



# CENTRAL SAN

CENTRAL CONTRA COSTA SANITARY DISTRICT

5019 IMHOFF PLACE, MARTINEZ, CA 94553-4392

PHONE: (925) 228-9500  
[www.centernalsan.org](http://www.centernalsan.org)

**SEND VIA FEDEX**

January 29, 2019

Mr. Jeffrey Gove  
Director of Compliance and Enforcement,  
Bay Area Air Quality Management District  
Attention: Title V Report  
375 Beale Street, Suite 600  
San Francisco, CA 94105

ROGER S. BAILEY  
General Manager

KENTON L. ALM  
Counsel for the District  
(510) 375-4571

KATIE YOUNG  
Secretary of the District

Dear Mr. Gove:

RE: 2018 TITLE V ANNUAL, JULY THROUGH DECEMBER 2018  
SEMI-ANNUAL, AND FOURTH QUARTER 2018 COMBINED REPORT FOR  
BAY AREA AIR QUALITY MANAGEMENT DISTRICT FACILITY NO. A0907

Central Contra Costa Sanitary District is regulated by a United States Environmental Protection Agency Title V Major Facility Review Permit and a Bay Area Air Quality Management District Permit-to-Operate (Facility No. A0907). The attached combined 2018 Title V Annual, July through December 2018 Semi-Annual, and Fourth Quarter 2018 Combined Report meets the requirements for the Title V Major Facility Review Permit and Bay Area Air Quality Management District Regulation 2, Rule 6.

If you have any questions concerning the information in this annual report, please contact Senior Engineer Randy Schmidt at 925-229-7333.

Sincerely,

*Ann Sasaki*

Ann K. Sasaki, P.E.  
Deputy General Manager

Enclosures



**2018 TITLE V ANNUAL,  
JULY THROUGH DECEMBER 2018 SEMI-ANNUAL,  
AND FOURTH QUARTER 2018 COMBINED REPORT**  
**January 1, 2018 through December 31, 2018**

For Submittal to:  
**Bay Area Air Quality Management District**  
375 Beale Street, Suite 600  
San Francisco, California 94105

Prepared by:  
**Central Contra Costa Sanitary District**  
5019 Imhoff Place  
Martinez, California 94553  
Plant Number A0907

# Contents

---

<b>1</b>	<b>INTRODUCTION.....</b>	<b>1</b>
1.1	Purpose	1
1.2	Recordkeeping and Reporting	1
<b>2</b>	<b>TITLE V COMPLIANCE ACTIVITIES .....</b>	<b>2</b>
2.1	Auxiliary Boilers No. 1 and No. 2 (S-7 and S-8)	2
2.2	Furnaces No. 1 and No. 2 (S-9 and S-10)	2
2.3	Centrifuge and Cake Hoppers (S-24, A-14, and A-15)	8
2.4	Gasoline Dispensing Facility (S-25)	8
2.5	Wastewater Treatment Plant (S-100)	8
2.6	Preliminary Treatment (S-110, A-23, and A-24)	8
2.7	Primary Treatment (S-120 and A-120)	9
2.8	Dissolved Air Flotation Units and Sludge Blending Tanks (S-180, A-14, A-15, and A-187)	9
2.9	Ash Conveying System (S-182, A-186, A-191, A-192, and A-196)	9
2.10	Cogeneration (S-188)	9
2.11	Emergency Standby Generators (S-195, S-196, A-1195, and A-1196)	11
2.12	Sludge Loading Facility (S-197)	12
2.13	Forklift Fleet	12
2.14	Additional Compliance Activities	12
2.15	Compliance Certification Forms	12
<b>3</b>	<b>FOURTH QUARTER 2018 REPORTING REQUIREMENTS .....</b>	<b>13</b>
3.1	Sulfur Dioxide Concentration from Landfill Gas Combustion	13
3.2	Sulfur Dioxide Concentration from Natural Gas Combustion	13
3.3	Total Organic Carbon Leaks – Landfill Gas System	13
APPENDIX A	Title V Semi-Annual Monitoring Verification Report	
APPENDIX B	BAAQMD Permitted Sources	
APPENDIX C	Auxiliary Boilers First Pass Temperature	
APPENDIX D	Furnaces Wet Scrubber Pressure Drop Readings	
APPENDIX E	Furnaces Oxygen Readings	
APPENDIX F	Furnaces Opacity Readings	
APPENDIX G	Furnaces Hearth Temperatures	
APPENDIX H	Gasoline Dispensing Facility Gasoline Meter Readings	
APPENDIX I	Sulfur Dioxide Concentrations from Combustion (Quarterly Requirement)	
APPENDIX J	Total Organic Carbon Leaks – Landfill Gas System (Quarterly Requirement)	

# 1 Introduction

---

## 1.1 Purpose

This document is a Title V Annual, Semi-Annual, and Fourth Quarter Combined Report for the Central Contra Costa Sanitary District (Central San). This report covers the Title V compliance activities for the annual period of January 1, 2018 through December 31, 2018, reporting requirements for the semi-annual period of July 1, 2018 through December 31, 2018, as well as the fourth quarter reporting requirements for October 1, 2018 through December 31, 2018.

Central San, Facility No. A0907, was issued a Major Facility Review Permit on January 28, 2000. A revision to the permit was issued on November 15, 2004, and a five-year renewal permit was issued on December 11, 2006. The second five-year renewal permit was issued on March 12, 2015. This report is submitted to comply with the requirements of Bay Area Air Quality Management District (BAAQMD), Regulation 2, Rule 6, and Title V of the Clean Air Act.

Section 2 of this report contains Title V compliance activities for Auxiliary Boilers (S-7 and S-8), Furnaces (S-9 and S-10), Cogeneration (S-188), the remaining BAAQMD permitted sources, and additional Title V activities.

Section 3 contains the quarterly reporting requirements of sulfur content of landfill gas (LFG), total organic carbon leak testing for the LFG System, and sulfur dioxide (SO<sub>2</sub>) emissions from both LFG and natural gas (NG) combustion.

## 1.2 Recordkeeping and Reporting

Records are maintained and available for inspection in accordance with BAAQMD Regulation 8-34-501.12. The primary location for records storage is inside the Treatment Plant's Operations Office at Central San. Records are maintained at this location for a minimum of five years.

## 2 Title V Compliance Activities

---

The following sections summarize the compliance activities for January 1, 2018 through December 31, 2018.

### 2.1 Auxiliary Boilers No. 1 and No. 2 (S-7 and S-8)

Both auxiliary boilers (S-7 and S-8) were operated on NG and LFG during the reporting period. Both S-7 and S-8 did not operate on fuel oil during the reporting period. The flow meters for LFG and NG were fully operational, and the hourly data was collected and electronically archived. Neither boiler exceeded the 28 million British thermal unit (MMBTU)/hour permit limit for the reporting period.

Table 1: 2018 Auxiliary Boilers Fuel Oil Usage			
	Hours of Testing	Hours of NG Curtailment	Fuel Consumed (gallons)
Auxiliary Boiler No. 1 (S-7)	0	0	0
Auxiliary Boiler No. 2 (S-8)	0	0	0
<i>Limit</i>	<i>48</i>	<i>168</i>	

When operating on LFG, the three-clock hour first-pass temperatures for both auxiliary boilers were above the minimum 770 degrees Fahrenheit (°F) permit limit 100 percent of the operating time during the reporting period (Appendix C).

The annual maintenance on S-7 and S-8 completed in October and November 2018 included auxiliary boiler shutdown, internal inspection, necessary repairs, and annual burner tuning.

The annual source test for S-7 (NST 5148) was conducted on November 19, 2018, and the final report was submitted to BAAQMD electronically on January 10, 2019. The annual source test for S-8 (NST 5148) was conducted on September 20, 2018, and the final report was submitted to BAAQMD electronically on November 13, 2018. All emissions complied with the applicable permit conditions. The maximum stack temperature measured during the source tests for both S-7 and S-8 was 364 °F, in compliance with the maximum limit of 466 °F.

### 2.2 Furnaces No. 1 and No. 2 (S-9 and S-10)

Furnace No. 1 (S-9) operated until February 1, 2018, and Furnace No. 2 (S-10) started its operation on January 26, 2018. The solid fuel throughput to both S-9 and S-10 did not exceed the daily combined limit of 120 dry tons/day, the daily limit of 60 dry tons/day per furnace, or the annual combined limit of 20,000 dry tons/365 days. The total 12-month cumulative solid fuel throughput to S-9 and S-10 during the reporting period was 16,381 dry tons. S-9 and S-10 did not exceed the hourly auxiliary fuel limit of 27 MMBTU/hour per furnace.

Sludge cake solids content is measured during all three work shifts daily. The volatile fraction of the cake solids is measured once daily, and the volatile content varies slightly from day-to-day. The volatile solids content did not exceed 95 percent during the reporting period.

The wet scrubber pressure drop for S-9 was above the minimum limit of 5.9 inches of water column (" WC) 100 percent of the time during the reporting period (Appendix D). The wet scrubber pressure drop for S-10 was above the minimum limit of 4.7" WC 100 percent of the time during the reporting period (Appendix D).

The one-hour Hearth No. 2 oxygen (O<sub>2</sub>) measurements for S-9 were below the 10 percent O<sub>2</sub> maximum limit for 99.98 percent of the reporting time (Appendix E). The one-hour Hearth No. 2 O<sub>2</sub> measurements for S-10 were below the 10 percent O<sub>2</sub> maximum limit for 100 percent of the reporting time (Appendix E). The total hydrocarbon emissions were well below the limit of 100 parts per million (ppm) corrected to 7 percent O<sub>2</sub>.

The opacity measurements for S-9 were in compliance for 99.99 percent of the reporting time. The opacity measurements for S-10 were in compliance for 99.99 percent of the reporting time. During the reporting period, there were two opacity exceedances greater than 20 percent for a period or periods aggregating more than three minutes in any hour as detected by the opacity Continuous Emission Monitoring System (CEMS) (Appendix F). Both exceedances were reported as Reportable Compliance Activities (RCA) to BAAQMD.

Hearth temperatures lower than the following clock-hour minimums must be reported. The hearth temperature readings for S-9 were above their minimum limits for 100 percent of the reporting period, and the hearth temperature readings for S-10 were above their minimum limits for 99.98 percent of the reporting period. See Appendix G for a summary of hearth temperature excursions.

**Hearth Temperature Minimum Limits**

- Hearth No. 1: 1,000 °F
- Hearth No. 2: 800 °F
- Hearth No. 3: 1,000 °F
- Hearth No. 4: 1,000 °F
- Hearth No. 5: 1,000 °F
- Hearth No. 6: 1,000 °F
- Hearth No. 7: 100 °F
- Hearth No. 8: 100 °F
- Hearth No. 9: 80 °F
- Hearth No. 10: 40 °F
- Hearth No. 11: 40 °F

Inoperative monitor incidents that exceed more than 24 hours shall be reported to BAAQMD. There were no inoperative monitor incidents during the reporting period for the following parametric monitors:

- Sludge flow monitor
- Scrubber pressure drop monitor
- Auxiliary fuel flow monitors
- Internal afterburner (Hearth No. 1) temperature monitor
- Hearth Nos. 2-11 temperature monitors

On February 27-March 1, 2018 and May 10-11, 2018, Blue Sky Environmental, Inc. conducted annual emissions testing on S-10 on behalf of Central San (NST-4851) for SO<sub>2</sub>, non-methane organic carbon, and pollutants regulated under Federal Clean Air Act Section 129 (129) Sewage Sludge Incinerator (SSI) regulations. With the exception of hydrogen chloride (HCl), emission results were well below their respective limits (see Furnace No. 2 HCl Limit Exceedance for details below). Final results were submitted to BAAQMD electronically on July 20, 2018.

Central San is continuing to work with United States Environmental Protection Agency to develop 129 limits for operating parameters currently being recorded using continuous parametric monitoring systems (CPMSs). There were no periods during which the CPMSs had malfunctioned or were out of control. A qualified SSI operator was available at all times during S-9 and S-10 operation and there were no SSI operator training deviations. All SSI operators completed an annual review course for 129 SSI operator qualification.

The annual air pollution control device inspection for the dry cyclone scrubber (A-1) and wet scrubber (A-2) on S-9, the unit offline for a majority of 2018, was completed in May 2018 after S-9 was shut down for annual maintenance. Welding was performed to repair minor cracks observed in A-1. The equipment was operating properly and was in generally good operating condition. The annual air pollution control device inspection for the dry cyclone scrubber (A-3) and wet scrubber (A-4) on S-10, the unit online for a majority of 2018, was completed in January 2018 prior to S-10 being brought online. Replacement of seals was completed on A-4. The equipment was operating properly and was in generally good operating condition.

The following sections summarize the RCAs and permit deviations that were submitted to BAAQMD during the reporting period:

**RCA 07G02 – Furnace No. 2 Emergency Bypass Damper**

The 129 regulations emission limits apply to emissions from a bypass stack while sewage sludge is in the combustion chamber (until the end of SSI residence time). RCA No. 07G02 was submitted to BAAQMD on January 26, 2018 to request Breakdown Relief from the 129 regulated pollutant limits in Title 40 Code of Federal Regulations (CFR), Subpart M, Section 60.5165<sup>1</sup>. The 10-Day Title V Deviation Report was submitted to BAAQMD on February 1, 2018 and the 30-Day Title V Report was submitted to BAAQMD on February 22, 2018.

---

<sup>1</sup> Per meeting with Environmental Protection Agency Region IX Environmental Engineer, Mark Sims, on November 15, 2018, Central San was instructed, moving forward, to follow the 129 regulations outlined in 40 CFR Part 62, Subpart LLL, in lieu of 40 CFR Part 60, Subpart M because the State of California did not officially seek delegation authority from the United States Environmental Protection Agency to regulate the 129 regulations.

On Friday, January 26, 2018, the bypass damper on S-10 opened on three occasions from 18:33:53 to 18:34:47, 19:46:55 to 19:47:36, and 22:07:55 to 22:08:24 for a total duration of two minutes and four seconds. A loose terminal for the induced draft (ID) fan permissive circuit caused the ID fan's low speed alarms and eventual loss of operation, triggering the S-10 bypass damper to open to protect the waste heat boiler and air pollution control equipment in each of the three events.

On the following day, January 27, 2018, staff discovered a loose terminal on the ID fan permissive circuit and repaired the loose wire. On January 29, 2018, S-10 resumed its normal operation and sludge feed began at 12:08. As a follow-up action, the Electrical Shop checked the terminal blocks in the furnace control panel for any additional loose wires and ensured proper tightness. The furnace control panel is now visually inspected and checked for loose wires by Maintenance staff during the annual furnace preventative maintenance.

