EAST BAY
MUNICIPAL UTILITY DISTRICT

AMIT MUTSUDDY
DIRECTOR OF WASTEWATER
(510) 287-1149
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TV Tracking #1078 (Semi-Annual)

1. ☐ RECEIVED IN ENFORCEMENT: 01/31/2025

January 31, 2025

Mr. Jeff Gove
Director of Compliance and Enforcement
Bay Area Air Quality Management District
375 Beale Street, Suite 600
San Francisco, CA 94105
Attn. Title V Reports
Transmitted by e-mail to compliance@baaqmd.gov

RE: Semiannual Major Facility Review (Title V) Monitoring Report for the East Bay Municipal Utility District (EBMUD) Main Wastewater Treatment Plant (Facility #A0591)

Dear Mr. Gove:

Attached is the semiannual monitoring report for the EBMUD Main Wastewater Treatment Plant (Facility #A0591) as required under Section I.F of the facilities Major Facility Review Permit issued November 7, 2019. The report covers the period from July 1, 2024 –December 31, 2024.

One incident of non-compliance occurred during this reporting period. On December 18, 2024, on Engine #3 (S-39), the quarterly emissions check with portable analyzer indicated NOx emissions were 78ppm (corrected to 15% O2) as a 15-minute average. This level exceeds the limit of 70ppm in Permit Condition 20651, Part 10. The engine fuel/air mixture was adjusted and the engine emissions returned to compliance the following day, December 19, 2024. BAAQMD issued Notice of Violation A93893 on January 17, 2025, for this exceedance.

A permit renewal application for Title V Permit A0591 was submitted to BAAQMD on April 30, 2024. The permit application is currently listed as Complete – Application Under Evaluation in the BAAQMD My Air Online system. EBMUD is currently operating under the permit issued November 7, 2019, which continues to be in force after November 6, 2024, the expiration date of that permit.

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

If you have any questions about this report, please call Chris Dembiczak at (510) 287-0509.

Sincerely,

Amit Mutsuddy, P.E.
Director of Wastewater

AM:CD:sak

Attachment

Major Facility Review (Title V)
Semi-Annual Monitoring Report

for

East Bay Municipal Utility District
Main Wastewater Treatment Plant
Facility #A0591

Reporting Period: July 1, 2024 – December 31, 2024

Source	Monitoring Requirement	Limit	Monitoring Results
S-55 Boiler	**Condition 20651**		
	2. Shall not operate S-55 boiler when more than two of the three cogen engines S-37, S-38, or S-39 are operating		Condition met. See Attachment 1 for boiler and engine data.
	3. Boiler gross heat input	20.41 MMBtu/hr	Condition met. See Attachment 2.
	5a. NOx emission from boiler 5b. CO emission from boiler	30ppm 50ppm	Emission limits met in last performance test (see item 19).
	18. Daily records of hours of operation, fuel consumption		See Attachment 1 for hours and gas consumption.
	19. Annual performance test for emission limits in 5		Condition met. Annual performance test completed on 11/5/2024. Summary results in Attachment 3.
S-37, S-38, S-39 Cogeneration Engines	**Condition 20651** Emission limits – 6. NOx emissions from S-38 7. POC emissions from S-38 8. CO emissions from S-38 9. Filterable particulate emissions from S-38 10. NOx emissions from S-37 & S-39 11. CO emissions from S-37 & S-39	 1.25 g/hp-hr 0.6 g/hp-hr 3.0 g/hp-hr 0.085 g/hp-hr 70 ppmvd 2000 ppmvd	 NOx exceedance on S-39 found 12/18/2024 during quarterly analyzer check. Emission limits met other times. Annual source tests completed as noted in item 19.
	13. Thermal throughput per engine	25 MMBtu/hr	Condition met. See Attachment 2 for values.
	14. Combined hours of operation for S-37, S-38, and S-39	25,316 hours in any rolling 365 day period	Condition met. 14,749 hours in last year. See Attachment 2. Jan-Jun 2024: 6,996 hours Jul-Dec 2024: 7,753 hours
	15. Combined diesel consumption for S-37, S-38, and S-39	150,000 gallons in any rolling 365 day period	Condition met. 30,289 gallons in last year. See Attachment 2. Jan-Jun 2024: 12,279 gallons Jul-Dec 2024: 18,010 gallons

Source	Monitoring Requirement	Limit	Monitoring Results
S-37, S-38, S-39 Cogeneration Engines **(continued)**	18. Daily records of hours of operation, fuel consumption 19. Annual performance test for emission limits in 6-11		Condition met. See Attachment 1 for records. Condition met. Annual source tests for Engines 1 and 3 on 8/21/2024 and Engine 2 on 9/20/2024. Summary results in Attachment 3.
S-48 Gasoline Dispensing Facility	**Condition 25723** The Static Pressure Performance Test (CARB TP 201.3B) shall be successfully conducted at least once in each 12-month period.		Condition met. Completed on 9/23/2024.
	Condition 21663 Annual gasoline throughput	334,000 gal per year	Condition met. 32,194 gal in last year. See Attachment 4. Jan-June 2024: 16,506 gal July-Dec 2024: 15,688 gal
S-53 Diesel Engine Back-up Generator	**Condition 22830** 1. Hours of operation	30 hours/year reliability-related hours	Condition met. Generator ran 2.4 hours in last 12 months. Refer to Attachment 5.
S-54 Diesel Engine Back-up Generator	**Condition 22850** 1. Hours of operation	50 hours/year reliability-related hours	Condition met. Generator out of service currently, 0 hours. Refer to Attachment 5.

