State Water Board will provide the leadership to develop it. The proposed Mercury Offset Policy is a small yet important piece of the broader Mercury Strategy we are proposing, and we support the State Water Board for promoting this innovative approach. Our specific comments on the scope and context of the Offset Policy are being submitted under separate cover.

With all of this in mind, we are extremely concerned about the development of statewide methylmercury objectives, particularly in the context of some of the alternatives briefly described in the Informational Document. It appears that most of the alternatives under consideration are water column-based objectives (Alternatives 2-5), which the State Board itself acknowledges will pose severe compliance problems for POTWs throughout the State, and will not provide a better means of beneficial use protection than the fish tissue objective alternative (Alternative 6). In fact, the primary appeal of the water column-based objectives is the ease with which they can be translated by permit writers into numeric permit limits for point sources such as POTWs. However, this approach carries with it severe disadvantages that we hope the State Water Board will carefully consider as it develops the scope of the policy alternatives to be analyzed. Setting new mercury water quality objectives will not in and of itself solve existing mercury problems, since in this case the water column objective merely provides a convenient mechanism for empirically calculating whether a waterbody meets a number predicated on a series of assumptions that purport to protect beneficial uses, although good science shows that this approach is not particularly well-supported for mercury. Further, it does not include a real strategy for attaining the beneficial uses. In fact, setting uniform statewide water column-based water quality objectives may lead to nonattainment across the State (by setting unnecessarily low objectives that will lead to widespread noncompliance by point sources and a raft of new 303(d) listings in the future).

One area that we believe is very important for the State Water Board to thoughtfully consider and address in this process is how new mercury objectives and an implementation policy will relate to existing Basin Plan mercury objectives and Total Maximum Daily Loads (TMDLs) that have been (or are being) developed for mercury. Obviously, a large amount of effort has gone into development of mercury TMDLs in the San Francisco Bay Area and the Central Valley. Targets have already been selected in these cases, and it is unclear how new statewide mercury objectives would affect those. Instead of setting new objectives that may require substantial revisions to these TMDLs, the State Water Board should consider the ways in which the State can most effectively support those efforts, such as providing leadership to enact state legislation that can support efforts to reduce mercury inputs to the environment (where new statutory authority or controls are necessary) or by advocating for a Mercury Remediation Fund to be established through a future state bond measure.

---

[5] U.S. Environmental Protection Agency, Great Lakes National Program Office and Environment Canada, Great Lakes Binational Toxics Strategy Management Assessment for Mercury, Feb. 2006, p. vi.

In the Scoping Meeting notice, the State Water Board requested comments on the range of actions, alternatives, mitigation measures and potential significant environmental effects to be analyzed in-depth in the development of this CEQA project. Our comments on these areas are contained in Attachment A. Most importantly, we recommend that the State Water Board reduce the number of water column-based objectives analyzed, and instead add two other alternatives to the scope of the analysis: a statewide narrative objective and regional or watershed-based fish tissue objectives. In addition, we are providing comments on various aspects of the Informational Document (December 2006) that relate to the feasibility, attainability and the impacts on POTWs that we believe will be helpful to the Water Board in developing the alternative provisions of the water quality objectives and implementation provisions. We also have comments on several areas not mentioned in the Informational Document, but which we believe need to be considered in the development of any Water Quality Control Policy by the State Water Board. For your convenience, we are also attaching information and data related to mercury objectives and attainability to this comment letter for your consideration, which was previously provided to State Water Board staff.

In conclusion, we recommend that the State Water Board revise this effort as described above, and begin by convening a multi-agency, stakeholder workgroup to develop a California Mercury Strategy to comprehensively address all sources of mercury in the environment. CASA, Tri-TAC and SCAP appreciate the opportunity to comment, and look forward to participating in this effort. If you have any questions, please contact Roberta Larson at (916) 446-7979, x 307 or Sharon Green at (562) 699-7411, x-2503.