On April 24, 2018, BAAQMD issued a Notice of Violation (NOV) No. A-57320 for the violation of the 129 SSI regulation particulate matter (PM) limit during the bypass event. Central San submitted a written response to BAAQMD on May 9, 2018.

#### **RCA 07G28 – Furnace No. 1 Opacity**

Central San's Permit-to-Operate Condition 21423, Part 5 requires Central San to ensure visible emissions from furnace exhaust do not exceed 20 percent opacity as detected by an opacity sensing device for a period or periods aggregating more than three minutes in any hour, as monitored by a District-approved opacity CEMS. RCA No. 07G28 was submitted to BAAQMD on February 21, 2018 to report the excess emissions as indicated by the opacity CEMS within 96 hours of discovery. The 10-Day Title V Deviation Report was submitted to BAAQMD on February 27, 2018, and the 30-Day Title V Report was submitted to BAAQMD on March 14, 2018.

On Sunday, February 18, 2018, the opacity on S-9 was greater than 20 percent on six occasions, from 11:26:00 to 11:26:20, 11:41:40 to 11:42:00, 11:43:40 to 11:44:00, 11:45:20 to 11:47:00, 11:54:00 to 12:07:20, and 12:08:40 to 12:09:00 for a total duration of 16 minutes and 20 seconds. Sludge had leaked into the offline furnace S-9 through closed feed valves, and during the sludge drying process; opacity emissions exceeded 20 percent.

The root causes of the opacity event were residual sludge entering the offline furnace S-9 through closed feed valves and the inadvertent combustion during the residual sludge drying process. As a follow-up action, a furnace shutdown Standard Operating Procedure (SOP) was developed to ensure sludge does not enter an offline furnace. This SOP requires the installation of a blind flange on the furnace feed line downstream of the feed valves, as soon as it is safe to do so. The existing furnace feed valves are scheduled for replacement in a future capital project.

On July 31, 2018, BAAQMD issued a NOV No. A-57322 for the violation of the opacity limit. Central San submitted a written response to BAAQMD on September 14, 2018.

#### **RCA 07H37 and RCA 07H38 – Furnace No. 2 Opacity**

Central San's Permit-to-Operate Condition 21423, Part 5 requires Central San to ensure visible emissions from furnace exhaust do not exceed 20 percent opacity as detected by an opacity sensing device for a period or periods aggregating more than three minutes in any hour, as monitored by a District-approved opacity CEMS. RCA Nos. 07H37 and 07H38 were submitted to BAAQMD on June 17, 2018 to request breakdown relief and report the excess emissions, respectively. The 10-Day Title V Deviation Report was submitted to BAAQMD on June 27, 2018, and the 30-Day Title V Report was submitted to BAAQMD on July 16, 2018.



The opacity on S-10 exceeded 20 percent on Sunday, June 17, 2018 for a total of 3 minutes and 50 seconds over multiple opacity events from 12:28 to 12:35. The root cause of the opacity event is suspected to be the addition of centrifuge flushing water that caused the low temperature conditions within the furnace combustion hearths. This subsequently required the operation of additional furnace burners and the switch to NG with higher heating value to sustain the combustion process. The switch to NG depleted the oxygen levels in the furnace, causing the opacity to exceed the 20 percent limit.

As a follow-up action, Operators have been instructed to operate on a one-centrifuge mode in the event a centrifuge falls offline unexpectedly during a two-centrifuge operation until stable combustion conditions are achieved. Additionally, Operations staff updated an existing SOP to include specific centrifuge cold-water flushing procedures and ensure excess centrifuge flush water is not introduced into the combustion process.

On October 9, 2018, BAAQMD notified Central San via email that no NOV would be issued for this event.

### **RCA 07H73 – Furnace No. 2 Emergency Bypass Damper**

The 129 regulations emission limits apply to emissions from a bypass stack while sewage sludge is in the combustion chamber (until the end of SSI residence time). RCA No. 07H73 was submitted to BAAQMD on July 12, 2018 to request Breakdown Relief from the 129 regulated pollutant limits in Title 40 CFR, Subpart M, Section 60.5165. The 10-Day Title V Deviation Report was submitted to BAAQMD on July 20, 2018 and the 30-Day Title V Report was submitted to BAAQMD on August 8, 2018.

On July 12, 2018, the bypass damper on S-10 was open from 06:15:00 to 06:57:42 for a total duration of 42 minutes and 42 seconds. Operations staff responded immediately to the bypass event by stopping sludge feed to the furnace at 06:17:40 to minimize the release of unabated emissions. A failure of an isolation transformer and rack power supply for an Input/Output (I/O) Drop of a Programmable Logic Controller (PLC) caused a loss of furnace control equipment. The loss of the furnace control equipment impacted the ability to monitor and control some aspects of the furnace, triggering the opening of the S-10 bypass damper to protect the downstream waste heat boiler and air pollution control equipment.

The root cause of the bypass event was identified as the failures of the PLC 7, I/O Drop 7 isolation transformer and rack power supply. After completing the root cause analysis, Central San's Process Control Group identified other critical isolation transformers and rack power supplies that could cause furnace bypass events during failure. Additional critical devices include the isolation transformer for PLC 7, I/O Drop 6 and the rack power supplies for PLC 7, I/O Drops 2, 6, 7, and 11. The long-term use of the isolation transformers for I/O drops was evaluated after the bypass event. Isolation transformers were determined to be unnecessary when power is supplied by an Uninterrupted Power Supply, which serves as back-up power source during a power failure. I/O Drops 6 and 7 are powered by an Uninterrupted Power Supply, and thus, the isolation transformers for these drops were permanently removed. Additionally, staff replaced the rack power supplies for PLC 7, I/O Drops 2, 6, 7, and 11. The vintage I/O modules used for the furnaces are obsolete. The rack power supplies installed were refurbished by the manufacturer, Schneider Electric, in 2017. Lastly, per the manufacturer's recommendation, there are no maintenance requirements for rack power supplies or the isolation transformers.

On October 29, 2018, BAAQMD issued a NOV No. A-57323 for the violation of the 129 SSI PM limit during the bypass event. Central San submitted a written response to BAAQMD on December 18, 2018.

### **Furnace No. 2 HCl Limit Exceedance**

On February 27-March 1, 2018, Blue Sky Environmental, Inc. conducted annual emissions testing on S-10 on behalf of Central San (NST-4851) for SO<sub>2</sub>, non-methane organic carbon, and pollutants regulated under the 129

SSI regulations. The first emissions report was submitted to BAAQMD on April 16, 2018, indicating compliance with all applicable Section 129 emissions limits. On May 3, 2018, BAAQMD Senior Air Quality Engineer Mr. Marco Hernandez notified Blue Sky and Central San of a test error associated with the filter type used per federal Method 26A for the testing of HCl emissions. Method 26A is used to determine HCl emissions from stationary sources and requires the collection of pollutants conducted with a Teflon mat filter if the stack gas temperature is below 410°F.

On May 10-11, 2018, Blue Sky re-tested HCl emissions on Furnace No. 2 using Method 26A with a Teflon mat filter. The second emissions report was submitted to BAAQMD on June 18, 2018, indicating compliance with all applicable Section 129 emissions limits. On July 3, 2018, Mr. Marco Hernandez informed Central San of a data discrepancy between the analytical laboratory's (Enthalpy Analytical) chloride analysis report and the analytical report submitted as part of the emissions report to BAAQMD. Both reports should have been identical; however, BAAQMD discovered a discrepancy in two of the three chloride NG testing data points.

On July 20, 2018, the corrected Furnace No. 2 emissions report using the original analytical data was submitted to BAAQMD. The corrected HCl emissions were above the federal limit of 1.2 parts per million by volume, dry (ppmvd) @ 7% O<sub>2</sub>.

In this situation, Enthalpy Analytical was contracted by Blue Sky to perform the analytical testing of the collected samples. Typically, Central San staff has no direct contact with the analytical laboratory that is contracted by our source testing companies. Central San receives a digital copy of the analytical laboratory report as part of the emissions report that is submitted to BAAQMD for assessment.

After learning about the data discrepancy, Central San immediately contacted Blue Sky for an explanation. It was then discovered that a Blue Sky staff member modified two chloride data values in the analytical report provided by Enthalpy Analytical, and this modified version of the analytical report was submitted to BAAQMD and Central San as an attachment in the emissions report without Central San's knowledge. Central San staff did not in any way request Blue Sky to modify any testing or analytical data. Blue Sky acknowledged this mistake to Central San staff both in person and in writing. Due to this event, Central San terminated the emissions testing contract with Blue Sky on September 5, 2018.

#### **November 13, 2018 Furnace No. 2 Emergency Bypass Damper**

The 129 regulations emission limits in Title 40 CFR, Subpart LLL, Section 62.15955 apply to emissions from a bypass stack while sewage sludge is in the combustion chamber (until the end of SSI residence time). The bypass damper on S-10 opened on November 13, 2018 from 02:04:28 to 02:08:41. A 10-day deviation notification was submitted to BAAQMD on November 21, 2018, and the 30-Day Title V Report was submitted to BAAQMD on December 11, 2018.

The failure of a high-voltage cable connecting the treatment plant's Substation 82 Breaker BB4 and Substation 40 caused a voltage fluctuation within the Plant and subsequent equipment outages, triggering the S-10 bypass damper to open to protect the furnace, waste heat boiler, and air pollution control equipment.

The high-voltage 12,000-volt feeder was repaired and re-energized on November 26, 2018. As part of the ongoing switchgear refurbishment project, and because the existing Breaker 82BB4 being 40 years old, a new breaker was installed on December 3, 2018. The new breaker is a vacuum style breaker that allows for faster response time and could also clear faults faster than older breakers, minimizing the impacts of voltage fluctuations. Maintenance staff will continue to conduct routine inspection and maintenance on the new and existing electrical equipment.

On January 10, 2019, BAAQMD issued a NOV No. A-57680 for the violation of the 129 SSI PM limit during the bypass event.

### 2.3 Centrifuge and Cake Hoppers (S-24, A-14, and A-15)

During the reporting period, centrifuges and cake hoppers (S-24) only operated while abated by packed bed scrubbers A-14 or A-15.

### 2.4 Gasoline Dispensing Facility (S-25)

Throughput for the Gasoline Dispensing Facility is recorded monthly. The gasoline dispensed for the past 12 months was approximately 568 gallons (Appendix H). The maximum consecutive 12-month total during the reporting period was 827 gallons, which is significantly less than the limit of 400,000 gallons in any consecutive 12-month period. On April 12, 2018, Reinholdt Engineering Construction conducted the annual pressure decay test (ST-38), the annual dynamic back pressure test (ST-37), and the annual Vapor Recovery Inspection. No issues were noted during the annual test.

BAAQMD issued an Authority-to-Construct on November 29, 2018 for the replacement of the fuel dispenser on S-25. As part of the construction, Central San will remove all vapor recovery equipment on S-25 and replace with non-vapor recovery equivalents. When construction is complete, S-25 will no longer be permitted to refuel vehicles. With these modifications, S-25 will be exempt from Phase II vapor recovery requirements.

### 2.5 Wastewater Treatment Plant (S-100)

The wastewater flow into Central San's Treatment Plant did not exceed 53.8 million gallons per day on a calendar month average during dry weather periods, or 140 million gallons per day on a calendar month average during wet weather periods.

### 2.6 Preliminary Treatment (S-110, A-23, and A-24)

The preliminary treatment (S-110) only operated when being abated by odor control units (OCU) A-23 or A-24.

The Headworks Screening Project began construction in July 2017 and was scheduled to be completed in October 2018. The project was delayed and is now scheduled for completion in July 2019. Central San is not seeking an increase in permitted capacity. Therefore, the project is considered an alteration. BAAQMD issued Central San an *Authority to Construct* No. 28348 on July 11, 2017 for the Headworks Screening Project. As a condition of the *Authority to Construct*, upon official startup of the headworks facility improvements, Central San is required to ensure that hydrogen sulfide (H<sub>2</sub>S) concentration in the stacks of A-23 and A-24 do not exceed 10.0 ppm by using a BAAQMD-approved device every calendar quarter. Central San submitted the startup notification to BAAQMD electronically on June 8, 2018 with a startup date of June 26, 2018. The work is expected to be completed by July 2019. Quarterly H<sub>2</sub>S monitoring results are summarized in Table 2.

Table 2: A-23 and A-24 Hydrogen Sulfide (H <sub>2</sub> S) Monitoring Results			
Quarter	Monitoring Date	OCU E (A-23) H <sub>2</sub> S, ppm	OCU W (A-24) H <sub>2</sub> S, ppm
1	N/A	N/A	N/A
2	N/A	N/A	N/A
3	8/24/2018	0.01	0.01
4	12/10/2018	0.04	0.00
<i>Limit</i>		<i>10</i>	

## 2.7 Primary Treatment (S-120 and A-120)

Odor control scrubber A-120 abated emissions from primary treatment (S-120) at all times that malodorous compounds were present.

## 2.8 Dissolved Air Flotation Units and Sludge Blending Tanks (S-180, A-14, A-15, and A-187)

Dissolved Air Flotation Units and Sludge Blending Tanks (S-180) only operated while abated by packed bed scrubbers A-14 or A-15, and scrubber A-187.

## 2.9 Ash Conveying System (S-182, A-186, A-191, A-192, and A-196)

The ash conveying system (S-182) only operated while abated by baghouses A-186, A-196, or cyclone A-191 and baghouse A-192. All abatement devices were maintained according to manufacturer's specifications.

The exhaust stacks from the particulate emissions abatement systems A-186, A-196, and A-191/A-192 were visually checked for leaks at a minimum of once per day.

## 2.10 Cogeneration (S-188)

S-188 fired only on Public Utilities Commission quality NG and did not exceed the permit fuel throughput limit of 1,188 MMBTU/day or 49.5 MMBTU/hour during the reporting period. Oxides of nitrogen (NO<sub>x</sub>) emissions from S-188 did not exceed the following maximum limits:

- Clock-hour average of 167 ppmvd at 15 percent O<sub>2</sub>
- Three-clock hour average of 42 ppmvd at 15 percent O<sub>2</sub>

- 118 pounds of NO<sub>x</sub> per any rolling consecutive 24-hour period
- 19.834 tons of NO<sub>x</sub> per any rolling 365 consecutive day period

All span and zero calibrations for the NO<sub>x</sub> CEMS were within their respective limits when the CEMS was in operation.

