



# MASSACHUSETTS WATER RESOURCES AUTHORITY

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Frederick A. Laskey  
Executive Director

April 15, 2009

Glenn Haas, Acting Assistant Commissioner  
Bureau of Resource Protection  
Massachusetts Department of Environmental  
Protection  
1 Winter Street  
Boston, MA 02108

Stephen Perkins, Director  
Office of Ecosystem Protection  
U.S. Environmental Protection Agency  
Water Technical Unit "SEW"  
P.O. Box 8127  
Boston, MA 02114

Re: Massachusetts Water Resources Authority, Permit Number MA0103284  
Submission Pursuant to Part I.7.c.iii. - Ambient Monitoring Plan Modifications

Dear Mr. Haas and Mr. Perkins:

Pursuant to Part I.7.c.iii of the Massachusetts Water Resources Authority's ("MWRA") National Pollutant Discharge Elimination Program ("NPDES") Permit (Permit Number MA0103284), MWRA is proposing interim modifications to the *Ambient Monitoring Plan for the Massachusetts Water Resources Effluent Outfall, Revision 1, March 2004* (original attached to the permit as Attachment N), which are attached for your review.<sup>1</sup> Under Part I.7.c., interim modifications to the Ambient Monitoring Plan can be made at any time and do not require a modification to the NPDES permit. (See attached Memorandum dated September 5, 2002 by Jeffrey Fowley of EPA's Office of Regional Counsel). The proposed *Ambient Monitoring Plan for the Massachusetts Water Resources Effluent Outfall Revision 2* is attached to this letter for regulatory and public review in accordance with Part I.7.c.iii. The proposed plan, *Ambient Monitoring Plan for the Massachusetts Water Resources Effluent Outfall, Proposed Revision 2*,

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<sup>1</sup> Part I.7.c. of MWRA's NPDES permit states: "The monitoring plan described in Attachment N may be modified as follows: iii. The permittee may also propose interim modifications at any time. Such interim modifications will become effective thirty (30) days after the permittee provides written notice to EPA, MADEP, NMFS, FDA, NOS, OMSAP, and the public (See: Part I.20.e. of this permit), unless there is written objection from EPA or the MADEP. Such approvals will be effective until EPA and MADEP take action on the permittee's next annual submission."

April 2009, Draft Report 2009-06, can be retrieved from MWRA's website at:  
<http://www.mwra.state.ma.us/harbor/enquad/trlist.html>

The Ambient Monitoring Plan ("AMP") was developed and attached to the permit with the clear intention that it was to be a "living document." Therefore, EPA included in the permit a separate process for modifying the AMP outside the permit modification process (Part I.7.c.). EPA, DEP, and MWRA used this process previously to revise the AMP in 2004. Substantial changes were incorporated into the AMP, but the permit itself was not modified.

MWRA is proposing interim changes to its AMP at this time because it now has eight years of extensive baseline monitoring data and eight years of extensive discharge monitoring data that have answered the original monitoring questions and have shown that the outfall is performing as or better than predicted. Post-diversion ambient monitoring data support the understanding that the outfall has had only limited effects on Massachusetts Bay while the ecosystem of Boston Harbor continues to dramatically improve. An abundance of scientific monitoring data support these changes; the data are summarized in the proposed AMP Revision 2, and documented in MWRA's many technical reports, as well as in the peer-reviewed scientific literature. This proposed monitoring plan, Revision 2, builds on the scientific understanding gained to appropriately shift the focus and scale of the monitoring.

In its NPDES permit renewal application that was submitted in February 2005, MWRA requested that the AMP and related Contingency Plan requirements be eliminated from its new NPDES permit. However, MWRA's NPDES permit remains in effect. Ambient monitoring requirements continue to cost MWRA more than \$3 million per year to implement even though the original monitoring questions have been answered and the outfall is operating as predicted. The reason MWRA is seeking an interim modification of the AMP as opposed to waiting for a new permit is because it is uncertain when a new NPDES permit will go into effect. If the new permit were to be appealed after it is issued, the current permit would remain in effect, potentially for a year or more.

