

1. INTRODUCTION

Acme Fill Corporation (Acme) is submitting this Title V monitoring report to comply with the reporting provisions of the final Major Facility Review Permit (MFR Permit). This submittal also addresses the reporting requirements of the Bay Area Air Quality Management District (BAAQMD) Regulation 8, Rule 34, Section 411 (8-34-411). Acme is operating as Plant No. 1464 under a BAAQMD Permit to Operate that is renewed annually. The MFR Permit requires Acme to compile and submit compliance monitoring data to the BAAQMD once every six months. This is the twenty eighth Title V monitoring report prepared by Acme and it covers activities conducted at the Acme Landfill between October 1, 2016 and March 31, 2017. An annual compliance certification for the period starting on April 1, 2016 and ending on March 31, 2017 has also been prepared and is being submitted under separate cover to the BAAQMD and the U.S. Environmental Protection Agency (EPA), Region IX. BAAQMD and EPA regulations require Title V facilities with MFR Permits to prepare and file compliance certifications annually.

1.1 Compliance Summary

Acme has complied with the operation, monitoring, maintenance, and recordkeeping provisions of the MFR Permit and the 8-34 requirements during this reporting period. Copies of required monitoring and maintenance records are included as appendices to this report. Brief overviews of Acme's compliance status with respect to the MFR Permit and the 8-34 requirements are included in the following sections. The overviews are provided in the order that they are requested in Section VII of the MFR Permit and the 8-34-411 reporting requirements. The monitoring and maintenance records indicate that Acme is in compliance with the MFR Permit conditions. A completed Title V semiannual monitoring verification report checklist for this reporting period is included in Appendix A.

Acme received a MFR permit from the BAAQMD on December 14, 2011. Acme submitted an application to the BAAQMD for MFR permit renewal on June 2, 2016. The BAAQMD acknowledged receipt of the renewal application in a June 16, 2016 letter. Acme also received a letter from the BAAQMD dated July 8, 2015 granting approval of the less than continuous operation petition for the horizontal collectors on the North and East Parcels. The less than continuous operation petition is effective beginning March 25, 2015 and expires on March 25, 2018.

2. SOURCE 1- LANDFILL WITH GAS COLLECTION SYSTEM

The collection and control system consists of operating landfill gas extraction wells installed at the East and North Parcels connected to landfill gas processing facilities located in the southwest corner of the site (see Figure 1). This report does not include the closed South Parcel because the total in-place tonnage of refuse in this Parcel is less than 450,000 tons. The South Parcel is not contiguous with the other Acme Landfill Parcels and has been excluded from any MFR Permit requirements. The landfill gas processing facilities consist of a flare (abatement device A-2), four microturbine generators operated by Bulldog Gas & Power as BAAQMD Plant 13782, and a gas compression plant used to deliver processed landfill gas to Central Contra Costa Sanitary District.

Acme operated the collection and control system at the site during the reporting period. The existing collection system consists of 29 extraction wells and three trenches at the East Parcel (see Figure 2) and 40 extraction wells and 25 horizontal collectors at the North Parcel (see Figure 3). As reported previously, Acme expanded the East Parcel collection system in 2014 by installing nine additional vertical landfill gas collection wells. Authority to construct these wells was included in Acme's MFR Permit. Except as described in the following sections, all of the extraction wells were operated continuously. The horizontal collectors were operated less than continuously consistent with MFR Permit condition #19906, Part 5. As described above, the BAAQMD provided a three-year extension of the less than continuous petition to Acme in a July 8, 2015 letter. Acme's less than continuous petition expires on March 25, 2018. Testing and operation of the horizontal collectors is described below. Required operating records and data for the landfill gas collection and control system are also discussed.

2.1 Operating Records

Acme collection and emission control system daily operation records are included in Appendix B. The daily summaries include gas flow rates, scheduled shutdowns, and unscheduled shutdowns along with a description of the shutdown occurrence. The landfill gas flare and gas compression plant can be operated independently or in combination. The microturbines can only be operated when the gas compression plant is running. The microturbines were not operated during the reporting period. Planned shutdowns of the gas plant for general maintenance occurred during October 2016. The flare was operated continuously during the planned shutdowns. There were a total of 24.5 hours of flare operation during this reporting period. The 8-34-113 requirements allow for up to 240 scheduled shutdown hours during any calendar year. Since the flare was operated continuously while the gas plant was shut down, there were no scheduled shutdowns of the emission control systems during the reporting period. The systems at Acme were therefore operated in compliance with the shutdown limitations during this 2016-2017 reporting period. In addition, there were no complete system shutdown hours logged during calendar year 2016.