The NG flow monitor and water injection monitor were properly operated. The water-to-fuel ratio was calculated on a clock-hour basis and the heat input was calculated on a daily basis.

Compliance with the carbon monoxide (CO) limits is demonstrated by an annual source test. The most recent compliance source test was conducted on September 25, 2018 (NST-5146). The measured CO emissions averaged 40 pounds/day and demonstrated compliance with the following CO limits:

- 157 pounds per rolling 24-hour period
- 26.376 tons per rolling 365-day consecutive period.

CO emissions must also be monitored for 30 continuous minutes on a monthly basis, and Central San must estimate the corresponding CO mass emissions in pounds/day. If CO emissions are estimated at more than 118 pounds/day, Central San must take corrective action to lower the CO emissions within five business days and re-monitor. CO emissions from S-188 were less than 118 pounds/day for the entire reporting period. Monthly CO monitoring results during the reporting period are summarized in Table 3.

Per the S-188 permit condition, Central San may reduce the monitoring frequency from monthly to quarterly if CO emissions are estimated at less than 118 pounds/day for 12 consecutive months. Since CO emissions were estimated at less than 118 pounds/day for 12 consecutive months during the reporting period, Central San will be monitoring CO emissions quarterly moving forward. If CO emissions are estimated at more than 118 pounds/day during a quarterly monitoring event, Central San will revert to monthly CO monitoring.

**Table 3: S-188 CO Monitoring Results**

Month	Cogen Natural Gas (NG) Flow (thousand cubic feet/day)	Carbon Monoxide (CO) Concentration (ppm)	Oxygen (O <sub>2</sub> ) Concentration (%)	CO Mass Emissions (pounds/day)	Sample Date	Sample Collected by
Jan	1045	13.38	16.34	42.53	01/09/18	KN
Feb	860	11.76	17.30	38.90	02/16/18	KN
Mar	854	12.93	17.21	41.50	03/19/18	KN
Apr	993	13.28	16.55	42.05	04/24/18	KN
May	992	12.83	16.53	40.43	05/15/18	RH
Jun	1048	12.26	16.24	38.25	06/19/18	KN
Jul	985	13.90	16.56	43.73	07/17/18	KN
Aug	972	14.10	16.57	43.85	08/14/18	KN
Sep	989	13.67	16.46	42.22	09/19/18	KN
Oct	951	12.31	16.57	37.52	10/08/18	KN
Nov	957	14.87	16.80	48.07	11/26/18	KN
Dec	940	11.52	16.90	37.55	12/27/18	KN

*Monthly Monitoring Limit: 118.00 pounds/day*

*Permit Limit: 157.00 pounds/day*

RCA No. 07K26 was submitted to BAAQMD on December 14, 2018 for an inoperative NO<sub>x</sub> monitor that was taken out of service on December 13, 2018 and sent to the factory for annual preventive maintenance. The NO<sub>x</sub> monitor was placed into service on December 19, 2018 and BAAQMD was notified on December 20, 2018. While the NO<sub>x</sub> monitor was inoperative, the injection water-to-fuel ratio served as a parametric monitor for NO<sub>x</sub> emission compliance.

## 2.11 Emergency Standby Generators (S-195, S-196, A-1195, and A-1196)

The permit limits the testing and maintenance run-time of S-195 and S-196 to 100 hours each per calendar year. In 2018, S-195 was operated for 10 hours for testing and maintenance, and S-196 was operated for 17 hours for testing and maintenance.

S-195 and S-196 only operated when the particulate trap/catalyzed diesel particulate filters (A-1195 and A-1196) were in place. A-1195 and A-1196 have not exceeded 2,000 hours of operation without cleaning. The non-resettable totalizing meters on each generator that measure the hours of operation were properly maintained. Maintenance records for S-195 and S-196 are available upon request.

On April 12, 2018, the leak detection system of the 2,000-gallon fuel oil tank that supplies fuel to S-195 and S-196 was inspected by Reinholdt Engineering Construction. No issues were noted during the inspection.

## 2.12 Sludge Loading Facility (S-197)

S-197 is a Sludge Loading Facility designed for short-term emergency use if S-9 and S-10 are not operational. It is an enclosed building with appropriate odor control (A-197). S-197 can only be operated on an emergency basis when S-9 and S-10 are not operational but is allowed 100 run hours annually for maintenance and testing. S-197 was not exercised during the reporting period.

## 2.13 Forklift Fleet

Central San operates a fleet of seven forklifts. The average fleet emission is 1.8 grams of hydrocarbons (gms HC) plus NO<sub>x</sub> per kilowatt hour (kW-hour), which is below the limit of 1.9 gms HC plus NO<sub>x</sub>/kW-hour, implemented on January 1, 2013. The following table lists the unit and emissions for each forklift in Central San’s forklift fleet:

Table 4: 2018 Forklift Fleet Summary				
Year	Make	Size	Controls	gms HC+NO <sub>x</sub> /kW-hr
2008	Komatsu	880 AH	(Electric)	0.0
2015	Toyota	2.237 L	OEM	0.8
2010	Toyota	990 AH	(Electric)	0.0
1996	Kalmar AC	1.982 L	BlueCAT 300	1.3
1996	Kalmar AC	4.169 L	BlueCAT 300	2.7
2003	Hyster 40/Komatsu	2.0 L	OEM	4.0
2005	Toyota	2.237 L	OEM	4.0
			<b>AVERAGE</b>	<b>1.8</b>

## 2.14 Additional Compliance Activities

Central San is considered a major stationary combustion source of greenhouse gas emissions by the California Air Resources Board. Central San’s annual emissions of non-biogenic carbon dioxide equivalents are less than 25,000 metric tons. Therefore, Central San does not incur any compliance obligations under the Cap and Trade portion of AB 32, but is required to report and verify carbon dioxide equivalent emissions on an annual basis.

## 2.15 Compliance Certification Forms

As required in the current Title V Major Facility Review Permit, the completed Compliance Certification forms and the completed Major Facility Review Certification Statement will be sent to BAAQMD in a separate submittal. A copy of this submittal will also be sent to the United States Environmental Protection Agency, Region IX.

## 3 Fourth Quarter 2018 Reporting Requirements

---

The following sections satisfy the fourth quarter reporting requirement pursuant to Permit-to-Operate Condition 21422 Parts 2 and 3, Condition 21485 Part 14, BAAQMD Rule 9-1-302, and BAAQMD Rule 8-34-503.

### 3.1 Sulfur Dioxide Concentration from Landfill Gas Combustion

The maximum LFG H<sub>2</sub>S concentration was 49.0 ppmv during the fourth quarter period. Based on this H<sub>2</sub>S concentration, the estimated maximum exhaust gas SO<sub>2</sub> concentration from either auxiliary boiler (S-7 and S-8) is 9.6 ppmvd SO<sub>2</sub>. This concentration is significantly lower than the permit limit of 300 ppmvd SO<sub>2</sub>.

### 3.2 Sulfur Dioxide Concentration from Natural Gas Combustion

The maximum SO<sub>2</sub> emissions from the combustion of NG are based on the maximum total sulfur content of 0.29 grains total sulfur per 100 standard cubic feet from Pacific Gas and Electric, published "Rule 21 – Transportation of Natural Gas, Section C, Quality of Gas" for the fourth quarter of 2018.

While burning NG, the maximum SO<sub>2</sub> concentration in the stack gas from the Auxiliary Boilers (S-7 and S-8) and Cogeneration (S-188) during the reporting period was 0.57 ppmvd SO<sub>2</sub>. This concentration is significantly lower than the permit limit of 300 ppmvd SO<sub>2</sub>.

Quarterly SO<sub>2</sub> concentration readings from LFG and NG combustion are presented in Appendix I.

### 3.3 Total Organic Carbon Leaks – Landfill Gas System

The LFG piping from the landfill to Central San's point of delivery is tested for leaks by Acme Landfill's consultant and was tested on January 2, 2019. There were no leaks in excess of the 1,000 ppmv as methane limit in BAAQMD Regulation 8, Rule 34.

The LFG piping from Central San's point of delivery to the permitted sources is tested by Central San's staff and was tested for leaking components on November 29, 2018. There were no leaks in excess of the 1,000 ppmv as methane limit in BAAQMD Regulation 8, Rule 34.

Quarterly total organic carbon leaks data are presented in Appendix J.



*I certify the following:*

***This completes the Title V reporting requirements for the annual period of January 1, 2018 through December 31, 2018, the semi-annual period of July 1, 2018 through December 31, 2018, and the fourth quarter period of October 1, 2018 through December 31, 2018. To the best of my knowledge, the information contained herein is true and accurate.***

*Ann Sasaki*

---

Ann K. Sasaki, P.E.  
Deputy General Manager

**1/29/2019**

---

Date

**APPENDIX A**

**TITLE V SEMI-ANNUAL MONITORING VERIFICATION REPORT**

Appendix A  
Title V Semi-Annual Monitoring Verification Report

Date: January 29, 2019

Period: 1/1/2018 – 12/31/2018

Site #: A0907  
Site Name: Central Contra Costa Sanitary District  
Address: 5019 Imhoff Place  
City: Martinez State: CA Zip Code: 94553

The following tables show the relationship between each limit and the associated compliance monitoring provisions, if any. Federally enforceable (FE) limits are also identified. The monitoring frequency column indicates whether periodic (P) or continuous (C) monitoring is required. For periodic monitoring, the frequency of the monitoring has also been shown using the following codes: annual (A), quarterly (Q), monthly (M), weekly (W), daily (D), or on an event basis (E). No monitoring (N) has been required if the current applicable rule or regulation does not require monitoring, and the operation is unlikely to deviate from the applicable limit based upon the nature of the operation.

S-7 AUXILIARY BOILER #1 .....2  
S-8 AUXILIARY BOILER #2 .....8  
S-9 MULTIPLE HEARTH FURNACE #1 .....14  
S-10 MULTIPLE HEARTH FURNACE #2 .....28  
S-24 CENTRIFUGES AND CAKE HOPPERS.....41  
S-25 GASOLINE DISPENSING FACILITY .....42  
S-180 DISSOLVED AIR FLOTATION UNITS AND SLUDGE BLENDING TANKS .....42  
S-182 ASH CONVEYING SYSTEM .....43  
S-188 NATURAL GAS FIRED TURBINE GENERATOR WITH HRSG.....46  
S-195 EMERGENCY STANDBY DIESEL GENERATOR #1 .....49  
S-196 EMERGENCY STANDBY DIESEL GENERATOR #3 .....50

**S-7 AUXILIARY BOILER #1**

Source #: S-7					Source Name: Auxiliary Boiler #1					
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance		
								Y	N	
Oxides of Nitrogen	SIP 9-7-301.1 (Gaseous Fuels)	Y		30 ppmvd @ 3% O <sub>2</sub>	BAAQMD Condition #21422, part 7	P/once every 60 months	Source Test	X	11/19/18 NST-5148	
	SIP 9-7-302.1 (Non-Gaseous Fuels)	Y		40 ppmvd @ 3% O <sub>2</sub>	BAAQMD Condition #21422, part 7	P/once every 60 months	Source Test	X	NA. Non-gaseous fuel is only burned during a natural gas curtailment or testing. The device did not exceed the hour limits required for the exemption.	
	SIP 9-7-305.1	Y		150 ppmvd @ 3% O <sub>2</sub> when burning non-gaseous fuel due to natural gas curtailment	BAAQMD 9-7-503.2	P/E	Records	X		
	SIP 9-7-306.1	Y		150 ppmvd @ 3% O <sub>2</sub> when burning non-gaseous fuel for testing	BAAQMD 9-7-503.2	P/E	Records	X		

Source #: S-7					Source Name: Auxiliary Boiler #1				
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Y	N
Oxides of Nitrogen	BAAQMD 9-7-113.2	N		150 ppmvd at 3% O <sub>2</sub> when burning non-gaseous fuel during natural gas curtailment for up to 168 hours in any consecutive 12-month period or 48 hours for testing in any consecutive 12-month period	BAAQMD 9-8-503.3	P/E	Records	X	
Oxides of Nitrogen	BAAQMD 9-7-307.4	N		15 ppmvd @ 3% O <sub>2</sub> for gaseous fuels except landfill or digester gas	BAAQMD Condition #21422, part 5	P/once every 60 months	Source Test	X 11/19/18 NST-5148	
Oxides of Nitrogen	BAAQMD 9-7-307.4	N		15 ppmvd @ 3% O <sub>2</sub> for gaseous fuels except landfill or digester gas	BAAQMD 9-7-506	P/A	Portable Analyzer	X 11/19/18 NST-5148	
Oxides of Nitrogen	BAAQMD 9-7-307.7	N		30 ppmvd @ 3% O <sub>2</sub> for landfill or digester gas	BAAQMD Condition #21422, part 5	P/once every 60 months	Source Test	X 11/19/18 NST-5148	
	BAAQMD 9-7-307.7	N		30 ppmvd @ 3% O <sub>2</sub> for landfill or digester gas)	BAAQMD 9-7-506	P/A	Portable Analyzer	X 11/19/18 NST-5148	
Carbon Monoxide	SIP 9-7-301.2 (Gaseous Fuels)	Y		400 ppmvd @ 3% O <sub>2</sub>	BAAQMD Condition #21422, part 5	P/once every 60 months	Source Test	X 11/19/18 NST-5148	

Source #: S-7					Source Name: Auxiliary Boiler #1				
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Y	N
Carbon Monoxide	SIP 9-7-302.2 (Non-Gaseous Fuels)	Y		400 ppmvd @ 3% O <sub>2</sub>		N		X	
	SIP 9-7-305.2	Y		400 ppmvd @ 3% O <sub>2</sub> when burning non-gaseous fuel due to natural gas curtailment	BAAQMD 9-7-503.2	P/E	Records	X	
	SIP 9-7-306.2	Y		400 ppmvd @ 3% O <sub>2</sub> when burning non-gaseous fuel for testing	BAAQMD 9-7-503.3	P/E	Records	X	
	BAAQMD 9-7-307.4, 9-7-307.7, and 9-7-307.8	N		400 ppmvd @ 3% O <sub>2</sub> for gaseous, landfill gas and digester gas	BAAQMD Condition #21422, part 5	P/once every 60 months	Source Test	X 11/19/18 NST-5148	
	BAAQMD 9-7-307.4, 9-7-307.7, and 9-7-307.8	N		400 ppmvd @ 3% O <sub>2</sub> for gaseous, landfill gas and digester gas	BAAQMD 9-7-506	P/A	Portable Analyzer	X 11/19/18 NST-5148	
Sulfur Dioxide	BAAQMD 9-1-301	Y		GLC of 0.5 ppm for 3 min or 0.25 ppm for 60 min or 0.05 ppm for 24 hours		N		X	