Source	Monitoring Requirement	Limit	Monitoring Results
S-56 Turbine	**Condition 24050**		
	2. Total combined heat input	389,820 MMBtu in any 12-month period	Condition met. 226,075 MMBtu in last 12 months. Refer to Attachment 2. Jan-Jun 2024: 74,120 MMBtu Jul-Dec 2024: 151,955 MMBtu
	3. NOx emission limits	23 ppm (15-min) 34,400 lb (12-mo)	Emission limits met. Refer to Attachments 2 and 6. Annual mass emission: 7,380 lb
	4. CO emission limit and monitoring	100 ppm (15-min) 92,200 lb (12-mo)	Emission limits met. Refer to Attachments 2 and 6. Annual mass emission: 1,192 lb
	5. Daily monitoring of H2S to demonstrate compliance with SO2 limits	Daily monitoring per 40 CFR 60.4370	See Attachment 12 for readings.
	5. SO2 emission limit	150 ppmv	Emission limit met. Refer to Attachments 2 and 6.
	7. Annual turbine source test		Condition met. Last annual test was December 3, 2024. Summary results in Attachment 3.
	8. Monthly NOx and CO test		Condition met. Monthly test results are in Attachment 6.
S-58 Diesel Engine Back-up Generator	**Condition 22850**		
	1. Hours of operation	50 hours/year reliability-related hours	Condition met. Generator ran 0.5 hours in last 12 months. Refer to Attachment 5.
S-59 Diesel Engine Back-up Generator	**Condition 22850**		
	1. Hours of operation	50 hours/year reliability-related hours	Condition met. Generator ran 13.5 hours in last 12 months. Refer to Attachment 5.
S-60 Diesel Engine Back-up Generator	**Condition 22850**		
	1. Hours of operation	50 hours/year reliability-related hours	Condition met. Generator ran 17.7 hours in last 12 months. Refer to Attachment 5.

Source	Monitoring Requirement	Limit	Monitoring Results
S-100 Municipal Wastewater Treatment Plant	**Condition 21759** 1. Total wastewater flow	120 MGD monthly dry weather average 325 MGD monthly wet weather average	Condition met. Maximum wet weather monthly flow in period was 93 MGD influent. Maximum dry weather monthly flow was 52 MGD. See Attachment 7.
S-110 Headworks A-462 Carbon Scrubber A-463/A-464 Biotrickling Filters/Carbon Scrubbers	**Condition 17335** 3. Inlet and outlet H2S concentrations of carbon beds, as well as any other appropriate operating parameters shall be continuously monitored and reviewed on a daily basis to determine when carbon adsorption bed breakthrough is imminent or has been reached.		Monitoring results for inlet and outlet H2S and any noted outages are in Attachment 8. Maintenance records related to outages for the odor control units are in Attachment 9.
S-170 Sludge handling A-7/A-8 Atomized Mist Scrubbers	**Condition 18006** 1. Monitor and record on a daily basis the activated sewage sludge throughput through S-170. 4a/b. Maintenance and inspection records for all outages and malfunctions of A-7 and A-8.		Sludge throughput is recorded in Attachment 10. Maintenance records for the scrubber are in Attachment 9.
S-172 Pre-Digestion Blend Tanks A-9 Iron Oxide A-10 Biofilter A-11 Activated Carbon	**Condition 25919** 1. Throughput of waste shall not exceed 2,100,000 gallons during any day. 4. POC emissions shall not exceed 2.02 lb/calendar day and 20.3 ppm total carbon on a daily basis. 6. Quarterly POC readings at outlet of A11		Condition met. See Attachment 11 for record of daily throughput. See item 6 for test results. Condition met. POC readings in this reporting period were less than 3ppm.

Source	Monitoring Requirement	Limit	Monitoring Results
S-180 Anaerobic Digesters Note: A-194, A-195 are enclosed flares A-190, A-191, A-192, and A-193 are older "candlestick" flares	**Condition 18860** 2. Monthly inspection of digesters and gas management/venting prevention		Inspections conducted by Operations on at least weekly on rounds.
	2./11. Venting of digester gas only allowed under listed exceptions.	0.70 lb/hour from PRV	Condition not met. A digester gas release on 6/7/2024 occurred and was reported. NOV A62622 was issued.
	3. Sulfur content of digester gas	<200 ppmv annual average	Condition met. Refer to Attachment 12 for the H2S gas sampling records.
	4. Combined digester gas flow rate to combustion sources	<3,400 scfm annual average	Condition met. See Attachment 13 for combined digester gas flow rates.
	6. Gas flow to A-194, A-195	<3,000 cfm, 1-hr average	Condition met. Attachment 1 contains gas flow records.
	7. Source testing of A-194, A-195 (every 8,760 hours of use or 5 years)		Condition met. Source test last conducted 4/27/22.
	Emission limits for A-194, A-195 9. NOx limit 10. CO limit 11a. H2S limit	 0.12 lb/MMBtu 0.20 lb/MMBtu 0.032 lb/hour	 Condition met. Source test last conducted 4/27/22.
	12. Daily sampling and testing of digester gas for H2S		Condition met. Refer to Attachment 12.
	13. Hours of flaring per day		Refer to Attachment 1 for the hours of flaring per day.

Attachment Index:

1 Combustion Source Air Permit Data
2 Combustion Summaries – Boiler, Engines, Turbine, Flares
3 Annual Source Test Results
4 Gasoline Facility Throughput
5 Hours of Operation for Stand-by Emergency Generators
6 Turbine Monthly Test Results
7 Monthly Wastewater Summary
8 IPS Carbon Bed Inlet/Outlet H2S Readings
9 Odor Scrubber Maintenance Records for S-170 and S-110
10 Activated Sludge Throughput for S-170
11 Blend Tank Throughput Records
12 Digester Gas H2S Sampling
13 Combined Digester Gas Combustion Volumes

ATTACHMENT 1

COMBUSTION SOURCE AIR PERMIT DATA

(engines, turbine, boiler, flares)