The flare was operated for a total of 24.5 hours during this reporting period. The heat input to the flare during these operating periods did not exceed the maximum daily MFR BTU permit limit. The heat input to the flare during this reporting period was approximately 318 million

BTU which is well below the 412,650 million BTU per year limitation. Flare flow records including specific days and hours of operation and strip chart recorder data will be retained in Acme files for review by the BAAQMD upon request. The operation records provided for this reporting period therefore indicate that Acme Landfill is in compliance with MFR heat input limits and the 8-34-113 requirements.

The East Parcel accepted green waste, wood waste, construction and demolition debris, and other inert wastes during the reporting period. Daily summaries of waste acceptance from October 1, 2016 to March 31, 2017 are provided in Appendix C. There are no areas on the East or North Parcels at Acme Landfill that are excluded from the landfill gas collection system. Acme Landfill's calculated waste acceptance rate during the reporting period, approximately 81 tons per day, is well below the 1,500 tons per day MFR Permit limit.

2.2 Flare Source Testing Results

Flare source testing was not conducted during the reporting period. Acme plans to complete the annual source test during July 2017. Blue Sky Environmental will be contracted to perform compliance testing for the parameters listed in Condition #19906, Item 9 of the MFR Permit. Testing of the untreated landfill gas for the volatile organic compound parameters listed in Condition #19906, Item 10 of the MFR permit will be completed concurrent with the 2016 source test.

2.3 Gas Collection and Emission Control System Leak Testing

Landfill gas wells and horizontal collectors are leak-tested quarterly to comply with the 8-34-303 requirements. Leak testing data are recorded in Appendix D. No leaks in excess of the 1,000 parts per million volume (ppmv) MFR Permit component limit were measured in North Parcel wells during the reporting period. PVC tape is routinely used to seal the annular space between North Parcel liner boots and the landfill gas wells to prevent leaks at these collectors. Component leaks below the 1,000-ppmv limit were measured during the December 2016 and March 2017 monitoring at some of the East Parcel wells. Acme has installed high density polyethylene boots with 2-foot diameter skirts around each East Parcel landfill gas well to suppress emissions at the ground surface/well head interface. Bentonite chips have been placed around the East Parcel wells to aid in gas emission control. The bentonite is hydrated and maintained to suppress leaks. In addition to the landfill gas wellhead work, flanges and boots on the North and East Parcel horizontal collectors were checked during this reporting period and resealed as necessary. The components tested were operated in compliance with the 8-34-303 requirements during the reporting period. Components on the pressure side of the gas plant were leak-tested on December 21, 2016 and March 16, 2017. No leaks were detected during quarterly testing.

2.4 Wellhead Monitoring

Acme completed monthly wellhead monitoring of the landfill gas wells during the reporting period for the parameters required by 8-34-305. A Landtec GEM 2000 instrument was used to measure the required wellhead monitoring parameters. This instrument is factory-calibrated at six-month intervals and field-calibrated each month before use. Operation of the horizontal collectors and vertical wells on the North and East Parcels is described below.

Vacuum and pressure gauges installed on the North Parcel horizontal collectors were monitored monthly consistent with MFR Permit condition #19906, Part 5. Negative or static pressures were observed in the collectors during each of the monthly monitoring events. The isolation valves to each of the collector legs were therefore off during the reporting period. Gauge readings and gas quality results for the horizontal collectors are included in Appendix E. Malfunctioning gauges were replaced as they were identified. All of the North and East Parcel gas well measurements were in compliance with the 8-34-305 requirements during the monthly testing programs for this reporting period.

