UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
1 CONGRESS STREET, SUITE 1100
BOSTON, MASSACHUSETTS 02114-2023

December 17, 2002

Arthur J. Rocque, Jr., Commissioner
Department of Environmental Protection
79 Elm Street
Hartford, Connecticut 06106

Re: Surface Water Quality Standards revisions

Dear Commissioner Rocque: art

EPA New England has completed its review of the Department of Environmental Protection's (DEP) revisions to its surface water quality standards. The revisions were originally adopted November 7, 2001 and submitted to EPA by letter of November 14, 2001. After some clarifications were included to address EPA comments, the revisions were re-submitted to EPA by letter of October 18, 2002. The submittal included an updated "Statement of Reasons" document dated October 9, 2002, and an updated certification by Connecticut's Assistant Attorney General on October 17, 2002 that the revisions were legally adopted pursuant to state law. The revisions are as outlined in the "Statement of Reasons" and the redline/strikeout copy of the water quality standards that was provided by DEP with the November 14, 2001 letter.

I hereby approve the new and revised standards. This approval is made pursuant to Section 303(c) of the Clean Water Act and 40 CFR Part 131, and is based on my determination that the approved revisions are consistent with the requirements of Section 303 of the Act. Some of the more significant revisions are noted below. Many of the additional revisions, while important, are more "house keeping" in nature.

o Adoption of a list of conditions for in-zone aesthetics, consistent with EPA's guidance, to be considered when establishing "zones of influence" (Standard 10(D)).

o Revision of the definition of Point Source consistent with EPA's definition at 40 CFR 122.2 (Appendix A).

o Adoption of a definition of Biological Integrity consistent with EPA's recommended definition by Karr and Dudly, 1981 (Appendix A).

o Clarification of the applicability of the surface water quality standards through a new definition of Surface Water (Appendix A).

o Extension of the applicability of bacteria indicator criteria consistent with EPA's 1986 recommendations for the protection of primary contact recreation to all surface waters of Connecticut (EPA440/5-84-002). Previously the "1986 indicators" where only applicable to beach areas recognized by the State (Appendix B).

o Revision of certain ambient water quality criteria for toxic chemicals consistent with EPA guidance, including revised criteria for mercury, certain PAH's, and EPA's 1999 Update of Ambient Water Quality Criteria for Ammonia in freshwater at EPA-822-R-99-014 (Appendix D).

o Revision of the saltwater ammonia criteria to allow application dependent on temperature, pH, and salinity consistent with EPA guidance at EPA 440/5-88-004 (Appendix D).

Further explanation of our basis for approval of revisions to the mercury criteria, polycyclic aromatic hydrocarbons criteria, Class SB shellfishing use, and the surface waters definition is contained in Attachment A. A revision that EPA is not taking action on at this time is also discussed in Attachment A.

EPA's approval of Connecticut's surface water standards revisions does not extend to waters that are within Indian Country, as defined in 18 U.S.C. Section 1151. EPA is taking no action to approve or disapprove the State's standards revisions with respect to those waters at this time. EPA, or eligible Indian Tribes, as appropriate, will retain responsibility under Section 303(d) for those waters.

EPA appreciates DEP's commitment to complete the revisions that are being approved today. My staff and I look forward to continued cooperation with the DEP in developing water quality standards as a part of our responsibilities under the Clean Water Act, including future revisions to address remaining issues from EPA's letter of June 16, 2000. Please contact me or either Lynne Hamjian (617-918-1601) or Bill Beckwith (617-918-1544) of my staff if you have any questions.

Sincerely,

Linda M. Murphy

Linda M. Murphy, Director
Office of Ecosystem Protection

Art - Given the State budget crisis, we really appreciate the continued efforts of DEP to support the WQS program. Linda

cc: Robert Smith, CT DEP
Fred Banach, CT DEP
Vernon Lang, USF&WS
Mary Colligan, NMFS
Peter Colossi, NMFS
Tom Gardner, EPA HQ

Attachment A.

Basis for Approval

Mercury

DEP revised its mercury ambient water quality for aquatic life protection (freshwater and saltwater) and human health protection (consumption of organisms only and consumption of water and organisms), consistent with EPA's summary of recommended Section 304(a) criteria at National Recommended Water Quality Criteria - Correction, EPA 822-Z-99-001, April 1999. The April 1999 summary contained EPA's most current recommendations for mercury at the time when DEP initiated its review and requested public comment on proposed revisions. DEP held a public hearing on April 20, 2000. A comparison of DEP's mercury criteria before and after revision is presented below. Differences in the revised numbers from the earlier ones reflect EPA's revisions to its own guidance, including aquatic toxicity information, a decision to base the chronic aquatic life criteria on aquatic toxicity rather than a tissue residue based value, and revised toxicological information in EPA's IRIS data base of human health effects. EPA is approving DEP's revisions as being consistent with EPA recommendations at the time when DEP had drafted revisions and had received public comment.