DAILY REPORTS
JULY-DECEMBER 2024

July - 2024

Daily Data for Air Permit

Elmer E. Ross Power Station

Date	Run Time, Hours				KiloWatt Hours Generated				Fuel Oil Used, gal				Gas, Roots Meter, cu ft			
	Eng 1	Eng 2	Eng 3	Total	Gen. 1	Gen 2	Gen 3	Total	Eng. 1	Eng. 2	Eng. 3	Total	Eng. 1	Eng. 2	Eng. 3	Total
1st	0	8	0	8	0	15,724	0	15,724	0	59	0	59	0	303,493	0	303,493
2nd	0	15	19	34	2,135	29,722	40,744	72,601	60	25	109	195	39,313	547,203	750,143	1,336,659
3rd	6	24	24	54	3,571	49,604	49,050	102,225	10	41	64	115	61,253	850,968	841,475	1,753,696
4th	0	24	24	48	0	48,746	48,214	96,960	0	32	40	72	0	835,426	826,305	1,661,731
5th	0	24	15	39	0	49,104	31,135	80,238	0	32	38	69	0	843,421	534,783	1,378,204
6th	0	21	18	39	0	32,429	27,956	60,384	0	45	36	81	0	580,463	500,404	1,080,867
7th	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
8th	0	18	6	24	0	37,953	10,386	48,338	0	34	16	50	0	693,963	189,900	883,863
9th	10	16	17	43	24,565	28,550	38,602	91,716	170	42	44	256	404,470	470,086	635,598	1,510,154
10th	24	3	22	49	49,412	5,559	44,232	99,203	43	12	36	91	842,885	94,829	754,516	1,692,230
11th	24	0	24	48	52,086	0	52,078	104,164	48	0	44	92	866,326	0	866,193	1,732,519
12th	24	0	24	48	51,403	0	51,366	102,769	41	0	40	81	852,636	0	852,020	1,704,656
13th	24	0	3	27	48,604	0	1,960	50,564	47	0	0	47	803,190	0	32,384	835,574
14th	13	0	0	13	18,811	0	0	18,811	25	0	0	25	321,370	0	0	321,370
15th	7	0	9	16	15,492	0	16,522	32,014	28	0	93	122	274,326	0	292,556	566,882
16th	20	0	15	35	39,095	0	26,616	65,711	58	0	91	149	647,962	0	441,140	1,089,102
17th	23	0	24	47	48,965	0	49,216	98,181	26	0	50	77	801,976	0	806,078	1,608,054
18th	24	0	24	48	51,569	0	51,515	103,084	46	0	45	91	856,290	0	855,400	1,711,690
19th	24	0	24	48	50,477	0	50,439	100,916	42	0	29	71	834,922	0	834,297	1,669,219
20th	24	0	24	48	51,590	0	51,562	103,151	46	0	44	91	856,872	0	856,406	1,713,278
21st	24	0	24	48	49,166	0	49,098	98,264	38	0	39	77	842,428	0	841,258	1,683,686
22nd	23	0	23	46	50,917	0	50,609	101,526	55	0	50	105	881,405	0	876,066	1,757,471
23rd	14	0	23	37	28,901	0	46,549	75,450	54	0	57	111	498,989	0	803,712	1,302,701
24th	24	0	24	48	51,551	0	51,531	103,082	44	0	42	86	865,328	0	865,002	1,730,330
25th	24	0	24	48	51,530	0	51,551	103,081	41	0	30	72	849,588	0	849,946	1,699,534
26th	24	0	24	48	51,571	0	51,557	103,128	47	0	47	94	877,865	0	877,634	1,755,499
27th	24	0	19	43	48,276	0	35,708	83,983	69	0	46	115	816,576	0	603,984	1,420,560
28th	14	0	0	14	22,707	0	0	22,707	34	0	0	34	407,370	0	0	407,370
29th	11	0	0	11	22,687	0	0	22,687	29	0	0	29	413,529	0	0	413,529
30th	24	0	19	43	48,455	0	42,557	91,011	43	0	49	92	858,777	0	754,245	1,613,022
31st	24	0	24	48	45,768	0	45,773	91,541	45	0	32	76	776,030	0	776,112	1,552,142
Totals	477	154	520	1,151	979,301	297,389	1,066,524	2,343,213	1,189	322	1,214	2,725	16,551,676	5,219,852	18,117,557	39,889,085
		Sum of Engines	1,151			Sum of Engines	2,343,213			Sum of Engines	2,725			Sum of Engines	39,889,085	

July - 2024

Daily Data for Air Permit

SD1 Flare Burners, Turbine, and Boiler

Date	Flares A-190,191,192,193		Flares A-194,195			Turbine			Boiler		Run Time Check	
	Run Time Hrs	Gas cu ft	Run Time Hrs	Gas cu ft	Peak 1-hr Flow, SCFM	Run Time Hrs	Power KWh	Gas cu ft	Run Time Hrs	Gas cu ft	Engine Hrs	Eng + Boiler Hrs
1st	0	0	0	0	0	0	0	0	2	48,018	8	10
2nd	11	149,129	0	0	0	8	21,178	417,202	4	85,819	34	38
3rd	17	362,925	0	0	0	24	75,075	1,346,647	0	0	54	54
4th	18	388,484	0	0	0	24	75,777	1,331,252	0	0	48	48
5th	8	172,137	0	0	0	24	76,228	1,347,472	0	0	39	39
6th	5	65,217	0	0	0	24	72,961	1,276,244	2	39,336	39	41
7th	0.1	990	0	0	0	24	76,878	1,379,203	24	355,201	1.0	25
8th	9	154,367	0.2	2,156	21	24	73,283	1,330,673	4	54,120	24	28
9th	18	374,686	0	0	0	24	76,800	1,364,763	0	0	43	43
10th	24	892,222	0.1	89	1	24	77,054	1,366,604	0	0	49	49
11th	15	514,144	0.4	423	5	24	75,960	1,335,305	0	0	48	48
12th	7	113,117	0	0	0	24	77,148	1,329,456	0	0	48	48
13th	1.1	10,461	0	0	0	24	75,850	1,322,792	0	0	27	27
14th	0.2	1,344	0	0	0	24	75,330	1,338,626	11	145,962	13	24
15th	12	187,012	0	0	0	24	74,690	1,357,939	14	187,327	16	30
16th	19	699,097	0.3	16,071	268	24	76,502	1,314,504	1	21,425	35	36
17th	23	1,064,653	15	1,185,434	1,718	24	76,652	1,327,181	0	0	47	47
18th	9	340,510	9	665,156	1,448	7	22,736	379,803	16	306,576	48	64
19th	12	236,295	0	0	0	0	0	0	24	468,380	48	72
20th	9	150,744	0	0	0	0	0	0	24	463,936	48	72
21st	7	83,427	0	0	0	0	0	0	8	157,263	48	56
22nd	24	909,571	1.0	40,750	363	0	0	0	16	257,627	46	62
23rd	9	449,049	18	1,411,920	1,646	0	0	0	24	434,038	37	61
24th	21	1,405,185	24	1,737,302	1,638	0	0	0	24	540,916	48	72
25th	15	869,085	12	745,688	1,406	0	0	0	24	449,732	48	72
26th	24	1,253,559	9	633,924	1,229	0	0	0	24	447,922	48	72
27th	13	494,657	16	1,080,825	1,623	8	23,117	400,085	8	127,966	43	51
28th	17	259,973	0	0	0	24	65,734	1,148,109	10	121,667	14	24
29th	20	572,431	0	0	0	24	82,972	1,362,389	10	128,247	11	21
30th	16	721,505	0	0	0	18	63,144	1,033,265	6	116,819	43	49
31st	15	419,160	0	0	0	13	40,589	658,633	10	231,009	48	58
Totals	398	13,315,136	105	7,519,738		462	1,455,658	25,468,147	291	5,189,306	1,151	1,442
				Maximum	1,718						Maximum	72

