

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

**To:** Georgianne Turner, Branch Chief  
Waste Evaluation and Enforcement Branch



**From:** Paulina Lawrence, Section Manager  
Solid Waste Enforcement Section

**Prepared By:** Anthony VanderSchaaf, Solid Waste Enforcement Section

**Request Date:** March 12, 2015

**Action By:** April 24, 2015

**Decision Subject:** Consideration of an Extension to the Compliance Schedule Due Date for a Facility included on the Inventory of Facilities that Violate State Minimum Standards (Inventory), Highway 59 Disposal Site, Merced County (24-AA-0001)

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**SUMMARY**

The Highway 59 Disposal Site is located on Highway 59 approximately six miles north of Merced, and is owned and operated by the Merced County Waste Management Authority. The total landfill property encompasses approximately 610 acres, of which 255 acres is designated for waste disposal. Adjacent land use is either zoned agricultural or is designated wetland and grassland habitat. No habitable structures exist within one mile of the eastern boundary of landfill. The nearest inhabited structure is approximately 1200 feet south of the landfill boundary.

The Highway 59 Disposal Site Facility (No. 24-AA-0001) was added to the Inventory on January 8, 2013 for ongoing violations of **27 CCR 20921 – Gas Monitoring and Control**. In response, the Merced County LEA issued a Notice and Order (N&O) to the operator on January 23, 2013, with an initial final compliance date of January 23, 2014, which was extended to January 23, 2015.

Title 14, California Code of Regulations (CCR) 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.

## WASTE EVALUATION & ENFORCEMENT BRANCH CHIEF ACTION REQUEST

The LEA is now requesting *a first Extension to the compliance due date to July 23, 2015*. The LEA has determined that the operator continues to make a good faith effort due in part to implementation of the approved remediation plan, adjustments to the gas collection and control system (GCCS), installation of four additional vadose zone extraction wells, and weekly monitoring which demonstrates progress towards compliance.

### OPTIONS

1. Approve the six month extension for the proposed compliance due date to *July 23, 2015*.
2. Conditionally approve the extension request.
3. Deny the extension request and direct the LEA to take increased enforcement action.

### BACKGROUND

- September 29, 2011: Methane exceedances of 5% by volume were detected in LFG probes GW-44 and GW-45. The two probes were installed earlier in 2011 near the northeast corner of the recently closed area of the landfill, Phases 1 through 4. Elevated levels of methane were confirmed by the operator on September 30, 2011 and October 6, 2011.
- October 2011: The operator notified the LEA of the exceedance at GW44 and GW45 and of actions taken to immediately protect public health and safety.
- October 2011: The operator began the ongoing process of adjusting and rebalancing the GCCS to extract more gas from the wells located near GW44 and GW45. The operator also increased the monitoring frequency to a weekly basis and submitted the results to the LEA.
- November 30, 2011: The operator submitted the remediation plan to the LEA which proposed a phased installation of both vadose zone wells and in-waste extraction wells while continuing to make adjustments to the GCCS.
- On December 13, 2011, the LEA first cited a violation for Title 27, Section 20921 - Gas Monitoring and Control. However, from January through May 2012, the LEA cited Section 20939 - Control of Excessive Gas Concentrations – rather than 20921. In June 2012, the LEA resumed citing 20921, but because inspection reports were not submitted to CalRecycle until September 2012, the Inventory process was delayed.
- May 2012: Two new vadose zone (soil vapor) extraction wells (VZ-1 and VZ-2) were installed near GW44 and GW45 and connected to the existing GCCS to control LFG migration. The subsequent results of weekly monitoring showed only periodic compliance at GW44 and GW45.
- On October 3, 2012, the operator was sent a 90-day Notice of Intent letter for potential inclusion in the State Inventory of Facilities that Violate State Minimum Standards (Inventory).
- On January 8, 2013, the facility was placed on the Inventory for ongoing violations of 27 CCR 20921.

