

RESPONSE TO COMMENTS
REGARDING THE REISSUANCE OF THE FOLLOWING NPDES PERMIT
BATTELLE DUXBURY OPERATIONS MA0025852

Introduction:

The U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP) solicited public comments from September 19, 2007 through October 18, 2007 on the draft National Pollution Discharge Elimination System (NPDES) permit to be issued to Battelle Duxbury Operations. During the public-notice (comment) period EPA-New England received comments from Massachusetts Division of Marine Fisheries and Battelle Corporate Operations. Additionally, unofficial comments were received after the public comment period from the Protected Resources Division of NOAA's National Marine Fisheries Service (NMFS PRD).

In accordance with the provisions of 40 C.F.R. §124.17, this document presents EPA's responses to comments (RTC) received on the Draft NPDES Permit (MA0025852) and any changes made to the public noticed Draft Permit as a result of the comments. EPA's decision-making process has benefited from the various comments received and the additional information submitted. The information and arguments did not result in any substantial new changes to the permit. EPA did, however, make certain improvements and clarifications as a result of the comments raised. These are summarized below and are reflected in the Final Permit. The analyses underlying these changes are explained in the responses to individual comments that follow.

Changes Made to the Final Permit as a Result of Public Comments

1. The address for Massachusetts Division of Marine Fisheries has been added to Part I.E. Monitoring and Reporting.
2. The language of the discharge description in Part I.A.1 of the Final Permit was adjusted to be consistent with the Fact Sheet and Existing Permit.
3. The language in footnote 3 of Part I.A.1 has been modified to allow Battelle to request adjusted copper limits based on the naturally occurring background concentration if the recorded background levels are determined to be higher than the National Recommended Water Quality Criteria. These limits must be approved by EPA and MassDEP.
4. The language in footnote 4 of Part I.A.1 has been modified from "...one (1) grab sample taken per hour..." to "...at least four (4) grab samples taken at equal intervals..."
5. The word 'potential' has been removed from Part I.A.11 of the Final Permit. The language of this part has also been modified to require notification to EPA and MassDEP at least 45 days prior to the initiation of new work.
6. The phrase "...that generates wastewater" has been added to footnote 7 on Page 3 of 9 of the permit.

Comments from Massachusetts Division of Marine Fisheries:

Comment No. 1: Notifications

For the notifications to Marine Fisheries listed in Permit Section I.A.10., we request the prior notification of any toxic organisms or non-native species to be tested, and prior notification of any shellfish used at the facility that have been transported from another country, state, or town and placed in a non-disinfected flow through system to be sent to the attention of Dr. Jack Schwartz by mail to Massachusetts Division of Marine Fisheries, Annisquam River Marine Fisheries Station, 30 Emerson Avenue, Gloucester, MA 01930, or via FAX (617-727-3337).

Response to Comment No. 1

The address has been added to Part I.E. of the Final Permit.

Comments from National Marine Fisheries Service (RECEIVED LATE):

Comment No. 2: Endangered Species

Several species of listed whales and sea turtles occur seasonally in waters off the Massachusetts coast and they may occur in Duxbury Bay. However, most of these animals are transient and only occur there temporarily. Since effluent limits and permit conditions have been drafted to assure that State Water Quality Standards and provision of the Clean Water Act are met, NMFS has determined that discharge from the effluent will not affect listed species in Duxbury Bay. As a result, no further coordination with NMFS PRD is necessary. However, should project plans change or new information become available that changes the basis for this determination, further coordination with NMFS should be pursued. As you know, NMFS, U.S. Fish and Wildlife Service, and EPA are currently engaged in Section 7 consultations on EPA's aquatic life criteria (national 304(a) consultation). Those consultations may reveal effects of EPA's program that NMFS did not consider in this evaluation or they may change national water quality criteria and standards in ways that affect the water quality program for the State of Massachusetts. Either outcome might require NMDS to reconsider the conclusions reached in this letter.

Response to Comment No. 2:

EPA acknowledges that should project plans change or new information become available that coordination with NMFS might be necessary.

Comments from Battelle Corporate Operations:

Comment No. 3: Wastewater Description

On page 2 of 9 of the permit, Part 1 A. Effluent Limitations and Monitoring Requirements 1 in the paragraph at the top, it states "the permittee is authorized to discharge **culture water used for culturing and testing marine organisms** from **outfall 001**." To be consistent with the existing permit and the fact sheet and to be more accurate, please consider changing this to "the

permittee is authorized to discharge **flow through seawater, culture water used for culturing and testing marine organisms, wash water from the laboratories, air conditioning condensate and treated tank water from the New England Aquarium Rehabilitation Center that is located on the property from outfall 001.** Note that “air conditioner condensate” has been changed to “air conditioning condensate” to make it clear that this is not simply the condensate from a single air conditioner.