August - 2024

Daily Data for Air Permit

Elmer E. Ross Power Station

Date	Run Time, Hours				KiloWatt Hours Generated				Fuel Oil Used, gal				Gas, Roots Meter, cu ft			
	Eng 1	Eng 2	Eng 3	Total	Gen. 1	Gen 2	Gen 3	Total	Eng. 1	Eng. 2	Eng. 3	Total	Eng. 1	Eng. 2	Eng. 3	Total
1st	24	0	24	48	51,487	0	51,578	103,065	44	0	46	90	848,688	0	850,187	1,698,875
2nd	24	0	23	47	48,528	0	42,155	90,683	46	0	35	81	814,799	0	707,783	1,522,582
3rd	17	0	9	26	35,548	0	18,921	54,469	36	0	26	62	607,828	0	323,523	931,351
4th	10	0	9	19	17,986	0	14,074	32,060	29	0	19	48	324,333	0	253,795	578,128
5th	10	0	18	28	9,277	0	34,478	43,755	36	0	55	91	165,284	0	614,305	779,589
6th	24	0	24	48	48,526	0	48,927	97,453	41	0	42	83	832,170	0	839,045	1,671,215
7th	13	0	13	26	29,567	0	29,601	59,168	47	0	35	82	487,483	0	488,037	975,520
8th	24	0	24	48	51,581	0	51,589	103,171	42	0	45	87	840,409	0	840,534	1,680,943
9th	24	0	24	48	49,885	0	49,905	99,791	46	0	39	85	833,981	0	834,314	1,668,295
10th	24	0	24	48	49,639	0	49,651	99,291	44	0	41	85	827,735	0	827,937	1,655,672
11th	24	0	22	46	39,546	0	38,566	78,112	47	0	38	85	692,091	0	674,947	1,367,038
12th	9	0	9	18	12,112	0	14,588	26,700	70	0	56	126	203,924	0	245,610	449,534
13th	24	0	10	34	40,797	0	22,507	63,304	46	0	24	71	719,305	0	396,819	1,116,124
14th	24	0	24	48	51,533	0	51,590	103,123	45	0	40	85	862,719	0	863,684	1,726,403
15th	24	0	24	48	51,538	0	51,607	103,145	43	0	40	83	845,079	0	846,202	1,691,281
16th	24	0	24	48	49,613	0	49,618	99,231	46	0	31	77	830,526	0	830,618	1,661,144
17th	4	0	24	28	3,550	0	49,579	53,130	6	0	45	51	61,785	0	862,776	924,561
18th	21	0	24	45	47,139	0	47,802	94,941	43	0	41	84	818,278	0	829,773	1,648,051
19th	24	0	24	48	51,560	0	50,388	101,948	43	0	66	110	860,193	0	840,641	1,700,834
20th	24	0	24	48	51,557	0	51,560	103,117	45	0	34	79	838,715	0	838,768	1,677,483
21st	21	0	18	39	41,374	0	39,169	80,543	76	0	103	179	687,381	0	650,749	1,338,130
22nd	23	0	24	47	51,558	0	51,603	103,161	50	0	43	93	858,337	0	859,092	1,717,429
23rd	24	0	23	47	51,537	0	49,714	101,251	42	0	49	91	842,279	0	812,490	1,654,769
24th	24	0	24	48	51,557	0	51,588	103,144	45	0	43	89	842,401	0	842,907	1,685,308
25th	21	0	24	45	40,908	0	49,922	90,830	41	0	35	77	684,605	0	835,461	1,520,066
26th	23	0	17	40	49,973	0	33,701	83,674	41	0	57	98	860,508	0	580,318	1,440,826
27th	24	7	24	55	49,787	8,960	47,089	105,836	46	106	31	183	788,809	141,954	746,058	1,676,821
28th	14	11	23	48	21,420	25,056	45,501	91,977	61	72	57	191	359,401	420,406	763,455	1,543,262
29th	9	15	24	48	24,365	26,177	51,643	102,185	36	41	42	119	404,427	434,510	857,199	1,696,136
30th	24	0	24	48	51,182	0	51,270	102,452	40	0	33	73	849,703	0	851,174	1,700,877
31st	24	0	24	48	47,563	0	47,166	94,729	47	0	65	113	817,728	0	810,912	1,628,640
Totals	627	33	650	1,310	1,272,194	60,193	1,337,052	2,669,439	1,372	220	1,355	2,947	21,310,904	996,870	22,419,113	44,726,887
		Sum of Engines	1,310			Sum of Engines	2,669,439			Sum of Engines	2,947			Sum of Engines	44,726,887	