Sincerely,

Roberta Larson
CASA

Chuck Weir
Chair of Tri-Tac

John Pastore
SCAP

Enclosures

cc: Tom Howard, Acting Executive Director, State Water Board (electronic mail only w/o encl.)
Rik Rasmussen, Water Quality Division, State Water Board (electronic mail only w/o encl.)
Tom Kimball, Water Quality Division, State Water Board (electronic mail only w/o encl.)

## ATTACHMENT A

### Specific Comments on the December 2006 Methymercury (Me Hg) Informational Document

**CEQA**

1) **Range of Actions and Alternatives to be Analyzed**
   a) Alternative 1: The State Water Board needs to revise the "no-action" alternative to more accurately reflect what it entails.
      i) The "no-action" alternative should be revised to reflect that it is actually broader than just simply keeping the California Toxics Rule (CTR) criteria.
      ii) It should account for the ongoing development and implementation of Total Maximum Daily Loads (TMDLs), which establish watershed-based mercury targets to protect beneficial uses, with the CTR criteria as a backstop.
      iii) As an example, the TMDL program as demonstrated by the San Francisco Bay Mercury TMDL utilized EPA's recommended methylmercury (Me Hg) fish tissue criterion and local conditions in developing targets without having state water quality objectives in place.[6]
      iv) Watershed management can also take place outside of the TMDL process via the development of Watershed Management Plans to address both point and non-point sources, leading to proactive/preventative actions that can be taken to address mercury in lieu of establishing statewide water quality objectives.
      v) Therefore the analysis of this alternative needs to take into consideration TMDLs and Watershed Management Plans.
      vi) The State Water Board also needs to accurately describe the baseline condition, including areas where mercury TMDLs have already been established, identification of the targets that have been set in those TMDLs, and gaps that still exist.
2) **Need for Additional Alternatives:** The State Water Board needs to include additional alternatives in its CEQA analysis, as described below.
   a) The State Water Board should consider an alternative that is a statewide narrative water quality objective. It is our understanding that this approach is being considered in the development of sediment quality objectives (SQOs). Many of the reasons that a narrative approach is appropriate for SQOs also apply to mercury.
      i) This approach recognizes the considerable scientific uncertainties inherent in crafting numeric objectives for mercury, which preclude meaningfully characterizing the relationships between discharges, water column values, and fish tissue levels, particularly on a statewide scale.
      ii) Use of a narrative objective affords greater flexibility to craft more flexible and appropriate implementation strategies.
      iii) EPA notes in the Draft Guidance for Implementing the January 2001 Methylmercury Water Quality Criterion (Draft Guidance) that "States and authorized tribes remain free not to use EPA's current recommendations, provided that their new or revised water quality criteria for

[6] This is consistent with EPA's recommended approach. *See* U.S. Environmental Protection Agency, Draft Guidance for Implementing the January 2001 Methylmercury Water Quality Criterion, August 2006, p. 88.

methylmercury protect the designated uses and are based on a scientifically defensible methodology."[7]

iv) OEHHA concluded in a March 2006 report, Evaluation of Bioaccumulation Factors and Translators for Methylmercury, that "Further data and testing would put BAFs and translators on a more sound scientific footing...".[8]

b) The assessment needs to be broader than just considering statewide alternatives. It should include alternatives for regional or watershed-based objectives both for human health and wildlife.

i) This approach is necessary to comply with the Clean Water Act mandate for states to review and modify water quality standards to be *pollutant and water body specific*. (33 U.S.C. §1313(c)(2)(A) (*emphasis added*))

ii) Federal regulations require states to adopt "criteria for toxic pollutants *applicable to the water body*." (40 C.F.R. §131.11 (*emphasis added*))

iii) California watersheds vary considerably, particularly in Southern California, which is comprised of intermittent streams, with low ephemeral flows or that flow perennially as a result of human-induced discharges or water releases, less complex food webs, and lower trophic levels of fish.