The North Parcel vertical wells were in compliance with the 8-34-305 requirements for all parameters during monthly testing this period. Testing results are included in Appendix E. All of the vertical East Parcel gas wells were in compliance with the 8-34-305 requirements during the routine monthly monitoring events. East Parcel wells EW-26 and EW-40 were not monitored during a portion of the reporting period because they were located in active fill areas and were being raised. Gas quality in East Parcel horizontal collectors T-1, T-2, and T-3 was good throughout this reporting period so these components were operated continuously. Additional low flow well heads were installed at selected North and East Parcel gas wells during this reporting period to allow for better extraction control. Tabular summaries of the East Parcel wellhead data are also included in Appendix E.

2.5 Landfill Surface Emission Monitoring

Annual monitoring of the closed North Parcel as allowed by CCR Title 17 §95471 was completed during January 2017. The North Parcel was monitored within 3 inches of the Parcel surface along approximately 100-foot intervals in 50,000 square foot grids using AB-32 compliant Trimble SiteFID™ Landfill Gas Monitors. A figure showing the North Parcel grid layout is included in Appendix F along with calibration data for the Trimble instrument used during the survey. The Trimble instruments incorporate flame ionization detectors that are linked by wireless technology to GPS-enabled hand-held computers. There were no emissions above 7.5 ppmv detected during the January 2017 SEM of the North Parcel. North Parcel SEM results are tabulated in Appendix F along with site wind speed data obtained using a portable data-logging anemometer during the monitoring program. Site wind speed data collected during monitoring were below the 10 miles per hour average wind speed and 20 miles per hour

instantaneous wind speed criteria included in Acme alternative compliance option (ACO) application with the CARB.

Based on the results of the January 2017 SEM, the North Parcel is in continued compliance with the methane emission standards specified in CCR Title 17 §95465. Therefore, annual monitoring of the North Parcel will continue to be completed along a 100-foot interval walking pattern with the next SEM scheduled for first quarter 2018.

Integrated and instantaneous surface emission monitoring (SEM) was implemented at the East Parcel during 2016 and 2017 on a quarterly basis as required by CCR Title 17 §95460 through 95476. As a result of inclement weather, first quarter 2017 monitoring was initiated during March 2017 and completed during early April 2017. There were no exceedences of the 25 ppmv integrated criteria during fourth quarter 2016 monitoring at the East Parcel. There were two exceedences of the 25 ppmv integrated criteria during first quarter 2017 monitoring at grids 48 and 49. Confirmed measurements above the 500 ppmv instantaneous criteria were reported during the SEM work. One confirmed exceedence was measured during fourth quarter 2016 and sixteen exceedences were confirmed during first quarter 2017 monitoring. These integrated and instantaneous confirmed emissions were addressed by applying additional soil cover. All of these locations were re-monitored after the additional soil cover was placed and within eight days of recording the initial results. The re-monitoring results were below the 25 ppmv or 500 ppmv criteria. Consistent with BAAQMD 8-34-415, each of the locations will be monitored again within 30 days of the initial monitoring to confirm that the emissions are below 500 ppmv. Monitoring results for each of the quarterly monitoring programs are summarized in Appendix F along with figures showing the locations where instantaneous measurements above 500 ppmv were recorded. Calibration data for the Trimble instruments used during the surveys is also included in the Appendix.

Site wind speed data was collected on the days that East Parcel SEM was performed using a portable data-logging anemometer. Wind speed monitoring data did not exceed the ACO criteria that Acme has requested during the monitoring programs. Wind speed monitoring is also summarized in Appendix F. The wind speed data is being maintained in Acme files and can be submitted to the BAAQMD upon request.

Based on the results obtained during these two SEM events, the East Parcel is in compliance with methane surface emission standards specified in CCR Title 17 § 95465 and therefore no additional corrective action is necessary. Complete monitoring data for these two events will be maintained in the engineering office at the Acme office Landfill.

2.6 Continuous Temperature and Flow Recorders

As mentioned previously, the landfill gas flare was operated for 24.5 hours during the reporting period. Flare temperature graphs for the periods of operation have been recorded using a strip chart recorder. Temperatures above the 3-hour average 1,400 °F MFR Permit criteria were maintained while the flare was being operated. Strip chart recorder data documenting

compliance with the MFR Permit criteria will be retained in Acme files for review by the BAAQMD upon request. Daily gas flow meter readings are summarized in Appendix B. The gas flow meters are calibrated to ensure the accuracy of the measurements. Gas flow meter calibration data is retained in Acme's files and can be submitted to the BAAQMD upon request.

