JUN 26 2019

WASTE MANAGEMENT

Altamont Landfill & Resource Recovery Facility
10840 Altamont Pass Road, Livermore, CA 94551

June 25, 2019

Director of Compliance and Enforcement
Bay Area Air Quality Management District
375 Beale Street, Suite 600
San Francisco, CA 94105
Attn: Title V Reports

Director of the Air Division
USEPA, Region IX
75 Hawthorne Street
San Francisco, CA 94105
Attn: Air-3

SUBJECT: Combined Title V Semi-Annual Partial 8-34 Annual Report
40 CFR 63 Subpart AAAA Semi-Annual Report
Altamont Landfill and Resource Recovery Facility
10840 Altamont Pass Road, Livermore, CA 94550
Plant Number A2066

Dear Sir or Madam:

The Altamont Landfill and Resource Recovery Facility (ALRRF) is pleased to submit the attached Combined Title V Semi-Annual and Partial 8-34 Annual Report for the period of December 1, 2018 through May 31, 2019 to the Bay Area Air Quality Management District (BAAQMD) and the United States Environmental Protect Agency (USEPA), Region IX. As required by 40 Code of Federal Regulations (CFR) Part 63 Subpart AAAA, the Semi-Annual Startup, Shutdown and Malfunction (SSM) Report is also enclosed. The Combined Title V Semi-Annual and Partial 8-34 Annual Report satisfies the requirements of the Title V Permit listed in Condition Number 19235, Part 23 and Standard Condition I.F.

Based on information and belief formed after reasonable inquiry, I certify under penalty of law that the statements included in this report are true, accurate, and complete.

Sincerely,

Marcus Nettz II
Senior District Manager

Attachments:
Combined Title V Semi-Annual and Partial 8-34 Annual Report

JUN 26 2019
site # A2066
637 | (00)

Combined Title V Semi-Annual and Partial 8-34 Annual Report

For the

Altamont Landfill & Resource Recovery Facility

Livermore, California

December 1, 2018 through May 31, 2019

Prepared for

Waste Management of Alameda County, Inc.
A Waste Management Company

June 25, 2019

For submittal to:

Bay Area Air Quality Management District
375 Beale Street, Suite 600
San Francisco, CA 94105

United States Environmental Protection Agency, Region IX
75 Hawthorne Street
San Francisco, CA 94105

Prepared By

WASTE MANAGEMENT

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1 INTRODUCTION

1.1 PURPOSE

This document is a Combined Semi-Annual Title V Report and Partial Regulation 8, Rule 34 Annual Report for the Altamont Landfill and Resource Recovery Facility (ALRRF). This report is prepared pursuant to Bay Area Air Quality Management District's (BAAQMD) Regulation 8, Rule 34, Section 411, Title 40 Code of Federal Regulations (CFR) Part 60 Subpart WWW and Cc, New Source Performance Standards (NSPS) Emission Guidelines (EG), respectively, for municipal solid waste (MSW) landfills, and the ALRRF Title V Permit. This Report is being submitted as required by Condition Number 19235, Part 23 in the Title V Permit. The EG are applicable to landfills that have received refuse after 1987 and received no modification of design capacity since May 30, 1991. The BAAQMD Regulation 8-34-411 is applicable to all solid waste landfills that meet the applicability requirements of design capacity and non-methane organic compounds (NMOC) annual emissions rates as listed in the regulations cited above. The ALRRF meets these applicability conditions. This Combined Report meets the requirements of BAAQMD Regulation 8-34-411 and 40 CFR §60.757(f) and covers compliance activities conducted from December 1, 2018 through May 31, 2019. This Combined Report also includes the Semi-Annual Report of Startup, Shutdown and Malfunction (SSM) Plan activities pursuant to National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR Part 63, Subpart AAAA for Landfills.

1.2 RECORDKEEPING AND REPORTING

Records are maintained and available for inspection in accordance with BAAQMD Regulation 8-34-501.12 and 40 CFR §60.758. The primary location for records storage is at the ALRRF. The records will be maintained at this location for a minimum of five years.

This Combined Report is for the timeframe of December 1, 2018 through May 31, 2019. Section 2 of this report contains the requirements to satisfy both BAAQMD Regulation 8-34-411 and 40 CFR §60.757(f). Section 3 contains the requirements to satisfy both BAAQMD Regulation 8-34-413 and 40 CFR §60.758(g).

1.3 REPORT PREPARATION

This Combined Report has been prepared by Waste Management. It was prepared based on review of information provided by ALRRF.

2 SEMI-ANNUAL MONITORING REPORT

In accordance with Title V Permit Standard Condition 1.F, BAAQMD Regulation 8-34-411 and §60.757(f) in NSPS, this document is a Combined Semi-Annual Title V Report and Partial 8-34 Annual Report that is required to be submitted by the ALRRF. The report contains monitoring data for the operation of the landfill gas collection and control system (GCCS). The operational records have been reviewed and summarized. The timeframe included in this report is December 1, 2018 through May 31, 2019. Table 2-1 lists the rules and regulations that are required to be included in this Combined Report.

Table 2-1. Semi-Annual Report Requirement

Rule	Requirement	Location in Report
8-34-501.1 §60.757(f)(4)	All collection system downtime, including individual well shutdown times and the reason for the shutdown.	Section 2.1 Appendix B
8-34-501.2 §60.757(f)(3)	All emission control system downtime and the reason for the shutdown.	Section 2.2 Appendices A, C, D, E, & F
8-34-501.3, 8-34-507, §60.757(f)(1)	Continuous temperature for all operating flares and any enclosed combustor subject to Section 8-34-507.	Section 2.3 Appendices G & I
8-34-501.4, 8-34-505	Testing performed to satisfy any of the recordkeeping requirements of this rule, including wellhead monitoring.	Sections 2.4 & 2.11 Appendices K & O
8-34-501.5	Monthly landfill gas (LFG) flow rates and well concentration readings for facilities subject to 8-34-404.	Sections 2.4 & 2.7 Appendices G, H, I, J, O, & Q
8-34-501.6, 8-34-503, 8-34-506, §60.757(f)(5)	For operations subject to Section 8-34-503 and 8-34-506, records of all monitoring dates, leaks in excess of the limits in Section 8-34-301.2 or 8-34-303 that are discovered by the operator, including the location of the leak, leak concentration in parts per million, by volume (ppmv), date of discovery, the action taken to repair the leak, date of the repair, date of any required re-monitoring, and the re-monitored concentration in ppmv.	Sections 2.6 & 2.7 Appendices L & M
8-34-501.7	Annual waste acceptance rate and current amount of waste in-place.	Section 2.8
8-34-501.8	Records of the nature, location, amount, and date of deposition of non-degradable wastes, for any landfill areas excluded from the collection system requirement as documented in the Collection and Control Design Plan.	Section 2.9, Appendix N
8-34-501.9, 8-34-505, §60.757(f)(1)	For operations subject to Section 8-34-505, records of all monitoring dates and any excesses of the limits stated in Section 8-34-305 that are discovered by the operator, including well identification number, the measured excess, the action taken to repair the excess, and the date of repair.	Section 2.11, Appendices O & P
8-34-501.10, 8-34-508, §60.757(f)(1)	Continuous gas flow rate records for any site subject to Section 8-34-508.	Section 2.12, Appendix G, H, I, J, & Q
8-34-501.11, 8-34-509	For operations subject to Section 8-34-509, records of key emission control system operating parameters.	Section 2.2.2 Appendices G, H, & I
8-34-501.12	The records required above shall be made available and retained for a period of five years.	Section 1.2
§60.757(f)(2)	Description and duration of all periods when the gas stream is diverted from the control device through a bypass line or the indication of bypass flow as specified under §60.756.	Section 2.2.1
§60.757(f)(6)	The date of installation and the location of each well or collection system expansion added pursuant to paragraphs (a)(3), (b), (c)(4) of §60.755.	Section 2.13, Appendices B & R
§60.10(d)(5)(i)	Startup, Shutdown, and Malfunction Events	Section 4, Appendices B, C, D, E, & F

2.1 COLLECTION SYSTEM OPERATION *(BAAQMD 8-34-501.1 & §60.757(f)(4))*

Appendix A includes collection system downtime logs that list the time, duration, and the reason for each shutdown. Appendix B includes the Wellfield Start-Up, Shutdown, and Malfunction (SSM) events.

