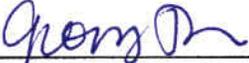


**WASTE EVALUATION & ENFORCEMENT BRANCH CHIEF  
ACTION REQUEST**

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

**From:**   
Georgianne Turner, Section Manager  
Solid Waste Enforcement Section

**Prepared By:** Jon Whitehill, Solid Waste Enforcement Section

**Request Date:** April 11, 2012

**Action By:** April 18, 2012

**Decision Subject:** Consideration of an Extension to the Compliance Schedule Due Date for a Facility included on the Inventory of Solid Waste Facilities Which Violate State Minimum Standards (Inventory), West Central Landfill, Facility No. 45-AA-0043, Shasta County

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**SUMMARY**

On March 26, 2010, the West Central Landfill was included on the Inventory for ongoing violations of Title 27, California Code of Regulations (CCR), Section 20921 – Gas Monitoring and Control. In response, the Shasta County LEA issued a compliance schedule, in the form of a Notice and Order (N&O), on April 12, 2010, which included a final compliance date of November 1, 2011, to control the migration of landfill gas at all probes in the approved alternative perimeter monitoring network.

A landfill gas control and collection system was installed and operational by October 15, 2011, as required by the N&O.

On October 31, 2011, the LEA determined that the operator had made a good faith effort to comply with the N&O and granted the operator an extension to April 1, 2012, to control the migration of landfill gas at all probes in the approved alternative perimeter monitoring network.

The operator has since determined that they will not be able to meet the final compliance date of April 1, 2012, as specified in the LEA's October 31, 2011 extension to the N&O. During implementation of the approved remediation plan and continuous operation of the new landfill gas collection and control system, the operator has determined that it will take longer than expected to bring perimeter landfill gas concentrations into compliance with applicable requirements.

Title 14 CCR 18365 allows the LEA to issue a compliance schedule with a final compliance date beyond two years from the date the facility is included on the Inventory, only upon approval of CalRecycle. Therefore, on March 30, 2012, the LEA submitted a request to CalRecycle requesting a deadline extension of 18-months beyond the two years allowed for in 14 CCR 18365. Although the request is seeking an 18-month extension, 14 CCR 18365 provides that CalRecycle may grant a one-year extension beyond the two years of inclusion on the

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

Inventory. CalRecycle staff have notified the LEA of the provisions provided in 14 CCR 18365 regarding CalRecycle's one year extension approvals and that a one year extension will be considered, but an 18-month extension would not be granted.

### **OPTIONS**

1. Approve a one-year extension for the proposed compliance due date to March 26, 2013.
2. Deny the extension request to the compliance due date.

### **ANALYSIS AND FINDINGS**

#### **Background**

The West Central Landfill is located 10 miles southwest of Redding in a remote area of the foothills west of Interstate 5. The landfill is owned and operated by the County of Shasta. The contract operator is the City of Redding. The facility is permitted for a maximum of 700 tons of waste per day and accepts an average of about 400 tons per day.

The landfill gas monitoring and control plan, as required by 27 CCR 20921, was approved on July 13, 2009. The approved landfill gas monitoring and control plan was implemented and 13 new perimeter gas monitoring probes were installed in August 2009. Concentrations of methane above 5% by volume were first detected in perimeter wells MP-2, MP-4, and MP-11 on September 30, 2009, and verified during re-sampling on October 29, 2009.

The LEA issued a violation for landfill gas migration on October 13, 2009, when the first quarterly monitoring of the newly installed monitoring probes documented that perimeter monitoring probes MP-2, MP-4, and MP-11 were above 5% methane by volume.

CalRecycle 18-month inspections conducted on November 4, 2009 and May 3, 2011, verified that methane concentrations in the three perimeter monitoring probes of concern were between 10% and 60% by volume.

The operator submitted a gas migration and remediation plan on November 19, 2009. An amended landfill gas remediation plan was approved by CalRecycle on December 23, 2009.

Prior to implementation of the remediation plan, the landfill did not have a landfill gas collection and control system. The remediation plan proposed a phased approach, which included collecting data on landfill gas composition and generation, hiring a contractor to design and install the system, and finally installation and operation of a landfill gas collection and control system. A new landfill gas collection and control system was installed and operational in October 2011.

#### **Analysis**

The operator installed the landfill gas collection and control system on October 12, 2011, in accordance with the approved remediation plan and prior to the October 15, 2011 due date specified in the N&O.