## WASTE EVALUATION & ENFORCEMENT BRANCH CHIEF ACTION REQUEST

- On January 23, 2013, the LEA issued a Notice and Order (which included a compliance schedule) to the operator with an original compliance date of January 23, 2014. Technically, the final compliance date should have been *January 8, 2014*, within one year from the date of the inclusion letter per Title 14 Section 18365(b).
- On February 18, 2014, after notifying CalRecycle in writing per Title 14 Section 18365(b), the LEA approved the operator's request to extend the compliance deadline by one year, with a new final compliance date of January 23, 2015 (again, this should have been January 8<sup>th</sup>, see above).
- Prior to the compliance date of January 23, 2015, the operator determined that they would be unable to meet the final compliance date and submitted an extension request to the LEA. Despite implementing remediation strategies recommended by SCS Engineering, as documented in the increased monitoring frequency results, the operator has been unable to consistently comply with the maximum allowable 5% by volume of methane at the facility boundary.
- On February 5, 2015, the Merced County LEA submitted a Compliance Extension Request to CalRecycle citing the good faith efforts discussed below.

### ANALYSIS

The LEA may grant a one-year extension beyond two years upon approval by CalRecycle's Executive Director or his/her delegate. CalRecycle approval is based upon a finding that the LEA is taking "appropriate enforcement action" using the criteria of Title 14 Section 18084(d) which takes into account timely progress by the operator in addition to demonstrations of "good faith effort" and documentation of "extenuating circumstances". The following findings support the recommendations of this report:

- When landfill gas migration was first detected in late 2011, methane levels in GW44 and GW45 were typically between 38% and 46%.
- The operator documented *compliance* at both GW44 and GW45 for a *five month* period from May 14 to September 10, 2014. However, methane levels began to increase again on September 16, 2014, especially at GW45.
- More recently, all three screening levels of GW44 have been in compliance since October 8, 2014. Although methane levels of GW45 have recently increased, only the intermediate screening level is currently out of compliance.
- In October 2014, the operator completed implementation of the remediation plan by installing four additional vadose extraction wells near GW44 and GW45. However the four new vadose wells were not connected to the existing GCCS and operating until December 2014. The operator continues adjustment and rebalancing of the GCCS and continues weekly monitoring and reporting.
- February 5, 2015: The LEA reviewed the operator's January 20<sup>th</sup> request for a one-year extension and agreed to only a *six month* extension, on the condition that the operator submit a new remediation plan if the recently installed vadose zone wells do not demonstrate a significant decrease in LFG migration within three months.

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

**FINDINGS:**

The owner and operator have demonstrated progress and good faith effort by implementing the remediation plan in a timely manner as required by the LEAs compliance schedule, including the recent installation of additional vadose zone extraction wells. Additionally, the operator continues weekly monitoring and demonstrated five months of compliance from May through September 2014. Only the intermediate screening level of GW45 has not shown recent continued improvement. 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 the additional time to bring the facility into full compliance.

**RECOMMENDATION:**

Due to recent actions by the operator described above and the downward trend in gas levels, CalRecycle staff recommends the operator be granted a six month extension, until July 23, 2015. CalRecycle staff has reviewed the operator's extension request, including documentation of good faith effort, and agree with the LEA's determination that it is reasonable to extend the compliance date, allowing the operator additional time to monitor the effectiveness of the implemented remediation plan and for the operator to develop a new remediation plan if additional significant progress is not demonstrated.

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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 Highway 59 Disposal Site Facility (No. 24-AA-0001) to July 23, 2015.

Dated: 4/22/2015



Georgianne Turner  
Branch Chief  
Waste Evaluation and Enforcement Branch

**Attachments:**

Operator Extension Request Letter  
LEA Extension Request Letter



## DEPARTMENT OF PUBLIC HEALTH

Kathleen Grassi, R.D., M.P.H.

Director

Ron Rowe, R.E.H.S., M.P.A.