2.1.1 Collection System Downtime

During this reporting period, there were four instances in which all emission control devices did not operate. The total GCCS Downtime for the reporting period of December 1, 2018 through May 31, 2019 is 5.23 hours.

The total GCCS downtime for the partial 2019 calendar year is 5.23 hours out of the 240 hours allowed per year by BAAQMD Regulation 8-34-113. Each instance of collection system downtime is described in Appendix A.

2.1.2 Well Disconnection Log

As required by BAAQMD Regulation 8-34-116 and/or 8-34-117, no more than five (5) LFG collection wells or ten percent of the LFG collection wells of the GCCS were shut down at any one time. No LFG collection wells were disconnected from a vacuum source for longer than 24 hours during this reporting period unless fill was actively being placed or compacted in the immediate vicinity of the well pursuant to BAAQMD Regulation 8-34-116. Appendix B includes the Wellfield SSM Log for the reporting period.

2.1.3 S-210 Liquefied Natural Gas Plant

The daily heat input limit for the S-210 Liquefied Natural Gas (LNG) Plant, pursuant to PTO Condition Number 24255, Part 2 is 1,950 MMBTU/day. As summarized in Table 2-2 below, the LNG Plant did not exceed the permitted daily heat input limit at any time during this reporting period. Appendix J includes heat input logs for the reporting period.

Table 2-2. S-210 LNG Plant Maximum Daily Heat Input Summary

Month/Year	12/2018	1/2019	2/2019	3/2019	4/2019	5/2019
LNG Plant*	1,151	977	988	1,038	1,048	1,078

* Maximum Daily Heat Input (MMBTU/day)

Pursuant to BAAQMD Regulation 1 Rule 523, parametric periods of in-operation for the S-210 LNG Plant did not exceed 24 hours or 15 consecutive days. Parametric monitor periods of inoperation for the S-210 LNG Plant also did not exceed 30 calendar days per consecutive 12-month period. Please refer to Appendix AF for more details.

2.2 EMISSION CONTROL DEVICE DOWNTIME *(BAAQMD 8-34-501.2 & §60.757(f)(3))*

The A-15 Flare (back-up flare) and A-16 Flare (LNG Plant Flare) SSM Logs, which list downtimes and the reasons for the shutdowns, are located in Appendix C. Appendix D contains the SSM Logs for Turbine Number 1 (S-6) and Turbine Number 2 (S-7). Appendix E contains the SSM Logs for the S-23 and S-24 internal combustion (IC) engines. Appendix F contains the SSM Log for the LNG Plant (S-210). The total downtime hours for the reporting period are summarized in Table 2-3:

Table 2-3. Emissions Control Device

Emission Control Device	Total Downtime December 1, 2018 through May 31, 2019 (Hours)
A-15 (Back-up Flare)[1]	4,361.1
A-16 (LNG Plant Flare)	49.2
S-6 (Turbine Number 1)	80.7
S-7 (Turbine Number 2)	119.1
S-23 (IC Engine Number 1)	4,367
S-24 (IC Engine Number 2)	4,367.0
S-210 (LNG Plant)	764.9

1 – Used to control LFG when other device(s) are shut down
S-23 and S-24 were surrendered in April 2018

2.2.1 LFG Bypass Operations *(§60.757(f)(2))*

During the period encompassed by this report, LFG was not diverted through a bypass line. No bypass lines have been installed at the ALRRF.

2.2.2 Key Emission Control Operating Parameters *(BAAQMD 8-34-501.11 & 8-34-509)*

S-6 and S-7 Turbines

The Key Emission Control System Operating Parameter (BAAQMD 8-34-509) for the S-6 and S-7 Turbines was determined to be combustion chamber discharge temperature, based on the Annual Source Test. The combustion temperature of both turbines is monitored on a continuous basis and shall not be less than 700 degrees Fahrenheit (°F) averaged over any three-hour period, pursuant to Title V Permit Condition Number 18773, Part 9.

The normal operating temperature of the turbines is 1,170°F. As required by Title V Permit Condition Number 18773, Part 9, continuous monitoring of the combustion temperature of the S-6 and S-7 Turbines started on December 1, 2003. The combustion temperature of the S-6 and S-7 Turbine was maintained between 700°F and 1,220°F averaged over any three-hour period during this reporting period.

The daily heat input permit limit for each turbine, pursuant to Title V Condition Number 18773, Part 8 is 1,378 MMBTU/day. As summarized in Table 2-4, the turbines did not exceed the permitted daily heat input limit at any time during this reporting period.

Table 2-4. Turbine S-6 and S-7 Maximum Daily Heat Input Summary

Month/Year	12/2018	1/2019	2/2019	3/2019	4/2019	5/2019
Turbine (S-6)*	1,079	1,087	1,142	1,095	1,106	1,085
Turbine (S-7)*	1,056	1,062	1,099	1,055	1,062	1,047

* Maximum Daily Heat Input (MMBTU/day)

Appendix G includes turbine combustion temperature deviation and heat input logs for S-6 and S-7.

Pursuant to BAAQMD Regulation 1 Rule 523, parametric periods of inoperation for the S-6 and S-7 Gas Turbines did not exceed 24 hours or 15 consecutive days. Parametric monitor

periods of inoperation for the S-6 and S-7 Gas Turbines also did not exceed 30 calendar days per consecutive 12-month period. Please refer to Appendix AF for more details.

S-23 and S-24 IC Engines

Both engines were indefinitely shut down in September 2017 and remained off-line during the entire reporting period. Subsequently, ALRRF submitted a surrender notification for both engines on April 27, 2018 and units were removed from the current permit to operate document.

A-15 and A-16 Flares

The Daily Heat Input Permit Limits for the A-15 and A-16 Flares, pursuant to Title V Condition Number 19235, Part 4 are 1,704 MMBTU/day and 3,168 MMBTU/day, respectively. Table 2-6 below shows the maximum daily heat input measured during this reporting period.

The A-15 and A-16 Flares did not exceed the permitted daily heat input limit at any time during this reporting period.

Table 2-6. Flares A-15 and A-16 Maximum Daily Heat Input Summary

Month/Year	12/2018	1/2019	2/2019	3/2019	4/2019	5/2019
A-15 (Back-up Flare)[1]	0.0	330.0	0.0	0.0	0.0	0.0
A-16 Flare[1]	1,567	1,837	1,464	1,265	1,683	1,526

1 – Maximum Daily Heat Input (MMBTU/day)

Appendix I includes A-15 and A-16 Flare temperature deviation and heat input logs for the reporting period.

Pursuant to BAAQMD Regulation 1 Rule 523, parametric periods of inoperation for the A-15 and A-16 Flares did not exceed 24 hours or 15 consecutive days. Parametric monitor periods of inoperation for the A-15 and A-16 Flares also did not exceed 30 calendar days per consecutive 12-month period. Please refer to Appendix AF for more details.