iv) The development of appropriate human health objectives for these kinds of receiving waters should be based on local fish trophic levels and consumption patterns and rates, as well as considerations regarding relevant endangered species. For example, the "California specific" fish consumption rate of 32 grams/day in the Informational Document refers to a small percentage of the overall population (anglers only) based on the San Francisco Estuary Institute study; however, an extrapolation of this fish consumption rate to the entire state is not appropriate. Region-specific information should be gathered for each region in the State and considered as part of the State Water Board's assessment. For instance, a regional and watershed-specific study for the Los Angeles region will be available later in 2007. This study is being conducted by the Southern California Coastal Water Research Project.[9] This type of study could be replicated elsewhere, particularly if resources were made available by the State Water Board and potentially leveraged with interested stakeholders.

v) Likewise, the development of wildlife criteria should be based on relevant endangered species and what they consume, and should be regionally-tailored to the species present or that could be present (in the case of threatened & endangered species).

vi) If statewide or default consumption values are applied to the entire state, this approach may lead to over (or under) protective standards for specific regions or specific locations with significant regulatory and agency cost consequences. The assessment needs to evaluate the impacts, costs and environmental benefits of a statewide versus regional approach in setting the objectives.

c) Thus, the scoping process needs to include alternatives that consider a narrative objective and that address regionally different factors such as types of fish species (and trophic levels) present,

---

[7] *See* U.S. Environmental Protection Agency, Draft Guidance for Implementing the January 2001 Methylmercury Water Quality Criterion, August 2006, p. 12.

[8] Office of Environmental Health Hazard Assessment, "Evaluation of Bioaccumulation Factors and Translators for Methylmercury," March 2006.

[9] A draft report is expected to be available in Spring 2007. Dr. James Allen at SCCWRP should be contacted directly by State Water Board staff to obtain information about this project. A project description is available at: http://www.sccwrp.org/about/rspln2006-2007.html#a7

endangered species present, and fish consumption levels (both medians and distributions) by humans and wildlife. And, if data are not currently available to support regional approaches, the State Water Board should definitely consider a process which would allow regions (or watersheds) to develop the data and information to support this approach.

3) **Alternatives 2-5:** In general, we recommend that the State Water Board not include Alternatives 2-5 in the range of alternatives to be considered in this analysis.
   a) We do not believe that current science is sufficiently precise to support the application of national or statewide Bioaccumulation Factors (BAFs) necessary to translate from a fish tissue concentration to a water column concentration. Indeed, in EPA's Draft Guidance, EPA states that a fish tissue-based criterion is preferred because "[a] fish tissue concentration avoids the need for BAFs that are necessary to translate between a tissue concentration and water concentration when deriving a water concentration-based criterion.[10]
   b) OEHHA notes in their March 2006 document titled *Evaluation of Bioaccumulation Factors and Translator for Methylmercury* that more testing is needed before EPA's national default BAFs are used for regulatory purposes in California. This observation was based on the lack of a robust correlation between measured dissolved MeHg in water and predicted versus measured MeHg in different trophic fish levels. The analysis did not look at lentic waters due to lack of data nor did it use site specific California-based BAFs for the same reason. OEHHA also recommended that if testing is done, it would be necessary to establish good measurements of natural variation in MeHg concentrations in water and fish tissue.
   c) The proposed alternatives rely on EPA default values for BAFs, which are precisely what EPA guidance recommends not be done. Alternatives 3 and 5 are particularly troubling, as they use Trophic Level 4 fish only in the calculations. This approach over-estimates the amount of mercury to which the public is exposed through fish consumption because the typical diet of fish from other trophic levels that do not bioaccumulate mercury to the same degree as Trophic Level 4 fish is not considered. This approach is not scientifically supported, as many of the State's waterbodies do not even support Trophic Level 4 fish species. Therefore, we recommend that Alternatives 3 and 5 be eliminated from further consideration.