Methane concentrations in MP-2, MP-4, and MP-11 have not yet exhibited a significant downward trend in the five months since the system began operating. The most recent monitoring event on March 29, 2012, demonstrated that landfill gas levels were between 12% and 60% methane in all screening levels of probes MP-2, MP-4, and MP-11. However, this is not unusual for a landfill starting up a new landfill gas collection and control system. The capacity and vacuum of the system must be slowly increased and optimized while monitoring the integrity of all wells and headers to ensure that landfill gas is controlled at a sufficient rate without overpulling (i.e., without introducing oxygen into the waste prism which could lead to subsurface

## WASTE EVALUATION & ENFORCEMENT BRANCH CHIEF ACTION REQUEST

heating/fire). It is expected that landfill gas migration will decrease to below the regulatory limit of 5% methane by volume as the flow rate of the new collection and control system is adjusted. In addition, landfill gas that has accumulated off-site over time takes time to control, dissipate and break down. All other perimeter gas monitoring probes continue to be in compliance. The operator and consultant contend that the gas collection and control system is operating as expected.

During implementation of the remediation plan, the operator determined that all effected probes are likely in the vicinity of pre-existing drainage courses and associated subsurface alluvial deposits overlain by clay soils, which both allow the gas to accumulate and at the same time resist dissipation.

### FINDINGS

The owner and operator have made significant progress and good faith effort in bringing the facility back into compliance, especially considering that the site did not previously have a landfill gas collection and control system. The operator did install a new landfill gas collection and control system by the October 15, 2011 date specified in the N&O and continues to make adjustments to the system. Additionally, the generation and migration of landfill gas was more extensive than originally assessed. Based on the factors set forth in 14 CCR 18084, the operator has made a good faith effort and the LEA is taking appropriate enforcement action. Therefore, it is reasonable to grant additional time to bring the facility into full compliance and to ensure that the facility's new landfill gas collection and control system will be sufficient to control the facility's landfill gas generation.

### RECOMMENDATION

CalRecycle staff recommends that the facility be granted a one-year extension. Although the LEA's and operator's requests are for an additional 18-months, 14 CCR, Section 18365 provides that CalRecycle may grant a one-year extension beyond the two years of inclusion on the Inventory.

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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, Section 18365(b), approval of a one-year extension to the owner and operator of the West Central Landfill, Facility No. 45-AA-0043, to March 26, 2013.

Dated: 16 April, 2012



Lorraine Van Kekerix  
Branch Chief  
Waste Evaluation and Enforcement Branch

Attachment – LEA Request Letter (March 30, 2012)





# Shasta County

DEPARTMENT OF RESOURCE MANAGEMENT  
1855 Placer Street, Redding, CA 96001

Russ Mull, R.E.H.S., A.I.C.P.  
Director

Richard W. Simon, AICP  
Assistant Director

March 30, 2012

Lorraine Van Kekerix, Branch Chief  
Waste Evaluation and Enforcement Branch  
California Department of Resources, Recycling and Recovery  
P.O. Box 4025 Mail Stop 10A-17  
Sacramento, CA 95812

## CORRECTIVE ACTION SCHEDULE EXTENSION REQUEST FOR THE WEST CENTRAL LANDFILL, SHASTA COUNTY, SWIS # 45-AA-0043

The Shasta County Environmental Health Division (SCEHD) received an extension request on March 20, 2012, from the Shasta County Department of Public Works (Operator) for the Corrective Action Schedule in the April 12, 2010. Notice and Order (Order) for the West Central Landfill issued by SCEHD. The SCEHD is requesting approval of this Order extension from the California Department of Resources, Recycling, and Recovery on behalf of the Operator pursuant to 14CCR, Section 18365.

The Order to comply contained specific time frames for compliance. On October 31, 2011, EHD extended the original dates to install and begin operation of the GCCS by November 15, 2011; and achieve compliance with regulatory maximum levels of methane at all probes in the approved perimeter monitoring network by April 1, 2012, of which the LEA shall be on-site during sampling of gas monitoring probes to confirm compliance with 27CCR, Section 20921.

The current request is for an additional 18 months until October 1, 2013, to give the Operator time to obtain compliance at the three perimeter gas monitoring wells that are currently in violation or move/add monitoring wells to achieve compliance. The same conditions from the Order will apply. Quarterly monitoring shall continue unless it is determined that monthly or bimonthly monitoring is necessary. Based on inspection observations and the Operator's discussion of conditions of the site and the operation of the Gas Control and Collection System (GCCS), the facility Operator has made significant progress toward compliance. Other time frames in the Order have been met to date.

