

**WASTE EVALUATION & ENFORCEMENT BRANCH CHIEF
ACTION REQUEST**

To: Lorraine Van Kekerix, Branch Chief
Waste Evaluation and Enforcement Branch

From: 
Georgianne Turner, Section Manager
Solid Waste Enforcement Section

Prepared By: Zane Poulson, Solid Waste Enforcement Section

Request Date: August 12, 2013

Action By: September 6, 2013

Decision Subject: Consideration of an Extension to the Final Compliance Schedule Due Date for a Facility included on the Inventory of Facilities that Violate State Minimum Standards (Inventory), Bass Hill Landfill (18-AA-0009)

SUMMARY

In March 2011, CalRecycle staff detected methane levels above the regulatory limit of 5% by volume in air at the facility's landfill gas monitoring well, LFG-1. In April 2011, the LEA detected methane levels above the regulatory limit of 5% by volume in air at LFG-1 and the remaining well LFG-2, continuing until present. Pursuant to Title 27, California Code of Regulations (27 CCR), the facility owner/operator is required to implement a Remediation Plan, approved by the LEA and CalRecycle, within 60 days of detection. The owner/operator submitted a Remediation Plan in February 2012, nearly a year after high methane levels were first detected.

On September 6, 2011, the facility was placed on the Inventory of Solid Waste Facilities Violating State Minimum Standards (Inventory) for ongoing violations of 27 CCR 20921 – Gas Monitoring and Control. The owner/operator's Remediation Plan proposed to achieve compliance by leasing or purchasing the adjacent property owned by California Department of Fish and Wildlife (CDFW) and revise their Solid Waste Facilities Permit to extend the permitted facility boundary. The Lassen County LEA issued a Compliance Schedule reflecting the Remediation Plan to the owner/operator, with a final compliance date of September 6, 2012. The owner/operator was unable to successfully negotiate an agreement with CDFW by the final compliance date. The LEA granted the owner/operator a one-year extension to September 6, 2013, to allow the owner/operator additional time to negotiate a land lease or purchase with CDFW, to modify the facility's permit to incorporate

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the revised permitted facility boundary and to install the two new perimeter gas monitoring wells at the perimeter of the revised permitted facility boundary.

The owner/operator installed two new gas monitoring wells, LFG-3 and LFG-4 outside the facility boundary on June 26, 2013, to determine the extent of landfill gas migration and to determine how much additional property was needed. Methane levels in the new wells were found to be above regulatory limits. The owner/operator is now negotiating with CDFW to lease or purchase enough property to insure that they are able to extend the permitted facility boundary beyond the landfill gas migration. The owner/operator requested an extension of one year.

OPTIONS

1. Approve the one year extension for the final compliance due date of September 6, 2014.
2. Conditionally approve the extension for a period less than one year, requiring the operator to submit a revised Perimeter Gas Monitoring and Control Plan, which includes gas monitoring wells around the entire perimeter of the landfill in accordance with 27 CCR 20925, a methodology of determining the extent of landfill gas migration and analysis of a remediation alternatives other than expanding the permitting facility boundary of the landfill.
3. Deny the extension to the final compliance due date. Direct the LEA to take specific further enforcement action.

ANALYSIS AND FINDINGS

Background

The Bass Hill Landfill (19-AA-0009) is owned and operated by Lassen County. The facility is located in a rural area, approximately six miles southeast of Susanville, just off of Highway 395. The area has a high desert climate with warm summers and cold winters, often below freezing. The annual precipitation averages around 16 inches per year.

The facility boundary encompasses 200 acres, with a 32 acre disposal area. The facility only accepts waste from within Lassen County. The facility is bordered on the east and south by State land controlled by the California Department of Fish and Wildlife (CDFW) and to the north and west by land owned by the Federal Government. The facility does not have a gas extraction system or a passive venting system for controlling landfill gas within the permitted boundary.

Perimeter gas monitoring wells are required, pursuant to 27 CCR 20925, to be placed at or near the permitted facility boundary, with a distance of no greater than 1,000 feet between gas monitoring wells, unless the LEA approves and CalRecycle concurs on an alternative well placement. Bass Hill Landfill's Perimeter Gas Monitoring and Control Plan was approved on August 6, 2009, for the installation of a single perimeter gas monitoring well because it was thought that the landfill had little potential for gas generation and migration and there were limited receptors near the landfill.