Environmental Health Director

February 5, 2015

Ms. Georgianne Turner, Branch Chief  
Waste Evaluation and Enforcement Branch  
Department of Resources Recycling and Recovery  
1001 I Street, MS- 10A-17  
Sacramento, CA 95814

RECEIVED  
FEB 18 2015

BY: \_\_\_\_\_

**Subject:** Compliance Extension Request  
**Site:** Hwy 59 Disposal Site  
7040 N. Hwy 59  
Merced, CA 95348  
**Facility ID:** 24-AA-0001

Ms. Turner,

Please find attached a request from the operator of the Hwy 59 Disposal Site for an extension of the compliance schedule listed in the "Remediation Work Plan Request Approval" dated February 18, 2014 and a corresponding request to extend the compliance schedule for one additional year, for a final compliance date of January 23, 2016. The Merced County LEA believes that the operator and other interested parties, will understand if the proposed extraction wells are functioning as intended by July 23, 2015 and hereby request the extension be for a period not to exceed six (6 months) from the original extension deadline of January 23, 2015.

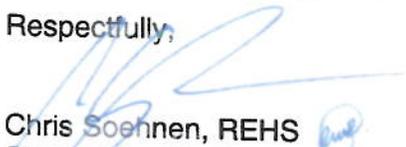
Recent submitted sampling data, and correlated with the most current LEA inspection (January 28, 2015) gas monitoring results for gas wells 44 and 45, show that vadose extraction wells have begun to reduce methane gas levels as engineered. The extraction wells went on line in mid-December of 2014 and these results show that the operator has potentially begun to operate the extraction wells to address landfill gas migration.

In addition, the operator has complied with the conditions set forth in the original "Remediation Work Plan Request Approval" of weekly monitoring and logging at locations where results indicate that the landfill gas migration is occurring or is accumulating and has been submitting these results to the LEA as requested.

The Merced County LEA agrees that the operator's request is reasonable and respectfully requests CalRecycle to Concur with granting an extension making the final compliance date July 23, 2015. The LEA will, as a condition of approval of the extension request, require the operator to submit an updated remediation plan if there is no significant decrease in gas levels within 3 months, as determined by the LEA. The LEA will also require that the operator adopt a weekly sampling plan to better understand the gas migration trends.

DEPARTMENT OF PUBLIC WORKS  
MERCED  
If you have any questions or concerns regarding this matter, please feel free to contact me at (209) 381-1093 or at [csoehnen@co.merced.ca.us](mailto:csoehnen@co.merced.ca.us).

Respectfully,



Chris Soehnen, REHS  
Supervising Environmental Health Specialist  
Merced County Division of Environmental Health

enclosures

cc's: Anthony VanderShaff, Environmental Scientist, DRRR/CalRecycle

**HIGHWAY 59 LANDFILL  
METHANE MIGRATION  
CHRONOLOGY OF EVENTS  
BEGINNING SEPTEMBER 29, 2011**

1. September 29, 2011: Detected methane exceeding 5% in perimeter LFG probes GW-44 and GW-45.
2. October 5, 2011: Letter submitted to LEA providing notice of perimeter probe methane exceedance.
3. October 2011: Adjustment and rebalance the GCCS to extract more gas from wells located near GW44 and GW45 and continue to monitor both probes.
4. May 2012: Installation of two vadose zone extraction wells (VZ-1 and VZ-2) to control LFG migration near GW-44 and GW-45. Both extraction wells were constructed to a depth of 53 feet and connected to the existing GCCS system in Phase 1 to 4 by 4-inch HDPE pipe.
5. May 2012 through December 2013: Results of monitoring probes, GW-44 and GW45, showed only periodic compliance with methane migration standards. The majority of the monitoring events showed methane exceeding 5% in GW-44 and GW-45. Continued to adjust GCCS vacuum.
6. January 22, 2014: LEA letter requesting one year extension to comply with methane migration.
7. October 2014: Completed construction of four additional vadose extraction wells.
8. December 2014: Four additional vadose extraction wells connected to existing GCCS.
9. January 20, 2015: Letter sent to LEA requesting one year extension to comply with methane migration issue.



