



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 1 - NEW ENGLAND  
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**Addendum to Third Five Year Review Report (dated September 2009),  
Landfill and Resource Recovery (L&RR) Superfund Site**

A Five-Year Review addendum is generally completed for remedies where the protectiveness determination is deferred until further information is obtained. When deferring protectiveness determinations in the Five-Year Review report, a timeframe is provided for when the information will be obtained and a protectiveness statement can be made. This document provides an update on the progress that has been made at the Landfill and Resource Recovery (L&RR) Superfund Site in North Smithfield, Rhode Island (the "L&RR Superfund Site") since issuance of the third Five-Year Review for the L&RR Superfund Site and the protectiveness determination for the remedy was deferred at that time.

The third Five-Year Review report (Report) for L&RR Superfund Site was signed by James T. Owens, III, Director, Office of Site Remediation and Restoration, U.S. EPA, Region 1 - New England on September 2, 2009. The Report included the following protectiveness statement:

Protectiveness Statement in September 2, 2009 Five Year Review:

"A protectiveness determination of the remedy at the L&RR Superfund Site cannot be made at this time until further information is obtained. Further information will be obtained by restarting the enclosed flare and active landfill gas collection system and conducting performance testing and modeling to confirm compliance with performance standards. It is expected that these actions will take approximately 15 months to complete, at which time a protectiveness determination will be made."

Progress since the Third Five Year Review Completion Date:

The Report found that the interim four fluidic flares and passive landfill gas collection system were not adequately controlling landfill gas migration at the Site. The Report recommended that the Settling Defendants restart the enclosed flare and active landfill gas collection system and conduct performance testing and modeling to confirm compliance with performance standards.

The landfill gas collection system and enclosed flare were originally operated until January 2007 when the system was shut down due to significant mechanical problems. In July 2009, the blower system and enclosed flare were repaired and the landfill gas collection system and enclosed flare were reactivated to maintain a negative pressure across the landfill and control landfill gas migration. Monitoring of the collection and treatment systems included monthly measurement of methane, oxygen, carbon dioxide, temperature, and vacuum at the 18 gas extraction wells; adjustment of the flow from

individual wells as needed; and monitoring of methane, oxygen, carbon dioxide, flame temperature, and air flow rate at the enclosed flare.

Methane concentrations were also measured at numerous soil gas probes surrounding the landfill on a monthly basis to evaluate the effectiveness of the restarted collection system in controlling landfill gas migration. The performance standard for this gas probe monitoring is 1.25% methane content in accordance with Rhode Island regulations. Methane concentrations in excess of this level continued to be observed until the Spring of 2012.

In April 2011, major system upgrades and maintenance enhancements were conducted on the gas system extraction equipment. Following these system modifications, there has been a general trend of improvement in methane levels in the soil gas probes. Most recently, for the past four monthly soil gas monitoring events from April through July 2012, each of the seven of the soil gas probe monitoring locations has indicated compliance with the methane performance standards.

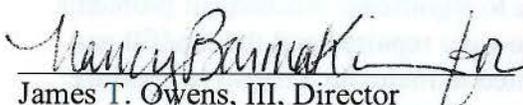
Based on the above findings, the Protectiveness Statement for the remedy at the L&RR Superfund Site is hereby revised as follows:

Protectiveness Determination:

The remedy at the L&RR Superfund Site currently protects human health and the environment because: (a) access to the Site is restricted to prevent direct exposures to waste; (b) the vegetative cover and the drainage system are constructed and maintained to prevent erosion of soil and deposition in the surrounding wetlands; and (c) the cap, the landfill gas collection system, and the flare capture and treat landfill gases to prevent exposures at the landfill boundary. However, in order for the remedy to be protective in the long-term, the existing groundwater well network needs to continue to be monitored to evaluate declining trends in groundwater volatile organic compounds (VOCs) concentrations and the need for additional plume delineation, and to monitor the effectiveness of the existing landfill closure. Finally, the remaining institutional controls required in the settlement agreement must be finalized and the required ICs must be memorialized in a decision document.

Next Five Year Review:

The next five-year review will be completed in September 2014, five years after the signature of the last five-year review report.

  
James T. Owens, III, Director  
Office of Site Remediation and Restoration  
U.S. EPA, Region 1 - New England

08/27/12  
Date

Issues and Recommendations per Addendum to Third Five Year Review Report, L&RR Superfund Site:

Issue	Recommendations and Follow-up Actions	Party Responsible	Oversight Agency	Milestone Date	Affects Protectiveness	
					Current	Future
The interim four fluidic flares and passive landfill gas collection system are not adequately controlling landfill gas migration at the Site.	Restart the enclosed flare and active landfill gas collection system and conduct performance testing and modeling to confirm compliance.	Settling Defendants	EPA	9/30/12	N <sup>1</sup>	N
Several contaminants are present in one downgradient groundwater monitoring well beyond the landfill boundary at concentrations above MCLs. <sup>2</sup>	Continue monitoring the existing groundwater well network and continue to evaluate declining trends in groundwater VOCs concentrations and the need for additional plume delineation and monitor effectiveness of the existing landfill closure.	Settling Defendants	EPA	12/30/13	N	Y
Required Institutional Controls have not been implemented. <sup>2</sup>	Finalize Land Usage Restrictions, record ICs, and memorialize the ICs requirement in a decision document.	Settling Defendants	EPA	12/30/13	N	Y

Notes

1. The Amended Protectiveness Statement documents the determination that the remedy is protective in a short term.
2. These Issues and Recommendations have not changed from the Third Five Year Review dated September 2, 2009. Milestone dates have been changed based on current site status.