Source #: S-7				Source Name: Auxiliary Boiler #1					
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Y	N
	BAAQMD 9-1-302	Y		300 ppmvd	BAAQMD Condition #21422, part 3	P/Q	Fuel Sulfur Analysis Based Calculation	X	Appendix I
	BAAQMD 9-1-304	Y		Sulfur content of fuel (<0.5% by wt)	BAAQMD Condition #21422, part 2	P/M	Fuel Sulfur Analysis	X	Appendix I
	BAAQMD Condition #21422, part 3	Y		300 ppmvd	BAAQMD Condition #21422, part 3	P/Q	Fuel Sulfur Analysis Based Calculation	X	Appendix I
Opacity	BAAQMD 6-1-301	N		Ringelmann No. 1		N		X	
	SIP 6-301	Y		Ringelmann No. 1		N		X	
Filterable Particulate	BAAQMD 6-1-310	N		0.15 grains/dscf @ 6% O <sub>2</sub>		N		X	
	SIP 6-310	Y		0.15 grains/dscf @ 6% O <sub>2</sub>		N		X	
Organics & CH <sub>4</sub>	BAAQMD, Condition #21422, part 8	N		Emission Reduction: 98% by weight or concentration less than 120 ppmvd Non-Methane Organic Compounds, as methane @ 3% O <sub>2</sub>	BAAQMD, Condition #21422, part 6	C	Temperature Monitor	X	Appendix C
	BAAQMD 8-34-301.2	N		Max Leakage: 1000 ppmvd (as CH <sub>4</sub> )	BAAQMD 8-34-503	P/Q	Leak Testing	X	Appendix J

Source #: S-7				Source Name: Auxiliary Boiler #1					
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Y	N
	BAAQMD 8-34-301.4	N		Emission Reduction: 98% by weight or concentration less than 120 ppmvd Non-Methane Organic Compounds, as methane and at 3% O <sub>2</sub>	BAAQMD 8-34-507	C	Temperature Monitor	X	Appendix C
	BAAQMD 8-34-301.4	N		Emission Reduction: 98% by weight or concentration less than 120 ppmvd Non-Methane Organic Compounds, as methane and at 3% O <sub>2</sub>	BAAQMD 8-34-508	C	Gas Flow Meter	X	
Organics & CH <sub>4</sub>	BAAQMD 8-34-301.4	N		Emission Reduction: 98% by weight or concentration less than 120 ppmvd Non-Methane Organic Compounds, as methane and at 3% O <sub>2</sub>	BAAQMD 8-34-412	P/A	Source Test	X	11/19/18 NST-5148
Organics & CH <sub>4</sub>	BAAQMD 8-34-301.2	Y		Max Leakage: 1000 ppmvd (as CH <sub>4</sub> )	BAAQMD 8-34-503	P/Q	Leak Testing	X	Appendix J
Heat Input	BAAQMD Condition #21422, part 1	Y		Not to exceed 28 MMBtu/hr	BAAQMD Condition #21422, part 9A	P/M	Records	X	
Boiler Temperature	BAAQMD Condition #21422, part 8	Y		770 degrees F or greater, when burning landfill gas	BAAQMD Condition #21422, part 8	C	Records	X	Appendix C



Source #: S-7					Source Name: Auxiliary Boiler #1				
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Y	N
Stack Gas Temperature	BAAQMD 9-7-312	N		466 degrees F	BAAQMD Condition #21422, part 8	P/A	During Source Test	X	11/19/18 NST-5148

**S-8 AUXILIARY BOILER #2**

Source #: S-8					Source Name: Auxiliary Boiler #2					
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance		
								Y	N	
Oxides of Nitrogen	SIP 9-7-301.1 (Gaseous Fuels)	Y		30 ppmvd @ 3% O <sub>2</sub>	BAAQMD Condition #21422, part 7	P/once every 60 months	Source Test	X	09/20/18 NST-5148	
	SIP 9-7-302.1 (Non-Gaseous Fuels)	Y		40 ppmvd @ 3% O <sub>2</sub>	BAAQMD Condition #21422, part 7	P/once every 60 months	Source Test	X	NA. Non-gaseous fuel is only burned during a natural gas curtailment or testing. The device did not exceed the hour limits required for the exemption.	
	SIP 9-7-305.1	Y		150 ppmvd @ 3% O <sub>2</sub> when burning non-gaseous fuel due to natural gas curtailment	BAAQMD 9-7-503.2	P/E	Records	X		
	SIP 9-7-306.1	Y		150 ppmvd @ 3% O <sub>2</sub> when burning non-gaseous fuel for testing	BAAQMD 9-7-503.2	P/E	Records	X		

Source #: S-8					Source Name: Auxiliary Boiler #2					
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance		
								Y	N	
Oxides of Nitrogen	BAAQMD 9-7-113.2	N		150 ppmvd at 3% O <sub>2</sub> when burning non-gaseous fuel during natural gas curtailment for up to 168 hours in any consecutive 12-month period or 48 hours for testing in any consecutive 12-month period	BAAQMD 9-8-503.3	P/E	Records	X		
Oxides of Nitrogen	BAAQMD 9-7-307.4	N		15 ppmvd @ 3% O <sub>2</sub> for gaseous fuels except landfill or digester gas	BAAQMD Condition #21422, part 5	P/once every 60 months	Source Test	X 09/20/18 NST-5148		
Oxides of Nitrogen	BAAQMD 9-7-307.4	N		15 ppmvd @ 3% O <sub>2</sub> for gaseous fuels except landfill or digester gas	BAAQMD 9-7-506	P/A	Portable Analyzer	X 09/20/18 NST-5148		
Oxides of Nitrogen	BAAQMD 9-7-307.7	N		30 ppmvd @ 3% O <sub>2</sub> for landfill or digester gas	BAAQMD Condition #21422, part 5	P/once every 60 months	Source Test	X 09/20/18 NST-5148		
	BAAQMD 9-7-307.7	N		30 ppmvd @ 3% O <sub>2</sub> for landfill or digester gas)	BAAQMD 9-7-506	P/A	Portable Analyzer	X 09/20/18 NST-5148		
Carbon Monoxide	SIP 9-7-301.2 (Gaseous Fuels)	Y		400 ppmvd @ 3% O <sub>2</sub>	BAAQMD Condition #21422, part 5	P/once every 60 months	Source Test	X 09/20/18 NST-5148		

Source #: S-8					Source Name: Auxiliary Boiler #2				
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Y	N
Carbon Monoxide	SIP 9-7-302.2 (Non-Gaseous Fuels)	Y		400 ppmvd @ 3% O <sub>2</sub>		N		X	
	SIP 9-7-305.2	Y		400 ppmvd @ 3% O <sub>2</sub> when burning non-gaseous fuel due to natural gas curtailment	BAAQMD 9-7-503.2	P/E	Records	X	
	SIP 9-7-306.2	Y		400 ppmvd @ 3% O <sub>2</sub> when burning non-gaseous fuel for testing	BAAQMD 9-7-503.3	P/E	Records	X	
	BAAQMD 9-7-307.4, 9-7-307.7, and 9-7-307.8	N		400 ppmvd @ 3% O <sub>2</sub> for gaseous, landfill gas and digester gas	BAAQMD Condition #21422, part 5	P/once every 60 months	Source Test	X 09/20/18 NST-5148	
	BAAQMD 9-7-307.4, 9-7-307.7, and 9-7-307.8	N		400 ppmvd @ 3% O <sub>2</sub> for gaseous, landfill gas and digester gas	BAAQMD 9-7-506	P/A	Portable Analyzer	X 09/20/18 NST-5148	
Sulfur Dioxide	BAAQMD 9-1-301	Y		GLC of 0.5 ppm for 3 min or 0.25 ppm for 60 min or 0.05 ppm for 24 hours		N		X	

Source #: S-8					Source Name: Auxiliary Boiler #2				
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Y	N
	BAAQMD 9-1-302	Y		300 ppmvd	BAAQMD Condition #21422, part 3	P/Q	Fuel Sulfur Analysis Based Calculation	X	Appendix I
	BAAQMD 9-1-304	Y		Sulfur content of fuel (<0.5% by wt)	BAAQMD Condition #21422, part 2	P/M	Fuel Sulfur Analysis	X	Appendix I
	BAAQMD Condition #21422, part 3	Y		300 ppmvd	BAAQMD Condition #21422, part 3	P/Q	Fuel Sulfur Analysis Based Calculation	X	Appendix I
Opacity	BAAQMD 6-1-301	N		Ringelmann No. 1		N		X	
	SIP 6-301	Y		Ringelmann No. 1		N		X	
Filterable Particulate	BAAQMD 6-1-310	N		0.15 grains/dscf @ 6% O <sub>2</sub>		N		X	
	SIP 6-310	Y		0.15 grains/dscf @ 6% O <sub>2</sub>		N		X	
Organics & CH <sub>4</sub>	BAAQMD, Condition #21422, part 8	N		Emission Reduction: 98% by weight or concentration less than 120 ppmvd Non-Methane Organic Compounds, as methane @ 3% O <sub>2</sub>	BAAQMD, Condition #21422, part 6	C	Temperature Monitor	X	Appendix C
	BAAQMD 8-34-301.2	N		Max Leakage: 1000 ppmvd (as CH <sub>4</sub> )	BAAQMD 8-34-503	P/Q	Leak Testing	X	Appendix J

Source #: S-8					Source Name: Auxiliary Boiler #2				
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Y	N
	BAAQMD 8-34-301.4	N		Emission Reduction: 98% by weight or concentration less than 120 ppmvd Non-Methane Organic Compounds, as methane and at 3% O <sub>2</sub>	BAAQMD 8-34-507	C	Temperature Monitor	X	Appendix C
	BAAQMD 8-34-301.4	N		Emission Reduction: 98% by weight or concentration less than 120 ppmvd Non-Methane Organic Compounds, as methane and at 3% O <sub>2</sub>	BAAQMD 8-34-508	C	Gas Flow Meter	X	
Organics & CH <sub>4</sub>	BAAQMD 8-34-301.4	N		Emission Reduction: 98% by weight or concentration less than 120 ppmvd Non-Methane Organic Compounds, as methane and at 3% O <sub>2</sub>	BAAQMD 8-34-412	P/A	Source Test	X	09/20/18 NST-5148
Organics & CH <sub>4</sub>	BAAQMD 8-34-301.2	Y		Max Leakage: 1000 ppmvd (as CH <sub>4</sub> )	BAAQMD 8-39-503	P/Q	Leak Testing	X	Appendix J
Heat Input	BAAQMD Condition #21422, part 1	Y		Not to exceed 28 MMBtu/hr	BAAQMD Condition #21422, part 9A	P/M	Records	X	
Boiler Temperature	BAAQMD Condition #21422, part 8	Y		770 degrees F or greater, when burning landfill gas	BAAQMD Condition #21422, part 8	C	Records	X	Appendix C

Source #: S-8					Source Name: Auxiliary Boiler #2				
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Y	N
Stack Gas Temperature	BAAQMD 9-7-312	N		466 degrees F	BAAQMD Condition #21422, part 8	P/A	During Source Test	X	09/20/18 NST-5148

**S-9 MULTIPLE HEARTH FURNACE #1**

Source #: S-9				Source Name: Multiple Hearth Furnace #1						
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance		
								Y	N	
Sulfur Dioxide	40 CFR 60, Subpart Mmmm, Section 5165; Table 3	Y		26 ppmvd @ 7% O <sub>2</sub>	40 CFR 60, Subpart Mmmm, Sections 5185(a) and 5205, Table 3	P/A	Source Test	X	04/18/17-04/20/17 NST-4488	
	40 CFR 60, Subpart Mmmm, Section 5165; Table 3	Y		26 ppmvd @ 7% O <sub>2</sub>	40 CFR 60.5165, Table 4	C	Scrubber Liquid pH Monitor	NA	Awaiting response from USEPA Region 9 on site-specific parametric limit	
	BAAQMD 9-1-301	Y		GLC of 0.5 ppm for 3 min or 0.25 ppm for 60 min or 0.05 ppm for 24 hours		N		X		
	BAAQMD 9-1-304	Y		300 ppmvd	BAAQMD Condition #21423, part 11	P/A	Source Test	X	04/18/17-04/20/17 NST-4488	



Source #: S-9				Source Name: Multiple Hearth Furnace #1					
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Y	N
Oxides of Nitrogen	40 CFR 60, Subpart M, Section 5165; Table 3	Y		220 ppmvd @ 7% O <sub>2</sub>	40 CFR 60 Sections 5185(a) and 5205, Subpart M, Table 3	P/A	Source Test	X	04/18/17-04/20/17 NST-4488
Opacity	BAAQMD 6-1-301	N		Ringelmann No. 1		N		X	
	SIP 6-301	Y		Ringelmann No. 1		N		X	
Opacity	BAAQMD 6-1-302	N		20% opacity for no more than 3 minutes in any hour	BAAQMD 6-1-501	C	Continuous Opacity Monitor		X Appendix F
	SIP 6-302	Y		20% opacity for no more than 3 minutes in any hour	BAAQMD 6-501	C	Continuous Opacity Monitor		X Appendix F
	40 CFR 60.152(a) (2)	Y		20% opacity	BAAQMD 6-1-501	C	Continuous Opacity Monitor		X Appendix F
	BAAQMD Condition #21423, part 5	Y		20% opacity or greater	BAAQMD Condition #21423, part 5	C	Continuous Opacity Monitor		X Appendix F
Filterable Particulate	BAAQMD 6-1-310.1	N		0.15 grains/dscf @ 12% CO <sub>2</sub> and as if no auxiliary fuel is used	BAAQMD Condition #21423, part 10	P/once every 60 months	Source Test	X	04/18/17-04/20/17 NST-4488