4) **Alternative 6:** As a general statement and in keeping with EPA's Draft Guidance, we believe that the objectives to be adopted as part of a state policy should be in the form of MeHg fish tissue, as proposed in Alternative 6, for the following reasons:
   a) There are no significant sources of exposure to Me Hg other than from fish consumption.
   b) A fish tissue criterion affords a more direct determination of exposure than provided by use of an ambient water quality objective (AWQO), because the former reduces the need to deal with uncertainties in the relationship between water column concentrations and fish tissue concentrations. Fish tissue concentrations are in themselves a surrogate for actual exposure and effects, derived from presumed values for fish consumption and a dosage that predicts no adverse effect.
   c) This approach avoids the need to use BAFs for deriving total mercury water column values. BAFs are the subject of scientific dispute as to their validity in making these conversions.

---

[10] U.S. Environmental Protection Agency, Draft Guidance for Implementing the January 2001 Methylmercury Water Quality Criterion, August 2006, p. 13.

i) A 2003 study looked at the appropriateness of a BAF for the environmental conditions within the Sacramento River Watershed.[11]

ii) The study found that: 1) site-specific factors other than water column mercury concentrations were responsible for the differences in mercury concentrations observed in fish; and 2) BAFs were not a valid means of deriving water quality targets from mercury concentrations in fish tissue, either on a site-specific basis or region-wide basis.

iii) The overall conclusion from the study was that the BAF method failed in terms of significance and correlation levels for the fish tissue collected within the Sacramento River Watershed. This conclusion is consistent with OEHHA's conclusions in their March 2006 evaluation of the predictive ability of BAFs.

d) The use of fish tissue standards does away with the problems of the extreme variability in mercury and MeHg water column concentrations in many water bodies and properly focuses the attention on the most significant mass loadings to the system, as well as on a direct measure of beneficial use protection.

5) **Analysis of Alternatives:** There are a variety of potentially significant environmental impacts that must be analyzed by the State Water Board. Additionally, analysis must be conducted for the factors enumerated in California Water Code (CWC) section 13241 regarding adoption of water quality objectives. Clearly, these analyses will differ, depending on the choice of implementation policies and procedures. Environmental impacts and CWC section 13241 factors should also be analyzed for different alternative implementation policies and procedures.

a) Environmental impacts

i) Some alternatives (e.g., Alternatives 2-5) may result in extremely low permit effluent limitations (e.g., <1 ng/l MeHg) for point sources, including POTWs. If new water quality objectives for mercury are implemented as water column-based end-of-pipe limits, the impacts of these limits should be analyzed to accurately characterize the ramification of what would happen throughout the state.

(1) For instance, there is potential for POTWs to reduce the mercury loadings to their influent through pollution prevention (also commonly referred to as pollutant minimization programs, or PMPs). One study found that POTWs could successfully reduce mercury levels to approximately 8 ng/L.[12] Another study is expected to be completed later this year that is examining the effect of installing amalgam removal equipment at dental facilities on mercury levels in wastewater.[13]

(2) However, because mercury from amalgam loaded individuals is the most significant source in POTW influent[14], there is a strong likelihood that other means of compliance would be necessary, and even with these additional measures, it is possible that consistent compliance would not be possible for many POTWs. One likely means of compliance that must be analyzed is the application of end-of-pipe advanced treatment (i.e.,

---

[11] *Mercury BAF in Sacramento River Watershed Fish*, Technical Memorandum prepared for the Sacramento Regional County Sanitation District by Larry Walker Associates, May 2003.

[12] National Association of Clean Water Agencies, *Mercury Source Control & Pollution Prevention Program Evaluation Final Report*, March 2002.

[13] For more information, contact Chris Hornback, Senior Director of Regulatory Affairs, National Association of Clean Water Agencies at 202-833-9106 or chornback@nacwa.org.