**MERCED COUNTY REGIONAL  
WASTE MANAGEMENT AUTHORITY**

PH: 209 723 4481  
FAX: 209 384-3109  
7040 N Highway 99  
Merced, Ca 95348

January 20, 2015

Paul Wrighton, REHS III  
Merced County Environmental Health  
260 E. 15<sup>th</sup> St.  
Merced, CA 91765

**SUBJECT: HIGHWAY 59 LANDFILL EXTENSION REQUEST TO  
TO ACHIEVE COMPLIANCE WITH PERIMETER LFG MIGRATION**

Dear Mr. Wrighton:

The Merced County Regional Waste Management Authority (Authority) requests a one year extension to comply with the landfill gas migration (LFG) violation at the Highway 59 Landfill.

The Authority has been unable to consistently comply with the maximum allowable 5% methane at the facility boundary. During the 2014 calendar year, monitoring of perimeter LFG probes GW-44 and GW-45 (Figure 1) were conducted on 31 occasions. The facility was in compliance 48.4% of the monitoring events and noncompliance 51.6% of the monitoring events. Complete monitoring records of GW-44 and GW-45 are provided in Attachment #1.

In spite of implementing a remediation strategy recommended by SCS Engineers the facility has failed to consistently comply with the LFG migration regulations. At the recommendation of SCS Engineers, four additional vadose extraction wells were constructed in October 2014. These extraction wells were connected to the existing LFG collection and control system (GCCS) in December 2014. To date these additional extraction wells have not consistently reduced GW-44 and GW-45 to less than 5% methane.

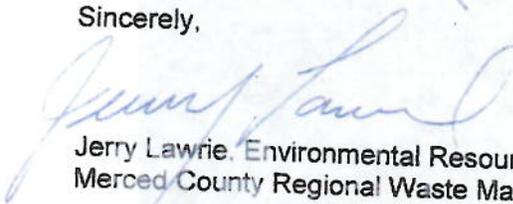
The Authority believes that additional time is required to allow the new extraction wells to reduce methane in the perimeter vadose zone. The solution has been difficult to achieve. Evaluation of empirical site data and geological information provides no information to explain the current methane readings. No methane has been detected in gas probes (GW-13 through GW-19) which are located adjacent to the unlined portion of the landfill. However, GW-44 and GW-45 which are 500 feet and 250 feet beyond the unlined portion have consistently detected methane.

The area beyond the landfill boundary impacted by the methane migration is wetland and grassland habitat. No habitable structures exist within one mile of the eastern landfill boundary. Because there are no human health or safety issues associated with the methane migration issue, the Authority believes an additional one year extension should be allowed.

The Authority requests the Local Enforcement Agency and CalRecycle grant a one year extension in order to achieve compliance with LFG migration violation.

Please contact Jerry Lawrie at (209) 723-4481 ext. #20 or [jlawrie@mcrwma.org](mailto:jlawrie@mcrwma.org) if there are additional questions or concerns.

Sincerely,



Jerry Lawrie, Environmental Resource Manager  
Merced County Regional Waste Management Authority

