

EPA Response to Northeast States' 319(g) Petition

Overview of Section 319(g) and Northeast States' Petition

Pursuant to Section 319(g) of the Clean Water Act, the States of Connecticut, Maine, New Hampshire, New York, Rhode Island, Vermont, and the Commonwealth of Massachusetts (referred to herein as the "Northeast States" or "petitioning states") have petitioned the Administrator to convene an interstate management conference of all States contributing significant nonpoint source mercury pollution to the petitioning States' waters (see http://www.neiwpcc.org/mercury/319g_petition.asp).

Section 319(g) of the Clean Water Act states in part that:

"If any portion of the navigable waters in any State which is implementing a management program approved under this section is not meeting applicable water quality standards or the goals and requirements of this Act as a result, in whole or in part, of pollution from nonpoint sources in another State, such State may petition the Administrator to convene, and the Administrator shall convene, a management conference of all States which contribute significant pollution resulting from nonpoint sources to such portion."

"The purpose of such conference shall be to develop an agreement among such States to reduce the level of pollution in such portion resulting from nonpoint sources and to improve the water quality of such portion."

This document is intended to provide EPA's response to the Northeast States' 319(g) petition. Although EPA has decided to grant the petition and convene this management conference, EPA is not, in inviting the eleven states identified in the petition, conveying that EPA has determined that these eleven states are each contributing significant amounts of mercury pollution. Rather, EPA took into account the aggregate contributions from upwind sources and is inviting these eleven States because these eleven States are contributing mercury pollution that in whole or part is contributing to impairments in the petitioning States.¹

Mercury Impairments in the Northeast and Reductions Needed to Meet Water Quality Standards

In their petition, the Northeast states indicate that mercury pollution is preventing compliance with their designated uses of fishing and fish consumption in each of the petitioning states, and that each of the petitioning states has fish consumption advisories in place. Each of the states has water quality criteria for mercury in water and/or fish, as well as values that are the basis for fish consumption advisories. The petition also cites the Northeast Regional Mercury Total Maximum Daily Load (TMDL) developed to address the mercury impairments due to atmospheric mercury deposition (see <http://www.neiwpcc.org/mercury/mercurytmdl.asp>).

¹ EPA notes that the determination set out in this document has been developed solely for the purpose of deciding whether to convene a 319(g) conference. The determination does not contain any legal requirements and does not determine the rights or obligations of EPA or any party under any statute or regulation.

EPA agrees with the petitioners that the Northeast states have waterbodies on their 303(d) lists as impaired by mercury, and also have fish consumption advisories due to mercury levels in fish. Connecticut, Maine, and New Hampshire have statewide fish consumption advisories and use this as the basis for listing their waters as impaired (impairment of the fish consumption designated use). Massachusetts, Rhode Island, Vermont, and New York have statewide fish consumption advisories but include on their 303(d) lists only waters assessed and found to be impaired. EPA approved each of the Northeast states' 303(d) lists of impaired waters.

In 2007, the Northeast Regional Mercury TMDL was developed by the seven petitioning Northeast states to address mercury impairments in those states. A TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that load among the various sources of that pollutant. Pollutant sources are characterized as either point sources that receive a wasteload allocation, or nonpoint sources that receive a load allocation. Air deposition other than pollutants discharged in NPDES-regulated storm water discharges is generally considered part of the nonpoint source loading and included in the load allocation of TMDL.

The Northeast Mercury TMDL covers over 5,000 mercury impaired waterbodies and indicates that 97.9% of the total mercury load to the Northeast region is coming from atmospheric deposition. The remainder of the mercury load is from point source discharges to water, including wastewater treatment plants and industry. The TMDL uses EPA's recommended fish tissue criterion of 0.3 ppm methylmercury as the TMDL target in all states except for Maine and Connecticut, which have more stringent criteria (0.2 ppm and 0.1 ppm, respectively). The TMDL allocates approximately 2.0% of the loading capacity to point sources and allocates 98% to nonpoint sources (atmospheric deposition). The TMDL indicates that the load reduction needed to meet the target fish tissue concentration of 0.3 ppm is 74%, while to meet the criterion in Maine and Connecticut of 0.2 and 0.1, the reductions needed are 82% and 91%.

In December 2007, EPA approved the Northeast Regional Mercury TMDL and indicates the basis for our approval in our TMDL decision document (see <http://www.epa.gov/ne/eco/tmdl/pdfs/ne/CT-Mercury-TMDL-Approval.pdf>). Among other things, the decision document describes EPA's assessment that the TMDL adequately identifies sources and quantifies the loadings from point and nonpoint sources, including atmospheric deposition, and that the TMDL appropriately identifies atmospheric deposition of mercury as the predominant mercury source. The decision document also indicates our assessment that the TMDL identifies appropriate targets for the TMDL and the basis for the targets; describes the methodology for calculating the loading capacity; identifies wasteload allocations and load allocations for point and nonpoint sources, including air deposition; and calculates the reductions in mercury deposition needed to meet the targets. Additional details regarding the basis for EPA's approval of the Northeast Mercury TMDLs can be found in the decision document cited above.

Contributions Due to Nonpoint Source Pollution from Mercury Deposition

The nonpoint source pollution being targeted by the petition is from atmospheric emissions from 11 upwind States and subsequent deposition onto the petitioning States'

waters. (EPA classifies atmospheric deposition as a form of nonpoint source pollution, see <http://www.epa.gov/OWOW/NPS/qa.html>.) The 11 States identified in the petition as contributing at least in part to the inability to meet water quality standards in the petitioning States are shown below along with the percentage of the mercury deposition from US sources that the petitioning States estimate is depositing within their collective borders from each of those States. (As noted in the petition, US sources contribute approximately 30 percent of the atmospheric mercury deposition in the Northeast region with approximately 48 percent of the US portion originating from outside the region.)