Source #: S-9				Source Name: Multiple Hearth Furnace #1					
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Y	N
	SIP 6-310.1	Y		0.15 grains/dscf @ 12% CO <sub>2</sub> and as if no auxiliary fuel is used	BAAQMD Condition #21423, part 10	P/once every 60 months	Source Test	X	04/18/17-04/20/17 NST-4488
	BAAQMD 6-1-311	N		4.10P <sup>0.67</sup> lb/hr, where P is process weight, lb/hr, not to exceed 40 lb/hr	BAAQMD Condition #21423, part 10	P/once every 60 months	Source Test	X	04/18/17-04/20/17 NST-4488
Filterable Particulate	SIP 6-311	Y		4.10P <sup>0.67</sup> lb/hr, where P is process weight, lb/hr, not to exceed 40 lb/hr	BAAQMD Condition #21423, part 10	P/once every 60 months	Source Test	X	04/18/17-04/20/17 NST-4488
Filterable Particulate	40 CFR 60.152(a)(1), BAAQMD Condition #21423, part 3	Y		0.65 g particulate matter/kg dry sludge	40 CFR 60.153(a)(1) and BAAQMD Condition 21423, part 13a	C	Sludge Flow Meter	X	
	40 CFR 60.152(a)(1)	Y		0.65 g particulate matter/kg dry sludge (pressure drop shall not drop below individual furnace scrubber pressure set points for > 15 min in any hour)	40 CFR 60.153(b)(1), BAAQMD Condition 21423, parts 13b and 14a	C	Wet Scrubber Pressure Drop Meter	X	Appendix D

Source #: S-9				Source Name: Multiple Hearth Furnace #1						
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance		
								Y	N	
	40 CFR 60.152(a)(1)	Y		0.65 g particulate matter/kg dry sludge (oxygen content shall not exceed 10%)	40 CFR 60.153(b)(2), BAAQMD Condition 21423, parts 13c and 14b	C	O <sub>2</sub> Analyzer	X	Appendix E	
	40 CFR 60.152(a)(1)	Y		0.65 g particulate matter/kg dry sludge	40 CFR 60.153(b)(3) and BAAQMD Condition 21423, part 13d	C	Temperature Monitors	X	Appendix G	
Filterable Particulate	40 CFR 60.152(a)(1)	Y		0.65 g particulate matter/kg dry sludge	40 CFR 60.153(b)(4) and BAAQMD Condition 21423, part 13e	C	Fuel Flow Meter	X		
	40 CFR 60.152(a)(1)	Y		0.65 g particulate matter/kg dry sludge	40 CFR 60.153(b)(5) and BAAQMD Condition 21423, part 13f	P/D	Sludge Sample and Analysis	X		
Filterable Particulate	40 CFR 60, Subpart M, Section 5165; Table 3	Y		80 mg/dscm @ 7% O <sub>2</sub>	40 CFR 60, Subpart M, Sections 5185(a) and 5205, Table 3	P/A	Source Test	X	04/18/17-04/20/17 NST-4488	

Source #: S-9				Source Name: Multiple Hearth Furnace #1					
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Y	N
	40 CFR 60, Subpart M, Section 5165; Table 3	Y		80 mg/dscm @ 7% O <sub>2</sub> (combustion chamber operating temperature shall not drop below setpoints for > 15 min in any hour)	40 CFR 60, Subpart M, Table 4	C	Hearth 1 Temperature Monitor	NA	Awaiting response from USEPA Region 9 on site-specific parametric limit
	40 CFR 60, Subpart M, Section 5165; Table 3	Y		80 mg/dscm @ 7% O <sub>2</sub> (pressure drop shall not drop below individual furnace scrubber pressure setpoints for > 15 min in any hour)	40 CFR 60.5170, Table 4	C	Wet Scrubber Pressure Drop Meter	NA	Awaiting response from USEPA Region 9 on site-specific parametric limit

Source #: S-9				Source Name: Multiple Hearth Furnace #1						
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance		
								Y	N	
Filterable Particulate	40 CFR 60, Subpart M, Section 5165; Table 3	Y		80 mg/dscm @ 7% O <sub>2</sub> (scrubber liquid flow rate shall not drop below setpoints for > 15 min in any hour)	40 CFR 60.5170, Table 4	C	Wet Scrubber Effluent Liquid Flow Meter	NA	Awaiting response from USEPA Region 9 on site-specific parametric limit	
	BAAQMD Condition #21423, part 4	Y		343 mg particulate/dscm (0.15 gr/dscf) of exhaust gas volume	BAAQMD Condition #21423, part 10	P/once every 60 months	Source Test	X	04/18/17-04/20/17 NST-4488	
Non-Methane Organic Compounds	BAAQMD Condition #21423, Part 12	N		Emission Reduction: 98% by weight or concentration less than 120 ppmvd Non-Methane Organic Compounds, as methane and at 3% O <sub>2</sub>	BAAQMD Condition 21423, part 12	C	Hearth 1 Temperature Monitor	X	Appendix G	
CH <sub>4</sub>	BAAQMD 8-34-301.2	Y		Max Leakage: 1000 ppmvd (as CH <sub>4</sub> )	BAAQMD 8-34-503	P/Q	Leak Monitoring	X	Appendix J	
Non-Methane Organic Compounds	BAAQMD 8-34-301.4	N		Emission Reduction: 98% by weight or concentration less than 120 ppmvd Non-Methane Organic Compounds, as methane and at 3% O <sub>2</sub>	BAAQMD 8-34-507	C	Hearth 1 Temperature Monitor	X	Appendix G	

Source #: S-9				Source Name: Multiple Hearth Furnace #1					
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Y	N
Non-Methane Organic Compounds	BAAQMD 8-34-301.4	N		Emission Reduction: 98% by weight or concentration less than 120 ppmvd Non-Methane Organic Compounds, as methane and at 3% O <sub>2</sub>	BAAQMD 8-34-508	C	Gas Flow Meter	X	
Non-Methane Organic Compounds	BAAQMD 8-34-301.4	N		Emission Reduction: 98% by weight or concentration less than 120 ppmvd Non-Methane Organic Compounds, as methane and at 3% O <sub>2</sub>	BAAQMD 8-34-412	P/A	Source Test	X 04/18/17-04/20/17 NST-4488	
Hydrogen Chloride	40 CFR 60, Subpart Mmmm, Section 5165; Table 3	Y		1.2 ppmvd @ 7% O <sub>2</sub>	40 CFR 60, Subpart Mmmm, Sections 5185(a) and 5205, Table 3	P/A	Source Test	X 04/18/17-04/20/17 NST-4488 (Retest 06/06/17-06/08/17 NST 4540)	X HCl excursion during source test, in compliance during retest

Source #: S-9				Source Name: Multiple Hearth Furnace #1					
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Y	N
	40 CFR 60, Subpart M, Section 5165; Table 3	Y		1.2 ppmvd @ 7% O <sub>2</sub>	40 CFR 60.5165, Table 4	C	Scrubber Liquid pH Monitor	NA	Awaiting response from USEPA Region 9 on site-specific parametric limit
Carbon Monoxide	40 CFR 60, Subpart M, Section 5165; Table 3	Y		3,800 ppmvd @ 7% O <sub>2</sub>	40 CFR 60, Subpart M, Sections 5185(a) and 5205, Table 3	P/A	Source Test	X	04/18/17-04/20/17 NST-4488
Dioxins/Furans	40 CFR 60, Subpart M, Section 5165; Table 3	Y		5.0 ng/dscm (total mass basis); or 0.32 ng/dscm (toxic equivalency basis) @ 7% O <sub>2</sub>	40 CFR 60, Subpart M, Sections 5185(a) and 5205, Table 3	P/A	Source Test	X	04/18/17-04/20/17 NST-4488
Hydrogen Sulfide	BAAQMD 9-2-301	N		24 Hour Standard: GLC not to exceed 0.06 ppm avg over 3 min and 0.03 ppm avg over 60 min		N		X	

Source #: S-9					Source Name: Multiple Hearth Furnace #1				
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Y	N
Lead	BAAQMD 11-1-301, BAAQMD Condition #21423, Part 9	Y		15 lb/day	BAAQMD Condition #21423, part 10	P/once every 60 months	Source Test	X	04/18/17-04/20/17 NST-4488
	BAAQMD 11-1-302	Y		Max GLC (w/o background): 1.0 microgram/cu m (24 hour average)		N		X	
	40 CFR 60, Subpart MMMM, Section 5165; Table 3	Y		0.30 mg/dscm @ 7% O <sub>2</sub>	40 CFR 60, Subpart MMMM, Sections 5185(a) and 5205, Table 3	P/A	Source Test	X	04/18/17-04/20/17 NST-4488
Be	BAAQMD 11-3-301, BAAQMD Condition #21423, part 6	N		10 g/ 24 hr	BAAQMD Condition #21423, part 10	P/once every 60 months	Source Test	X	04/18/17-04/20/17 NST-4488
	40 CFR Part 61.32	Y		10 g/ 24 hr	BAAQMD Condition #21423, part 10	P/ once every 60 months	Source Test	X	04/18/17-04/20/17 NST-4488



Source #: S-9				Source Name: Multiple Hearth Furnace #1					
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Y	N
Mercury	BAAQMD 11-5-302, Condition #21423, Part 7	N		3200 g/24 hr	BAAQMD Condition #21423, parts 7, 8, 10	P/once every 60 months	Source Test	X	04/18/17-04/20/17 NST-4488
	40 CFR Part 61.52 (b)	Y		3.2 kg/24 hr	40 CFR Part 61.53	P/A	Sludge Analysis	X	
	40 CFR 60, Subpart Mmmm, Section 5165; Table 3	Y		0.28 mg/dscm @ 7% O <sub>2</sub>	40 CFR 60, Subpart Mmmm, Sections 5185(a) and 5205, Table 3	P/A	Source Test	X	04/18/17-04/20/17 NST-4488
Cadmium	40 CFR 60, Subpart Mmmm, Section 5165; Table 3	Y		0.095 mg/dscm @ 7% O <sub>2</sub>	40 CFR 60, Subpart Mmmm, Sections 5185(a) and 5205, Table 3	P/A	Source Test	X	04/18/17-04/20/17 NST-4488
Solid Fuel Feed Rate	Permit Condition #21423, Part 2	Y		60 dry tons sludge/day; 120 dry tons sludge/day for S-9 and S-10 combined	Permit Condition #21423, Part 13a	P/C	Flow Measuring Device	X	

Source #: S-9					Source Name: Multiple Hearth Furnace #1				
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Y	N
	Permit Condition #21423, Part 2	Y		20,000 dry tons sludge/ consecutive 12-month period for S-9 and S-10 combined	Permit Condition #21423, Part 13a	P/C	Flow Measuring Device	X	
Sludge Feed Rate		Y			40 CFR 60, Subpart Mmmm-Section 5170(f)(1), Table 4	C	Flow Measuring Device	X	
Sludge Moisture		Y			40 CFR 60, Subpart Mmmm-Section 5170(f)(2), Table 4	P/D	Sludge Analysis	X	
Hearth 1 Minimum Temperature	Permit Condition #21423, Part 12	Y		1,000 degrees F, rolling 3 clock-hour average	Permit Condition #21423, Part 13d	C	Hearth 1 Temperature Monitor	X	
Fugitive Emissions from Ash Handling	40 CFR 60, Subpart Mmmm, Section 5170(d), Table 3	Y		5% of the hourly observation period	40 CFR 60, Subpart Mmmm, Sections 5185(a) and 5205, Table 3	P/A	Visible Emission Test		X On 01/08/18, test was conducted late at 18 months after the previous test. Test indicated no visible emissions.

Source #: S-9				Source Name: Multiple Hearth Furnace #1						
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance		
								Y	N	
Hearth 1 Temperature	40 CFR 60, Subpart MMMM-Section 5170(a), Table 4	Y		Awaiting response from USEPA Region 9 on site-specific parametric limit	40 CFR 60, Subpart MMMM, Table 4	C	Hearth 1 Temperature Monitor	NA	Awaiting response from USEPA Region 9 on site-specific parametric limit	
Pressure Drop	40 CFR 60, Subpart MMMM-Section 5170(b), Table 4	Y		Awaiting response from USEPA Region 9 on site-specific parametric limit	40 CFR 60, Subpart MMMM, Table 4	C	Wet Scrubber Pressure Drop Meter	NA	Awaiting response from USEPA Region 9 on site-specific parametric limit	

Source #: S-9					Source Name: Multiple Hearth Furnace #1				
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Y	N
Pressure Drop	40 CFR 60.152(a) (1); BAAQMD 6-1-310.1, SIP 6-310.1; BAAQMD 6-1-311, SIP 6-311;	Y		Minimum scrubber pressure drop: 5.9" W.C	40 CFR 64	C	Wet Scrubber Pressure Drop Meter	X	Appendix D
Scrubber Liquid Flow	40 CFR 60, Subpart MMMM-Section 5170(b), Table 4	Y		Awaiting response from USEPA Region 9 on site-specific parametric limit	40 CFR 60, Subpart MMMM-Table 4	C	Wet Scrubber Effluent Liquid Flow Meter	NA	Awaiting response from USEPA Region 9 on site-specific parametric limit

Source #: S-9				Source Name: Multiple Hearth Furnace #1					
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Y	N
pH of Scrubber Liquid	40 CFR 60, Subpart MMMM-Section 5170(b), Table 4	Y		Awaiting response from USEPA Region 9 on site-specific parametric limit	40 CFR 60, Subpart MMMM, Table 4	C	Scrubber Liquid pH Monitor	NA	Awaiting response from USEPA Region 9 on site-specific parametric limit

**S-10 MULTIPLE HEARTH FURNACE #2**

Source #: S-10					Source Name: Multiple Hearth Furnace #2					
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance		
								Y	N	
Sulfur Dioxide	40 CFR 60, Subpart Mmmm, Section 5165; Table 3	Y		26 ppmvd @ 7% O <sub>2</sub>	40 CFR 60, Subpart Mmmm, Sections 5185(a) and 5205, Table 3	P/A	Source Test	X		
	40 CFR 60, Subpart Mmmm, Section 5165; Table 3	Y		26 ppmvd @ 7% O <sub>2</sub>	40 CFR 60.5165, Table 4	C	Scrubber Liquid pH Monitor	NA	Awaiting response from USEPA Region 9 on site-specific parametric limit	
	BAAQMD 9-1-301	Y		GLC of 0.5 ppm for 3 min or 0.25 ppm for 60 min or 0.05 ppm for 24 hours		N		X		
	BAAQMD 9-1-304	Y		300 ppmvd	BAAQMD Condition #21423, part 11	P/A	Source Test	X	02/28/18-03/01/18 NST-4851	

