



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

July 7, 2006

David P. Littell, Commissioner  
Maine Department of Environmental Protection  
#17 State House Station  
Augusta, Maine 04333-0017

Re: Review and Action on Water Quality Standards Revisions

Dear Commissioner Littell:

By letter of January 11, 2006, the Maine Department of Environmental Protection, Bureau of Land and Water Quality (DEP) submitted revisions to its surface water quality standards for EPA review. The revisions, some by statute and some by rule, were adopted and became effective in 2004 and 2005, and were certified on November 23, 2005 by Maine's Assistant Attorney General in the Natural Resources Division as having been duly adopted pursuant to state law. By letter of April 17, 2006 the Environmental Protection Agency (EPA) approved certain revisions and identified other portions of the submittal that were still under review. EPA has completed its review of a number of additional revisions as further described below.

Pursuant to Section 303(c)(3) of the Clean Water Act (CWA) and 40 CFR Part 131, I hereby approve the following water quality standards revisions, except as noted:

- ▶ Legislative Chapter 409 (L.D. 1450), specifically the provisions which revised certain bacteria criteria for Class B and Class C waters; extended the applicability of the bacteria criteria for Class SB and Class SC waters to include bacteria of domestic animal origin, in addition to bacteria of human origin; and added a 30 day average dissolved oxygen (DO) criterion of 6.5 ppm to Class C waters.
  
- ▶ DEP Rule Chapter 584, which contains numeric surface water quality criteria for toxic pollutants, for aquatic life (freshwater and saltwater) and human health protection. These provisions are protective of designated uses for the reasons explained in EPA's ambient water quality criteria guidance published pursuant to Section 304(a) of the CWA. These numeric criteria which are printed in tabular form replace DEP's previous adoption by reference of EPA's Section 304(a) criteria guidance for toxic pollutants. Chapter 584 also contains provisions for establishment of site-specific criteria for aquatic life and human health protection that are protective of designated uses for the reasons described in EPA's recommended criteria development methodologies. EPA is approving Chapter 584 with the exception of footnote J associated with the human health criteria for dioxin in Appendix A, Table 1. EPA is not acting on footnote J at this time.

EPA's approval of Maine's surface water quality standards revisions does not extend to waters that are within Indian territories and lands. EPA is taking no action to approve or disapprove the State's revisions with respect to those waters at this time. EPA will retain responsibility under Sections 303(c) and 303(d) of the Clean Water Act for those waters.

EPA has determined that Legislative Chapter 330 (L.D. 1588), Section 12, which directs the Board to adopt by rule water use standards that maintain instream flows and lake and pond levels that are protective of aquatic life and other uses, is not a new or revised water quality standard and therefore is not subject to EPA review and action under Section 303(c) of the Clean Water Act. This is because this language is not self implementing; it does not establish any water quality criteria at this time. Nevertheless, we would expect that any rule adopting substantive criteria that emerged as a result of Chapter 330 (L.D. 1588), Section 12 would be a water quality standard subject to EPA review and action.

We are still reviewing the additional legislative and rule chapters referred to in DEP's January 11, 2006 memorandum upon which EPA has not yet taken action, as well as any remaining amended portions of the legislative and rule chapters identified above. This includes footnote J associated with the human health criteria for dioxin in Chapter 584, and the revisions that extended the applicability of the bacteria criteria for Class B and Class C waters to include bacteria of domestic animal origin. Therefore we are not taking action with respect to those provisions at this time.

## **Supporting Discussion of Approvals**

### **DEP Rule Chapter 584**

EPA's approval of Rule Chapter 584 is based on a review of whether the criteria protect the applicable designated uses including a consideration of EPA's ambient water quality criteria guidance published pursuant to Section 304(a) of the CWA. EPA found that the adopted criteria are as protective as the EPA guidance in all cases. The hardness dependent aquatic life criteria for metals are based on a default hardness of 20 mg/l consistent with the relatively low hardness characteristic of waters in Maine and are to be generally applied as total metal. There are case by case provisions for use of alternate hardness values and application as dissolved metal when appropriately documented following procedures published by EPA. The human health criteria have been calculated using a fish consumption rate of 32.4 g/day and a risk level of  $1 \times 10^{-6}$ . The consumption rate is based on the value used by the Maine Bureau of Health when establishing fish consumption advisories.