Estimates of Contributions from Eleven Named States to Mercury Deposition in the Northeast As Cited in the Petition
(As percent of US contribution)

Commonwealth of Pennsylvania (21.7%)	State of New Jersey (5.6%)
State of Ohio (5.5%)	State of West Virginia (3.9%)
State of Maryland (3.7%)	State of Michigan (2.0%)
Commonwealth of Virginia (1.5%)	State of Indiana (1.3%)
Commonwealth of Kentucky (1.2%)	State of North Carolina (1.1%)
State of Illinois (0.9%)	

As discussed in supporting material provided in the petition (NESCAUM. 2008 “Sources of Mercury Deposition in the Northeast United States”, March 2008), these States were selected on the basis of atmospheric deposition modeling analysis available from EPA from a 2006 study (ICF International, 2006. Model-based Analysis and Tracking of Airborne Mercury Emissions to Assist in Watershed Planning. Final Report, prepared for the U.S.EPA Office of Water, Washington, DC November 30, 2006)

This study was begun by EPA’s Office of Water in order to provide States with loading and source attribution information of use when developing TMDLs for mercury where the predominant source of the mercury is from atmospheric deposition. In arriving at these estimates, the Regional Modeling System for Aerosols and Deposition (REMSAD) was the primary deposition model used (see REMSAD User’s Manual at <http://remsad.saintl.com/>). REMSAD was chosen because at the time the study was undertaken, it had a “tagging” feature that allowed the contributions to deposition from specific sources to be identified. In addition, it had been used (with the tagging feature) in a mercury TMDL pilot study for Devil’s Lake, Wisconsin, that was externally peer reviewed (see <http://www.epa.gov/owow/tmdl/mercury/pdf/devilslakefinalreport.pdf>) and had already been used in approved mercury TMDLs, including the Northeast Regional Mercury TMDL and mercury TMDLs for the Coastal Bays and Gulf Waters of Louisiana (see http://www.epa.gov/waters/tmdl/docs/6hgLATMDLsReport_05Jun28.pdf). With input from States and EPA Regions, approximately 300 individual sources and groups of sources in the US were assigned tags in this modeling. For each State, tags were allocated so that when summed, all of a given State’s mercury emissions were accounted for. In addition, contributions from outside the US were also tagged using outputs from several global atmospheric mercury deposition models.

In August 2008, EPA released findings from an updated mercury deposition modeling analysis (EPA. 2008. “Model-Based Analysis and Tracking of Airborne Mercury Emissions to Assist in Watershed Planning. August 2008.

See http://www.epa.gov/owow/tmdl/pdf/fact_sheet_atmospheric_deposition.pdf and http://www.epa.gov/owow/tmdl/pdf/final300report_10072008.pdf). The 2008 modeling reflected changes in emission estimates for several large emitters, primarily in the Western US. No changes were made to emissions in the Northeastern States nor the States mentioned in the petition. Thus, the estimates of contributions to mercury deposition from petitioning and the eleven named States from the revised 2008 EPA modeling, as noted below, are virtually identical to that from the earlier 2006 modeling cited in the Petition. (Note that some minor differences between the NESCAUM-derived 2006 estimates and those derived by EPA from the revised 2008 modeling likely reflect different geospatial techniques used by the two groups to identify the grid cells from the deposition modeling output that fall within the borders of the Northeastern States.)

Estimates of Contributions from the Eleven Named States to Mercury Deposition in the Northeast Based upon Revised 2008 EPA Modeling
(As percent of US contribution)

Commonwealth of Pennsylvania (21.8%)	State of New Jersey (5.5%)
State of Ohio (5.5%)	State of West Virginia (3.9%)
State of Maryland (3.7%)	State of Michigan (2.0%)
Commonwealth of Virginia (1.5%)	State of Indiana (1.3%)
Commonwealth of Kentucky (1.2%)	State of North Carolina (1.1%)
State of Illinois (0.9%)	

The revised 2008 modeling, like the earlier 2006 modeling relied upon in the petition, also suggests that approximately 70% of the mercury deposition falling on the Northeastern States originates from outside the US with approximately equal portions of the US fraction originating from inside and outside the Northeast region.

Conclusions

As indicated in our approval of the Northeast Regional Mercury TMDL, EPA agrees that the predominant source of mercury to waterbodies in the Northeast States is nonpoint source pollution (atmospheric deposition), and that reduction in nonpoint source pollution is needed in order to meet water quality standards for mercury in the Northeast states. EPA also agrees that the Northeastern States' conclusions in their petition regarding contributions from upwind States to mercury deposition falling on the Northeast region are consistent with EPA's latest modeling, and that the eleven states named in the petition contribute at least in part to mercury impairments in the Northeast region. Note that EPA's decision to convene this conference takes into account the particular characteristics of mercury and its deposition in these states and does not necessarily define what constitutes a significant source for the purposes of section 319(g). In addition, although contributions from individual states or sources may be relatively small, EPA believes that addressing all sources of mercury is important in order to make continued progress toward meeting water quality standards. Accordingly, this determination applies only to the particular facts and circumstances of the petition from the Northeast States.