	Aquatic Life				Human Health	
Mercury ug/l	Freshwater Acute	Freshwater Chronic	Saltwater Acute	Saltwater Chronic	Organisms Only	Water and Organisms
Before (4/97)	2.1 dissol.	0.012 total	1.8 dissol.	0.025 total	0.15	0.14
Revised (10/02)	1.4 dissol.	0.77 dissol	1.8 dissol.	0.94 dissol	0.051	0.050

On January 8, 2001, EPA published water quality criteria guidance for human health protection for methylmercury expressed as a fish and shellfish tissue value rather than a water column value, 0.3 mg/kg (66 FR 1344-1359). With that action, EPA also withdrew the previous human health ambient water quality criteria for mercury and stated that it plans to develop guidance it believes is necessary for States to implement the new tissue based criterion. EPA expects states to adopt the revised criterion and use the forthcoming guidance to implement that criterion within five years of the January 8, 2001 publication. DEP has indicated that it will follow the issue in preparation for subsequent revisions to its surface water quality standards.

Polycyclic Aromatic Hydrocarbons (PAHs)

DEP adopted revised ambient water quality criteria for human health protection for several PAHs that differ from EPA's 304(a) recommendations. Specifically, DEP adopted criteria values of 0.49 ug/l and 0.044 ug/l, for the organisms only and water plus organisms, respectively, as opposed to EPA's guidance of 0.049 ug/l and 0.0044 ug/l (at the 10-6 risk level) for benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, and indeno(1,2,3-cd)pyrene. For chrysene DEP adopted 4.92 ug/l and 0.44 ug/l for the organisms only and water plus organisms, respectively, as opposed to our guidance value referenced above. The basis for the difference between DEP's revised numbers and EPA's guidance is adjusted cancer slope factors in accordance with relative potency factors developed by the Agency for Toxic Substance and Disease Registry. Rather than using a cancer slope factor of 7.3 for each of the these chemicals, DEP used 0.73 for benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, and indeno(1,2,3-cd)pyrene, and 0.073 for chrysene. This approach differs from that used by EPA in developing its 304(a) criteria recommendations in that it does not assume that each PAH noted above is as potent as benzo(a)pyrene. Rather it is based on evidence that not all PAH's are as potent as benzo(a)pyrene. While the approach differs from that used by EPA to develop it's current criteria recommendations for PAHs, the approach is consistent with EPA's Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons, EPA/600/R-93/089, July 1993, and is further supported by EPA's revised Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health, 65 FR 66444, November 3, 2000. EPA is approving the revised PAH criteria on this basis, as being scientifically defensible.

Surface Water/Waters of the State

DEP replaced its definition of "Waters of the State" with a definition of "Surface Water." The new definition explicitly includes federal jurisdictional wetlands. Combined with Standard 33, the new definition clarifies that CT's surface water quality standards are applicable to all waters of the United States that are in Connecticut. EPA is approving these revisions as being consistent with the CWA for that reason.

Shellfishing Designated Use for Class SB Waters

DEP revised the statement of the shellfishing designated use from "shellfish harvesting for transfer to a depuration plant or relay (transplant) to approved areas for purification prior to human consumption" to "commercial shellfish harvesting." It is EPA's understanding that this revision was intended to simplify the use statement, not revise the intended designated use. Thus, satisfying the goal shellfishing use for SB waters is still associated with shellfish that are not suitable for direct consumption.

Fecal Coliform Criteria for Class SB Waters

Related to the shellfishing designated use for SB waters, EPA noticed after the revisions were

adopted by DEP that the fecal coliform criteria to protect the SB shellfishing use no longer appeared in the WQS. These criteria were "For designated shellfish harvesting areas fecal coliform organisms shall not exceed a geometric mean of 88 MPN/100ml nor shall greater than 10% of samples exceed 260 MPN/100 ml," and were consistent with the National Shellfish Sanitation Program Model Ordinance, 1999 Revision, standard for the restricted classification of growing areas used as a shellstock source for shellstock depuration (IV. (G) & (H)). EPA missed the absence of these criteria when reviewing the proposed revisions, and thus EPA did not comment to DEP on this issue prior to adoption of the revisions.

Further review has indicated that this omission was present in draft revisions, specifically in the revised Appendix B table which is now the sole place in the Connecticut water quality standards where numeric criteria for bacterial indicators are printed. DEP wrote a lengthy and detailed "Statement of Reasons" document discussion revisions, but there is no reference to deletion of the shellfishing bacteria criteria for SB waters.

EPA believes that absence of the shellfishing bacteria criteria for SB waters is the result of an unintended omission that occurred in the creation on the new Appendix B table, that was missed by both DEP and EPA due to a focus on DEP's adoption of bacteria indicator criteria consistent with EPA's 1986 recommendations for the protection of primary contact recreation for all surface waters of Connecticut (previously the "1986 indicators" were only applicable to beach areas recognized by the State). In the revised standards, bacteria indicator criteria for Enterococci at least as stringent as a geometric mean of 35/100 ml and a single sample maximum of 500/100 ml are applicable to all SB waters. These criteria for the protection of the primary contact recreation use are presented here simply to note that there are bacteria indicators applicable to Connecticut's SB waters at this time.

EPA is not taking action on the omission of the Class SB fecal coliform criteria at this time. The effect of not taking action is that the Class SB fecal coliform criteria prior to revision remain in effect for purposes of the CWA (40 CFR 131.21). As EPA believes the omission was unintentional, this is effectively the same as what was intended. EPA will work with DEP to address the issue along with the effort to address remaining issues from EPA's June 16, 2000 letter.