August - 2024

Daily Data for Air Permit

SD1 Flare Burners, Turbine, and Boiler

Date	Flares A-190,191,192,193		Flares A-194,195			Turbine			Boiler		Run Time Check	
	Run Time Hrs	Gas cu ft	Run Time Hrs	Gas cu ft	Peak 1-hr Flow, SCFM	Run Time Hrs	Power KWh	Gas cu ft	Run Time Hrs	Gas cu ft	Engine Hrs	Eng + Boiler Hrs
1st	19	861,500	23	1,074,317	1,418	24	91,913	1,432,766	0	0	48	48
2nd	15	440,011	8	368,510	883	24	87,508	1,376,359	0	0	47	47
3rd	16	267,522	0	0	0	24	84,976	1,363,578	0	0	26	26
4th	10	173,339	0	0	0	24	80,100	1,300,362	5	80,755	19	24
5th	16	271,653	0.02	272	5	24	88,255	1,450,849	3	40,066	28	31
6th	17	732,109	2	101,986	879	24	89,629	1,421,378	0	0	48	48
7th	17	919,503	20	1,461,660	1,911	24	92,013	1,457,916	9	138,250	26	35
8th	22	751,310	17	695,580	1,208	24	91,921	1,420,227	0	0	48	48
9th	11	369,804	14	622,796	888	24	90,931	1,413,467	0	0	48	48
10th	13	209,734	5	178,084	691	24	91,515	1,434,928	0	0	48	48
11th	10	144,242	0	12,274	205	24	83,548	1,375,929	0	0	46	46
12th	10	111,073	1	36,485	366	24	77,684	1,265,950	11	143,431	18	29
13th	13	430,268	3	131,313	1,220	24	85,546	1,379,622	3	33,265	34	37
14th	12	605,517	20	1,300,794	1,457	24	90,171	1,444,047	0	0	48	48
15th	20	994,635	9	594,805	1,485	24	88,160	1,369,622	0	0	48	48
16th	18	751,872	1.3	48,917	467	24	88,940	1,414,128	0	0	48	48
17th	13	291,778	0	0	0	24	87,559	1,423,217	2	33,228	28	30
18th	15	211,373	0	0	0	24	88,860	1,455,835	0	0	45	45
19th	19	1,257,102	7	507,577	1,445	24	92,325	1,484,499	0	0	48	48
20th	15	943,984	9	665,510	1,402	24	90,907	1,425,257	0	0	48	48
21st	14	722,563	21	1,611,590	1,671	24	92,295	1,477,513	7	129,472	39	46
22nd	0	0	24	1,815,517	1,749	24	92,716	1,480,818	0	0	47	47
23rd	10	571,144	24	1,952,238	1,872	24	93,067	1,450,227	0	0	47	47
24th	3	143,204	24	1,452,818	1,632	24	92,330	1,434,911	0	0	48	48
25th	2	52,030	12	210,489	482	24	92,134	1,456,735	0	0	45	45
26th	9	300,754	14	806,452	1,289	24	92,272	1,492,419	7	147,734	40	47
27th	18	359,648	1.3	18,909	166	24	91,139	1,445,513	0	0	55	55
28th	19	650,818	4	233,564	1,218	24	91,446	1,467,185	0	0	48	48
29th	24	1,216,935	2	62,926	381	24	94,326	1,498,803	0	0	48	48
30th	21	796,459	0	0	0	24	93,142	1,473,497	0	0	48	48
31st	17	331,002	0	0	0	24	90,258	1,471,008	0	0	48	48
Totals	439	15,882,886	267	15,965,383		743	2,777,586	44,258,565	48	746,201	1,310	1,358
				Maximum	1,911						Maximum	55

September - 2024

Daily Data for Air Permit

Elmer E. Ross Power Station

Date	Run Time, Hours				KiloWatt Hours Generated				Fuel Oil Used, gal				Gas, Roots Meter, cu ft			
	Eng 1	Eng 2	Eng 3	Total	Gen. 1	Gen 2	Gen 3	Total	Eng. 1	Eng. 2	Eng. 3	Total	Eng. 1	Eng. 2	Eng. 3	Total
1st	20	0	14	34	32,872	0	23,016	55,888	31	0	22	52	567,821	0	397,578	965,399
2nd	11	0	22	33	17,951	0	43,235	61,186	37	0	37	74	324,670	0	781,962	1,106,632
3rd	20	0	24	44	43,240	0	48,161	91,401	41	0	34	75	761,126	0	847,737	1,608,863
4th	24	0	24	48	48,111	0	48,169	96,280	38	0	27	65	825,327	0	826,327	1,651,654
5th	19	0	24	43	34,709	0	44,062	78,771	36	0	36	72	610,026	0	774,408	1,384,434
6th	22	0	24	46	39,499	0	46,295	85,794	41	0	24	65	691,149	0	810,060	1,501,209
7th	24	0	24	48	44,486	0	44,477	88,963	39	0	37	76	778,742	0	778,584	1,557,326
8th	14	0	24	38	24,211	0	46,007	70,218	29	0	30	59	422,860	0	803,527	1,226,387
9th	12	11	24	47	20,831	27,868	48,837	97,535	28	42	67	138	354,962	474,866	832,188	1,662,016
10th	0	24	24	48	0	51,371	51,603	102,974	0	29	28	57	0	844,673	848,477	1,693,150
11th	0	24	24	48	0	51,345	51,566	102,911	0	27	40	68	0	853,452	857,137	1,710,589
12th	0	24	24	48	0	49,212	48,345	97,557	0	34	45	78	0	840,183	825,396	1,665,579
13th	0	24	24	48	0	46,451	46,637	93,088	0	28	35	63	0	808,268	811,501	1,619,769
14th	0	24	24	48	0	44,314	44,456	88,770	0	31	30	61	0	780,165	782,668	1,562,833
15th	0	19	3	22	0	32,203	1,493	33,696	0	39	7	46	0	558,543	25,902	584,445
16th	0	24	18	42	0	45,860	39,585	85,445	0	25	33	58	0	813,682	702,349	1,516,031
17th	0	24	24	48	0	48,677	49,021	97,698	0	69	37	106	0	819,826	825,617	1,645,443
18th	0	24	24	48	0	51,347	51,545	102,892	0	28	28	56	0	857,406	860,723	1,718,129
19th	0	24	24	48	0	51,266	51,423	102,689	0	35	38	73	0	839,114	841,684	1,680,798
20th	0	24	18	42	0	50,403	38,216	88,618	0	32	34	67	0	831,309	630,305	1,461,614
21st	0	24	24	48	0	49,404	49,671	99,075	0	36	40	76	0	832,911	837,402	1,670,313
22nd	0	3	24	27	0	1,801	47,066	48,867	0	0	31	31	0	31,526	823,720	855,246
23rd	0	19	24	43	0	41,678	48,687	90,365	0	31	31	63	0	719,547	840,559	1,560,106
24th	0	24	24	48	0	49,950	50,210	100,160	0	34	35	69	0	848,510	852,927	1,701,437
25th	7	23	18	48	16,709	49,470	33,531	99,710	70	43	35	149	279,533	827,618	560,967	1,668,118
26th	24	24	0	48	50,018	49,761	0	99,779	37	26	0	63	823,960	819,723	0	1,643,683
27th	24	24	0	48	49,420	49,361	0	98,780	46	34	0	81	829,060	828,069	0	1,657,129
28th	24	22	0	46	48,832	42,268	0	91,100	37	27	0	65	820,028	709,809	0	1,529,837
29th	23	16	0	39	36,658	23,864	0	60,522	54	25	0	79	651,636	424,220	0	1,075,856
30th	24	14	0	38	47,512	30,022	0	77,534	53	54	0	106	806,961	509,895	0	1,316,856
Totals	292	463	549	1,304	555,058	937,895	1,095,314	2,588,267	616	732	845	2,192	9,547,861	15,873,315	18,779,705	44,200,881
		Sum of Engines	1,304			Sum of Engines	2,588,267			Sum of Engines	2,193			Sum of Engines	44,200,881	

