Water Pollution Control Plant
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July 31, 2020

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

TV Tracking #: 139
1. ☐ RECEIVED IN ENFORCEMENT: 07/31/2020

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 January 1 through June 30, 2020. After reasonable inquiry, we conclude the following regarding this period of operation:

- 10- and 30-day Deviation Reports were submitted during this reporting period, documenting the exceedance of TNMOC and POC limits during a December 19, 2019, source test of S-14;
- 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 gas throughput for each fuel type is monitored 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 IHV values for both engines were maintained below the 200 MMBTU daily limit throughout the reporting period. The WPCP 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)]

On December 5, 2019, the City's contractor performed annual source testing on Sources S-14 and S-15 per the methods described in the Test Plan dated September 23, 2019 and submitted to BAAQMD. Results from the source testing (NST #5653) indicated that the TNMOC in the exhaust gas of Source S-14 (197.5 ppm @ 3% O_2) exceeded the limit of 120 ppmv in BAAQMD 8-34-301.4. Precursor organic compounds (POCs) were detected at 0.44 g/bhp-hr, which exceeds the permitted limit of 0.3 g/bhp-hr contained in Part 4.a. of its Title V Permit Condition No. 10844 and is linked to the exceedance of the TNMOC limits. All other parameters for S-14 were within the permitted limits. Sunnyvale notified BAAQMD (RCA No. 07R39) of the excess emissions on January 17, 2020, the day after the report results were made available, shutdown Source S-14, and proceeded to perform a top-end overhaul of the engine. Follow-up 10- and 30-day Deviation Reports were submitted to BAAQMD on January 27 and February 14, 2020.

Following the engine overhaul, S-14 was brought back into service temporarily on February 11, 2020, to facilitate the performance of a retest. The retest results indicated compliance with the TNMOC and POC emission limits and the engine was returned to service on February 19, 2020. Source compliance was also confirmed by a source test performed by BAAQMD on March 10, 2020, and the City's final retest report (NST #5833) was submitted to BAAQMD on March 25, 2020.

During the events leading up to the retest, the City's contractor noted that ethane was mistakenly included in the original December 2019 source test analyses for TNMOC and POC and that this had resulted in the exceedances identified in that report. Following guidance from BAAQMD, the contractor excluded ethane from TNMOC and POC during the retest analyses. Based on the results from the retest, the City worked with its contractor to revise the initial December report and deduct ethane from its calculation of TNMOC and POC using the chromatographs from the initial analyses. The results were favorable, showing TNMOC and POC values below their respective limits with the ethane deductions. The contractor's lab provided information on its methodologies to BAAQMD and a revised report was submitted to BAAQMD on March 16, 2020.

BAAQMD staff subsequently notified the City that the test reports were unsatisfactory, primarily due to the test methodology used by the Contractor. The contractor used EPA Method 18 for determining TNMOC and POC for a 30-minute testing period. BAAQMD asserted that both EPA Method 18 and 25A or Alt-106 Methods needed to be used over a 60-minute testing period in order for the results to be valid and acceptable. The City's contractor and BAAQMD staff exchanged inquiries and information. While the City's contractor did submit the required test methodology to BAAAQMD and did not receive corrective feedback, BAAQMD staff ultimately rejected the December 2019 test as invalid. In a follow-up email dated May 26, 2020, BAAQMD indicated that the test method deficiencies in the February 2020 retest report would be waived, thereby returning S-14 to a compliant status based on the City's good faith efforts. At the direction of BAAQMD staff, the City has indicated intermittent compliance in its Annual Compliance Certification for BAAQMD 8-34-301.4, and Parts 4 and 6 of Condition #10844. The 43 days of non-compliance extends from the time of the initial source test that identified the exceedances on December 5, 2019, to the time when S-14 was taken out-of-service on January 17, 2020. BAAQMD staff provided this direction with the understanding that test report that provided the basis for the City's deviation reports was later found to have calculation errors that if corrected would result in no emission exceedance, and the understanding that BAAQMD staff had subsequently deemed that source test to be invalid due primarily to test methodology.

The City's contractor changed its testing methodology from BAAQMD ST-7 to EPA Method 18 beginning with the initial test in December 2019 in response to an informal notification from BAAQMD on a separate occasion indicating that BAAQMD ST-7 methodology contained inadequate QA/QC procedures and was no longer an acceptable test method. The City's contractor historically used BAAQMD ST-7 when performing source tests at the WPCP without issue or contention. BAAQMD also used this method when conducting source tests at the facility in February and March 2020 despite its assertion that it contains inadequate QA/QC procedures. To date, neither the City nor its contractor has not received official notification from BAAQMD, in the form of a Compliance Advisory or other equivalent form of communication, documenting the changes to approved test methodologies.

The City has followed BAAQMD' direction on compliance certification regarding this matter, but we do not agree that the facility had an emissions exceedance based on the subsequent facts regarding calculations in the report. We do recognize the complications that have occurred between BAAAQMD and the City's test contractor, and we respectfully recommend a follow up written advisory to better support compliance with source testing requirements.

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

The thermocouple data collected during this reporting period are accurate, reflective of the operating conditions of S-14 and S-15, and in compliance with Part 8 of Condition 10844.

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

First and second quarter emissions monitoring events for S-14 and S-15 were conducted on February 11 and June 19, 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)]:

During the reporting period, 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				
Sources: S-16, 17 & 18	Date of Test	Requirement	Result ppmv (dry)	Compliant (Y/N)
First Quarter Sampling				
Digester Gas	2/12/2020	19978 (2)	700	Y
Second Quarter Sampling				
Digester Gas	6/3/2020	19978 (2)	450	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]:

First and second quarter monitoring events were conducted on January 17 and May 5, 2020, to identify any presence of organic compound concentrations above the permit limit of 1,000 ppmv, measured as methane, associated with the landfill gas system components on the facility. Results from both monitoring events were below the limit.

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