2.3 TEMPERATURE MONITORING RESULTS *(BAAQMD 8-34-501.3, 8-34-507, & §60.757(f)(1))*

The combustion zone temperature of the A-15 Flare is continuously monitored using a thermocouple and recorded by a Yokogawa data acquisition system with local digital display. The recorded graphs and tables showing operational data (flow, temperature, operation time) of the flare indicated that the three-hour average combustion zone temperature did not drop below 1,400°F while the flare was in operation during the reporting period. Pursuant to the updated PTO Condition 19235 Part 10(a) issued by the BAAQMD in 2018 PTO, the minimum three-hour average operating temperature for the A-15 Flare is 1,481°F. From December 1, 2018 through May 31, 2019, the A-15 Flare three-hour average operating temperature did not drop below 1,525°F.

The combustion zone temperature of the A-16 Flare is continuously monitored using a thermocouple and recorded by a Yokogawa data acquisition system with local digital display.

The recorded graphs and tables showing operational data (flow, temperature, operation time) of the flare indicated that the three-hour average combustion zone temperature did not drop below 1,400°F while the flare was in operation during the reporting period. Pursuant to the updated PTO Condition 19235 Part 10(b) issued by the BAAQMD in 2018 PTO, the minimum three-hour average operating temperature for the A-16 Flare is 1,509°F. From December 1, 2018 through May 31, 2019, the A-16 Flare three-hour average operating temperature did not drop below 1,566°F.

2.4 MONTHLY COVER INTEGRITY MONITORING *(BAAQMD 8-34-501.4)*

Cover integrity monitoring was performed on a monthly basis. During February 2019, the field technician noted areas with erosion. Site operations initiated corrective actions and completed work on March 21, 2019. No other areas of concern were found during the reporting period. The Monthly Cover Integrity Monitoring Reports are included in Appendix K. Cover integrity monitoring was performed on the following dates:

- December 18, 2018
- January 25, 2019
- February 27, 2019
- March 28, 2019
- April 30, 2019
- May 21, 2019

2.5 LESS THAN CONTINUOUS OPERATION *(BAAQMD 8-34-501.5)*

The ALRRF does not operate under BAAQMD 8-34-404 (Less Than Continuous Operation) and, therefore is not required to submit monthly LFG flow rates.

2.6 SURFACE EMISSIONS MONITORING *(BAAQMD 8-34-501.6, 8-34-506, & §60.757(f)(5))*

The information contained in Appendix L includes the Surface Emissions Monitoring (SEM) data for the quarterly monitoring events performed during this reporting period on the following dates:

- Fourth Quarter 2018 – December 3 and 4, 2018
- First Quarter 2019 – February 23, 2019

  A Thermo Scientific Toxic Vapor Analyzer 1000 (TVA1000) flame ionization detector (FID) was used to perform the SEM during the Fourth Quarter 2018 and First Quarter 2019 event. The landfill surface was monitored along the path delineated on the SEM walking path map. Any areas suspected of having emission problems by visible observations were also monitored. Immediately prior to the Fourth Quarter 2018 and First Quarter 2019 monitoring events, the monitoring equipment was calibrated using zero air and a 500 parts per million by volume (ppmv) methane (CH_4) calibration gas.

- The Fourth Quarter 2018 SEM was performed on December 3 and 4, 2018 and five (5) exceedances (FID readings greater than 500 ppm CH_4 above background measurements) were detected. Corrective actions were completed. The ten-day re-monitoring event was conducted on December 5, 2018, and no further exceedances were detected. The thirty-day follow-up monitoring event was conducted on December 28, 2018 and no exceedances were detected.

- The First Quarter 2019 SEM was performed on February 23, 2019 and forty-seven (47) exceedances (FID readings greater than 500 ppm CH_4 above background measurements) were detected. Corrective actions were completed. The ten-day re-monitoring event was conducted on February 25, 2019, and no further exceedances were detected. The thirty-day follow-up monitoring event was conducted on March 21, 2019 and no exceedances were detected.

See Appendix L for the Fourth Quarter 2018 and First Quarter 2019 SEM Reports.

2.7 COMPONENT LEAK TESTING *(BAAQMD 8-34-501.6 & 8-34-503)*

"Quarterly tests for operations subject to Sections 8-34-503 and 506, records of all monitoring dates, leaks in excess of the limits in Section 8-34-301.2 or Section 8-34-303 that are discovered by the operator, including the location of the leak, leak concentration in ppm by volume, date of discovery, the action taken to repair the leak, date of repair, date of any required re-monitoring, and the re-monitored concentration in ppm by volume."

The quarterly LFG component leak testing events for this reporting period were performed on:

- Fourth Quarter 2018 – November 30 and December 6, 2018
- First Quarter 2019 – January 17 and March 11, 12 and 21, 2019

A Thermo Scientific TVA1000 FID was used to perform both the Fourth Quarter 2018 and First Quarter 2019 leak testing events. No exceedances of 1,000 ppm were identified during the Fourth Quarter 2018 monitoring event. There was one exceedance detected above 1,000 ppm at the LNG Plant during the First Quarter 2019 monitoring event. Repairs were initiated and completed within seven days.

See Appendix M for the Component Leak Testing Reports.

2.8 WASTE ACCEPTANCE RECORDS *(BAAQMD 8-34-501.7)*

The waste acceptance rate for this reporting period and the current waste in-place figures, which include waste placed through May 31, 2019, are as follows:

- Waste Acceptance Rate = 366,205 tons between December 1, 2018 through May 31, 2019
- Current Waste In-Place = 50,017,350 tons, as of May 31, 2019

Pursuant to Permit to Operate Condition 19235 18C, the total cumulative amount of decomposable materials placed in existing Fill Area 1 shall not exceed 51, 020, 000 tons.

2.9 NON-DEGRADABLE WASTE ACCEPTANCE RECORDS *(BAAQMD 8-34-501.8)*

The ALRRF includes an approximately 8-acre landfill area on the eastern side of Unit 2 that has been historically segregated for asbestos disposal, as stated in the June 2003 Amended and Restated Collection and Control System Design Plan.

The amount of non-degradable asbestos waste that was placed in this area during this reporting period is 4,662.7 tons (Appendix N).

2.10 GREENWASTE GRINDING OPERATION *(BAAQMD 2-1-105.3)*

The ALRRF was issued PTO 17215 on July 21, 2008, incorporating the following 3 sources:

S-29 – Green Waste Stockpiles (subject to Condition Number 24061)

S-30 – Portable Green Waste Grinding Operation (subject to Condition Number 24062)
S-31 – Portable Diesel Engine for Green Waste Grinder (subject to Condition Number 24063)

Pursuant to PTO Condition Number 24063 Part 2, the S-31 engine did not use more than 76,205 gallons of fuel during any consecutive 12-month period. Pursuant to PTO 17215 Condition Number 24061 Part 1, the total amount of green waste received at S-29 from off-site locations did not exceed 68,040 tons during any consecutive 12-month period. No food wastes were stored or processed at S-29. Appendix AD details the total waste received and fuel usage data for the Portable Green Waste Operation.

Pursuant to ALRRF's October 2009 Compliance Plan to satisfy Alameda County Ordinance 2008-01 ("Alameda County Plant Debris Landfill Ban"), ALRRF no longer receives plant debris for disposal or alternative daily cover (ADC) as of January 1, 2010 but does accept the materials for transfer offsite to a composting and/or biofuels facility and/or onsite grinding through third party. The ALRRF green waste grinding operation, including the S-31 Portable Diesel Engine for the Green Waste Grinder stopped in January 2010, although this operation may occur in the future under allowances provided in Ordinance 2008-01 (i.e. grinding of purchase green waste for erosion control or final cover materials). Currently the grinding operation of accepted green waste is done at the site by third party.