September - 2024

Daily Data for Air Permit

SD1 Flare Burners, Turbine, and Boiler

Date	Flares A-190,191,192,193		Flares A-194,195			Turbine			Boiler		Run Time Check	
	Run Time Hrs	Gas cu ft	Run Time Hrs	Gas cu ft	Peak 1-hr Flow, SCFM	Run Time Hrs	Power KWh	Gas cu ft	Run Time Hrs	Gas cu ft	Engine Hrs	Eng + Boiler Hrs
1st	13	179,764	0	0	0	24	90,696	1,455,475	2	33,919	34	36
2nd	6	76,478	0	0	0	24	86,350	1,415,714	0.3	3,999	33	33
3rd	13	221,885	0.1	1,209	20	23	78,745	1,323,410	1.2	22,304	44	45
4th	15	411,135	8	362,361	1,127	24	90,923	1,441,946	0	0	48	48
5th	16	505,824	7	372,487	1,049	24	84,886	1,365,960	4	54,649	43	47
6th	15	608,371	0	0	0	24	87,067	1,420,117	0	0	46	46
7th	9	323,048	0	0	0	24	89,886	1,419,488	0	0	48	48
8th	13	230,344	0	0	0	24	88,950	1,410,045	0	0	38	38
9th	19	1,021,274	2	50,879	322	24	92,800	1,503,007	0	0	47	47
10th	24	1,184,648	0.4	23,251	388	24	93,347	1,479,734	0	0	48	48
11th	24	816,977	0.4	12,174	155	24	91,855	1,475,910	0	0	48	48
12th	18	315,215	1.1	44,792	345	24	90,863	1,471,839	0	0	48	48
13th	13	329,620	0	0	0	24	90,298	1,462,316	0	0	48	48
14th	17	412,680	0	0	0	24	83,220	1,387,950	0	0	48	48
15th	9	121,283	0	0	0	24	82,420	1,356,639	0	0	22	22
16th	13	472,389	0.1	608	10	24	89,388	1,492,832	0	0	42	42
17th	17	525,274	0.5	24,212	404	24	91,868	1,486,188	0	0	48	48
18th	21	1,472,445	16	1,423,021	1,752	16	59,864	982,436	8	110,855	48	56
19th	8	606,120	24	1,880,034	1,622	17	62,407	988,046	7	99,682	48	55
20th	12	658,382	17	1,147,310	1,654	23	86,248	1,389,865	6	91,920	42	48
21st	15	322,389	0	0	0	24	91,604	1,484,417	0	0	48	48
22nd	11	189,764	0	0	0	24	90,770	1,475,574	0	0	27	27
23rd	17	708,559	0	0	0	24	91,073	1,491,708	0	0	43	43
24th	22	560,546	0	0	0	24	91,068	1,501,366	0	0	48	48
25th	15	499,484	7	501,868	1,502	24	92,592	1,536,994	0.4	10,367	48	48
26th	20	984,214	0	0	0	24	92,293	1,509,312	0	0	48	48
27th	11	435,017	8	473,769	1,310	24	89,887	1,506,543	0	0	48	48
28th	17	548,776	0	0	0	24	90,096	1,477,587	0	0	46	46
29th	2	27,705	0.1	1,578	26	24	59,960	1,137,442	0	0	39	39
30th	16	258,199	0	0	0	24	87,233	1,490,286	0	0	38	38
Totals	441	15,027,809	91	6,319,553		702	2,588,657	42,340,146	28	427,695	1,304	1,332
				Maximum	1,752						Maximum	56