Response to Comment No. 3

The language in the Final Permit has been adjusted to be consistent with the Existing Permit and Fact Sheet.

Comment No. 4: Copper Limits

On page 2 of 9 of the permit in the table the copper limits in the table are extremely stringent. Battelle requests that the permit writer review these limits to determine if in using Best Professional Judgment, these limits be reconsidered to reflect our existing discharge. In this matter, the following may be considered:

1. The values given in the National Recommended Water Quality Criteria are only recommended; not mandatory.
2. The fact sheet indicates that the National Recommended Water Quality Criteria for copper were included the draft permit because the discharge was to a tidal mud flat that receives no dilution from Duxbury Bay. However, we believe there is always some level of dilution to our discharge because our outfall extends out in the mud flat. As a result there is bay water at the point of discharge more than half of the time and there is always residual water in the mud even at low tides, offering some dilution to our discharge.
3. Some of the measured values of copper in our municipal influent are higher than copper limits in our draft permit. Influent concentrations in the seawater have not yet been measured but could also include copper levels that would preclude meeting the limits in the draft permit.
4. The drinking water limits for copper only require additional monitoring when the 90th% percentile of samples copper level is above 1350 µg/L.

Response to Comment No. 4

The Massachusetts Water Quality Standards state that “for pollutants not otherwise listed in 314 CMR 4.00, the *National Recommended Water Quality Criteria: 2002, EPA 822R-02-047, November 2002* published by EPA pursuant to Section 304(a) of the Federal Water Pollution Control Act, are the allowable receiving water concentrations for the affected waters, unless the Department either establishes a site specific criterion or determines that naturally occurring background concentrations are higher. Where the Department determines that naturally

occurring background concentrations are higher, those concentrations shall be the allowable receiving water concentrations” [314 4.05 (5)(e)].

An explanation has been added to footnote 3 on Page 3 of the Final Permit to clarify that, if the permittee demonstrates to MassDEP that the source water has higher concentrations of copper than those listed in the National Recommended Water Quality Criteria, then the permittee may request an adjustment of the permit limits from EPA. The adjusted permit limits shall be the average of at least one year of data on the background concentration of copper prorated based on the ratio of freshwater to seawater used by the facility. The permittee is required to meet the permit limits included on page 2 of the Final Permit until written notice is received by certified mail from the EPA-New England indicating the copper limits have been changed.

EPA maintains that the discharge receives no dilution from Duxbury Bay. Dilution is calculated to protect water quality during the “worst case scenario” when the receiving water flow rate is at its lowest and the discharge flow rate is at its highest. Although the outfall is submerged during high tide the “worst case scenario” occurs at low tide when the discharge is to the tidal mudflat and the receiving water flow rate is zero. Any dilution afforded by residual water in the mud would not be sufficient to affect the concentration of pollutants in the discharge and would be difficult to quantify accurately. Based on these factors, EPA concludes that the discharge receives no dilution from Duxbury Bay.

Drinking water standards are regulated by the Safe Drinking Water Act (SDWA) and not by the NPDES permitting program. Therefore, the requirement of ‘additional monitoring when the 90th% percentile of samples copper limit is above 1350 µg/l’ is not applicable to Battelle’s discharge from Outfall 001.

Comment No. 5: Copper Compliance Schedule

On page 7 of 9 of the permit, Part C Compliance Schedule requires Battelle to monitor the seawater and freshwater influent at least once a month, evaluate possible sources of copper contamination and submit a report to EPA and MassDEP describing the evaluation and containing all analytical data collected. Based upon the fact that the freshwater is a small percentage of the total flow to the outfall and we have no data on the copper in the influent seawater, there is also reasonable potential that Battelle Duxbury Operations are not contributing significantly to the copper in the outfall. If this is the case, we assume that Battelle will not be required to remove the copper from the influent seawater and the permit limits will be adjusted accordingly. Under such circumstances, the surface water quality standards of the receiving water are still protected, maintained, and/or attained. We appreciate the fact that additional time has been given to us for this study.