In June 2010, the owner/operator initially installed the gas monitoring well (LFG-1) with a single shallow probe, near the southeast corner of the landfill, in accordance with their approved Perimeter Gas Monitoring and Control Plan. The initial methane levels in the probe were recorded at just below 5% by volume in air.

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Because of concerns that gas could be migrating beyond the facility boundary in another area of the landfill, the owner/operator installed a second perimeter gas monitoring well (LFG-2) two hundred feet north of the original well within the eastern perimeter of the landfill in September of 2010. The second well consisted of a single shallow probe. Initial methane levels were recorded at just below 5% by volume in air at LFG-2.

In March of 2011, the methane levels in LFG-1 were recorded at 6% by volume in air and in LFG-2 just below 5% by volume in air. In April of 2011, the methane levels in both LFG-1 and LFG-2 rose significantly to 63% and 51% by volume in air, respectively. Since April 2011, the LEA has continued to monitor LFG-1 and LFG-2 monthly and has documented violations for LFG-1 and LFG-2 exceeding the regulatory limits for methane concentration to present. Often both probes have been in excess of 60% methane by volume in air. Due to the consecutive violations, the facility was put on the Inventory on September 6, 2011 and the LEA issued a Compliance Schedule requiring the owner/operator to negotiate with the owner of the property adjacent to the landfill toward the lease or purchase of that adjacent property, extending the permitted facility boundary beyond the area affected by landfill gas migration by modifying the facility's permit to incorporate the additional area, and install two new perimeter gas monitoring wells at the new permitted facility boundary.

The owner/operator submitted a LFG Remediation Plan on February 7, 2012. The Remediation Plan was approved by the LEA and CalRecycle in February 2012. The Remediation Plan was consistent with the approved Compliance Schedule. It proposed acquiring adjacent land from CDFW, expanding the landfill boundary to beyond the extent of the landfill gas migration, and installing two new perimeter gas monitoring wells at the new landfill boundary.

The facility owner/operator obtained a Right of Entry Permit from the CDFW to drill test wells on CDFW property to the east of the landfill boundary. Two test wells (LFG-3 & LFG-4) were installed 95 feet from the eastern boundary of the facility on June 26, 2013.

Methane levels were measured at the new test wells and found to be above the regulatory limit of 5% by volume in air. On the July 2013 inspection report, the LEA reported methane levels of 17% in LFG-3 and 14% in LFG-4.

According to the owner/operator's August 2, 2013, letter to the LEA, the owner/operator is planning to meet with CDFW to review the landfill gas issue and develop a plan to extend the permitted facility boundary beyond the gas flux zone.

Analysis

The facility's waste footprint is near the eastern and southern portion of the permitted facility boundary. LFG-1 is located within the permitted facility boundary on the southeast corner of the facility. LFG-2 is within the permitted facility boundary along the eastern side of the landfill, 200 feet north of LFG-1. Gas monitoring wells LFG-3 and LFG-4 are both located 95 feet outside the permitted facility boundary, to the east. The owner/operator has not proposed to monitor gas along the north, south, or west perimeter of the facility, although monitoring results in monitoring wells LFG-1 through LFG-4 indicate that a large amount of landfill gas is being generated at the site and there are no geologic or other barriers preventing landfill gas from migrating in directions other than east of the facility.

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CalRecycle's August 23, 2009, letter regarding the approval of the Bass Hill Landfill's Gas Monitoring and Control Plan states that CalRecycle's concurrence does not preclude CalRecycle from requiring installation of additional gas monitoring wells as additional information may become available, such as changes in on-site conditions and/or surrounding land use.

High methane readings along the facility's perimeter at the locations of LFG-1 and LFG-2 and the migration of methane well beyond the eastern perimeter of the facility constitute "changes in on-site conditions" from the conditions that were described in the 2009 Perimeter Gas Monitoring and Control Plan. CalRecycle staff may require the owner/operator to install additional perimeter gas monitoring wells in accordance with the requirements outlined in 27 CCR 20925, with perimeter gas monitoring wells spaced at distances of no greater than 1,000 feet at or near the permitted facility boundary.