2.11 WELLFIELD MONITORING DATA *(BAAQMD 8-34-501.4 & 8-34-505)*

Wellfield monitoring was conducted on a monthly basis pursuant to BAAQMD Regulation 8-34-505. The wellfield concentration readings for December 1, 2018 and May 31, 2019 are included in Appendix O. Each well was monitored for the following:

- 8-34-305.1 – Each wellhead shall operate under a vacuum; and,
- 8-34-305.2 – The LFG temperature in each wellhead shall be less than 55 degrees Celsius (131°F); and,
- 8-34-305.4 – The oxygen concentration in each wellhead shall be less than 5 percent by volume.

The wellfield monitoring was performed on the following dates:

- December 10, 17, 18, 19, and 21, 2019
- January 2, 3, 4, 8, 9, 10, 14, and 15, 2019
- February 1, 4, 5, 6, 7,8, 11, 12, 18, 19 and 20, 2019
- March 1, 5, 12, 13, 14, 19 and 20, 2019
- April 1, 2, 3, 12, 16, 17, 22 and 29, 2019
- May 6, 7, 8, 9, 13, 14, 15, 17, 23, 24, and 28, 2019

2.11.1 Wellfield Deviations *(BAAQMD 8-34-501.9 & §60.757(f)(1))*

BAAQMD Regulation 8-34-305 (Wellhead Requirements) requires that each wellhead shall operate under a vacuum; wellhead temperature shall be less than 131°F (55 Degrees Celsius); and either the nitrogen concentration shall be less than 20 percent or the oxygen concentration shall be less than 5 percent.

Please refer to the Wellfield Deviation Log, included in Appendix P, for exceedance records for the reporting period.

2.12 GAS FLOW MONITORING RESULTS *(BAAQMD 8-34-501.10, 8-34-508, & §60.757(f)(1))*

The LFG flow rate for the A-15 Flare is measured with a Kurz thermal mass flow meter connected to a Yokogawa digital readout and data acquisition system. The Fluid Components International (FCI) flowmeter was replaced with a Kurz Flowmeter.

The LFG flow rate for the A-16 Flare is measured with a Rosemount Annubar flow meter connected to a Yokogawa digital readout and data acquisition system. Pursuant to BAAQMD Regulation 8-34-508 the flow is monitored continuously and recorded digitally at least every 15 minutes.

Both of the turbines (S-6 and S-7) are equipped with a Daniels flow meter. Pursuant to BAAQMD Regulation 8-34-508, the flow is monitored continuously and recorded digitally at least every 15 minutes.

The LNG Plant (S-210) is equipped with a Rosemount 485 Annubar flow meter. Pursuant to BAAQMD Regulation 8-34-508 the flow is monitored continuously and recorded digitally at least every 15 minutes.

The LFG flow data is available for review at the ALRRF. Appendix Q contains a summary of the monthly LFG flow rates for the flares, turbines, IC engines, and LNG Plant. Table 2-7, below, summarizes the total LFG flow for the reporting period.

Table 2-7. Control Devices LFG Flow Summary December 1, 2018 through May 31, 2019

Source	Average Flow (scfm)	CH_4 (%)	Total LFG Volume (scf)	Total CH_4 Volume (scf)	Total Heat Input (MMBTU)
A-15 (Backup Flare)[1]	1,851	50.5	654,144	330,343	330
A-16 (LNG Plant Flare)[2,5]	1,627	52.3	420,742,890	220,216,828	219,710
S-6 (Turbine 1)[3]	1,440	50.6	370,477,299	187,473,004	189,910
S-7 (Turbine 2)[3]	1,395	50.6	355,573,932	179,921,107	182,260
S-23 (IC Engine 1)[3,4]	-	-	-	-	-
S-24 (IC Engine 2)[3,4]	-	-	-	-	-
S-210 (LNG Plant)[3]	N/A	50.5	281,140,326	141,886,390	144,557

CH_4 – methane N/A – not available

1 – From Annual Source Test dated March 16, 2017.

2 – Annual Source Test (April 25 and 26, 2018), average of condensate injection on and off.

3 – Monthly reading

4 – Provided by WMRE –Not in operation since October 1, 2017. Engines were surrendered inApril 2018.

5 – Byproduct gas flow from the LNG Plant to the A-16 Flare has been incorporated into the flare's total throughput.

2.13 COMPLIANCE WITH §60.757(*f*)(6)

"The date of installation and the location of each well or collection system expansion added pursuant to (a)(3), (b), (c)(4) of §60.755."

This section summarizes changes made to the ALRRF GCCS which were permitted by the BAAQMD and implemented for the reporting period. The Wellfield SSM Log listing well decommissions and start-ups is located in Appendix B. Correspondence detailing the decommissioning and startup of wells can be found in Appendix R.

PTO Condition Number 19235, Part 1, which was assigned Application Number (AN) 27839 issued on June 6, 2016 allows the ALRRF to decommission up to one hundred (100) vertical wells and fifteen (15) horizontal wells and/or tire trench collectors, and to install up to one hundred and twenty (120) vertical wells and twenty five (25) horizontal wells and/or tire trench collectors.

Table 2-8 below summarizes the status of permitted wellfield decommissioning and installations per the PTO Condition Number 19235 Part 1(b), as updated by Application Number (AN) 27839 issued on June 6, 2016.

Table 2-8. Wellfield Decommissionings and Installations per PTO Condition Number 19235, Part 1, Updated by Application Number (AN) 27839

As of May 31, 2019	Decommissioning Actions		Installations	
	Vertical Wells	Horizontal wells/ Tire Trench Collectors	Vertical Wells	Horizontal wells/ Tire Trench Collectors
Actions permitted under PTO Condition No. 19235	100	15	120	25
Actions performed by WMAC per PTO Condition No. 19235	73	4	60	3
Remaining actions permitted under PTO Condition No. 19235	**27**	**11**	**60**	**22**

Per the updated PTO Condition Number 19235, Part 1, as of May 31, 2019 there were one hundred and fourteen (114) vertical wells, one (1) horizontal collector, and 1 leachate collection system cleanout riser (LCRS) installed at ALRRF.

2.14 MONITORING REPORTS

Section I.F of the Title V Permit requires the ALRRF to submit all monitoring records to the BAAQMD at least once every six months, except where more frequent reporting is required. Monitoring was conducted for the following sources during this reporting period.

2.14.1 A-6 and A-7 – Fogging System

Title V Permit Condition Number 18773, Part 4 allows discretionary operation of the turbines' fogging system (A-6 and A-7). Permit Condition Number 18773, Part 5 requires ALRRF to maintain operational records on the days each of the turbines and the fogging system are operated.

ALRRF did not operate the fogging system during this reporting period. A logbook for the fogging system is maintained at the ALRRF.

2.14.2 Sulfur Monitoring

Title V Permit Condition Number 18773, Part 10 requires that a monthly sulfur (as hydrogen sulfide [H_2S]) sample be collected. The sample must be taken at the main LFG header with a Draeger tube, and the reading shall not exceed 150 ppmv. Table 2-9, below, summarizes all H_2S samples collected during this reporting period.