Enclosure

HIGHWAY 59 LANDFILL  
GW-44 GW-45

ATTACHMENT #1

DATE	CH4 GW-44S	CH4 GW-44I	CH4 GW-44D	CH4 GW-45S	CH4 GW-45I	CH4 GW-45D
9/29/2011	27.0%	36.0%	38.8%	0.0%	46.0%	21.0%
9/30/2011	27.4%	34.8%	37.0%	0.0%	0.0%	0.0%
10/6/2011	31.5%	1.0%	1.0%	0.0%	0.0%	0.0%
10/11/2011	26.0%	0.0%	0.0%	0.0%	44.0%	0.0%
10/18/2011	18.0%	27.5%	25.0%	0.0%	0.0%	0.0%
10/25/2011	29.5%	97.5%	25.0%	0.0%	0.0%	0.0%
10/31/2011	17.0%	25.0%	28.0%	0.0%	32.0%	0.0%
11/10/2011	14.5%	21.0%	22.5%	0.0%	45.5%	0.0%
11/17/2011	13.0%	27.0%	24.5%	0.0%	9.5%	0.0%
12/14/2011	16.5%	31.5%	0.0%	0.0%	0.0%	0.0%
1/11/2012	35.5%	44.5%	46.0%	0.0%	38.5%	2.1%
1/17/2012	5.0%	16.5%	1.0%	0.0%	0.0%	0.0%
1/25/2012	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
2/1/2012	0.0%	1.0%	1.0%	0.0%	0.0%	0.0%
2/8/2012	5.0%	12.5%	12.5%	0.0%	0.0%	3.0%
2/15/2012	12.0%	16.5%	17.0%	0.0%	9.0%	0.0%
2/22/2012	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
3/2/2012	3.0%	4.5%	4.4%	0.0%	0.0%	0.0%
3/9/2012	3.0%	8.1%	0.0%	0.0%	0.0%	0.0%
3/13/2012	5.0%	0.4%	20.0%	0.0%	20.0%	1.1%
4/6/2012	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
4/13/2012	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
4/19/2012	4.4%	1.3%	1.9%	0.0%	9.0%	0.0%
4/27/2012	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
5/2/2012	0.0%	0.0%	22.0%	0.0%	0.0%	0.0%
5/11/2012	4.4%	8.0%	11.0%	0.0%	0.0%	0.0%
5/18/2012	5.0%	0.0%	0.0%	0.0%	0.0%	0.0%
5/25/2012	13.5%	17.0%	20.0%	0.0%	12.0%	1.3%
5/30/2012	3.1%	0.0%	0.0%	0.0%	0.0%	0.0%
6/6/2012	2.3%	10.5%	9.0%	0.0%	0.0%	0.0%
6/19/2012	3.1%	0.0%	0.0%	0.0%	0.0%	0.0%
7/12/2012	8.5%	12.5%	14.5%	0.0%	20.5%	0.1%
7/27/2012	10.0%	7.0%	0.0%	0.0%	0.0%	0.0%
8/3/2012	2.5%	11.0%	13.0%	0.0%	24.0%	0.0%
8/7/2012	0.0%	7.0%	9.5%	0.0%	0.0%	0.0%
8/15/2012	7.0%	13.5%	14.5%	0.0%	0.0%	0.0%
8/29/2012	0.0%	8.0%	8.5%	0.0%	30.5%	0.0%
9/14/2012	0.0%	6.5%	8.0%	0.0%	0.0%	0.0%
9/21/2012	0.8%	11.0%	13.5%	0.0%	31.5%	0.0%
9/26/2012	17.0%	22.5%	25.5%	0.0%	31.5%	2.3%
10/3/2012	13.5%	24.0%	25.5%	0.0%	32.5%	1.8%
10/24/2012	3.3%	0.0%	0.0%	0.0%	0.0%	0.0%