State 101

AIR QUALITY MANAGEMENT DISTRICT  
530 225-5674  
Fax 530 225-5237

State 102

BUILDING DIVISION  
530 225-5761  
Fax 530 245-6168

State 103

PLANNING DIVISION  
530 225-5532  
Fax 530 245-6168

State 201

ENVIRONMENTAL HEALTH DIVISION  
530 225-5787  
Fax 530 225-5413

State 206

ADMINISTRATION & COMMUNITY EDUCATION  
530 225-5789  
Fax 530 225-5807

Lorraine Van Kekerix  
Page 2  
March 30, 2012

Thank you for your consideration. Please contact me should you have any questions or need additional information.

Sincerely,



Carla Serio, R.E.H.S.  
Waste Management Specialist

CS/pw  
LVKMAR30-12.WPD

Enclosures(3)

- c: Paul Clemens, City of Redding Solid Waste Utility
- John Heath, Shasta County Department of Public Works
- Jon Whitehill, CalRecycle
- Dale Stultz, California Regional Water Quality Control Board
- Lindsey Watt, Shasta County Air Quality Management District



# Shasta County

## DEPARTMENT OF PUBLIC WORKS

1855 PLACER STREET  
REDDING, CA 96001-1759  
530.225.5661 530.225.5667 FAX  
800.479.8022 California Relay Service at 700 or 800.735.2922

**PATRICK J. MINTURN, DIRECTOR**  
C. TROY BARTOLOMEI, DEPUTY  
SCOTT G. WAHL, DEPUTY

March 20, 2012

FWS 070319

Carla Serio  
Waste Management Specialist  
Shasta County Department of Resource Management  
Environmental Health Division  
1855 Placer Street  
Redding, CA 96001

**RECEIVED**

MAR 20 2012

Subject: West Central Landfill Corrective Action Schedule

**DEPARTMENT OF RESOURCE MGMT  
ENVIRONMENTAL HEALTH DIVISION**

Dear Carla:

With regards to the April 2010 Notice and Order ("Order") concerning migration of methane beyond the facility's permitted boundary, an additional extension of the compliance deadline presented as Item 5 in the Order's Corrective Action Schedule is requested. Previously, upon our request, your office granted an extension of the Order's original November 1, 2011 deadline to April 1, 2012. We are requesting an additional extension of this deadline to October 1, 2013.

The facility's gas collection and control system (GCCS), installed in response to the gas migration detected at the facility, has been operational since October 2011. We had hoped that the intervening time would be sufficient to eliminate the methane previously detected in monitoring probes MP-2, MP-4 and MP-11. Unfortunately, data gathered recently indicates that methane above the 5% compliance limit is still being detected in these probes.

In coordination with Cornerstone Environmental Group, our landfill gas consultant, we have developed the following theory as to why the methane detections persist: The GCCS is operating as expected and gas migrating from the waste pile has diminished. Elevated levels of methane continue to be detected at probes MP-2, 4 and 11 because the large volumes of gas which have accumulated have had insufficient time to dissipate. All of the affected probes are in the vicinity of pre-development drainage courses and the subsurface alluvial deposits suspected to be present in these areas support, by their

Carla Serio, Waste Management Specialist  
March 20, 2012  
Page 2

nature, the accumulation of large volumes of gas. Complicating this is the presumption that these alluvial deposits are likely overlain by deposits of fine-grained silty/clayey soils which are prevalent at the site. These soils, by their nature, would tend to resist the dissipation of gas. The combined result is large volumes of gas which are slow to dissipate.

In accordance with this theory we are proposing the following course of action:

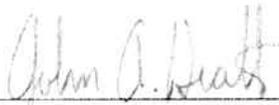
1. March 2012 — March 2013: Migrated gas allowed to dissipate. Continued quarterly monitoring of perimeter monitoring probes.
2. April — May 2013: If methane concentrations persist, begin engineering for additional compliance measures (e.g. additional gas extraction wells, perimeter gas collection system, relocation of perimeter monitoring probes, etc.).
3. June — September 2013: Implement additional compliance measures.
4. October 1, 2013: Achieve compliance.

With regards to the potential impact to public health and safety as offered by the extended timeline, the remoteness of the facility and the sparseness of residences and other facilities around the landfill combine to offer little or no threat to public health and safety.

Thank you for your consideration in this matter. If you have any questions or comments please contact me at (530) 245-6596 or [jheath@co.shasta.ca.us](mailto:jheath@co.shasta.ca.us).

Sincerely,

Patrick J. Minturn, Director

By   
\_\_\_\_\_  
John A. Heath, Supervising Engineer  
Traffic/Solid Waste Division

JAH/dw