[14] *Evaluation of Domestic Sources of Mercury*, NACWA, August 2000. Available at: http://www.amsa-cleanwater.org/pubs/mercury/mercury.cfm

microfiltration/reverse osmosis). Both the technical feasibility of advanced treatment to meet low level mercury limits and the environmental impacts of implementation of advanced treatment must be analyzed.[15] Potentially significant environmental impacts that must be analyzed by the State Water Board include, but are not limited to, the following:

(i) air emissions associated with energy usage to operate advanced treatment facilities and, if trucks are used to transport brine, air quality impacts associated with increased heavy truck traffic resulting from offsite brine hauling;

(ii) traffic impacts, if trucks are used by facilities to haul brine to disposal facilities;

(iii) increased energy usage for the operation of advanced treatment facilities (MF/RO technology is a very energy intensive process that uses substantial amounts of energy compared with normal wastewater treatment plant operations);

(iv) brine disposal, since approximately 15% of the quantity of wastewater treated using advanced treatment can be expected to end up as brine which will contain concentrated levels of pollutants ordinarily found at very low levels in municipal wastewater. If the brine is disposed of in the ocean, for instance, application of this expensive technology would simply result in moving the mercury from one location to another, with no net reduction in the concentrations of pollutants being discharged. Moreover, ocean discharge of brine could have negative impacts on marine life and water quality in coastal waters due to the discharge of concentrated amounts of mercury and other pollutants, the environmental impacts of which must be analyzed. Therefore, the State Water Board should identify and analyze the costs and environmental impacts of alternative strategies and technologies for disposing of brine.

(v) generation of hazardous waste may increase, depending on the brine disposal alternative selected; and

(vi) construction-related impacts if advanced treatment facilities and associated brine disposal facilities (e.g. brine lines) are constructed.

(3) Cumulative impacts from all types of compliance options and all categories of environmental impacts must be analyzed.

---

[15] In a 2005 study for the New Jersey Department of Environmental Protection and EPA Region 2, Science Applications International Corporation (SAIC) made the following findings (in relation to a proposed criterion of 0.5 ng/L): "There are no field data that prove that any technology is capable of achieving 0.5 ng/L end-of-pipe on a consistent basis. The little field data available shows that levels below 12 ng/L can be achieved with selective sorbents, however, this is still 2 orders of magnitude greater than the proposed criterion. Also, the data are from a pilot, not a full-scale, system. The lack of available performance data for full-scale systems may be due to the fact that few, if any, facilities are required to meet such low levels. The proposed criterion would be the lowest mercury criterion adopted by any State. In addition, analytical methods capable of measuring mercury to less than 0.5 ng/L are relatively new. Any case studies or testing performed prior to development of clean analytical methods would not have been able to measure mercury concentrations below 200 ng/L. Therefore, additional testing is necessary to show that compliance with the proposed criterion is possible with the installation of one of the technologies discussed above." (Technological Feasibility Of Proposed Water Quality Criteria For New Jersey, March 2005, Prepared for: U.S. Environmental Protection Agency - Region 2 by Science Applications International Corporation, p. 3-6)

(4) The State Water Board should address the potential cross-media impacts associated with mercury management, since some options may simply result in transfers to other environmental media and not result in true reductions (e.g. if dental amalgam separators were to be required on a statewide basis, it is possible that the mercury from those devices would be managed in hazardous waste incinerator or land disposal facilities, and there may be environmental impacts associated with these disposal options.

(5) Another potential means of compliance that should be analyzed is zero discharge through increased water recycling or use of land disposal.

b) CWC section 13241 factors

i) We believe that it is very important for the State Water Board to provide a realistic analysis of all of the CWC section 13241 factors, when draft objectives and implementation procedures are released for public review. This includes the following aspects:

(1) Past, present, and probable future beneficial uses of water. It is likely that, in some areas with high levels of mercury from legacy sources, beneficial uses associated with fish consumption will not be attainable (from the perspective of meeting new mercury objectives) for a very long time. As such, the State Water Board should consider alternative ways to establish standards for those locations such that attainment of the fish consumption use is considered a long-term goal, but it is recognized that it will not be attained in the near future.

