

United States Environmental Protection Agency
Region I
POLLUTION REPORT

Date: Monday, July 21, 2008

From: Athanasios Hatzopoulos

Subject: Merrimack High School Mercury Release
38 McElwain Street, Merrimack, NH

POLREP No.:	1	Site #:	
Reporting Period:		D.O. #:	
Start Date:	7/18/2008	Response Authority:	CERCLA
Mob Date:	7/18/2008	Response Type:	Emergency
Demob Date:	7/18/2008	NPL Status:	Non NPL
Completion Date:	7/21/2008	Incident Category:	Removal Assessment
CERCLIS ID #:		Contract #	
RCRIS ID #:			

Site Description

On Thursday, July 17, 2008, the Merrimack Fire Department (MFD) and the New Hampshire Department of Environmental Services (NHDES) responded to a release of elemental mercury that occurred at the Merrimack High School, located at 38 McElwain Street, Merrimack, NH.

The release occurred in the nurse's room when the janitorial crew while cleaning accidentally broke a blood pressure measuring instrument. The crew attempted to clean up the visible mercury with a dry mop. This process however, caused further migration of the spilled mercury and cross contamination to other school areas.

On July 17, 2008, at approximately 7:00 pm the Merrimack Public School Department mobilized its cleanup contractor, Clean Harbors Environmental Services (Clean Harbors) to conduct mercury air monitoring and perform the cleanup. Clean Harbors hired Covino Environmental Associates, of Woburn, MA, to conduct the air monitoring and initiated the cleanup operations using mercury granular absorbents and mercury vacuums. The janitorial crew that came in contact with the mercury was sent to hospital for medical evaluation. Their shoes were taken by the MFD for disposal. The NHDES also notified the EPA's Emergency Planning and Response Branch (EPRB) of the spill, and requested assistance for the following day to provide mercury monitoring to confirm Clean Harbor's readings.

Current Activities

On Friday, July 18, 2008, OSC Hatzopoulos and the EPA's technical assistance contractor Weston Solutions, Inc. (Weston), arrived at the incident scene. EPA and Weston integrated into the incident command system (ICS) which was made up of representatives from Clean Harbors, Covino Environmental, NHDES, and the Merrimack School District's Assistant Director of Maintenance.

After discussing the situation, it was agreed by all parties that EPA would direct Weston to conduct air monitoring at the affected spill areas to confirm the Covino readings.

Weston, under the direction of OSC Hatzopoulos, initiated the air monitoring survey, using the Lumex Mercury Vapor Analyzer. Approximately 65 floor locations and 20 breathing zone locations were surveyed. Two measurements were taken from each location. The instrument showed that on all of the breathing zone locations the mercury vapors were detected at levels well below 1,000 nanograms per cubic meter (ng/m3). The highest breathing zone level was 211 ng/m3. All but two of the floor locations were also found to be less than 500 ng/m3. The two locations that were more than 500 ng/m3 were found to be on the carpet of the entrance foyer (1,529 ng/m3) and the other under a plastic carpet mat (1,833 ng/m3).

OSC Hatzopoulos discussed the survey findings with William Sweet from the Agency for Toxic Substances and Disease Registry (ATSDR). The ATSDR's Minimal Risk Level (MRL) is the concentration at which there is no appreciable risk of non-carcinogenic effects. For mercury, the MRL is 200 ng/m3, a value indistinguishable for practical purposes from EPA's Reference Concentration (Rfc) of 300ng/m3. ATSDR would prefer that no one be chronically exposed to concentrations above the MRLs, however, experience has shown that cleanup efforts for mercury spills have difficulty in achieving mercury

air concentrations below 1,000 ng/m³. While this concentration is slightly above the MRLs and Rfc, this level is still 25 times lower than the human Lowest Observed Adverse Effect Level (LOAEL) on which the MRL and Rfc are based. Therefore an indoor air concentration of 1,000 ng/m³, as measured by the highest quality data, is considered safe and acceptable by ATSDR, provided no visible metallic mercury is present.

Because the mercury concentrations in all but two of the locations were below the 1,000 ng/m³, ATSDR concluded that the building was suitable for re-occupancy. ATSDR found, however, that prudent public health practice would suggest that EPA recommend to NHDES, Clean Harbors, and the School Department, that the school be ventilated whenever practicable. OSC Hatzopoulos requested Clean Harbors to open the windows for ventilation and conduct additional cleaning under the plastic mat and remove and dispose the contaminated carpet portion.

On July 18, 2008, at approximately 2:00 pm, OSC Hatzopoulos notified the NHDES, the School Department, and Clean Harbors of the EPA/ATSDR decision and demobilized from the incident scene.

Planned Removal Actions

Clean Harbors and Covino will continue the cleanup and monitoring activities.

Next Steps

Under the request of the NHDES, Clean Harbors under simulated occupancy conditions, will collect one 8 hour sample for laboratory analysis. If the results show elevated mercury levels, NHDES may request additional EPA monitoring assistance.

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