October - 2024

Daily Data for Air Permit

Elmer E. Ross Power Station

Date	Run Time, Hours				KiloWatt Hours Generated				Fuel Oil Used, gal				Gas, Roots Meter, cu ft			
	Eng 1	Eng 2	Eng 3	Total	Gen. 1	Gen 2	Gen 3	Total	Eng. 1	Eng. 2	Eng. 3	Total	Eng. 1	Eng. 2	Eng. 3	Total
1st	24	24	0	48	50,310	50,242	0	100,551	39	34	0	73	834,771	833,647	0	1,668,418
2nd	24	23	0	47	49,401	49,126	0	98,527	40	30	0	69	822,464	817,889	0	1,640,353
3rd	24	24	0	48	46,142	45,875	0	92,016	41	37	0	78	784,535	779,997	0	1,564,532
4th	24	24	0	48	51,630	51,310	0	102,941	37	29	0	66	851,492	846,212	0	1,697,704
5th	24	16	0	40	38,820	24,799	0	63,619	48	28	0	75	674,243	430,709	0	1,104,952
6th	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7th	22	13	0	35	43,208	26,569	0	69,777	40	35	0	75	783,708	481,909	0	1,265,617
8th	24	24	0	48	48,266	47,948	0	96,214	44	37	0	81	829,758	824,305	0	1,654,063
9th	24	18	8	50	51,349	31,987	19,005	102,341	40	27	64	132	862,645	537,369	319,278	1,719,292
10th	24	0	24	48	51,626	0	51,612	103,238	43	0	18	61	857,265	0	857,045	1,714,310
11th	24	0	24	48	46,591	0	46,544	93,134	41	0	42	83	818,472	0	817,640	1,636,112
12th	6	0	24	30	6,430	0	38,966	45,396	10	0	31	40	117,629	0	712,832	830,461
13th	0	0	0	0	1,495	0	0	1,495	11	0	0	11	24,338	0	0	24,338
14th	14	0	21	35	26,016	0	41,445	67,461	33	0	52	85	480,223	0	765,036	1,245,259
15th	24	0	22	46	51,104	0	41,409	92,513	41	0	30	71	869,534	0	704,589	1,574,123
16th	24	0	11	35	51,604	0	29,006	80,610	41	0	38	79	879,306	0	494,239	1,373,545
17th	24	0	24	48	50,895	0	50,903	101,799	46	0	39	84	841,120	0	841,254	1,682,374
18th	24	0	24	48	51,568	0	51,583	103,151	40	0	36	76	854,734	0	854,981	1,709,715
19th	18	0	24	42	26,809	0	41,510	68,319	32	0	39	71	480,266	0	743,632	1,223,898
20th	0.4	0	7	7	296	0	6,882	7,179	28	0	15	42	4,999	0	116,123	121,122
21st	14	0	0	14	29,953	0	0	29,953	38	0	0	38	539,255	0	0	539,255
22nd	24	3	18	45	48,905	3,118	39,309	91,332	42	102	46	190	824,107	52,538	662,417	1,539,062
23rd	24	1.0	24	49	51,603	115	51,643	103,360	40	23	33	97	872,278	1,938	872,965	1,747,181
24th	24	9	16	49	51,646	23,821	28,025	103,491	42	58	27	128	853,800	393,801	463,298	1,710,899
25th	18	24	10	52	28,778	51,024	23,442	103,244	77	37	27	140	469,346	832,173	382,326	1,683,845
26th	5	14	24	43	9,327	22,593	46,475	78,394	21	19	38	78	159,768	387,013	796,105	1,342,886
27th	0	0	16	16	0	0	22,328	22,328	0	0	14	14	0	0	421,274	421,274
28th	10	0	10	20	21,434	0	20,803	42,238	39	0	42	81	391,757	0	380,221	771,978
29th	24	6	24	54	46,562	16,501	47,036	110,099	42	41	39	122	802,333	284,341	810,491	1,897,165
30th	24	17	24	65	46,042	32,996	49,407	128,446	72	55	75	202	755,382	541,347	810,589	2,107,318
31st	2	24	24	50	198	51,349	51,615	103,162	36	39	14	88	3,249	843,397	847,761	1,694,407
Totals	541	264	403	1,208	1,078,008	529,373	798,949	2,406,331	1,142	630	758	2,531	18,342,777	8,888,585	13,674,096	40,905,458
		Sum of Engines	1,208			Sum of Engines	2,406,331			Sum of Engines	2,530			Sum of Engines	40,905,458	

October - 2024

Daily Data for Air Permit

SD1 Flare Burners, Turbine, and Boiler

Date	Flares A-190,191,192,193		Flares A-194,195			Turbine			Boiler		Run Time Check	
	Run Time Hrs	Gas cu ft	Run Time Hrs	Gas cu ft	Peak 1-hr Flow, SCFM	Run Time Hrs	Power KWh	Gas cu ft	Run Time Hrs	Gas cu ft	Engine Hrs	Eng + Boiler Hrs
1st	10	555,577	10	749,069	1,618	24	86,680	1,473,904	0	0	48	48
2nd	19	1,019,927	0	0	0	24	85,228	1,436,674	0	0	47	47
3rd	16	798,924	0	0	0	24	85,605	1,445,156	0	0	48	48
4th	24	1,332,137	0	0	0	24	89,330	1,496,776	0	0	48	48
5th	12	176,554	0	0	0	24	77,707	1,327,906	10	136,435	40	50
6th	8	89,263	0	0	0	24	71,765	1,285,096	24	275,565	0	24
7th	11	252,962	0	0	0	24	78,867	1,419,123	0.2	2,287	35	35
8th	20	558,535	0	0	0	24	80,050	1,387,952	0	0	48	48
9th	21	1,344,200	0.2	12,824	125	24	83,747	1,427,413	0	0	50	50
10th	23	959,498	0	0	0	24	91,156	1,527,728	0	0	48	48
11th	14	355,097	0	0	0	24	90,141	1,544,515	0	0	48	48
12th	7	107,119	0	0	0	24	75,379	1,363,347	2	26,003	30	32
13th	12	149,281	0	0	0	24	77,578	1,443,823	23	264,405	0	23
14th	11	137,248	0	6,088	73	24	83,861	1,489,598	0	0	35	35
15th	18	496,328	0	0	0	24	89,661	1,523,721	0	0	46	46
16th	19	1,020,822	9	766,957	1,695	24	90,536	1,578,059	4	73,581	35	39
17th	20	1,672,720	4	300,395	1,485	24	89,725	1,492,567	0.3	6,940	48	48
18th	20	986,519	6	485,239	1,650	24	89,870	1,534,047	0	0	48	48
19th	6	56,497	0	0	0	24	78,528	1,424,777	0	0	42	42
20th	9	240,052	0	0	0	20	64,384	1,188,402	19	269,355	7	26
21st	10	143,904	0.03	463	8	24	90,482	1,584,265	8	92,223	14	22
22nd	20	780,291	0	0	0	24	89,391	1,546,823	0	0	45	45
23rd	24	1,437,838	0.6	21,292	314	24	90,927	1,576,423	0	0	49	49
24th	24	1,269,236	14	587,142	917	24	89,237	1,541,206	0	0	49	49
25th	13	452,316	9	725,234	1,486	24	90,119	1,545,844	0	0	52	52
26th	13	187,756	0	0	0	24	88,330	1,497,325	0	0	43	43
27th	10	89,235	0	0	0	24	71,618	1,340,206	0.5	10,412	16	17
28th	10	267,333	0	0	0	24	77,976	1,406,281	10	117,307	20	30
29th	18	838,955	12	878,433	1,486	12	39,377	713,574	2	24,774	54	56
30th	15	1,151,092	24	2,152,637	1,771	2	5,491	112,055	0	0	65	65
31st	1.1	46,436	24	1,755,415	1,517	24	91,527	1,553,373	0	0	50	50
Totals	462	18,973,652	114	8,441,188		707	2,484,273	43,227,959	103	1,299,287	1,208	1,311
				Maximum	1,771						Maximum	65