FINDINGS

The owner/operator has made some progress towards compliance by negotiating with CDFW to obtain a Right of Entry Permit to allow the owner/operator to drill two new gas monitoring wells on CDFW property to investigate the extent of landfill gas migration. However, the owner/operator has not yet determined the *entire* extent of gas migration beyond the facility's boundaries. Nor has the owner/operator submitted a revised Remediation Plan describing how they plan to fully determine the extent of the landfill gas. Based on further data and the extent of the waste, the owner/operator may need to consider other means of remediation rather than purchasing or leasing property from CDFW to extend the eastern boundary of the facility. Furthermore, it is not clear how much property from CDFW the owner/operator would need or plans to purchase or lease.

The approval of a single perimeter gas monitoring well at the landfill was based on the assumption that very little landfill gas was being generated at the site due to the dry climate. LFG-1 was placed in the location that was determined to be the most likely area for detecting landfill gas at the facility perimeter. Based on the geology of the area and the placement of the waste, LFG-1 was located in the southeast corner of the permitted facility boundary.

CalRecycle's concurrence of the facility's Perimeter Gas Monitoring and Control Plan reserved the right for CalRecycle to require additional perimeter gas monitoring wells if information became available to indicate that conditions are different than those described in the facility's approved Perimeter Gas Monitoring and Control Plan.

Based on the factors set forth in 14 CCR 18084, the owner/operator has made some progress toward compliance but has not made an adequate good faith effort to justify a full one year extension in implementing a Compliance Schedule. Therefore, it is not reasonable to grant the full year requested by the owner/operator without additional conditions on the owner/operator and increased enforcement action by the LEA.

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RECOMMENDATION

CalRecycle staff recommend that the owner/operator be granted a conditional extension for the following reasons:

- The owner/operator has made some progress in working with the CDFW to install two new gas monitoring wells on CDFW property to investigate the extent of gas migration to the east of the facility.
- The owner/operator has not completed the three items that were included in the most recent Compliance Schedule, which include:
 - Negotiating a lease or purchase of property adjacent to the landfill;
 - Submittal of a permit application package to incorporate the revised permitted facility boundary; and
 - The installation of two new perimeter gas monitoring wells at the revised permitted facility boundary.
- Based on the factors set forth in 14 CCR 18084, the owner/operator has not made an adequate good faith effort to justify a one-year extension to implement the Compliance Schedule.
- The original approval of a single gas monitoring well in the facility's Gas Monitoring and Control Plan was based on an assumption that very little gas was being generated at the site, an assumption which is contradicted by recent gas monitoring results.
- CalRecycle reserved the right to require the owner/operator to install additional perimeter gas monitoring wells around the perimeter of the landfill, in accordance with 27 CCR 20925, if conditions at the landfill changed.

CalRecycle staff recommends extending the compliance due date for less than one year, with the option to extend the compliance due date, if the owner/operator is adequately meeting specific conditions as outlined in a Notice and Order.

CalRecycle staff recommend that as a condition of the extension approval, the LEA issue a Notice and Order which includes the following requirements:

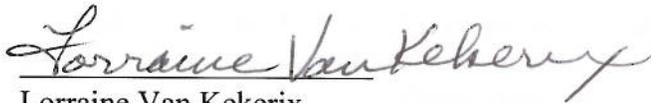
- The operator will submit revised Perimeter Gas Monitoring and Control Plan, which includes perimeter gas monitoring wells around the entire perimeter of the landfill in accordance with 27 CCR 20925, within 120 days:
 1. The operator will submit a schedule for the implementation of an updated Perimeter Gas Monitoring and Control Plan following LEA approval and CalRecycle concurrence.
 2. The operator will submit a revised Remediation Plan outlining the methodology of determining the extent of landfill gas migration and analysis of remediation alternatives, other than expanding the permitted facility boundary.
 3. The operator will submit monthly reports to the LEA and CalRecycle on progress and efforts that have been taken.

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BRANCH CHIEF ACTION:

On the basis of the information in this Request for Action, I hereby issue, pursuant to 14 CCR 18365(b), approval of a six month extension to the owner and operator of the Bass Hill Landfill (18-AA-0009) to March 6, 2014. On or before the end of six months, the LEA may request an additional six months on behalf of the owner/operator of the facility. If the owner/operator is making diligent progress in meeting the compliance deadlines incorporated in a revised Notice and Order the timeframes may be extended.

Dated: 9/23/2013



Lorraine Van Kekerix
Branch Chief
Waste Evaluation and Enforcement Branch