### **Human Health Criteria**

DEP's use of a consumption rate of 32.4 g/day, as opposed to either 6.5 g/day which was the basis of Maine's previous criteria or EPA's current recommended default value of 17.5 g/day for the general population, will provide protection of applicable human health designated uses and provide increased protection for all people that consume fish taken from Maine's waters. Nevertheless, EPA has consulted with the federally-recognized Indian Tribes in Maine and is

well aware of their concerns with regard to subsistence consumption. EPA will continue to work within its authority to encourage Maine to utilize the site-specific criteria or alternative statewide criteria provisions of Chapter 584. The Maine Tribes are in the process of conducting their own consumption surveys and EPA expects that Maine will give the resulting data appropriate consideration taking into account any reasonable evidence that consumption is depressed from desired levels as a result of fish tissue contamination and consumption advisories. Local data that reflect depressed consumption due to advisories are not necessarily adequate for determining the appropriate consumption levels on which to base regulation of toxic chemicals. In the response to comments for Chapter 584, with regard to using EPA's recommended hierarchy for establishing subsistence consumption rates, DEP recognized the use of local data and local data in conjunction with other data reflecting consumption by similar populations. DEP also recognized EPA's default consumption rate of 142.4 g/day as a viable option in absence of other relevant data that are more reflective of local consumption.

In a letter of June 13, 2005 EPA commented to the Maine Board of Environmental Protection concerning the site-specific criteria provisions of Chapter 584. Specifically, EPA sought clarification of a provision that required DEP's pre-approval of study plans. EPA expressed concern about a potential interpretation that the provision relieved the Board of its obligation to consider otherwise sound studies solely because DEP had not pre-approved the plan for the study. In finalizing the rule, DEP made revisions to address this concern and clarified in its response to comments for Chapter 584 that "pre-existing" information may be utilized to the extent that it is relevant to a pending site-specific evaluation. In approving Chapter 584, it is EPA's understanding that a "study proposal" could simply be a submittal of existing data. Further, it is EPA's understanding that "existing" simply means existing prior to submittal, as opposed to existing prior to the effective date of the rule.

In the criteria table submitted to EPA (Table 1, Appendix A of Chapter 584), the human health criteria for hexachlorobenzene and heptachlor, for both the water and organisms and organisms only values, were less stringent than EPA's guidance by one decimal place. Similarly, the water and organisms value for chlordane was more stringent than EPA's guidance by one decimal place. By letter of May 3, 2006, DEP indicated that the decimal point had been misplaced in these cases, as a result of technical errors. Corrected criteria consistent with EPA's guidance were presented, and DEP indicated that the on-line copy of the rule available through the Maine Secretary of State's office had been corrected as well. EPA's approval is based on the corrected values.

#### **Aquatic Life Criteria**

We note that while DEP adopted values consistent with the magnitude component of EPA's aquatic life criteria guidance, i.e., the criterion maximum concentration (CMC) and criterion continuous concentration (CCC), DEP did not make explicit reference to the accompanying duration and frequency components. In absence of an explicit statement of the appropriate averaging periods, because EPA understands that DEP intended to follow EPA's national recommendations as confirmed by letter of June 16, 2006 from DEP, EPA expects that DEP will use the duration and frequency components that are part of EPA's guidance, unless alternative averaging periods are justified and adopted into the water quality standards. Therefore, the CMC

should not be exceeded for longer than one hour on average more frequently than once in three years on average, and the CCC should not be exceeded for longer than four days on average more frequently than once in three years on average.