Source #: S-10					Source Name: Multiple Hearth Furnace #2					
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance		
								Y	N	
Oxides of Nitrogen	40 CFR 60, Subpart M, Section 5165; Table 3	Y		220 ppmvd @ 7% O <sub>2</sub>	40 CFR 60 Sections 5185(a) and 5205, Subpart M, Table 3	P/A	Source Test	X	02/28/18-03/01/18 NST-4851	
Opacity	BAAQMD 6-1-301	N		Ringelmann No. 1		N		X		
	SIP 6-301	Y		Ringelmann No. 1		N		X		
Opacity	BAAQMD 6-1-302	N		20% opacity for no more than 3 minutes in any hour	BAAQMD 6-1-501	C	Continuous Opacity Monitor		X Appendix F	
	SIP 6-302	Y		20% opacity for no more than 3 minutes in any hour	BAAQMD 6-501	C	Continuous Opacity Monitor		X Appendix F	
	40 CFR 60.152(a)(2)	Y		20% opacity	BAAQMD 6-1-501	C	Continuous Opacity Monitor		X Appendix F	
	BAAQMD Condition #21423, part 5	Y		20% opacity or greater	BAAQMD Condition #21423, part 5	C	Continuous Opacity Monitor		X Appendix F	
Filterable Particulate	BAAQMD 6-1-310.1	N		0.15 grains/dscf @ 12% CO <sub>2</sub> and as if no auxiliary fuel is used	BAAQMD Condition #21423, part 10	P/once every 60 months	Source Test	X	02/28/18-03/01/18 NST-4851	

Source #: S-10					Source Name: Multiple Hearth Furnace #2				
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Y	N
	SIP 6-310.1	Y		0.15 grains/dscf @ 12% CO <sub>2</sub> and as if no auxiliary fuel is used	BAAQMD Condition #21423, part 10	P/once every 60 months	Source Test	X	02/28/18-03/01/18 NST-4851
	BAAQMD 6-1-311	N		4.10P <sup>0.67</sup> lb/hr, where P is process weight, lb/hr, not to exceed 40 lb/hr	BAAQMD Condition #21423, part 10	P/once every 60 months	Source Test	X	02/28/18-03/01/18 NST-4851
Filterable Particulate	SIP 6-311	Y		4.10P <sup>0.67</sup> lb/hr, where P is process weight, lb/hr, not to exceed 40 lb/hr	BAAQMD Condition #21423, part 10	P/once every 60 months	Source Test	X	02/28/18-03/01/18 NST-4851
Filterable Particulate	40 CFR 60.152(a)(1), BAAQMD Condition #21423, part 3	Y		0.65 g particulate matter/kg dry sludge	40 CFR 60.153(a)(1) and BAAQMD Condition 21423, part 13a	C	Sludge Flow Meter	X	
	40 CFR 60.152(a)(1)	Y		0.65 g particulate matter/kg dry sludge (pressure drop shall not drop below individual furnace scrubber pressure setpoints for > 15 min in any hour)	40 CFR 60.153(b)(1), BAAQMD Condition 21423, parts 13b and 14a	C	Wet Scrubber Pressure Drop Meter	X	Appendix D



Source #: S-10					Source Name: Multiple Hearth Furnace #2				
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Y	N
	40 CFR 60.152(a)(1)	Y		0.65 g particulate matter/kg dry sludge (oxygen content shall not exceed 10%)	40 CFR 60.153(b)(2), BAAQMD Condition 21423, parts 13c and 14b	C	O <sub>2</sub> Analyzer	X Appendix E	
	40 CFR 60.152(a)(1)	Y		0.65 g particulate matter/kg dry sludge	40 CFR 60.153(b)(3) and BAAQMD Condition 21423, part 13d	C	Temperature Monitors		X Appendix G
Filterable Particulate	40 CFR 60.152(a)(1)	Y		0.65 g particulate matter/kg dry sludge	40 CFR 60.153(b)(4) and BAAQMD Condition 21423, part 13e	C	Fuel Flow Meter	X	
	40 CFR 60.152(a)(1)	Y		0.65 g particulate matter/kg dry sludge	40 CFR 60.153(b)(5) and BAAQMD Condition 21423, part 13f	P/D	Sludge Sample and Analysis	X	
Filterable Particulate	40 CFR 60, Subpart M, Section 5165; Table 3	Y		80 mg/dscm @ 7% O <sub>2</sub>	40 CFR 60, Subpart M, Sections 5185(a) and 5205, Table 3	P/A	Source Test	X 02/28/18-03/01/18 NST-4851	

Source #: S-10					Source Name: Multiple Hearth Furnace #2				
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Y	N
	40 CFR 60, Subpart Mmmm, Section 5165; Table 3	Y		80 mg/dscm @ 7% O <sub>2</sub> (combustion chamber operating temperature shall not drop below setpoints for > 15 min in any hour)	40 CFR 60, Subpart Mmmm, Table 4	C	Hearth 1 Temperature Monitor	NA Awaiting response from USEPA Region 9 on site-specific parametric limit	
	40 CFR 60, Subpart Mmmm, Section 5165; Table 3	Y		80 mg/dscm @ 7% O <sub>2</sub> (pressure drop shall not drop below individual furnace scrubber pressure setpoints for > 15 min in any hour)	40 CFR 60.5170, Table 4	C	Wet Scrubber Pressure Drop Meter	NA Awaiting response from USEPA Region 9 on site-specific parametric limit	

Source #: S-10					Source Name: Multiple Hearth Furnace #2					
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance		
								Y	N	
Filterable Particulate	40 CFR 60, Subpart M, Section 5165; Table 3	Y		80 mg/dscm @ 7% O <sub>2</sub> (scrubber liquid flow rate shall not drop below setpoints for > 15 min in any hour)	40 CFR 60.5170, Table 4	C	Wet Scrubber Effluent Liquid Flow Meter	NA	Awaiting response from USEPA Region 9 on site-specific parametric limit	
	BAAQMD Condition #21423, part 4	Y		343 mg particulate/dscm (0.15 gr/dscf) of exhaust gas volume	BAAQMD Condition #21423, part 10	P/once every 60 months	Source Test	X	02/28/18-03/01/18 NST-4851	
Non-Methane Organic Compounds	BAAQMD Condition #21423, Part 12	N		Emission Reduction: 98% by weight or concentration less than 120 ppmvd Non-Methane Organic Compounds, as methane and at 3% O <sub>2</sub>	BAAQMD Condition 21423, part 12	C	Hearth 1 Temperature Monitor	X	Appendix G	
CH <sub>4</sub>	BAAQMD 8-34-301.2	Y		Max Leakage: 1000 ppmvd (as CH <sub>4</sub> )	BAAQMD 8-34-503	P/Q	Leak Monitoring	X	Appendix J	
Non-Methane Organic Compounds	BAAQMD 8-34-301.4	N		Emission Reduction: 98% by weight or concentration less than 120 ppmvd Non-Methane Organic Compounds, as methane and at 3% O <sub>2</sub>	BAAQMD 8-34-507	C	Hearth 1 Temperature Monitor	X	Appendix G	

Source #: S-10					Source Name: Multiple Hearth Furnace #2				
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Y	N
Non-Methane Organic Compounds	BAAQMD 8-34-301.4	N		Emission Reduction: 98% by weight or concentration less than 120 ppmvd Non-Methane Organic Compounds, as methane and at 3% O <sub>2</sub>	BAAQMD 8-34-508	C	Gas Flow Meter	X	
Non-Methane Organic Compounds	BAAQMD 8-34-301.4	N		Emission Reduction: 98% by weight or concentration less than 120 ppmvd Non-Methane Organic Compounds, as methane and at 3% O <sub>2</sub>	BAAQMD 8-34-412	P/A	Source Test	X 02/28/18-03/01/18 NST-4851	
Hydrogen Chloride	40 CFR 60, Subpart MMMM, Section 5165; Table 3	Y		1.2 ppmvd @ 7% O <sub>2</sub>	40 CFR 60, Subpart MMMM, Sections 5185(a) and 5205, Table 3	P/A	Source Test		X 05/10/18-05/11/18 NST-4851
	40 CFR 60, Subpart MMMM, Section 5165; Table 3	Y		1.2 ppmvd @ 7% O <sub>2</sub>	40 CFR 60.5165, Table 4	C	Scrubber Liquid pH Monitor	NA Awaiting response from USEPA Region 9 on site-specific parametric limit	

Source #: S-10					Source Name: Multiple Hearth Furnace #2					
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance		
								Y	N	
Carbon Monoxide	40 CFR 60, Subpart Mmmm, Section 5165; Table	Y		3,800 ppmvd @ 7% O <sub>2</sub>	40 CFR 60, Subpart Mmmm, Sections 5185(a) and 5205, Table 3	P/A	Source Test	X		
Dioxins/ Furans	40 CFR 60, Subpart Mmmm, Section 5165; Table 3	Y		5.0 ng/dscm (total mass basis); or 0.32 ng/dscm (toxic equivalency basis) @ 7% O <sub>2</sub>	40 CFR 60, Subpart Mmmm, Sections 5185(a) and 5205, Table 3	P/A	Source Test	X		
Hydrogen Sulfide	BAAQMD 9-2-301	N		24 Hour Standard: GLC not to exceed 0.06 ppm ave over 3 min and 0.03 ppm ave over 60 min		N		X		
Lead	BAAQMD 11-1-301, BAAQMD Condition #21423, Part 9	Y		15 lb/day	BAAQMD Condition #21423, part 10	P/once every 60 months	Source Test	X		
	BAAQMD 11-1-302	Y		Max GLC (w/o background): 1.0 microgram/cu m (24 hour average)		N		X		

Source #: S-10					Source Name: Multiple Hearth Furnace #2					
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance		
								Y	N	
	40 CFR 60, Subpart Mmmm, Section 5165; Table 3	Y		0.30 mg/dscm @ 7% O <sub>2</sub>	40 CFR 60, Subpart Mmmm, Sections 5185(a) and 5205, Table 3	P/A	Source Test	X		
Be	BAAQMD 11-3-301, BAAQMD Condition #21423, part 6	N		10 g/ 24 hr	BAAQMD Condition #21423, part 10	P/once every 60 months	Source Test	X		
	40 CFR Part 61.32	Y		10 g/ 24 hr	BAAQMD Condition #21423, part 10	P/ once every 60 months	Source Test	X		
Mercury	BAAQMD 11-5-302, Condition #21423, Part 7	N		3200 g/24 hr	BAAQMD Condition #21423, parts 7, 8, 10	P/once every 60 months	Source Test	X		
	40 CFR Part 61.52 (b)	Y		3.2 kg/24 hr	40 CFR Part 61.53	P/A	Sludge Analysis	X		

Source #: S-10					Source Name: Multiple Hearth Furnace #2					
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance		
								Y	N	
	40 CFR 60, Subpart Mmmm, Section 5165; Table 3	Y		0.28 mg/dscm @ 7% O <sub>2</sub>	40 CFR 60, Subpart Mmmm, Sections 5185(a) and 5205, Table 3	P/A	Source Test	X		
Cadmium	40 CFR 60, Subpart Mmmm, Section 5165; Table 3	Y		0.095 mg/dscm @ 7% O <sub>2</sub>	40 CFR 60, Subpart Mmmm, Sections 5185(a) and 5205, Table 3	P/A	Source Test	X		
Solid Fuel Feed Rate	Permit Condition #21423, Part 2	Y		60 dry tons sludge/day; 120 dry tons sludge/day for S-9 and S-10 combined	Permit Condition #21423, Part 13a	P/C	Flow Measuring Device	X		
	Permit Condition #21423, Part 2	Y		20,000 dry tons sludge/ consecutive 12-month period for S-9 and S-10 combined	Permit Condition #21423, Part 13a	P/C	Flow Measuring Device	X		
Sludge Feed Rate		Y			40 CFR 60, Subpart Mmmm-Section 5170(f)(1), Table 4	C	Flow Measuring Device	X		
Sludge Moisture		Y			40 CFR 60, Subpart Mmmm-Section 5170(f)(2), Table 4	P/D	Sludge Analysis	X		

Source #: S-10					Source Name: Multiple Hearth Furnace #2				
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Y	N
Hearth 1 Minimum Temperature	Permit Condition #21423, Part 12	Y		1,000 degrees F, rolling 3 clock-hour average	Permit Condition #21423, Part 13d	C	Hearth 1 Temperature Monitor	X	
Fugitive Emissions from Ash Handling	40 CFR 60, Subpart Mmmm, Section 5170(d), Table 3	Y		5% of the hourly observation period	40 CFR 60, Subpart Mmmm, Sections 5185(a) and 5205, Table 3	P/A	Visible Emission Test	X 03/15/18 03/19/18	
Hearth 1 Temperature	40 CFR 60, Subpart Mmmm-Section 5170(a), Table 4	Y		Awaiting response from USEPA Region 9 on site-specific parametric limit	40 CFR 60, Subpart Mmmm, Table 4	C	Hearth 1 Temperature Monitor	NA Awaiting response from USEPA Region 9 on site-specific parametric limit	



Source #: S-10					Source Name: Multiple Hearth Furnace #2					
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance		
								Y	N	
Pressure Drop	40 CFR 60, Subpart Mmmm-Section 5170(b), Table 4	Y		Awaiting response from USEPA Region 9 on site-specific parametric limit	40 CFR 60, Subpart Mmmm, Table 4	C	Wet Scrubber Pressure Drop Meter	NA	Awaiting response from USEPA Region 9 on site-specific parametric limit	
Pressure Drop	40 CFR 60.152(a) (1); BAAQMD 6-1-310.1, SIP 6-310.1; BAAQMD 6-1-311, SIP 6-311;	Y		Minimum scrubber pressure drop: 5.9" W.C	40 CFR 64	C	Wet Scrubber Pressure Drop Meter	X	Appendix D	

Source #: S-10					Source Name: Multiple Hearth Furnace #2					
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance		
								Y	N	
Scrubber Liquid Flow	40 CFR 60, Subpart Mmmm-Section 5170(b), Table 4	Y		Awaiting response from USEPA Region 9 on site-specific parametric limit	40 CFR 60, Subpart Mmmm, Table 4	C	Wet Scrubber Effluent Liquid Flow Meter	NA	Awaiting response from USEPA Region 9 on site-specific parametric limit	
pH of Scrubber Liquid	40 CFR 60, Subpart Mmmm, Section 5170(b), Table 4	Y		Awaiting response from USEPA Region 9 on site-specific parametric limit	40 CFR 60, Subpart Mmmm, Table 4	C	Scrubber Liquid pH Monitor	NA	Awaiting response from USEPA Region 9 on site-specific parametric limit	