Table 2-9. Monthly H_2S Sampling Results

Date	Location Sample Taken	H_2S Concentration
12/5/2018	Inlet to Turbines	45 ppmv
1/24/2019	Inlet to Turbines	40 ppmv
2/4/2019	Inlet to Turbines	40 ppmv
3/21/2019	Inlet to Turbines	50 ppmv
4/19/2019	Inlet to Turbines	40 ppmv
5/10/2019	Inlet to Turbines	40 ppmv

2.14.3 LFG Condensate Injection

Title V Permit Condition Number 19235, Part 3 allows injection of LFG condensate into Flares A-15 and A-16 providing that the condensate injection rate does not exceed 3,600 and 7,200 gallons during any day, respectively.

Table 2-10 below summarizes the maximum daily LFG condensate injection for every month during this reporting period:

Table 2-10. Monthly LFG Condensate Injection

Month/Year	A-15 Flare Maximum Daily LFG Condensate Injection[1]	A-16 Flare Maximum Daily LFG Condensate Injection[1]
December 2018	0.0	4,425
January 2019	0.0	4,373
February 2019	0.0	4,461
March 2019	0.0	4,471
April 2019	0.0	4,425
May 2019	0.0	4,531

1 – Permit limit for the A-15 Flare is 4,320 gallons per day. Permit limit for the A-16 Flare is 7,200 gallons per day.

As shown in Table 2-10, LFG condensate injection in the A-15 Flare did not exceed 4,320 gallons per day and the A-16 Flare did not exceed 7,200 gallons per day during this reporting period, in compliance with Permit Condition Number 19235, Part 3. Appendix S contains daily condensate injection rate tables for the reporting period.

2.14.4 S-99 - Non-Retail Gasoline Dispensing Facility

Title V Permit Condition Number 16516 requires that a Static Pressure Performance Test (Leak Test) ST-38 be conducted on the S-99 Gasoline Dispensing Facility at least once in each consecutive 12-month period. ALRRF performed a Leak Test on November 16, 2018 during which S-99 passed all Static Pressure Performance Tests. Leak Test summary results were submitted to the BAAQMD by the testing firm within 30 days on December 12, 2018, and are included in Appendix T of previous report.

Permit Condition Number 20813 requires that the facility's annual gasoline throughput not exceed 30,000 gallons in any consecutive 12-month period.

The ALRRF maintains monthly records of the gasoline throughput at S-99 that shows full compliance with the approved throughput limit. Appendix T contains monthly throughput records for this reporting period. The records indicate that 7,374 gallons of gasoline fuel was dispensed during this semi-annual reporting period.

2.14.5 VOC-Laden Soil

Volatile organic compound laden (VOC-laden) soil is defined by the BAAQMD as any soil that contains VOCs, as defined in BAAQMD Regulation 8-40-206, at a concentration of 50 parts per million by weight (ppmw) or less. Condition Number 19235, Part 20 of the Title V Permit requires that ALRRF limit the quantity of low VOC-laden soil handled per day so that no more than 15 pounds of total carbon could be emitted to the atmosphere per day. ALRRF is in compliance with this requirement. VOC-laden soil receipts, soil VOC concentrations, and emission calculations for this reporting period are located in Appendix U

ALRRF accepted high VOC-contaminated soil exceeding 50 ppm volatile organic compounds by weight during this reporting period. All records required by the permit are available onsite.

2.14.6 S-19 - Transfer Tank with Siphon Pump

Title V Permit Condition Number 20774, Parts 1 and 3, limit the wastewater throughput from S-19 to 1,576,800 gallons in any consecutive 12-month period. Table 2-11 compares the actual consecutive 12-month rolling wastewater throughput for the S-19 transfer tank with the permit limit. During the reporting period, no wastewater was directed through S-19 (all wastewater went directly to S-12) and no waste material was collected from the siphon pump during this reporting period.

Table 2-11 Monthly 12-Month Rolling LFG Condensate Throughput

	Consecutive 12-Month S-19 Throughput (Gallons)	Waste Material Collected from the Siphon Pump (Gallons)
PERMIT LIMIT	**1,576,800**	**20,750**
December 2018	0	0
January 2019	0	0
February 2019	0	0
March 2019	0	0
April 2019	0	0
May 2019	0	0

The S-19 transfer tank is also subject to the requirements of BAAQMD Regulation 8, Rule 8 (Oil/Water Separators). This regulation requires an inspection and leak check (readings not to exceed 500 ppmv methane) of all gaskets, all flanges, tank condition, and connections of gauges and pipes on a quarterly basis.

The quarterly S-19 Inspection and Leak Checks were conducted on the following dates:

- First Quarter 2019 – March 21, 2019

S-19 was in good condition and no leaks were detected above the 500-ppmv limit during the First Quarter 2019 inspection.

All of the records for S-19 covering this reporting period are included in Appendices V and Z, and are in full compliance with the terms of Permit Condition Number 20774 and the requirements of BAAQMD Regulation 8, Rule 8.

2.14.7 Diesel Engines S-199, S-200, S-201, S-221, S-222/S-228, S-224, and S-225

Fuel usage and operating hour records for all the engines are included in Appendix W.

Operating Hours of Diesel Engines S-199, S-200, and S-201

Emergency use diesel engines S-199, S-200 and S-201 commenced operation in March 2008. S-199, S-200, and S-201 were added to PTO 16864 and operated in compliance pursuant to PTO Condition Number 22850, which limits operation of S-199, S-200, and S-201 to no more than 50 hours per calendar year for maintenance and testing. ALRRF operated these engines in compliance with Title V Permit Condition Number 20812 and PTO Condition Number 22850 for the reporting period.

Fuel Usage of Diesel Engines S-193

Title V Permit Condition Number 20801 requires that diesel fuel usage at remaining engine, S-193, not exceed the rates listed in the table below during any consecutive 12-month period.

ALRRF operated these engines in full compliance with Title V Permit Condition Number 20812 during the consecutive 12-month period ending on May 31, 2019 as follows in Table 2-12.

Table 2-12. Diesel Engines Fuel Usage

Engine	June 1 -2018 to May 31, 2019 Fuel Usage (Gallons)	Permit Limit (Gallons/year)
S-193	14.0	62,196

Operating Hours of Diesel Engines S-221, S-222/S-228, S-S-224 and S-225

Pursuant to BAAQMD PTO Condition 26733, 26734 and 26225 Part 3, the total combined operating time for the S-221, S-222, S-224 and S-225 diesel engines shall not exceed 29,200 hours during any consecutive 12-month period.

Daily operating records for S-221, S-222, S-224 and S-225 are maintained onsite at the ALRRF.

ALRRF submitted surrender notification for S-217 and S-218 to the BAAQMD on March 18, 2016. ALRRF submitted startup notification for S-224 and S-225 to the BAAQMD on March 18, 2016 seven days before scheduled startup date. ALRRF Tipper S-224 replaced S-217 and S-225 replaced S-218.

ALRRF submitted a permit application for S-222 to the BAAQMD on February 2, 2018. ALRRF approved the Tipper repower permit (S-228 replaced S-222) on June 1, 2018. ALRRF submitted startup notification for S-228 to the BAAQMD on June 13, 2018, seven days before scheduled startup date.

ALRRF operated in full compliance with the PTO Condition 25448, 26225, 26734 during the 12-month consecutive period ending May 31, 2019. A summary of operating hours are listed below in Table 2-13. As of May 31, 2019 ALRRF Tippers S-221, S-222/S-228, S-224 and S-225 were operational.

Table 2-13. Diesel Engines Operating Hours

Engine	Hours Operated December 1, 2018-May 31, 2019	Hours Operated in 12-Month Period Ending May 31, 2019	Operations Limits
S-221	137	163	7,300 Hours 12-Months*
S-222/S-228	688	932	7,300 Hours 12-Months*
S-224	1,851	3,851	14,600 Hours 12-Months*
S-225	1,895	3,658	
Combined S-221,S-222/S-228, , S-224, and S-225	4,571	8,604	

* Limit according to BAAQMD 26733, 26734 and 26225 Part 3.