HIGHWAY 59 LANDFILL  
GW-44 GW-45

ATTACHMENT #1

DATE	CH4 GW-44S	CH4 GW-44I	CH4 GW-44D		CH4 GW-45S	CH4 GW-45I	CH4 GW-45D
10/31/2012	20.0%	24.5%	27.0%		0.0%	29.0%	4.1%
11/6/2012	7.0%	12.5%	18.5%		0.0%	27.0%	0.0%
11/14/2012	9.0%	15.0%	18.0%		0.0%	27.5%	0.0%
11/19/2012	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%
12/6/2012	13.5%	19.0%	24.0%		0.0%	27.0%	0.0%
12/13/2012	32.5%	33.5%	34.0%		0.0%	32.0%	13.0%
12/19/2012	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%
1/2/2013	6.5%	0.0%	0.0%		0.0%	0.0%	0.0%
1/16/2013	2.1%	0.0%	0.0%		0.0%	0.0%	0.0%
1/23/2013	30.0%	31.5%	31.5%		0.0%	38.5%	17.0%
1/30/2013	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%
2/13/2013	7.0%	0.0%	0.0%		0.0%	0.0%	9.0%
2/20/2013	32.5%	0.0%	0.0%		0.0%	36.5%	16.0%
2/27/2013	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%
3/5/2013	28.0%	21.5%	30.5%		0.0%	38.0%	14.5%
3/13/2013	16.5%	20.5%	22.5%		0.0%	36.5%	0.0%
3/20/2013	16.0%	0.0%	0.0%		0.0%	0.0%	0.0%
3/26/2013	22.5%	28.5%	30.5%		0.0%	40.5%	11.0%
4/3/2013	9.0%	0.0%	0.0%		0.0%	0.0%	0.0%
4/10/2013	11.5%	19.5%	8.0%		0.0%	0.0%	0.0%
4/26/2013	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%
5/1/2013	15.5%	0.0%	0.0%		0.0%	0.0%	0.0%
5/8/2013	2.6%	0.0%	0.0%		0.0%	0.0%	0.0%
5/16/2013	5.0%	0.0%	0.0%		0.0%	0.0%	0.0%
5/24/2013	3.6%	0.0%	0.0%		0.0%	0.0%	0.0%
5/29/2013	6.0%	12.0%	13.5%		0.0%	37.5%	0.0%
6/5/2013	4.1%	0.0%	0.0%		0.0%	0.0%	0.0%
6/13/2013	3.0%	0.0%	0.0%		0.0%	0.0%	0.0%
6/19/2013	2.0%	0.0%	0.0%		0.0%	0.0%	0.0%
6/26/2013	1.5%	0.0%	0.0%		0.0%	0.0%	0.0%
7/2/2013	15.5%	16.5%	16.5%		0.0%	0.0%	0.0%
7/10/2013	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%
7/19/2013	0.0%	7.5%	7.0%		0.0%	36.0%	0.0%
7/24/2013	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%
8/1/2013	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%
8/8/2013	0.0%	5.0%	0.0%		0.0%	0.0%	0.0%
8/15/2013	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%
8/20/2013	9.0%	15.5%	0.0%		0.0%	40.0%	0.0%
8/30/2013	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%
9/4/2013	9.4%	16.0%	18.0%				
9/26/2013	2.5%	8.5%	12.5%		0.0%	35.0%	0.0%
10/2/2013	3.3%	8.5%	12.5%		0.0%	40.5%	0.0%
10/23/2013	7.0%	13.5%	16.0%		0.0%	31.5%	29.0%
10/30/2013	1.5%	0.0%	0.0%		0.0%	0.0%	0.0%
11/6/2013	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%
11/13/2013	0.0%	3.4%	4.0%		0.0%	42.5%	15.5%
12/4/2013	0.0%	20.0%	0.0%		0.0%	42.5%	15.5%
12/12/2013	4.6%	8.5%	12.5%		0.0%	46.0%	0.0%