The transfer of the outfall discharge from Boston Harbor to Massachusetts Bay was planned for 1995 but was delayed until September 2000. This allowed collection of over eight years of baseline data, from February 1992 to August 2000, rather than the minimum three years required by regulators. The discharge monitoring program contains essentially the same environmental measurements as the pre-discharge program, since its purpose has been to measure differences from baseline.

The main purpose of the ambient monitoring was to ensure that MWRA's outfall was performing as predicted and that there were no adverse impacts to the receiving water or surrounding environment from its discharge. Over the past 16 years, MWRA has gathered extensive monitoring data that have answered the original monitoring questions in the AMP and have shown that there are no adverse impacts to the receiving water from the discharge and that the outfall is performing as or better than predicted.

The outfall has had only limited effects, which are within planning expectations, and are restricted to the nearfield close to the outfall. The data show that there has been an increase in ammonium near the outfall and that there have been small relative increases of several contaminants in mussels, deployed in the immediate area of discharge, to levels that remain well below concentrations that might affect the environment or human health. The data also suggest the possibility that nutrients from the outfall may partially contribute to localized blooms of a

certain harmless diatom during certain weather conditions that lead to upwelling in summer. Otherwise, the monitoring has shown that:

- water column bottom dissolved oxygen remains at healthy normal levels;
- plankton communities remain diverse and normal;
- naturally-occurring nuisance algal bloom events (red tides) have not been aggravated by the discharge;
- the bottom animal community is healthy and diverse;
- sediment oxygenation remains at healthy levels;
- contaminants have not accumulated in sediments near the outfall;
- contaminants have not accumulated in flounder or lobster;
- flounder liver disease remains low;
- Stellwagen Marine Sanctuary waters and sediments are unchanged since the outfall went on-line; and
- the ecosystem of Boston Harbor continues to dramatically improve.

In addition, recent contaminant data collected from MWRA's final effluent show that the actual levels of most contaminants in the effluent are dramatically less than predicted in EPA's original 1988 planning estimates.

To date, MWRA's ratepayers have made a substantial investment in environmental stewardship by implementing the AMP. The cost to MWRA since the outfall monitoring program began in 1992 totals approximately \$53 million in outside contracts, plus another \$2.5 million for MWRA's in-house laboratory expenses. Currently, MWRA includes in its budget approximately \$2.7 million for monitoring contracts, plus \$500,000 for MWRA laboratory expenses per year to implement the AMP. If the proposed changes are incorporated into the AMP, MWRA estimates that it would still spend at least \$1.5 million (\$1 million in external contracts and \$500,000 on in-house laboratory expenses) per year. In addition to ambient monitoring, there is intensive monitoring and reporting of effluent quality: thousands of tests are performed each year. Also, MWRA has a comprehensive in-house program to monitor water quality in Boston Harbor and its tributary rivers.

While it is always incumbent upon MWRA to make sure that it is careful and prudent with respect to spending of ratepayer funds and to seek to reduce costs where appropriate, current economic conditions make it doubly important that the Authority not spend funds where the on-going need to do so, as here, is lacking. Therefore, MWRA is proposing that these changes to the AMP be implemented as soon as feasible. However, MWRA reiterates its position that the ambient monitoring requirements should be eliminated from its next NPDES permit. MWRA will follow this request for interim changes with a formal request for changes to the plan pursuant Part I.7.c.i of its NPDES permit, if its new NPDES permit has not gone into effect by November 15, 2009.

If you have any questions or need any additional information please contact me at (617) 788-4359.

Yours truly,

Michael J. Hornbrook  
Chief Operating Officer, MWRA

3 attachments:

List of Proposed Interim Changes to MWRA's Effluent Outfall Ambient Monitoring Plan

Memorandum from Jeffrey Fowley, EPA, Dated September 5, 2002 "Potential Changes to MWRA Ambient Monitoring Plan"

*Proposed Ambient Monitoring Plan for the Massachusetts Water Resources Effluent Outfall Revision 2*

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