(2) Environmental characteristics of the hydrographic unit under consideration, including the quality of the water available thereto. This factor requires the State Water Board to analyze the new water quality objectives in the context of particular water bodies, not just generalizing about inland surface waters and enclosed bays and estuaries on a statewide basis.

(3) Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area. We believe that consideration of this factor requires the State Water Board to analyze the attainability of new mercury objectives considering <u>all</u> sources, including air deposition and legacy sources, of mercury.

(4) Economic considerations. Consideration of economics in adopting new water quality objectives is required under the CWC, and will generally require information to be compiled regarding whether a proposed objective (or set of objectives) is currently being attained; what methods are available to achieve compliance with the objective, if it is not currently being attained; and the costs of those methods.[16]

**<u>Implementation</u>**

Exhibit 2 in the Informational Document presents potential procedures to implement the objective in NPDES permits and other regulatory programs. Alternatives 1-5 would follow the SIP. Alternative 6 would use the following procedure: "Fish tissue exceeds a screening level based on a margin of safety (e.g., 80% of FTO); water column exceeds AWQO calculated using USEPA default values (for BAFs and translators).[17]" If reasonable potential exists, POTWs must implement Pollutant Minimization Plans

---

[16] State Water Resources Control Board, "Guidance on Consideration of Economics in the Adoption of Water Quality Objectives," January 1994 (*Memo from William R. Attwater, Chief Counsel to Regional Water Board Executive Officers and Regional Water Board Attorneys*), p. 1.

[17] Or site-specific values, where available.

(PMP) and limit mercury as appropriate, which could include numeric effluent limitations such as the mass loading of mercury established at the existing effluent level or any existing numeric limit.

***Comments:***

1) Program of Implementation is required: Under CWC section 13242, the State Water Board must develop a program of implementation for *achieving* water quality objectives, not just say how one set of sources will be regulated. Additionally, section 13242 requires that the program of implementation include "a description of the nature of actions which are necessary to achieve the objectives, including recommendations for appropriate action by any entity, public or private" and a time schedule for actions to be taken, as well as "surveillance" to be undertaken to determine compliance with objectives.[18]
2) We support the State Water Board's general recommendation under Alternative 6 (or any other fish tissue alternatives that might be considered) to not establish effluent limits for NPDES permits by converting the fish tissue objective to a water column effluent limit using BAFs. We do not recommend adoption of a single fish tissue criterion for the entire state, due to significant differences in food webs and consumption patterns in different water bodies. Please refer to our earlier comments regarding scientific issues with the use of BAFs.
3) Consistent with our recommendation that the State Water Board consider the adoption of a narrative water quality objective, appropriate implementation procedures for a narrative objective must be developed. We would be pleased to work with the Water Board to develop such procedures.
4) We have some questions about the procedure for determining reasonable potential for establishing effluent limitations for Alternative 6 or any other fish tissue alternatives to be considered. It is not clear if both conditions must occur (e.g., both fish tissue and water column concentrations exceed the triggers) or if reasonable potential exists if either a fish tissue or a water column exceedance occurs.
   a) We do not endorse the use of water column triggers in the reasonable potential analysis (RPA). The approach is unnecessary (since RP can be triggered by 303(d) listings geared to fish tissue criteria) and is not scientifically supportable.
   b) We believe both conditions must be present to determine that reasonable potential exists.
   c) This approach is consistent with EPA's Draft Guidance, which states that under these circumstances, the effluent data indicates that the mercury loadings in the effluent contribute to the mercury load to the water body, and the fish tissue indicates that the mercury load causes a water quality criterion excursion.
   d) Since it is likely that all analyses using EPA Method 1631 will find quantifiable levels of mercury in treated wastewater from POTWs, we support the following approaches and recommend that both be evaluated as part of the scoping process:
      i) Basing reasonable potential on both wastewater and fish tissue concentrations, rather than just relying on the presence of mercury in effluents.
      ii) Basing reasonable potential on fish tissue levels, as is being done as part of the program adopted by Idaho for implementing EPA's Me Hg fish tissue criterion.[19]
5) For a fish tissue alternative, the use of a margin of safety in the determination of reasonable potential is not required and is not consistent with ongoing NPDES permit practice.