2.7 Miscellaneous Landfill Operating Records

Acme maintains and operates a water truck to control dust emissions from the unpaved roadways at the site. A summary of the watering records for the reporting period containing the data required by the MFR Permit condition #19906, Part 11 is included in Appendix G. Note that road watering is completed only when necessary during the wet season. There were several days during this reporting period when use of the water truck was not necessary because the rainy weather precluded dust emissions from the roads at the site. Acme also measured hydrogen sulfide concentrations in the raw landfill gas on a quarterly basis during the reporting period as required by MFR Permit condition #19906, Part 8. Hydrogen sulfide levels in the gas were measured using a GasTech GT Land Surveyor or a RKI Eagle 2 instrument. The readings recorded during this reporting period, 29 and 33 ppmv, are significantly below the 1,300-ppm MFR Permit limit.

Acme performed routine maintenance on the landfill gas extraction well network during the reporting period including periodic taping of liner boot seals, draining condensate from header lines, replacing landfill gas sampling ports on the well heads, replacing well identification stickers, and replacing malfunctioning gauges on the North Parcel horizontal collectors. Temporary shutdowns of wells were completed consistent with the 8-34-117 requirements. Well disconnection times and activities completed on these existing gas collection and control system components have been documented and will be retained in Acme files for review by the BAAQMD upon request. Descriptions of the maintenance work completed at the landfill gas wellheads during routine monthly testing are included on the field data forms provided in Appendix E.

3. SOURCES 9 AND 10 – IC ENGINE POWERING WASTE RECYCLER

Acme used a diesel-fueled waste recycler manufactured by Peterson Pacific Corporation to chip wood and green wastes received at the landfill during the reporting period. An hour meter connected to the engine records waste recycler operating hours. The waste recycler was operated for a total of 34.2 hours during this reporting period. Due to a chipper malfunction, all green waste received after November 2016 was landfilled without processing. The waste recycler hour meter log and diesel fuel consumption records will be retained in Acme files and submitted upon request. Acme is permitted to operate the waste recycler for up to 1,200 hours during any consecutive 12-month period. During 2016, the waste recycler was operated for a total of 245.8 hours. California-certified diesel was used to fuel the waste recycler during the reporting period. Vendor certifications of sulfur content were included on every invoice received and are being retained in Acme files for review by the BAAQMD upon request. Water was used to moisture condition wood and green waste before chipping. Acme has installed a dedicated water line at the green waste chipping area to facilitate moisture conditioning of the waste and preclude fugitive emissions. Excessive visible particulate emissions were not observed while the waste recycler was operated and no fallout of particulate on adjacent property occurred during the reporting period.

4. SOURCE 200 – LEACHATE TREATMENT FACILITY

Influent and effluent leachate samples are collected and analyzed semiannually for the volatile organic compounds (VOCs) specified by MFR Permit condition #19908, Part 2. The VOC results and daily flow rate data are used to calculate VOC and benzene emissions from the leachate treatment plant. A 75 percent biodegradation efficiency factor is included in the emission calculations. VOC and benzene emissions from the leachate treatment plant were well below the criteria included in the MFR Permit condition #19908, Part 1 during the reporting period. Daily leachate flow rates were also below the 72,000-gallon per day limit during the reporting period. Emission calculations and leachate treatment plant flow rate data are included in Appendix H. Airflow rates to the aeration tanks are being retained in Acme files for review by the BAAQMD upon request.

5. SOURCE 201 – EMERGENCY GENERATOR

Acme maintains an 80-horsepower, 25-kilowatt emergency generator at the leachate treatment plant to ensure maximum run time at the plant and enable compliance with other regulatory requirements at the site. Acme received a permit from the BAAQMD to operate the emergency generator in a December 5, 2003 letter. An hour meter is connected to the engine and is read and recorded monthly to comply with the permit conditions. The generator was operated for a total of 6.6 hours for maintenance during the reporting period. There was an additional run time of 9.0 hours during a short-term site power outage on February 25, 2017. The California Air Resources Board (CARB) requirements limit the inspection and maintenance run time of this engine to less than 20 hours per year. There were a total of 13.7 hours of maintenance run time during 2016.