HIGHWAY 59 LANDFILL  
GW-44 GW-45

ATTACHMENT #1

DATE	CH4 GW-44S	CH4 GW-44I	CH4 GW-44D	CH4 GW-45S	CH4 GW-45I	CH4 GW-45D
1/8/2014	6.0%	0.0%	0.0%	0.0%	35.0%	0.0%
1/22/2014	10.0%	13.5%	17.5%	0.0%	44.5%	7.0%
1/29/2014	3.6%	9.0%	0.0%	0.0%	43.0%	0.0%
2/5/2014	2.8%	0.0%	0.0%	0.0%	0.0%	0.0%
2/12/2014	2.5%	0.0%	0.0%	0.0%	0.0%	0.0%
2/26/2014	22.5%	23.0%	1.7%	0.0%	48.0%	27.5%
3/12/2014	11.0%	16.5%	18.5%	0.0%	47.5%	3.70%
3/19/2014	18.0%	19.5%	20.0%	0.0%	47.5%	14.50%
3/26/2014	15.5%	20.5%	21.0%	0.0%	47.0%	14.00%
4/9/2014	7.0%	13.5%	17.5%	0.0%	51.5%	4.50%
4/17/2014	16.0%	20.0%	21.0%	0.50%	47.0%	13.50%
5/14/2014	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%
5/20/2014	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%
5/28/2014	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%
6/4/2014	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%
6/24/2014	0.0%	1.5%	0.0%	0.0%	0.0%	0.00%
7/9/2014	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%
7/23/2014	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%
8/5/2014	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%
8/22/2014	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%
8/27/2014	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%
9/5/2014	0.4%	0.0%	0.0%	0.0%	0.0%	0.00%
9/10/2014	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%
9/16/2014	0.0%	1.3%	2.6%	0.0%	44.5%	0.00%
9/24/2014	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%
10/8/2014	4.5%	9.0%	11.0%	0.0%	49.5%	6.5%
10/29/2014	4.2%	4.8%	3.2%	0.0%	44.2%	0.00%
11/19/2014	0.0%	2.2%	4.2%	0.0%	48.1%	0.00%
12/10/2014	0.0%	3.0%	4.4%	0.0%	48.5%	0.00%
1/7/2015	0.0%	2.1%	4.2%	0.0%	49.0%	0.00%
1/14/2015	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%



## DEPARTMENT OF PUBLIC HEALTH

Kathleen Grassl, R.D., M.P.H.  
Director  
Ron Rowe, R.E.H.S., M.P.A.  
Environmental Health Director

February 18, 2014

Brooks Stayer  
Merced County Regional Waste Management Authority  
7040 N. Highway 59  
Merced, CA 95348

RE: Remediation Work Plan Extension Request Approval  
Highway 59 Disposal Site (SWIS # LF-24-AA-0001)

Mr. Stayer,

Merced County Division of Environmental Health (MCDEH) Solid Waste Local Enforcement Agency (LEA, the EA) received a "Notice of LFG exceeding 5% at monitoring Boundary" on September 30<sup>th</sup> 2011, for the Highway 59 Landfill at two LFG monitoring wells. As required and on behalf of the Merced County Regional Waste Management Authority, SCS Engineers has submitted a Remediation Work Plan (Dated Nov. 30<sup>th</sup> 2011) to this office. The work plan outlines the steps your facility intends to take to bring the Highway 59 Landfill Facility into compliance with 27 CCR Section 20921.

Page four of the November 30<sup>th</sup> work plan submitted by your facility's consultants, SCS Engineers, outlines recommendations to bring the Highway 59 facility into compliance that have not been completed. These recommendations were the basis of the approval of that work plan and are addressed again in your current extension request dated January 22, 2014.

This office hereby approves your extension request to achieve Landfill Gas Migration compliance with 27 CCR Section 20921 by January 23, 2015. In addition, MCDEH strongly recommends following the recommendations of your consultant in a timely fashion to achieve compliance sooner rather than later in this matter to allow time for any other additional steps to be taken if compliance is not attained within the approved time frame.

Any additional extension requests will need the approval of CalRecycle's Solid Waste Compliance and Enforcement Branch and will *likely* result in costly financial penalties.

The EA requests the following of the Highway 59 Landfill site operators/owners:

- Continue weekly monitoring/logging at locations where results of monitoring indicate that landfill gas migration is occurring or is accumulating and report the findings to the EA twice per month,

260 E. 15th Street, Merced, CA 95341-6216 (209) 381-1100 (209) 384-1593 (FAX) [www.co.merced.ca.us/eh](http://www.co.merced.ca.us/eh)

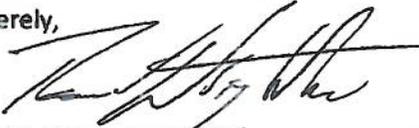
Equal Opportunity Employer

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due on the first and third Monday of each month, until further notice in accordance with Section 20933 and 20937 listed above.