**S-24 CENTRIFUGES AND CAKE HOPPERS**

Source #: S-24					Source Name: Centrifuges and Cake Hoppers				
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Y	N
Opacity	BAAQMD 6-1-301	N		Ringelmann No. 1		N		X	
	SIP 6-301	Y		Ringelmann No. 1		N		X	
Filterable Particulate	BAAQMD 6-1-310	N		0.15 grains/dscf		N		X	
	SIP 6-310	Y		0.15 grains/dscf		N		X	
	BAAQMD 6-1-311	N		4.10P <sup>0.67</sup> lb/hr, where P is process weight, ton/hr		N		X	
	SIP 6-311	Y		4.10P <sup>0.67</sup> lb/hr, where P is process weight, ton/hr		N		X	
Hydrogen Sulfide	BAAQMD 9-2-301	N		24 Hour Standard: GLC not to exceed 0.06 ppm ave over 3 min and 0.03 ppm ave over 60 min		N		X	
Hydrogen Sulfide	BAAQMD Condition #1716, Part 1	N		1.5 ppmvd		N		X	

**S-25 GASOLINE DISPENSING FACILITY**

Source #: S-25					Source Name: Gasoline Dispensing Facility				
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Y	N
Gasoline Throughput	Condition #7523, Part 1	N		400,000 gallons in any consecutive 12-month period	Condition #7523 Part 2	P/M	Records	X	Appendix H

**S-180 DISSOLVED AIR FLOTATION UNITS AND SLUDGE BLENDING TANKS**

Source #: S-180					Source Name: Dissolved Air Flotation Units and Sludge Blending Tanks				
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Y	N
Opacity	BAAQMD 6-1-301	N		Ringelmann No. 1		N		X	
	SIP 6-301	Y		Ringelmann No. 1		N		X	
Filterable Particulate	BAAQMD 6-1-310	N		0.15 grains/dscf		N		X	
	SIP 6-310	Y		0.15 grains/dscf		N		X	
	BAAQMD 6-1-311	N		4.10P <sup>0.67</sup> lb/hr, where P is process weight, ton/hr		N		X	
	SIP 6-311	Y		4.10P <sup>0.67</sup> lb/hr, where P is process weight, ton/hr		N		X	

**S-182 ASH CONVEYING SYSTEM**

Source #: S-182					Source Name: Ash Conveying System				
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Y	N
Opacity	BAAQMD 6-1-301	N		Ringelmann No. 1	BAAQMD Condition #21425, part 4	C	Mikro-Charge LeakGauge Particulate Monitor/ Alarm	X	
	SIP 6-301	Y		Ringelmann No. 1	BAAQMD Condition #21425, part 4	C	Mikro-Charge LeakGauge Particulate Monitor/ Alarm	X	
	BAAQMD 6-1-301	N		Ringelmann No. 1	BAAQMD Condition #21425, part 5	P/D	Operator Visual Stack Inspection	X	
	SIP 6-301	Y		Ringelmann No. 1	BAAQMD Condition #21425, part 5	P/D	Operator Visual Stack Inspection	X	
Filterable Particulate	BAAQMD 6-1-310	N		0.15 grains/dscf	BAAQMD Condition #21425, part 4	C	Mikro-Charge LeakGauge Particulate Monitor/ Alarm	X	

Source #: S-182					Source Name: Ash Conveying System				
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Y	N
	SIP 6-310	Y		0.15 grains/dscf	BAAQMD Condition #21425, part 4	C	Mikro-Charge LeakGauge Particulate Monitor/ Alarm	X	
	BAAQMD 6-1-310	N		0.15 grains/dscf	BAAQMD Condition #21425, part 5	P/D	Operator Visual Stack Inspection	X	
	SIP 6-310	Y		0.15 grains/dscf	BAAQMD Condition #21425, part 5	P/D	Operator Visual Stack Inspection	X	
	BAAQMD 6-1-311	N		$4.10P^{0.67}$ lb/hr, where P is process weight, ton/hr	BAAQMD Condition #21425, part 4	C	Mikro-Charge LeakGauge Particulate Monitor/ Alarm	X	
	SIP 6-311	Y		$4.10P^{0.67}$ lb/hr, where P is process weight, ton/hr	BAAQMD Condition #21425, part 4	C	Mikro-Charge LeakGauge Particulate Monitor/ Alarm	X	

Source #: S-182					Source Name: Ash Conveying System					
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance		
								Y	N	
	BAAQMD 6-1-311	N		4.10P <sup>0.67</sup> lb/hr, where P is process weight, ton/hr	BAAQMD Condition #21425, part 5	P/D	Operator Visual Stack Inspection	X		
	SIP 6-311	Y		4.10P <sup>0.67</sup> lb/hr, where P is process weight, ton/hr	BAAQMD Condition #21425, part 5	P/D	Operator Visual Stack Inspection	X		
Filterable Particulate	40 CFR 60, Subpart Mmmm, Section 5165; Table 3	Y		Visible emissions for no more than 5% of every hour	40 CFR 60, Subpart Mmmm, Sections 5185(a) and 5205, Table 4	P/A	Visible Emissions Test	X	03/15/18 03/19/18	

**S-188 NATURAL GAS FIRED TURBINE GENERATOR WITH HRSG**

Source #: S-188					Source Name: Natural Gas Fired Turbine Generator with HRSG				
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Y	N
Oxides of Nitrogen	BAAQMD 9-9-301.1.1	N		42 ppmvd @ 15% O <sub>2</sub> 3-hr average	BAAQMD Condition #21485, part 11	C	CEM	X	
Oxides of Nitrogen	SIP 9-9-301.1	Y		42 ppmvd @ 15% O <sub>2</sub> 3-hr average	BAAQMD Condition #21485, part 11	C	CEM	X	
Oxides of Nitrogen	BAAQMD 9-9-301.2	N		2.12 lb/MW-hr or 42 ppmvd @ 15% O <sub>2</sub> 3-hr average	BAAQMD Condition #21485, part 11	C	CEM	X	
	40 CFR Part 60.332(a)(2) and (c)	Y		167 ppm (dry basis) @ 15% O <sub>2</sub> on a clock-hour basis	40 CFR 60.334(b) BAAQMD Condition #21485, part 11	C	CEM	X	
Oxides of Nitrogen	BAAQMD Condition #21485, Part 2	Y		42 ppmvd @ 15% O <sub>2</sub> 3-hr average	BAAQMD 9-9-501, BAAQMD Condition #21485, part 11	C	CEM	X	
	BAAQMD Condition #21485, part 4	Y		118 lb/day	BAAQMD Condition #21485, part 11	C	CEM	X	
	BAAQMD Condition #21485, part 5	Y		19.824 tons/rolling 365-day period	BAAQMD Condition #21485, part 11	C	CEM	X	



Source #: S-188					Source Name: Natural Gas Fired Turbine Generator with HRSG				
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Y	N
Carbon Monoxide	BAAQMD Condition #21485, part 6	Y		157 lb/24 hour	BAAQMD Condition #21485, part 9	P/once every 60 months	Source Test	X	09/25/18 NST-5146
	BAAQMD Condition #21485, part 7	Y		26.376 tons/rolling 365-day period	BAAQMD Condition #21485, part 9	P/once every 60 months	Source Test	X	09/25/18 NST-5146
Sulfur Dioxide	BAAQMD 9-1-301	Y		GLC 0.5 ppm (3 min ave) 0.25 ppm (60 min ave) 0.05 ppm (24-hour average)		N		X	
Sulfur Dioxide	BAAQMD 9-1-302	N		300 ppmvd		N		X	
	NSPS Subpart GG, 60.333(b)	Y				N		X	
Opacity	BAAQMD 6-1-301	N		Ringelmann No. 1		N		X	
	SIP 6-301	Y		Ringelmann No. 1		N		X	
Filterable Particulate	BAAQMD 6-1-310.3	N		0.15 grains/dscf @ 6% O <sub>2</sub>		N		X	
	SIP 6-310.3	Y		0.15 grains/dscf @ 6% O <sub>2</sub>		N		X	

Source #: S-188					Source Name: Natural Gas Fired Turbine Generator with HRSG					
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance		
								Y	N	
Fuel usage	BAAQMD Condition #21485, part 1b	Y		≤ 49.5 MMBtu/hr (HHV) on any fuel	BAAQMD Condition #21485, part 12	P/D	Records	X		

**S-195 EMERGENCY STANDBY DIESEL GENERATOR #1**

Source #: S-195					Source Name: Emergency Standby Diesel Generator #1				
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Y	N
Sulfur Dioxide	BAAQMD 9-1-301	N		GLC <sup>1</sup> of 0.5 ppm for 3 min or 0.25 ppm for 60 min or 0.05 ppm for 24 hours		N		X	
	BAAQMD 9-1-304	Y		Sulfur content of fuel < 0.5% by weight		N		X	
Opacity	BAAQMD 6-1-303	N		> Ringelmann No. 2 for no more than 3 minutes/hr		N		X	
	SIP 6-303	Y		> Ringelmann No. 2 for no more than 3 minutes/hr		N		X	
Filterable Particulate	BAAQMD 6-1-310	N		0.15 grains/dscf		N		X	
	SIP 6-310	Y		0.15 grains/dscf		N		X	
Hours of operation	BAAQMD 9-8-330.1	Y		Emergency use for an unlimited number of hours	BAAQMD Cond# 22850, Parts 3 and 4	P/E	Meter, Records	X	
	BAAQMD 9-8-330.2	Y		Reliability-related activities not to exceed 100 hours in any calendar year	BAAQMD Cond# 22850, Part 3 and 4	P/E	Meter, Records	X	
	ATCM 93155.6(a)(3)(A)(2)	N		Reliability-related activities not to exceed 100 hours in any year	BAAQMD Cond# 22850, Part 3 and 4	P/E	Meter, Records	X	

**S-196 EMERGENCY STANDBY DIESEL GENERATOR #3**

Source #: S-196					Source Name: Emergency Standby Diesel Generator #3				
Type of Limit	Limit Citation	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Y	N
Sulfur Dioxide	BAAQMD 9-1-301	N		GLC <sup>1</sup> of 0.5 ppm for 3 min or 0.25 ppm for 60 min or 0.05 ppm for 24 hours		N		X	
	BAAQMD 9-1-304	Y		Sulfur content of fuel <0.5% by weight		N		X	
Opacity	BAAQMD 6-1-303	N		> Ringelmann No. 2 for no more than 3 minutes/hr		N		X	
	SIP 6-303	Y		> Ringelmann No. 2 for no more than 3 minutes/hr		N		X	
Filterable Particulate	BAAQMD 6-1-310	N		0.15 grains/dscf		N		X	
	SIP 6-310	Y		0.15 grains/dscf		N		X	
Hours of operation	BAAQMD 9-8-330.1	Y		Emergency use for an unlimited number of hours	BAAQMD Cond# 22850, Parts 3 and 4	P/E	Meter, Records	X	
	BAAQMD 9-8-330.2	Y		Reliability-related activities not to exceed 100 hours in any calendar year	BAAQMD Cond# 22850, Part 3 and 4	P/E	Meter, Records	X	
	ATCM 93155.6(a)(3)(A)(2)	N		Reliability-related activities not to exceed 100 hours in any year	BAAQMD Cond# 22850, Part 3 and 4	P/E	Meter, Records	X	

## **APPENDIX B**

### **BAAQMD PERMITTED SOURCES**

**APPENDIX B**

Central Contra Costa Sanitary District, Plant No. A0907

BAAQMD Sources

January 1, 2018 through December 31, 2018

BAAQMD Source No.	Permitted Source Description	Abated By	Abatement Device Description
7	Auxiliary Boiler #1	N/A	N/A
8	Auxiliary Boiler #2	N/A	N/A
9	Furnace #1	A-1	Multiple Cyclone
		A-2	Impingement Plate
		A-1001	Simple Baghouse, Exhaust Gas Pilot Test
		A-1002	Water Spray System, Exhaust Gas Pilot Test
10	Furnace #2	A-3	Multiple Cyclone
		A-4	Impingement Plate
		A-1001	Simple Baghouse, Exhaust Gas Pilot Test
		A-1002	Water Spray System, Exhaust Gas Pilot Test
24	Centrifuges & Cake Hoppers (four units)	A-14	Packed Bed Scrubber
		A-15	Packed Bed Scrubber
25	Gasoline Dispensing Facility	N/A	N/A
100	Wastewater Treatment Plant - Fugitive Emissions	N/A	N/A
110	Preliminary Treatment - Influent Structure, Influent Pumping, Bar	A-23	Odor Control Scrubber
		A-24	Odor Control Scrubber
120	Primary Treatment - Aerated Grit Chamber (covered) and Four Primary Sedimentation Tanks	A-120	Odor Control Scrubber
130	Flow Equalization - Wastewater Holding Ponds	N/A	N/A
140	Secondary Treatment - Two Aerated Effluent Channel, Non-Aerated Section, and Primary Sediment to Aeration Basin Units	N/A	N/A
150	Secondary Clarifiers - Aerated Effluent Channel, and Aeration Basins to Secondary Clarifiers	N/A	N/A
160	Tertiary Treatment - Four Gravity Filtration Units and Gravity Filtration Forebay	N/A	N/A
170	Disinfection - Aerated Effluent Channel and Secondary Clarifiers to Ultraviolet Disinfection	N/A	N/A
180	Sludge Handling Processes - Three Dissolved Air Flotation Units and One Sludge Blending Tank	A-14	Packed Bed Scrubber
		A-15	Packed Bed Scrubber
		A-187	Scrubber
182	Ash Conveying System	A-186	Baghouse, Pulse Jet
		A-191	Simple Cyclone
		A-192	Baghouse, Pulse Jet
		A-196	Baghouse, Pulse Jet
183	Pressure Tank, Liquefied Propane Gas	N/A	N/A
184	Liquefied Propane Gas Vaporizer	N/A	N/A
185	Lime Slaker/Lime Solution Storage Tank	A-185	Odor Control Scrubber
188	Cogeneration Turbine with Heat Recovery Steam Generator	A-188	Oxidation Catalyst
195	Standby Diesel Engine, 3048 Hp	A-1195	Catalyzed Diesel Particulate Filter
196	Standby Diesel Engine, 3048 Hp	A-1196	Catalyzed Diesel Particulate Filter
197	Emergency Sludge Loading Facility	A-197	Packed Bed Scrubber

## **APPENDIX C**

### **AUXILIARY BOILERS (S-7 AND S-8)**

#### **FIRST PASS TEMPERATURE**

**APPENDIX C**

Central Contra Costa Sanitary District, Plant No. A0907

Auxiliary Boilers Three-Clock Hour First Pass Minimum Temperature Monitoring Summary