Response to Comment No. 5

Battelle is correct in assuming that the permit limits will be adjusted if the influent is determined to be a significant contributor of copper. The Massachusetts Water Quality Standards state that “Where the Department determines that naturally occurring background concentrations are higher, those concentrations shall be the allowable receiving water concentrations” [314 4.05

(5)(e)]. If the permittee can demonstrate to MassDEP that the permit limits should be adjusted based on naturally occurring conditions in the receiving water, then the permittee may submit a written request to EPA requesting a change in the permitted copper limits. The adjusted limits shall be the average of at least one year of background concentration data prorated based upon the ratio of freshwater to seawater used by the facility.

Comment No. 6: Composite Sampling Time

On page 9 of 13 of the Fact Sheet, Total Copper, please be aware that the composite sampling time may be as short as 2 hours for 2 weeks of the month due to tidal cycles and the fact that we sample during working hours (8 am to 5 pm) in order that the sample is representative.

Response to Comment No. 6

EPA has noted that the composite sampling time may be shortened due to the tidal cycles and sampling during working hours. To account for these factors, the language in footnote 4 in Part I.A.1. of the Final Permit has been modified to read “Composite samples shall consist of at least four (4) grab samples taken at equal intervals on a flow weighted basis for the duration of the discharge period when the discharge is free from tidal influences”.

Comment No. 7: Duxbury Bay Dilution

On page 9 of 13 of the Fact Sheet, Total Copper it states “In addition, the continuous discharge from Outfall 001 is to a tidal mud flat and receives no dilution from Duxbury Bay.” Based upon the daily flow of the tide more than half the time there would be dilution from Duxbury Bay. In addition to this there would be some dilution from the residual water in the mud flats. We request that consideration be given to this Duxbury Bay dilution.

Response to Comment No. 7

See Response to Comment No. 4.

Comment No. 8: Duxbury Bay Dilution (WET Testing)

On page 10 of 13 of the Fact Sheet, Whole Effluent Toxicity, it indicates that the limit is increased from $\geq 50\%$ in the Existing Permit to $\geq 100\%$ in the Draft Permit based on zero dilution afforded by discharge to a tidal mud flat. This limit should also be decreased to consider the dilution from Duxbury Bay. The addition of chronic NOEC testing should also be reviewed using the Bay dilution.

Response to Comment No. 8

EPA maintains that Duxbury Bay affords the discharge zero dilution. Dilution is calculated based on the “worst case scenario” which, for Battelle, occurs during low tide when discharge is to a tidal mud flat and the receiving water flow rate is zero. The acute and chronic whole

effluent toxicity limits contained in the permit shall remain $\geq 100\%$ based on the zero dilution afforded by Duxbury Bay.

Comment No. 9: Prior Notification of new Biological and/or Chemical Testing

On page 5 of 9 of the permit, number 11, prior agencies' (US EPA and MassDEP) notification is required prior to initiation of any new work on substances involving biological and/or chemical testing which would result in the potential generation of wastewater discharged via outfall 001. We recommend the deletion of the word "potential" in order to clarify that not every new project must be tested, rather only those that will have a wastewater discharge. In theory every chemical has the potential to be spilled and generate wastewater. Please advise on the time required for the agencies' review of this report and response to Battelle because Battelle obtains work by responding to proposals for this type of work. In order for Battelle to offer to perform new work for a prospective client, we anticipate needing to have the agencies' approval prior to making such an offer.

Response to Comment No. 9

The word 'potential' has been removed from Part I.A.11 of the Final Permit. In addition, the language has been modified to require notification at least 45 days prior to new work. This modification clarifies the time required by the agencies for review of this report and response to Battelle.

Comment No. 10: WET Testing on New Work

In Footnote 7 on Page 3 of 9 of the permit, please change "In the event that new work involving chemical and/or biological testing is performed..." to "In the event that new work involving chemical and/or biological testing that generates wastewater is performed..." This makes it clear that WET testing is required only when the new work testing generates wastewater.

Response to Comment No. 10

The language in the Final Permit has been adjusted.

Comment No. 11 – Definition of New Work

Battelle's understanding of the term "new work" in footnote 7 and condition 11 is that the term "new work" does not include any work that is substantially similar to the work that Battelle has performed at its facilities as described in the fact sheet and Battelle's application.

Response to Comment No. 11

EPA agrees that the term "new work" in footnote 7 and Part I.A.11 of the Final Permit denotes work that is *not* substantially similar to the work that Battelle has performed at its facilities as described in the Fact Sheet and in Battelle's application.