---

[18] CWC §13424.

[19] *See* http://www.deq.state.id.us/water/data_reports/surface_water/monitoring/parameters.cfm#merc

6) We believe that if reasonable potential exists, permit limits could be crafted, based on the following options, which should be evaluated as part of the scoping process:
   a) Current performance in areas where discharges are *de minimis* sources.
   b) Non-numeric based on implementation of PMPs and best management practices (BMPs) with a narrative no-net increase provision.
   c) The approach currently used by the Santa Ana Regional Water Quality Control Board (RWQCB) for dischargers to the Santa Ana River.
      i) The Santa Ana RWQCB has concluded that based on EPA's belief that a fish tissue criterion is more closely tied to the Clean Water Act goal of protecting public health because it is based directly on the human exposure route, their permits include receiving water limitations in fish tissue in lieu of limitations for total mercury in the effluent. The use of receiving water objectives is consistent with the proposed direction of the SWRCB in the sediment quality objectives program.
      ii) The receiving water limitations specify that the discharge shall not contain concentrations of mercury that will result in the bioaccumulation of Me Hg in fish flesh tissue greater than 0.3mg/kg.
      iii) Dischargers conduct effluent monitoring and annual testing of mercury levels in fish collected from the Santa Ana River upstream and downstream of treatment plants, and can participate in a mercury investigation program currently being conducted by a group of Santa Ana River system dischargers.
      iv) If a discharger demonstrates there is no reasonable potential for Me Hg to be present in the effluent at levels that cause or contribute to a violation of water quality standards, the receiving water limitation can be removed and the discharger will to conduct fish tissue testing.
   d) In the situation where offset opportunities are not allowed or may not be available (e.g. Southern California), we do not recommend establishing mass-based permit limits based solely on current performance, because this approach does not address growth or changes in flow that are likely or expected to occur over time. If a source is not significant, it would be appropriate for some allowance of growth to be considered as part of deriving effluent limitations as long as an approved pollution minimization program within the service area is in place and minimum technology standards established under the CWA are met.
7) The scoping document needs to address how pre-TMDL permits will be handled, where a discharge is to a 303d-listed water for mercury.
8) In addition to NPDES permits, the State Water Board may need to specifically address listing and delisting criteria for mercury for the State's 303(d) List. That might be best done in the context of the Listing Policy, rather than in this process. However, it should not be neglected or left to individual RWQCB interpretation.
9) The State Water Board also needs to address how TMDLs should be done based on the new water quality objectives, and indicate how the new objectives and implementation procedures fit together with both existing and new TMDLs for mercury. Permit writers should not be left to choose between whichever source they wish as a basis for deriving permit limits.
   a) We support an implementation approach for TMDLs whereby a fish tissue criterion is directly incorporated into TMDLs without the use of BAFs for conversion of the fish tissue criterion into water concentration equivalents.

b) A good prototype for California to consider is the program adopted by Idaho.[20]
   i) For listing and TMDL decisions, the January 2001 MeHg fish tissue criterion of 0.3 mg/kg is used as the trigger.
   ii) If fish tissue levels are > 0.3 mg/kg, the water body is listed and a TMDL must be developed.
   iii) If the discharger is a *de minimis* source, then the only regulatory requirement is to participate in the statewide monitoring program and implement voluntary best management practices (BMPs).
   iv) If fish tissue values are < 0.3 mg/kg, the water body is not listed.

10) The scoping process needs to specifically address provisions for new or increased discharges.

11) The scoping process needs to specifically address provisions for compliance schedules.

