



MASSACHUSETTS WATER RESOURCES AUTHORITY

Deer Island
33 Tafts Avenue
Boston, MA 02128

Frederick A. Laskey
Executive Director

Telephone: (617) 242-6000
Fax: (617) 788-4899
TTY: (617) 788-4971

February 2, 2026

Todd Borci
EPA Region 1
5 Post Office Square, Suite 100
Mail Code ECAD4-4
Boston MA, 02109-3912

Whitney Fenwick, NPDES Section Chief
Division of Watershed Management
Department of Environmental Protection
100 Cambridge Street, 9th Fl.
Boston, Massachusetts 02114

RE: Massachusetts Water Resources Authority, NPDES Permit No. MA 0103284
Notification Pursuant to Part I.8. Contingency Plan

Dear Mr. Borci and Ms. Fenwick:

The referenced National Pollutant Discharge Elimination System Permit (“Permit”) for the Massachusetts Water Resources Authority’s (“MWRA”) Deer Island Treatment Plant (“DITP”) limits the outfall TO1 effluent to a LC₅₀ effluent concentration of 50% or greater on a monthly testing frequency. The LC₅₀ (or acute toxicity) is the concentration of effluent in a sample that causes mortality to 50% of the test population. Further, Table 1-1 in Attachment O of the Permit defines the “Warning Level” for acute effluent toxicity testing as LC₅₀ <50% for shrimp (*Mysidopsis bahia*) and fish (*Menidia beryllina*), which is identical to the effluent limitation. The Contingency Plan provisions in Part I.8.a. of the Permit requires the monitoring result be reported within five (5) days after a result that exceeds a “Warning Level” becomes available.

Consistent with these Permit provisions, one of the four effluent toxicity tests that MWRA conducts every month is the *Mysidopsis bahia* (mysid shrimp), acute test, which measures the 48-hour survival rate of the species across a series of effluent dilution levels in comparison to the species survival rate in control samples with no effluent present. On January 29, 2026, MWRA reviewed the results of its *Mysidopsis bahia* (now *Americamysis bahia*) acute test that was performed on a sample collected on December 3, 2025. A result of 2.0% effluent concentration was reported for the LC₅₀ and is lower than the required effluent limit of at least 50% effluent concentration. This result triggers a notification requirement under the Contingency Plan, as a Warning Level exceedance. This letter constitutes that notification.

During the first week of December, there were no operational upsets or significant changes at DITP. All other Permit effluent limits were met in the month of December 2025, including for the other three toxicity tests. DITP has been compliant with the *Mysidopsis bahia* toxicity effluent limit since the Permit was issued in 2000.

DITP's Massachusetts Bay outfall provides a high level of dilution. The U.S. Environmental Protection Agency has assigned the outfall a dilution factor of 70:1; dye studies of the outfall under stratified water column conditions (typically April to October) indicate that dilution would be closer to 94:1. Dilution during non-stratified conditions, such as during the month of December, is even greater.¹ On December 9, 2025, MWRA performed a routine bacterial survey of Massachusetts Bay. MWRA staff did not observe any abnormal conditions, and samples collected for analysis appeared normal during laboratory processing. Therefore, there is no reason to believe this toxicity test failure impacted Massachusetts Bay and the larger ecosystem.

Accordingly, MWRA is continuing to examine this acute toxicity result and investigate possible causes. MWRA will follow up as necessary. If you have any questions regarding this matter or would like to request any additional documentation, please email David Wu at David.Wu@mwra.com.

Sincerely,

Rebecca Weidman
Deputy Chief Operating Officer – Policy, Planning, and Programs

¹ Hunt CD, Mansfield AD, Mickelson MJ, Albro CS, Geyer WR, Roberts PJW. 2010. Plume tracking and dilution of effluent from the Boston sewage outfall. *Marine Environmental Research* (70): 150-161.

Cc:

Environmental Protection Agency, Region I

Michele Barden
Alexa Sterling
Steve Wolf

National Marine Fisheries Service

Christine Vaccaro

Stellwagen Bank National Marine Sanctuary

Peter DeCola

US Food and Drug Administration

David Lamoureux

**MA Executive Office of Energy and
Environmental Affairs**

Vandana M. Rao

MA Department of Environmental Protection

Claire Golden
Susannah King
Lealdon Langley

MA Division of Marine Fisheries

Terry O'Neil
Christine Petitpas

MA Dept of Public Health

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Timothy Pasakarnis

Outfall Monitoring Science Advisory Panel

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Judith Pederson
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Bruce Berman

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