January 1, 2018 through December 31, 2018

<b>Auxiliary Boiler No. 1 (S-7) Three-Clock Hour First Pass Minimum Temperature</b>					
<b>Month</b>	<b>Excursion Start Date/Time</b>	<b>Excursion End Date/Time</b>	<b>Duration (Hours)</b>	<b>Duration Above Limit (% of Total Available Hours in the Month)</b>	<b>Comments</b>
January			0.00	100.00%	No exceedances
February			0.00	100.00%	No exceedances
March			0.00	100.00%	No exceedances
April			0.00	100.00%	No exceedances
May			0.00	100.00%	No exceedances
June			0.00	100.00%	No exceedances
July			0.00	100.00%	No exceedances
August			0.00	100.00%	No exceedances
September			0.00	100.00%	No exceedances
October			0.00	100.00%	No exceedances
November			0.00	100.00%	No exceedances
December			0.00	100.00%	No exceedances

Total exceedances (Hours): 0.00  
 Total Above Limit Hours (% of Total Available Hours): 100.00%

<b>Auxiliary Boiler No. 2 (S-8) Three-Clock Hour First Pass Minimum Temperature</b>					
<b>Month</b>	<b>Excursion Start Date/Time</b>	<b>Excursion End Date/Time</b>	<b>Duration (Hours)</b>	<b>Duration Above Limit (% of Total Available Hours in the Month)</b>	<b>Comments</b>
January			0.00	100.00%	No exceedances
February			0.00	100.00%	No exceedances
March			0.00	100.00%	No exceedances
April			0.00	100.00%	No exceedances
May			0.00	100.00%	No exceedances
June			0.00	100.00%	No exceedances
July			0.00	100.00%	No exceedances
August			0.00	100.00%	No exceedances
September			0.00	100.00%	No exceedances
October			0.00	100.00%	No exceedances
November			0.00	100.00%	No exceedances
December			0.00	100.00%	No exceedances

Total exceedances (Hours): 0.00  
 Total Above Limit Hours (% of Total Available Hours): 100.00%



**APPENDIX D**

**FURNACES (S-9 AND S-10)**

**WET SCRUBBER PRESSURE DROP READINGS**

**APPENDIX D**

Central Contra Costa Sanitary District, Plant No. A0907  
 Furnaces Wet Scrubber Minimum Pressure Drop Monitoring Summary  
 January 1, 2018 through December 31, 2018

<b>Furnace No. 1 (S-9) Wet Scrubber Minimum Pressure Drop, Minimum 15-Minute Limit: 5.9" WC</b>					
<b>Month</b>	<b>Excursion Start Date/Time</b>	<b>Excursion End Date/Time</b>	<b>Duration (Hours)</b>	<b>Duration Above Limit (% of Total Available Hours in the Month)</b>	<b>Comments</b>
January			0.00	100.00%	No exceedances
February			0.00	100.00%	No exceedances
March			0.00	100.00%	S-9 offline
April			0.00	100.00%	S-9 offline
May			0.00	100.00%	S-9 offline
June			0.00	100.00%	S-9 offline
July			0.00	100.00%	S-9 offline
August			0.00	100.00%	S-9 offline
September			0.00	100.00%	S-9 offline
October			0.00	100.00%	S-9 offline
November			0.00	100.00%	S-9 offline
December			0.00	100.00%	S-9 offline

Total exceedances (Hours): 0.00  
 Total Above Limit Hours (% of Total Available Hours): 100.00%

<b>Furnace No. 2 (S-10) Wet Scrubber Minimum Pressure Drop, Minimum 15-Minute Limit: 4.7" WC</b>					
<b>Month</b>	<b>Excursion Start Date/Time</b>	<b>Excursion End Date/Time</b>	<b>Duration (Hours)</b>	<b>Duration Above Limit (% of Total Available Hours in the Month)</b>	<b>Comments</b>
January			0.00	100.00%	No exceedances
February			0.00	100.00%	No exceedances
March			0.00	100.00%	No exceedances
April			0.00	100.00%	No exceedances
May			0.00	100.00%	No exceedances
June			0.00	100.00%	No exceedances
July			0.00	100.00%	No exceedances
August			0.00	100.00%	No exceedances
September			0.00	100.00%	No exceedances
October			0.00	100.00%	No exceedances
November			0.00	100.00%	No exceedances
December			0.00	100.00%	No exceedances

Total exceedances (Hours): 0.00  
 Total Above Limit Hours (% of Total Available Hours): 100.00%

**APPENDIX E**

**FURNACES (S-9 AND S-10)**

**OXYGEN READINGS**

**APPENDIX E**

Central Contra Costa Sanitary District, Plant No. A0907

Furnaces Oxygen Monitoring Summary

January 1, 2018 through December 31, 2018

Furnace No. 1 (S-9) Oxygen, Maximum Hour Limit: 10%					
Month	Excursion Start Date/Time	Excursion End Date/Time	Duration (Hours)	Duration Above Limit (% of Total Available Hours in the Month)	Comments
January	01/26/18 19:00	01/26/18 21:00	2.00	99.73%	One excursion, furnace burnout, change in sludge feed, sludge feed stabilized.
February			0.00	100.00%	No excursions
March			0.00	100.00%	S-9 offline
April			0.00	100.00%	S-9 offline
May			0.00	100.00%	S-9 offline
June			0.00	100.00%	S-9 offline
July			0.00	100.00%	S-9 offline
August			0.00	100.00%	S-9 offline
September			0.00	100.00%	S-9 offline
October			0.00	100.00%	S-9 offline
November			0.00	100.00%	S-9 offline
December			0.00	100.00%	S-9 offline

Total Excursions (Hours): 2.00  
 Total Above Limit Hours (% of Total Available Hours): 99.98%

Furnace No. 2 (S-10) Oxygen, Maximum Hour Limit: 10%					
Month	Excursion Start Date/Time	Excursion End Date/Time	Duration (Hours)	Duration Above Limit (% of Total Available Hours in the Month)	Comments
January			0.00	100.00%	No excursions
February			0.00	100.00%	No excursions
March			0.00	100.00%	No excursions
April			0.00	100.00%	No excursions
May			0.00	100.00%	No excursions
June			0.00	100.00%	No excursions
July			0.00	100.00%	No excursions
August			0.00	100.00%	No excursions
September			0.00	100.00%	No excursions
October			0.00	100.00%	No excursions
November			0.00	100.00%	No excursions
December			0.00	100.00%	No excursions

Total Excursions (Hours): 0.00  
 Total Above Limit Hours (% of Total Available Hours): 100.00%

**APPENDIX F**

**FURNACES (S-9 AND S-10)**

**OPACITY READINGS**

**APPENDIX F**

Central Contra Costa Sanitary District, Plant No. A0907

Furnaces Opacity Monitoring Summary

January 1, 2018 through December 31, 2018

<b>Furnace No. 1 (S-9) Opacity, Maximum Limit: 20%</b>					
<b>Month</b>	<b>Exceedance Start Date/Time</b>	<b>Exceedance End Date/Time</b>	<b>Duration (Hours)</b>	<b>Duration Below Limit (% of Total Available Hours in the Month)</b>	<b>Comments</b>
January			0.00	100.00%	No exceedances
February	02/18/18 11:26	02/18/18 12:09	0.27	99.96%	RCA 07G28
March			0.00	100.00%	S-9 offline
April			0.00	100.00%	S-9 offline
May			0.00	100.00%	S-9 offline
June			0.00	100.00%	S-9 offline
July			0.00	100.00%	S-9 offline
August			0.00	100.00%	S-9 offline
September			0.00	100.00%	S-9 offline
October			0.00	100.00%	S-9 offline
November			0.00	100.00%	S-9 offline
December			0.00	100.00%	S-9 offline

**Total Excursions (Hours):** 0.27

**Total Above Limit Hours (% of Total Available Hours):** 99.997%

<b>Furnace No. 2 (S-10) Opacity, Maximum Limit: 20%</b>					
<b>Month</b>	<b>Exceedance Start Date/Time</b>	<b>Exceedance End Date/Time</b>	<b>Duration (Hours)</b>	<b>Duration Below Limit (% of Total Available Hours in the Month)</b>	<b>Comments</b>
January			0.00	100.00%	No exceedances
February			0.00	100.00%	No exceedances
March			0.00	100.00%	No exceedances
April			0.00	100.00%	No exceedances
May			0.00	100.00%	No exceedances
June	06/17/18 12:28	06/17/18 12:34	0.06	99.99%	RCA 07H37 and RCA 07H38
July			0.00	100.00%	No exceedances
August			0.00	100.00%	No exceedances
September			0.00	100.00%	No exceedances
October			0.00	100.00%	No exceedances
November			0.00	100.00%	No exceedances
December			0.00	100.00%	No exceedances

**Total Excursions (Hours):** 0.06

**Total Above Limit Hours (% of Total Available Hours):** 99.999%

**APPENDIX G**

**FURNACES (S-9 AND S-10)**

**HEARTH TEMPERATURES**

**APPENDIX G**

Central Contra Costa Sanitary District, Plant No. A0907

Furnaces Hearth Temperature Monitoring Summary

January 1, 2018 through December 31, 2018

Furnace No. 1 (S-9) Hearth Minimum Temperatures						
Month	Excursion Start Date/Time	Excursion End Date/Time	Hearth	Duration (Hours)	Duration Above Limit (% of Total Available Hours in the Month)	Comments
January				0.00	100.00%	No excursions
February				0.00	100.00%	No excursions
March				0.00	100.00%	S-9 offline
April				0.00	100.00%	S-9 offline
May				0.00	100.00%	S-9 offline
June				0.00	100.00%	S-9 offline
July				0.00	100.00%	S-9 offline
August				0.00	100.00%	S-9 offline
September				0.00	100.00%	S-9 offline
October				0.00	100.00%	S-9 offline
November				0.00	100.00%	S-9 offline
December				0.00	100.00%	S-9 offline

Total Excursions (Hours): 0.00  
 Total Above Limit Hours (% of Total Available Hours): 100.00%

Furnace No. 2 (S-10) Hearth Minimum Temperatures						
Month	Excursion Start Date/Time	Excursion End Date/Time	Hearth	Duration (Hours)	Duration Above Limit (% of Total Available Hours in the Month)	Comments
January				0.00	100.00%	No excursions
February	02/13/18 4:00	02/13/18 5:00	6	1.00	99.70%	Two excursions, furnace burnout, change in sludge feed, sludge feed stabilized
	02/13/18 14:00	02/13/18 15:00	6	1.00		
March				0.00	100.00%	No excursions
April				0.00	100.00%	No excursions
May				0.00	100.00%	No excursions
June				0.00	100.00%	No excursions
July				0.00	100.00%	No excursions
August				0.00	100.00%	No excursions
September				0.00	100.00%	No excursions
October				0.00	100.00%	No excursions
November				0.00	100.00%	No excursions
December				0.00	100.00%	No excursions

Total Excursions (Hours): 2.00  
 Total Above Limit Hours (% of Total Available Hours): 99.98%



**APPENDIX H**

**GASOLINE DISPENSING FACILITY (S-25)**

**GASOLINE METER READINGS**

**APPENDIX H**

Central Contra Costa Sanitary District, Plant No. A0907

Gasoline Dispensing Facility Gasoline Meter Readings Summary

January 1, 2018 through December 31, 2018

Month	Gasoline Meter Readings (gallons)	Rolling 12-month Total (gallons)	Quarterly Total (gallons)	12-month Total (gallons)
January	10,987	441	156	568
February	11,035	489		
March	11,042	496		
April	11,076	530	140	
May	11,159	613		
June	11,182	636		
July	11,276	730	241	
August	11,389	827		
September	11,423	809		
October	11,442	807	31	
November	11,454	806		
December*	11,454	568		

*Consecutive 12-month Maximum Limit: 400,000*

**APPENDIX I**

**SULFUR DIOXIDE CONCENTRATIONS**

**FROM LANDFILL GAS AND NATURAL GAS COMBUSTION**

**(QUARTERLY REQUIREMENT)**

**APPENDIX I (Quarterly Requirement)**

Central Contra Costa Sanitary District, Plant No. A0907

Quarterly SO<sub>2</sub> Concentration Summary

January 1, 2018 through December 31, 2018

SO <sub>2</sub> Concentration from Landfill Gas Combustion					
Month	HHV (BTU/scf)	H <sub>2</sub> S Concentration (ppm)	Quarterly Average HHV (BTU/scf)	Quarterly Max H <sub>2</sub> S Concentration (ppm)	Max SO <sub>2</sub> Discharge from LFG Combustion in Boilers and MHFs @ 0% O <sub>2</sub> (ppm)
Jan 2018	563	29.0	562	38.0	7.2
Feb 2018	564	29.0			
Mar 2018	559	38.0			
Apr 2018	567	42.0	564	42.0	7.9
May 2018	561	28.5			
Jun 2018	563	40.0			
Jul 2018	555	39.0	549	41.0	7.9
Aug 2018	552	40.0			
Sep 2018	540	41.0			
Oct 2018	533	37.0	540	49.0	9.6
Nov 2018	554	33.0			
Dec 2018	534	49.0			

F-factor for LFG (scf exhaust / BTU): 0.00943

Limit: 300 ppm

SO <sub>2</sub> Concentration from Natural Gas Combustion			
Quarter	Most Recent Total Sulfur Maximum (gr/100 scf)	Average Weekly Heating Value (J15) (BTU)	Max SO <sub>2</sub> Discharge from NG Combustion in Boilers, MHFs, and Cogen @ 0% O <sub>2</sub> (ppm)
First	0.31	1,037	0.60
Second	0.32	1,043	0.62
Third	0.33	1,039	0.64
Fourth	0.29	1,036	0.57

F-factor for NG (scf exhaust / BTU): 0.00871

Limit: 300 ppm

**APPENDIX J**

**TOTAL ORGANIC CARBON LEAKS – LANDFILL GAS SYSTEM**

**(QUARTERLY REQUIREMENT)**

**APPENDIX J (Quarterly Requirement)**

Central Contra Costa Sanitary District, Plant No. A0907

Quarterly Total Organic Carbon Leak Checks Summary

January 1, 2018 through December 31, 2018

<b>Landfill Gas System at Central San</b>		
<b>Quarter</b>	<b>Date of Leak Check</b>	<b>No. of Leaks &gt;1000 ppm Detected and Repaired</b>
First	03/23/18	0
Second	06/06/18	0
Third	09/26/18	2
Fourth	11/29/18	0

<b>Landfill Gas Delivery System Operated by Acme Landfill</b>		
<b>Quarter</b>	<b>Date of Leak Check</b>	<b>No. of Leaks &gt;1000 ppm Detected and Repaired</b>
First	03/29/18	1
Second	06/28/18	0
Third	09/20/18	0
Fourth	01/02/19	0