

**PROTECTING OUR CHILDREN AND THEIR
ENVIRONMENT:**

**AN INVESTIGATION
TO DETERMINE WHETHER RELEASES
OF OIL OR HAZARDOUS MATERIALS
ARE AFFECTING SCHOOLS AND
ENVIRONMENTAL JUSTICE AREAS IN
WORCESTER, MASSACHUSETTS**

**Prepared by the Bureau of Waste Site Cleanup
Massachusetts Department of Environmental Protection**

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EXECUTIVE SUMMARY

The mission of the Massachusetts Department of Environmental Protection (MassDEP) is to protect and enhance the quality of the Commonwealth's natural resources – its air, water and land – in order to protect the health, safety and welfare of its citizens. MassDEP's Bureau of Waste Site Cleanup is charged with ensuring timely and effective responses to over 2,000 environmental emergencies such as oil spills and chemical fires each year as well ensuring that cleanups that are already underway are completed at more than 6,000 contaminated properties across the Commonwealth. The regulations that govern the investigation and cleanup of chemical spills and contaminated property in Massachusetts are known as the Massachusetts Contingency Plan (the MCP).

MassDEP conducted a targeted exposure potential and compliance evaluation of MCP sites and facilities that generate hazardous waste in the City of Worcester to determine if they have the potential to adversely impact the health, safety and welfare of school children, a particularly sensitive receptor group. MassDEP evaluated all response actions conducted at MCP sites located within 1000 feet of Worcester schools and Group Child Care centers. The MCP sites in the study area were prioritized based on the likelihood that soil or groundwater contamination might pose risk to children. Highest priority was given to releases that could impact indoor air in nearby schools or homes and sites where children might come into contact with contaminated surficial soil or could be exposed to fugitive dust blowing off-site.

MassDEP identified a total of three-hundred and three (303) reported releases of oil or hazardous materials at locations within 1000 feet of seventy-two (72) schools and forty-five (45) group child care centers. Thirty-nine (39) of the schools (54%) and twenty-nine (29) of the group child care facilities (62%) are located within Environmental Justice (EJ) communities. No releases were reported within the 1000-foot radius of twenty (20) schools or seventeen (17) group child care centers.

MassDEP's exposure potential evaluation determined the types and concentrations of chemicals released at a site and whether or not the chemicals impacted soil, groundwater or air quality, and ultimately, whether any "sensitive receptor" (such as a child) could be exposed to or come into contact with environmental contamination. MassDEP designed the compliance evaluation to determine whether the parties legally required to clean up the MCP sites were conducting response actions in accordance with MCP performance standards and cleanup deadlines.

To implement the exposure potential and compliance evaluations, MassDEP conducted file and data reviews, audited cleanup reports, and evaluated the compliance status of the parties required to cleanup the MCP sites identified throughout the study area. MassDEP also evaluated facilities permitted as large quantity hazardous waste generators and toxics users in the study area.

The exposure potential evaluation revealed the following:

- No MCP sites in the study area were found to impact the drinking water provided to residents of Worcester. Worcester is served by a public water supply system with reservoirs outside the study area;
- No sites were found that pose a health risk to nearby residents or school children as a result of a direct contact hazard or airborne dust from surficial soil contamination; and
- Three (3) releases resulted in the detection of hazardous materials in the indoor air at three (3) private schools that occupy former industrial facilities, which are MCP sites. Immediate response actions conducted at these three sites, under close MassDEP scrutiny, have made the schools safe for children.
- Heating oil releases have occurred at five (5) Worcester public school buildings, one (1) private school building, and one (1) group daycare facility. A release of gasoline occurred at one (1) Worcester public school. Each of these releases has been cleaned up and MassDEP review has determined that the response actions at these schools have been adequate.
- No other sites were found to have site conditions that could pose a health risk as a result of indoor air contamination caused by vapor migration from contaminated groundwater into nearby schools.

The compliance evaluation showed that response actions conducted by parties responsible for the contamination have been conducted properly at the majority (81%) of sites within the study area. Although site conditions were not found to pose risk to schools or nearby residents, MassDEP identified twenty-four (24) sites where response actions were found to be inadequate or behind schedule. Enforcement actions were initiated in order to get the parties responsible for the cleanups back on schedule.

MassDEP is committed to continue auditing response actions at MCP sites and taking enforcement actions when necessary to ensure that contamination is cleaned up properly and on time in Worcester and across Massachusetts.

An electronic copy of this report can be found at MassDEP's web site:
<http://mass.gov/dep/cleanup/sites/school.htm>.

If readers would like more information about this evaluation or any specific MCP site in Worcester, please contact:

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