2.14.8 Carbon Monoxide Emissions Tracking

PTO Condition Number 24373 limits the rolling 12-month CO emissions rate for each non-mobile combustion device onsite and for the entire site as a whole.

CO Emissions for the A-15 and A-16 Flares; the S-6 and S-7 Turbines; the S-23 and S-24 IC Engines; the S-31, S-193, S-197, S-198, S-199, S-200, S-201, S-206, and S-208 portable diesel-fired engines; and other portable diesel-fired sources under 50 horsepower were calculated using CO emissions factors and monthly operating hours as stipulated in PTO Condition Number 24373. Please refer to Appendices P, W, and X for details. The maximum potential CO emissions for the portable diesel-fired engines as required by PTO Condition Number 24373 Part 3(b) can also be found in Appendix W.

ALRRF operated in full compliance with PTO Condition Numbers 24373 during the 12-month consecutive period ending May 31, 2019 as follows in Table 2-15.

Table 2-15. Site-Wide CO Emissions

Source	12-Month CO Emissions (Tons)	Rolling 12- Month Permit Limit (Tons)
A-15 (Backup Flare)	0.001	93.268
A-16 (LNG Plant Flare)	0.560	115.632
S-6 (Turbine 1)	17.806	56.064
S-7 (Turbine 2)	16.048	56.064
S-23 (IC Engine 1)	0.0	38.062
S-24 (IC Engine 2)	0.0	38.062
Portable Engines	2.506	N/A
Total (Site-wide)	36.922	225.0

2.14.9 S-140 SBR 1 and S-141 SBR 2 – Aerated Biological Reactors

Title V Permit Condition Number 20922 was revised on August 3, 2006 to include an alternative compliance demonstration method. Permit Condition Number 20922, Part 1 limits the quarterly average total organic carbon (TOC) concentration in the wastewater to less than 52 ppmw with a maximum daily throughput of 52,400 gallons to each tank. Alternatively, emissions of precursor organic compounds (POC) are limited to 10 pounds per day. Part 2 of the revised permit condition limits either the rolling 12-month wastewater throughput for S-

140 and S-141 to 6,460,000 gallons or 12-month total POC emissions to less than 1,230 pounds. The rolling 12-month wastewater throughput for S-140 and S-141 was zero (0) gallons as of the end of this reporting period. See Appendix Z for flow records for S-140 and S-141.

Table 2-16 below compares Permit Condition Number 20922 concentration limits for S-140 (SBR 1) and S-141 (SBR 2) followed by the actual analytical results for selected constituents obtained during the First Quarter 2019 event on February 19, 2019, and Second Quarter 2019 event on May 24, 2019. For all Quarters, monitoring was completed by obtaining a sample at the LCRS and at the S-140 Reactor.

Table 2-16 Analytical Results Summary for LCRS and SBR1

Compound	Concentration Limit (ppbw)	First Quarter 2019 Average (ppbw)	Second Quarter 2019 Average (ppbw	Annual Average Results (ppbw)
Benzene	80	1.1	1.6	1.4
Chloroform	470	ND	ND	ND
1,4 Dichlorobenzene	1,020	4.3	5.7	5.2
Methylene Chloride	2,530	ND	ND	ND
Naphthalene	3,590	2.2	2.6	2.3
Perchloroethylene (Tetracholoroethylene)	430	ND	ND	ND
Trichloroethylene (Trichloroethene)	1,290	ND	ND	ND
Vinyl Chloride	30	ND	ND	ND

ppbw – parts per billion by weight
ND – Non-Detect (below detection limit)

Table 2-17 presents the results of TOC testing by quarter and by annual average. Pursuant to Permit Condition Number 20922 if the TOC concentration exceeds the permit limit of 52 ppmw, POC emissions must be calculated using the equation in Permit Condition Number 20922, Part 5h.

Table 2-17. Total Organic Compounds Results Summary

Constituents	Concentration Limit (ppmw)	First Quarter 2019 Average (ppbw)	Second Quarter 2019 Average (ppbw
TOC concentration	52	0.04761	0.7807
Average Annual TOC Concentration	52	0.06188	0.03617

Appendix Z contains the laboratory VOC analytical results and the monthly throughput records for S-140 and S-141. The monitored quarterly and annual concentrations are within the Permit Condition Number 20922 limits.

2.14.10 Non-Methane Organic Compound Content in Collected Landfill Gas

Pursuant to Permit Condition No. 19235, Part 17a, effective upon the commencement of waste disposal in Fill Area 2, the rolling three-year average NMOC concentration in LFG extracted from the site is limited to 600 ppmv expressed as C6, corrected to 50 percent methane content. Waste disposal operations commenced in Fill Area 2 in March 2019, Appendix AE has been established as a placeholder for future reporting of the rolling three-year NMOC average concentrations in the LFG.

3 PERFORMANCE TEST REPORT

In accordance with BAAQMD Rule 8-34-413 and 40 CFR §60.757(g) in the NSPS, a Performance Test Report is required to be submitted for the ALRRF containing performance and monitoring data for the operation of the GCCS. The following operational records have been reviewed, summarized, and are included in this Performance Test Report.

Table 3-1. Performance Test Requirement

Rule	Requirement	Location in Report
8-34-412, §60.8, §60.752(b)(2)(iii)(B), §60.754(d)	Compliance Demonstration Test	Section 3.1 Appendix AA
§60.757(g)(1)	A diagram of the collection system showing collection system positioning including all wells, horizontal collectors, surface collectors, or other gas extraction devices, including the locations of any areas excluded from collection and the proposed sites for future collection system expansion.	Section 3.2 Appendix AB
§60.757(g)(2)	The data upon which the sufficient density of wells, horizontal collectors, surface collectors, or other gas extraction devices and the gas mover equipment sizing are based.	Section 3.3 Appendices K & AB
§60.757(g)(3)	The documentation of the presence of asbestos or non-degradable material for each area from which collection wells have been excluded based on the presence of asbestos or non-degradable material.	Section 3.4
§60.757(g)(4)	The sum of the gas generation flow rates for all areas from which collection wells have been excluded based on non-productivity and the calculations of gas generation flow rate for each excluded area.	Section 3.5
§60.757(g)(5)	The provisions for increasing gas mover equipment capacity with increased gas generation flow rate, if the present gas mover equipment is inadequate to move the maximum flow rate expected over the life of the landfill.	Section 3.6
§60.757(g)(6)	The provisions for the control of off-site migration.	Section 3.7 Appendix AC

3.1 SOURCE TEST REPORTS *(BAAQMD 8-34-412)*

Compliance demonstration tests (source tests) were performed on the S-6 and S-7 Gas Turbines and the A-15 and A-16 Flare during 2018.

Source tests for the S-6 and S-7 turbines were performed on January 10, 2019, by Blue Sky Environmental, Inc. (Blue Sky) pursuant to BAAQMD Regulation 8-34-412. The S-6 and S-7 Source Test Report was submitted to the BAAQMD on February 27, 2019, within 60 days of the test date.

The source tests performed on the S-23 and S-24 IC engines were performed by Blue Sky on February 1, 2017, pursuant to BAAQMD Regulation 8-34-412. The S-23 and S-24 Source Test Reports were submitted to the BAAQMD on March 28, 2017, within 60 days of the test date. Both engines were not in operation starting October 1, 2017 and were surrendered on April 27, 2018.

