



Sunnyvale

January 29, 2021

Water Pollution Control Plant
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TDD/TYY 408-730-7501
sunnyvale.ca.gov

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

TV Tracking #: 136

1. RECEIVED IN
ENFORCEMENT: 01/29/2021

Attn: Title V Reports

Re: Semiannual Monitoring Report, City of Sunnyvale Water Pollution Control Plant, Facility No. A0733

Per Section I, Part F of its Title V permit, the City of Sunnyvale Water Pollution Control Plant (Facility No. A0733) is submitting this Semiannual Monitoring Report for the period from July 1 through December 31, 2020. After reasonable inquiry, we conclude the following regarding this period of operation:

- One deviation of the thermocouple recordkeeping requirement listed in Condition 10844 (8) for each of two cogeneration engines (S-14 and S-15);
- All reports were submitted on time;
- All CEM QA procedures, methodologies, and maintenance were performed as required.

PGF Input Heat Limits Monitoring [Condition 10844 (2)]:

S-14 and S-15 are the two cogeneration engines that comprise the Power Generation Facility (PGF). Gas throughput for each fuel type is metered continuously at five-second intervals on a daily basis, well in compliance with the required 15-minute interval. Monthly samples are collected from each fuel stream and analyzed for the high-heat value, which is used with the gas throughput to calculate the daily and consecutive 12-month total heat inputs for each engine in order to determine compliance with the respective limits. The input heat values for both engines were maintained below the 200 MMBTU daily limit throughout the reporting period. The Facility also remained in compliance with the 72,000 MMBTU annual total limit throughout the reporting period.

PGF Source Test [BAAQMD 8-34-301.4; Condition 10844 (4, 6)]

Blue Sky attempted to perform the annual source testing in December 2020 for S-14 and S-15 using new methodologies identified by BAAQMD earlier in the year. Unfortunately, they were unable to do so due to a shortage of the correct calibration gas required to implement the new testing methodologies for TNMOCs. Blue Sky informed BAAQMD of the difficulty they were encountering in obtaining the calibration gas from their vendors on December 16, 2020, and received approval to conduct the source testing outside of the 12-month window. Blue Sky returned to the facility on January 11, 2021, and performed the source test on S-14 and S-15. The City is awaiting the final report and will submit the results by

February 25, 2021.

PGF Combustion Temperature Monitoring [Condition 10844 (8)]:

From 10:45 am on December 28 to 7:15 am on December 29, 2020, thermocouple data were not recorded by the Wonderware Historian despite the operation of S-14 and S-15. Immediately prior to this incident, power was temporarily cut-off to various areas of the Facility, including the panel containing the communication module for the thermocouples, to complete the switch-over to a new PGF battery array. The communication module converts thermocouple temperature readings to analog signals used by the OPTO SCADA; the Wonderware Historian, in turn, pulls data from the OPTO SCADA. Once power was restored, the communication module did not restart automatically and thermocouple data were not trended on the OPTO SCADA or recorded by the Wonderware Historian. This anomaly was not immediately apparent since thermocouple temperature readings are also trended on a new Allen Bradley FactoryTalk View SCADA that was installed as part of the Headworks and Primary Facilities Project currently underway. Additional details will be provided in the requisite 10- and 30-day Deviation Reports.

PGF Quarterly Emissions Monitoring [9-8-503, 9-8-302.1, 9-8-302.3]:

Third and fourth quarter emissions monitoring events for S-14 and S-15 were conducted on August 12 and December 15, 2020, respectively. All results were in compliance with the applicable emissions limits of 70 ppm NOx and 2,000 ppm CO.

RICE Oil Change Frequency [Table 2d.13 of NESHAP 63.6603(a)]:

There was no exceedances of the oil and filter change and hose and spark plug inspection 1,440-hour limit established in Table 2d.13 of NESHAP 63.6603(a) for all applicable RICE engines at the facility.

Sulfur Compounds Monitoring [Condition 19978 (2)]:

The results from quarterly monitoring of total reduced sulfur compounds in digester gas used to operate S-16, S-17, and S-18 provided in the following table demonstrate compliance with the 1,550 ppmvd limit:

Total Reduced Sulfur Compounds – Draeger Tube Test Results				
S-16, 17 & 18	Date of Test	Requirement	Result ppmv (dry)	Compliant (Y/N)
Q3 2020	8/12/2020	19978 (2)	475	Y
Q4 2020	11/11/2020	19978 (2)	600	Y

Emergency Blackstart Generator Reliability-Related Activities [Condition 23110 (3)]:

The blackstart generator (S-19) was decommissioned and removed from the site in June 2020. No reliability-related activities were performed during this reporting period. The City submitted BAAQMD Form DDU to document the removal of this sources on July 20, 2020.

Emergency Standby Diesel Generator Reliability-Related Activities [Condition 22850 (1)]:

During the reporting period, reliability-related activities performed on the emergency standby diesel generator (S-26) were in compliance with the limitation of ≤ 50 hours/year.

Landfill Gas Component System Leak Testing [8-34-301.2]:

Third and fourth quarter monitoring of the landfill gas system components at the Facility were conducted on August 18 and November 3, 2020, to identify any presence of organic compound concentrations above the permit limit of 1,000 ppmv measured as methane. During the November 3 monitoring event, emissions up to 1,300 ppmv were detected at the S-14 aftercooler manifold and the engine was taken out-of-service to allow for the replacement of a manifold gasket and application of new sealant. The initial repairs were unsuccessful in correcting the leak and another attempt to replace the gasket and repair the leak was made on November 6, 2020. This attempt was also unsuccessful, and the engine was taken out-of-service until November 13, 2020, when it was restarted after the replacement of the entire aftercooler manifold. Follow-up emission monitoring conducted on November 17, 2020 confirmed compliance with the limit. During the repair period, gas flow to S-14 was isolated to cease fugitive emissions, and landfill gas was captured and directed to S-15 or the Landfill Gas Flare for abatement.

Landfill Gas Emission Control System [8-34-113.2]:

During the reporting period, the LFG emission control system was in compliance with the shutdown time limitation of ≤ 240 hours/year.

I am the responsible person for the City of Sunnyvale Water Pollution Control Plant. I certify that, based on information and belief formed after reasonable inquiry, the statements and information in this report are true, accurate and complete.

Please contact Melody Tovar at (408) 730-7740 if you have any questions or comments on this report.

Sincerely,

Ramana Chinnakotla

Ramana Chinnakotla
Director, Environmental Services Department