### **Legislative Chapter 409 (L.D. 1450)**

#### **Dissolved Oxygen Criteria**

Legislative Chapter 409 (L.D. 1450) Section 2 provides that all Class C waters are to have a 30 day average DO concentration of 6.5 ppm at temperatures up to at least 22°C (regardless of whether the actual ambient temperature is higher) and further provides that a group of Class C waters are to have a 30 day average DO concentration of 6.5 ppm at temperatures up to 24°C. Whether a water receives the additional protection of 6.5 ppm at temperatures up to 24°C is based on a distinction related to the discharge license or water quality certification status of activities utilizing the water. EPA is aware of concerns that this DO criterion would be applied at 22°C for some waters when the actual ambient temperature was as high as 24°C and shares concerns about the regulation of DO based on a temperature that is less than the actual ambient water temperature, absent a regulatory goal by the State to manage the water at that lower temperature. Further, EPA generally does not endorse writing water quality standards as a function of specific discharges as opposed to ambient water quality considerations and goals. Nevertheless, a 30 day average DO concentration of 6.5 ppm at temperatures up to 22°C provides protection for Class C waters that was not explicit prior to revision, and a 30 day average DO concentration of 6.5 ppm is consistent with EPA's ambient water quality criteria guidance published pursuant to Section 304(a) of the CWA for the protection of coldwater species (Quality Criteria for Water, EPA 440/5-86-001, 1986).

According to EPA guidance, a DO of 6.5 ppm is somewhat above that associated with "light" production impairment for salmonid waters and is equivalent to "no" production impairment for nonsalmonid waters. Application of the criterion at 22°C, when the actual ambient water temperature is 24°C, is expected to result in an ambient DO that is less than 6.5 ppm at temperatures in the 22 to 24°C range, but still protective at a level close to light production impairment for salmonid waters at such temperatures. This would still provide protection for Class C waters that was not explicit prior to revision. The 30 day average criterion is in addition to the requirement at 38 MSRA §465(4)(B) that DO in Class C waters not be less than 5 ppm or 60% saturation, whichever is higher, and be sufficient to support salmonid spawning, egg incubation, and survival of early life stages where appropriate.

#### **Bacteria Criteria**

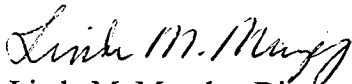
Legislative Chapter 409 also revised where necessary Maine's bacteria criteria for the protection of primary contact recreation for Class B and Class C waters to be consistent with both EPA's recommended geometric mean and single sample maximum at the "designated beach" level of protection (Ambient Water Quality Criteria for Bacteria – 1986, EPA440/5-84-002, January 1986), and extended the applicability of the bacteria criteria for Class B, C, SB, and SC waters to include bacteria of domestic animal origin. EPA is approving the revised bacteria criteria numbers as being protective of designated uses for the reasons discussed in EPA's 1986 criteria

document. EPA is also approving the revisions for Class SB and SC waters that extended the applicability of the bacteria criteria to include bacteria of domestic animal origin, as these revisions do incorporate additional protection for designated uses. Nevertheless, Maine was included in the federal rule, Water Quality Standards for Coastal and Great Lakes Recreation Waters, 69 FR 67218, November 16, 2004, that promulgated bacteria criteria for certain states for certain coastal waters because Maine's criteria were not applicable to bacteria of domestic animal origin or bacteria of natural origin (Maine's Class SB and SC waters). Though Maine has made positive progress towards consistency with the federal rule, the revisions approved here are not adequate for Maine to be removed from the federal rule and this approval does not constitute the basis for removal. Therefore, the State is still not in full compliance with CWA Section 303(i). Maine remains under the November 16, 2004 Water Quality Standards for Coastal and Great Lakes Recreation Waters promulgation.

The Water Quality Standards for Coastal and Great Lakes Recreation Waters promulgation was not applicable to inland waters (Maine's Class B and C waters for the purpose of today's action), and EPA is continuing to evaluate protectiveness issues associated with the exclusion of bacteria from wildlife sources from Maine's inland waters bacteria criteria.

We look forward to continued cooperation with Maine in the development, review, and approval of water quality standards pursuant to our responsibilities under the Clean Water Act. Please contact me or either Bill Beckwith (617-918-1544) or Jennie Bridge (617-918-1685) of my staff if you have any questions.

Sincerely,



Linda M. Murphy, Director  
Office of Ecosystem Protection

cc: Andrew Fisk, DEP  
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