The source test for the A-15 Flare was performed by Blue Sky on March 16, 2017 pursuant to 8-34-412. The A-15 Source Test Report was submitted to the BAAQMD on April 27, 2017, within 60 days of the test date.

The 2019 annual source test of the A-16 Flare, including simultaneous operation with the LNG Plant, was performed by Blue Sky on April 3 and 4, 2019. The A-16 2019 Source Test Report was submitted to the BAAQMD on May 30, 2019, within 60 days of the test date.

The results from the source tests performed during this reporting period are summarized in the following sections. For brevity, only the source test summary results pages are included in Appendix AA. The complete source test reports were completed and submitted to the BAAQMD as detailed above and are available upon request.

3.1.1 A-15 Flare Test Results

The March 16, 2017, source test results for the A-15 Flare indicate that the flare is in compliance with 8-34-301.4 and PTO Condition Number 19235. As required by 8-34-301.3 and Condition Number 19235, the flare meets the NMOC emission rate of less than 30 ppmv as methane, corrected to 3 percent O_2. Table 3-2 shows the results of the March 23, 2016 source test. The 2017 source test was conducted without condensate injection. The last time condensate was injected into the A-15 Flare was during the 2011 Source Test. WM does not anticipate injecting any condensate into the system in the future.

Table 3-2. A-15 Source Test Results

Parameter	March 16, 2017 A-15 Flare Results (condensate on)	March 16, 2017 A-15 Flare Results (condensate off)	Permit Limit
NMOC (ppmv as CH_4 @ 3% O_2)	-	<9.7	30
NO_x Emission Rate (lb/MMBTU)	-	0.04	0.06
CO Emission Rate (lb/MMBTU)	-	<0.008	0.30
SO_2 Emission (ppmv)	-	6.1	300

3.1.2 A-16 Flare Test Results

The April 3 and 4, 2019, source test results for the A-16 Flare indicate that the flare is in compliance with 8-34-301.4 and PTO Condition Number 19235. As required by 8-34-301.3 and Condition Number 19235, the flare meets the NMOC emission rate of less than 30 ppmv as methane, corrected to 3 percent O_2. Table 3-3 shows the results of the source test.

The 2019 source test event was completed on April 3and 4, 2019. Results of the A-16 Flare 2019 source test event were submitted to the BAAQMD within 60 days of test date and are included in the semi-annual report.

Table 3-3. A-16 Source Test Results

Parameter	April 3, 2019 A-16 Flare Results (condensate on)	April 4, 2019 A-16 Flare Results (condensate off)	April 3, 2019 A-16 Flare Results (LNG and condensate on)	Permit Limit
NMOC (ppmv as CH_4 @ 3% O_2)	<2.1	<2.4	<1.9	30
NO_x Emission Rate (lb/MMBTU)	0.056	0.04	0.05	0.06

Parameter	April 3, 2019 A-16 Flare Results (condensate on)	April 4, 2019 A-16 Flare Results (condensate off)	April 3, 2019 A-16 Flare Results (LNG and condensate on)	Permit Limit
CO Emission Rate (lb/MMBTU)	<0.006	0.01	0.005	0.20
SO_2 Emission Rate (ppmv)	7.8	7.4	6.8	300

3.1.3 S-6 Gas Turbine Test Results

The January 24, 2018, source test results for the S-6 Gas Turbine indicate that the turbine is in compliance with 8-34-301.4 and Title V Permit Condition Number 18773 and that, as required by 8-34-301.4 and Condition Number 18773, the turbine meets the NMOC emission rate of less than 120 ppmv. The final results of the source test are shown in Table 3-4 below.

Table 3-4. S-6 Source Test Results

Parameter	January 10, 2019 S-6 Gas Turbine Results	Permit Limit
NMOC (ppmv as CH_4 @ 3% O_2)	<24.9	120
NO_x Emission Rate (lb/MMBTU)	0.1113	0.1567
CO Emission Rate (lb/MMBTU)	0.105	0.2229
TRS Content (ppmv)	74.9	150

3.1.4 S-7 Gas Turbine Test Results

The January 24, 2018, source tests results for the S-7 Gas Turbine indicate that the turbine is in compliance with 8-34-301.4 and Title V Permit Condition Number 18773 and that, as required by 8-34-301.4 and Condition Number 18773, the turbine meets the NMOC emission rate of less than 120 ppmv. The final results of the source test are shown in Table 3-5 below.

Table 3-5. S-7 Source Test Results

Parameter	January 10, 2019 S-7 Gas Turbine Results	Permit Limit
NMOC (ppmv as CH_4 @ 3% O_2)	<23.0	120
NO_x Emission Rate (lb/MMBTU)	0.1197	0.1567
CO Emission Rate (lb/MMBTU)	0.065	0.2229
TRS Content (ppmv)	82.7	150

3.1.5 S-23 Internal Combustion Engine Test Results

The 2017 source test results for the S-23 IC Engine indicate that the engine is in compliance with 8-34-301.4 and Title V Permit Condition Number 19237 and that, as required by 8-34-301.4 and Condition Number 19237, the engine meets the NMOC emission rate of less than 120 ppmv. The final results of the source test are shown in Table 3-6 below. Engine S-23 was surrendered in April 2018.

Table 3-6. S-23 Source Test Results

Parameter	February 1, 2017 S-23 IC Engine Results	Permit Limit
NMOC (ppmv as CH_4 @ 3% O_2)	28.5	120
NO_x Emission Rate (g/hp-hr)	0..44	0.60

Parameter	February 1, 2017 S-23 IC Engine Results	Permit Limit
CO Emission Rate (g/hp-hr)	1.50	2.10

3.1.6 S-24 Internal Combustion Engine Test Results

The 2017 source test results for the S-24 IC Engine indicate that the engine is in compliance with 8-34-301.4 and Title V Permit Condition Number 19237 and that, as required by 8-34-301.4 and Condition Number 19237, the engine meets the NMOC emission rate of less than 120 ppmv as methane, corrected to 3 percent O_2. The final results of the source test are shown in Table 3-7 below. Engine S-24 was surrendered in April 2018.

Table 3-7. S-24 Source Test Results

Parameter	February 1, 2017 S-24 IC Engine Results	Permit Limit
NMOC (ppmv as CH_4 @ 3% O_2)	5.8	120
NO_x Emission Rate (g/hp-hr)	0.37	0.60
CO Emission Rate (g/hp-hr)	1.60	2.10

3.2 COMPLIANCE WITH §60.757(g)(1)

"A diagram of the collection system showing collection system positioning including wells, horizontal collectors..."

A map of the LFG collection system dated December 7, 2018, showing the locations of all vertical wells, horizontal collectors, and other LFG extraction devices is included in Appendix AB.

3.3 COMPLIANCE WITH §60.757(g)(2)

"The data upon which the sufficient density of wells, horizontal collectors, surface collectors, or other gas extraction devices and the gas mover equipment sizing are based."

In general, the sufficient capacities of the GCCS components will be based on establishing, maintaining, and documenting the LFG collection flow rate, as required by Title V Permit Condition Number 19235, Part 2. Over the initial monitoring period covered by this Partial Annual Report, the sufficiency of the GCCS components was based as follows:

The existing GCCS has historically provided LFG wells and collectors spaced in accordance with standard industry practices. The installed density appears more than adequate for controlling surface emissions, based on continuous compliance and operational experience. This installation density also provides sufficient methane quality and flows to sustain the energy generating control devices. Additional LFG collectors are installed regularly, as required to maintain compliance and provide maximum available LFG extraction for fueling the energy generating control devices.