**Variances**

The Informational Document states that if a water column objective is adopted, point source dischargers may not be able to feasibly meet the low mercury effluent limitations implementing the objective and in "this case, a variance procedure (for individual discharges or statewide), with certain requirements [e.g., pollutant minimization program (PMP) implementation], could provide regulatory relief while ensuring that all cost effective mercury control measures are implemented."

***Comments:***

1) We agree that if a water column objective is adopted -- which we strongly oppose -- the State Water Board needs to incorporate a multiple-discharger variance into the State Policy.
   a) A variance of this type will be needed because in many cases it will not be technically nor economically feasible to meet permit conditions by controlling industrial sources or implementing appropriate and feasible control technologies.[21]
   b) It will be more effective if the variance is part of the standard-setting process, rather than the state having to retroactively develop a variance program, or leaving it to RWQCBs or individual dischargers to apply for and approve variances.
   c) It will be more efficient and effective to do this as part of a multiple-discharger approach than having to consider variances on an individual basis. Several other states have done this, and it has worked well. We would be happy to provide you with additional information about these States' variances, if desired.
   d) This approach is consistent with EPA's Draft Guidance.
   e) We also recommend creating an expedited variance adoption process that would include less comprehensive demonstrations for renewals. Without this option, a statewide variance program would be overly burdensome for the state to administer. The Indiana Department of Environmental Management (IDEM) has adopted a streamlined mercury variance rule that may provide a useful example of an innovative approach.[22]

---

[20] *Id.*

[21] Abu-Saba, K.E., Leng, J., Tellefson, W., J. McCall, A. O'Brien, T. Pirondini, M. Paulucci, V. Fry, S. Gittings, C. Hartinger, T. Grovhoug, T. Dunham. "A Regional Assessment of Methylmercury Discharges from Municipal Treatment Plants in California's Central Valley." WEFTEC 2006, Washington, DC, November 2006.

[22] Due to a recognized lack of economically viable end-of-pipe treatment options, IDEM has adopted a rule establishing a streamlined process for obtaining a variance from a water quality criterion that is the

f) To support the development of a multiple-discharger variance, it may necessary to collect additional information to satisfy the conditions in 40 C.F.R § 131.10(g). We would be willing to help with that information collection effort.

**Attainability and Cost of Compliance**

*Comments:*

1) The Informational Document does not address how attainability will be determined for the alternatives proposed or how the costs of compliance for the alternatives will be derived. We believe that the State Water Board should provide this information to stakeholders for discussion during the scoping process before a draft objective is released for public comment. Our organizations may have additional information to offer the State Water Board to assist in the analysis of attainability and compliance costs, and we would like to discuss this further with staff.
2) To make these determinations, it may necessary to collect additional information to satisfy legal requirements under CEQA and the CWC. We would be willing to help with that information collection effort.

**Process for Developing the State Policy**

*Comments:*

1) In recent years the State Water Board has used a number of different processes for developing water quality objectives (and SQOs). Different approaches have included a staff and/or contractor based approach, a steering committee approach, a scientific panel approach, etc. We would appreciate additional information on what model the State Water Board intends to use in this case. We favor use of a process that includes an advisory group and possibly also a scientific steering committee or technical peer review panel (such as the SQO or numeric limits for stormwater model).
2) Accordingly, we recommend that the State Water Board consider forming a workgroup in the development of the State Policy that would be composed of representative stakeholders. In addition to including representatives of the regulated community and non-governmental organizations, we recommend that the State Water Board include representatives from other agencies to participate in developing and implementing a California Mercury Strategy.

---

basis for a mercury WQBEL. Unlike the individual variance procedure under 327 IAC 2-1-8.8 or 327 IAC 2-1.5-17, the Streamlined Mercury Variance (SMV) focuses on pollution prevention and source control measures to achieve mercury reduction in the effluent.
http://www.in.gov/idem/rules/progress/water/wpcb03130/final.html