Should you have questions or comments please contact me at (209) 381-1078 or [pwrighton@co.merced.ca.us](mailto:pwrighton@co.merced.ca.us)

Sincerely,



Paul Wrighton, REHS

Senior Environmental Health Specialist

Cc:

Ambrose McCready – SCS Engineers 3117 Fite Circle, Sacramento, CA 95827  
Daniel Anderson – DRRR/CalRecycle

January 22, 2014

Paul Wrighton, REHS III  
Merced County Environmental Health  
260 E. 15<sup>th</sup> St.  
Merced, CA 91765

**SUBJECT: HIGHWAY 59 LANDFILL EXTENSION REQUEST TO  
TO ACHIEVE COMPLIANCE WITH PERIMETER LFG MIGRATION**

Dear Mr. Wrighton:

**BACKGROUND**

Perimeter probes GW44 and GW45 are located on the eastern perimeter of Phase 1 to 4 at Highway 59 Landfill and were installed in 2011. A site plan (Figure 1) showing the probe locations is attached. During initial probe monitoring on September 29, 2011, Authority staff detected methane concentrations above 5 percent by volume in probes GW-44 and GW-45. Authority personnel confirmed the validity of the elevated methane results for the probes on September 30, and October 6, 2011.

The probes are located at the northeast corner of Phase 1 to 4 that was recently closed with a final cover. A new LFG collection and control system (GCCS) was completed as part of the closure. Increases in LFG production are sometimes seen after final covers are installed on landfills. In addition, new covers sometimes increase lateral gas migration by sealing off the surface and creating pressure buildup. This can result in elevated methane levels within the landfill and in surrounding soils. Typically, the increase in LFG production slows over a period of time and remains at normal levels.

**ACTIONS TAKEN TO DATE**

The following actions have been taken since September 29, 2011.

1. Adjust and rebalance the current GCCS to extract more gas from wells located near GW44 and GW45 and continue to monitor both probes.
2. Installation of two vadose zone extraction wells (VZ-1 and VZ-2) as shown on Figure 2 to control migration near GW-44 and GW-45. Both extraction wells were constructed to

a depth of 53 feet and connected to the existing GCCS system in Phase 1 to 4 by 4-inch HDPE pipe.

3. Both monitoring probes, GW-44 and GW-45 were then monitored to ascertain whether the GCCS adjustments were successful in reducing methane levels in the probes. Monitoring results of GW-44 and GW-45 to date are provided in Table 1.
4. Since the detection methane in the perimeter probes, adjustments to the GCCS have been made on a regular basis but have consistently reduced methane to acceptable levels in GW-44 and GW-45.

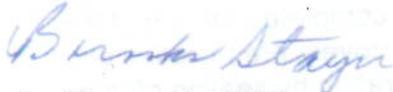
### PLANNED CORRECTIVE ACTION & EXTENSION REQUEST SCHEDULE

During the period April through August 2013, it appeared that the GCCS and the vadose extraction wells were achieving some success in reducing methane levels in GW-44 and GW-45. As can be seen in Table 1, this trend was not sustained and from September 2013 to January 2104 methane levels increased in GW-44 and GW-45.

The Authority is requesting a twelve month extension to January 23, 2015 to bring the Highway 59 Landfill into compliance with landfill gas migration regulations. During that period up to four additional vadose extraction wells will be constructed. See Figure 2 for the proposed locations of the vadose extraction wells.

Please contact Jerry Lawrie at 723-4481 extension 20 or via e-mail at [jlawrie@mcrwma.org](mailto:jlawrie@mcrwma.org) if there are any questions or concerns.

Sincerely,



Brooks Stayer, Solid Waste Director  
Merced County Regional Waste Management Authority

Enclosures