The total capacity of the LFG mover equipment exceeds the current EPA extraction rates and the historic LFG extraction rates determined to be continuously available from the landfill. Sufficient LFG control device and mover capacity is provided such that the A-15 flare is used as a back-up control device.

The landfill operator will conduct routine monitoring in accordance with NSPS requirements. If the GCCS at the landfill does not meet the measures of performance set forth in the NSPS, the GCCS will be adjusted or modified in accordance with the NSPS requirements.

On March 16, 2016, ALRRF submitted a change of permit conditions request for new well actions, including the installation of up to 120 new vertical wells and 25 horizontal wells and the decommissioning of up to 100 vertical wells and 15 horizontal wells. The BAAQMD approved the application, which was assigned to Application Number (AN) 27839.

Five (5) existing wells/collectors were decommissioned during the period of December 1, 2018 and May 31, 2019. Appendix B contains the Wellfield SSM Log for the wells that were started and decommissioned during the reporting period. See Appendix R for BAAQMD Correspondence for well start-up and decommissioning notifications and correspondence regarding AN 27839.

Compliance with §60.757(g)(2) is confirmed by performing quarterly SEM events. Refer to Section 2.6, Surface Emissions Monitoring, in this report for information pertaining to the surface emissions monitoring results. New wells will be installed as needed in the future to further control emissions.

3.4 COMPLIANCE WITH §60.757(g)(3)

"The documentation of the presence of asbestos or non-degradable material for each area from which collection wells have been excluded based on the presence of asbestos or non-degradable material."

The GCCS Design Plan dated December 2000 (amended and restated in June 2003, August 2009, and December 2010) for ALRRF does not include asbestos or non-degradable waste areas that are excluded from the collection system. Therefore, §60.757(g)(3) is not applicable.

3.5 COMPLIANCE WITH §60.757(g)(4)

"The sum of the gas generation flow rates for all areas from which collection wells have been excluded based on non-productivity and the calculations of gas generation flow rate for each excluded area."

The GCCS Design Plan dated December 2000 (amended and restated in June 2003, August 2009, and December 2010) for ALRRF does not include asbestos or non-degradable waste areas that are excluded from the collection system. The current 8-acre area that is segregated for asbestos disposal is covered by the GCCS. Therefore, §60.757(g)(4) is not applicable.

3.6 COMPLIANCE WITH §60.757(g)(5)

"The provisions for increasing gas mover equipment capacity with increased gas generation flow rate, if the present gas mover equipment is inadequate to move the maximum flow rate expected over the life of the landfill."

The GCCS capacity will be increased as warranted and as required by regulations. See Appendix R for related correspondence.

3.7 COMPLIANCE WITH §60.757(g)(6)

"The provisions for the control of off-site migration."

In compliance with §60.752(b)(2)(ii)(A)(3) and (4), the GCCS was, and future expansions will be, designed to extract LFG at a sufficient rate to minimize the subsurface lateral migration and surface emissions of LFG. This is achieved by sizing and installing sufficient collection elements, transmission piping, blower(s), and control devices for the estimated maximum rate of LFG to be generated within the refuse at a given point in time. The GCCS will be operated to collect LFG at a sufficient rate, (per the definition in §60.751) by maintaining a negative gauge pressure at all wellheads sufficient to extract a LFG flow rate exceeding the LFG collection flow rate on a continuous basis, as established by the operator per Title V Permit Condition Number 9235, Part 2.

Compliance with §60.757(g)(6) is demonstrated by performing quarterly LFG migration monitoring.

The LFG migration monitoring during the reporting period was performed pursuant to the 2011 Landfill Gas Migration Monitoring Plan. The quarterly LFG migration monitoring results for this reporting period are included in Appendix AC.

The LFG migration monitoring and the structure monitoring event for this reporting period were conducted on the following dates:

- First Quarter 2019 – February 20 and March 8, 14, 15, 22 and 26, 2019

The results of monitoring can be found in Appendix AC.

4 STARTUP, SHUTDOWN, AND MALFUNCTION REPORT

4.1 SSM REPORTS FOR THE GCCS AT ALRRF

The NESHAP contained in 40 CFR part 63, AAAA for Municipal Solid Waste landfills to control hazardous air pollutants include the regulatory requirements for submittal of a semi-annual report (under 40 CFR 63.10(d)(5) of the general provisions) if a Startup, Shutdown, and Malfunction (SSM) event occurred during the reporting period. The reports required by §63.1980(a) of the NESHAP and §60.757(f) of the NSPS summarize the GCCS exceedances. These two semi-annual reports contain similar information and have been combined as allowed by §63.10(d)(5)(i) of the General Provisions.

The following is information covering SSM events that occurred during this reporting period:

- During the reporting period, twenty (28) wellfield SSM events occurred. The time and duration of each event is presented in the SSM Log contained in Appendix B.
- During the reporting period, two (2) Backup Flare (A-15) SSM events occurred. A-15 was shut down to allow for continuous operation of the LNG Plant and the A-16 Flare. The time and duration of each event is presented in the SSM Log contained in Appendix C.
- During the reporting period, twenty (20) LNG Plant Flare (A-16) SSM events occurred. A-16 was shut down and restarted in response to varying LFG demand, to allow for construction in the wellfield, in response to LNG Plant Operations, for forced utility outages and/or for maintenance activities. The time and duration of each event is presented in the SSM Log contained in Appendix C.
- During the reporting period, thirty-two (32) Turbine Number 1 (S-6) SSM events occurred. S-6 was shut down and restarted during the period for forced utility outages and/or to perform routine maintenance tasks. The time and duration of each event is presented in the SSM Log contained in Appendix D.
- During the reporting period, twenty-seven (27) Turbine Number 2 (S-7) SSM events occurred. S-7 was shut down and restarted during the period for forced utility outages and/or to perform routine maintenance tasks. The time and duration of each event is presented in the SSM Log contained in Appendix D.
- During the reporting period, zero (0) IC Engine Number 1 (S-23) SSM events occurred. S-23 was shut down and restarted during the period for forced utility outages, to perform routine maintenance tasks, and/or because of low LFG supply. The time and duration of each event is presented in the SSM Log contained in Appendix E.
- During the reporting period, zero (0) IC Engine Number 2 (S-24) SSM events occurred. S-24 was shut down and restarted during the period for forced utility outages, to perform routine maintenance tasks, and/or because of low LFG

supply. The time and duration of each event is presented in the SSM Log contained in Appendix E.

- During the reporting period, fifty-two (52) LNG Plant (S-210) SSM events occurred. S-210 was shutdown and restarted during the reporting period for forced utility outages, to perform routine maintenance tasks, to allow for construction in the wellfield, and/or in response to A-16 shutdowns. The time and duration of each event is presented in the SSM Log contained in Appendix F.
- During the reporting period one (1) monitoring/recorder equipment SSM events occurred.
- In all one hundred sixty-two (162) events, automatic systems and operator actions were consistent with the standard operating procedures contained in the SSM Plan and there were no deviations from the SSM Plan.
- No exceedances of any applicable emission limitation in the landfills NESHAP (63.10(d)(5)(i)) occurred during this reporting period.
- Revisions of the SSM Plan to correct deficiencies in the landfill operations or procedures were neither required, nor prepared (§63.6(e)(3)(viii)).

I certify the following:

Based on information and belief formed after reasonable inquiry, information on the startup, shutdown, malfunction forms, all accompanying reports, and other required certifications are true, accurate, and complete.

Signature of Responsible Official

6/25/2019
Date

Marcus Nettz II
Name of Responsible Official