November - 2024

Daily Data for Air Permit

Elmer E. Ross Power Station

Date	Run Time, Hours				KiloWatt Hours Generated				Fuel Oil Used, gal				Gas, Roots Meter, cu ft			
	Eng 1	Eng 2	Eng 3	Total	Gen. 1	Gen 2	Gen 3	Total	Eng. 1	Eng. 2	Eng. 3	Total	Eng. 1	Eng. 2	Eng. 3	Total
1st	0	24	24	48	0	51,370	51,638	103,008	0	40	58	97	0	857,370	861,843	1,719,213
2nd	0	24	24	48	0	50,437	50,696	101,132	0	37	37	73	0	854,238	858,624	1,712,862
3rd	0	12	24	36	0	20,680	46,893	67,573	0	26	60	87	0	352,539	799,398	1,151,937
4th	3	0	12	15	10,381	0	20,553	30,934	54	0	45	99	174,855	0	346,196	521,051
5th	24	0	24	48	47,049	0	47,319	94,368	87	0	104	191	754,724	0	759,050	1,513,774
6th	24	0	24	48	51,172	0	51,183	102,355	53	0	51	104	859,654	0	859,843	1,719,497
7th	24	0	24	48	51,536	0	51,527	103,064	55	0	49	103	852,256	0	852,106	1,704,362
8th	24	0	24	48	49,508	0	49,510	99,018	56	0	36	92	844,746	0	844,779	1,689,525
9th	24	0	23	47	42,571	0	35,519	78,091	53	0	57	110	760,620	0	634,622	1,395,242
10th	24	0	0	24	50,762	0	3,297	54,059	30	0	15	45	859,500	0	55,824	915,324
11th	24	0	24	48	47,372	0	47,382	94,754	54	0	41	96	824,755	0	824,920	1,649,675
12th	24	11	24	59	51,584	26,193	51,622	129,399	48	52	55	155	859,722	436,538	860,350	2,156,610
13th	24	24	24	72	51,637	51,298	51,613	154,548	58	47	51	156	843,294	837,752	842,886	2,523,932
14th	13	24	24	61	23,723	51,348	51,620	126,691	27	42	46	115	386,756	837,139	841,578	2,065,473
15th	10	14	24	48	25,058	26,288	51,651	102,997	36	22	49	106	410,412	430,561	845,976	1,686,949
16th	24	0	24	48	50,961	0	51,494	102,455	59	0	79	138	841,047	0	849,851	1,690,898
17th	21	16	24	61	38,836	33,996	46,853	119,685	57	45	39	142	671,320	587,659	809,905	2,068,884
18th	24	22	14	60	47,208	40,511	24,157	111,875	54	46	40	139	812,471	697,215	415,749	1,925,435
19th	21	22	2	45	39,934	39,546	1,620	81,100	119	46	38	203	656,406	650,031	26,632	1,333,069
20th	24	14	16	54	51,488	22,513	37,904	111,905	54	94	50	198	838,201	366,492	617,063	1,821,756
21st	24	18	24	66	51,556	42,078	51,676	145,310	26	42	37	105	851,116	694,653	853,109	2,398,878
22nd	24	24	24	72	48,980	49,420	49,259	147,659	74	84	49	207	771,716	778,649	776,114	2,326,479
23rd	24	24	24	72	49,487	50,156	50,730	150,373	62	21	43	126	824,687	835,848	845,406	2,505,941
24th	24	10	24	58	51,511	17,506	51,647	120,664	56	23	56	135	886,481	301,266	888,810	2,076,557
25th	24	0	24	48	47,509	3,474	51,635	102,619	56	12	42	110	829,681	60,676	901,741	1,792,098
26th	17	24	24	65	40,507	50,859	51,092	142,458	67	54	74	195	685,114	860,213	864,158	2,409,485
27th	24	24	19	67	51,550	51,311	34,174	137,035	58	46	161	265	861,064	857,056	570,817	2,288,937
28th	24	24	0	48	51,394	51,081	0	102,475	53	45	0	98	861,705	856,447	0	1,718,152
29th	24	24	0	48	44,191	48,957	0	93,148	57	43	0	101	742,867	822,974	0	1,565,841
30th	6	24	0	30	10,587	42,738	0	53,326	28	45	0	73	186,606	753,293	0	939,899
Totals	571	403	566	1,540	1,178,053	821,759	1,164,265	3,164,077	1,491	911	1,462	3,864	19,751,776	13,728,609	19,507,350	52,987,735
		Sum of Engines	1,540			Sum of Engines	3,164,077			Sum of Engines	3,864			Sum of Engines	52,987,735	

November - 2024

Daily Data for Air Permit

SD1 Flare Burners, Turbine, and Boiler

Date	Flares A-190,191,192,193		Flares A-194,195			Turbine			Boiler		Run Time Check	
	Run Time Hrs	Gas cu ft	Run Time Hrs	Gas cu ft	Peak 1-hr Flow, SCFM	Run Time Hrs	Power KWh	Gas cu ft	Run Time Hrs	Gas cu ft	Engine Hrs	Eng + Boiler Hrs
1st	18	690,426	6	183,264	705	24	91,138	1,581,857	0	0	48	48
2nd	22	824,164	0	0	0	24	87,531	1,551,201	0	0	48	48
3rd	12	325,541	0	0	0	25	83,510	1,444,661	0	0	36	36
4th	18	908,455	0	25,276	248	24	85,587	1,527,156	16	269,122	15	31
5th	10	595,030	11	727,691	1,518	19	65,661	1,193,936	4	65,888	48	52
6th	17	1,386,683	15	1,121,236	1,463	23	83,415	1,481,590	1	14,897	48	49
7th	14	710,145	11	826,037	1,724	24	89,598	1,550,035	0	0	48	48
8th	17	501,519	1	6,947	71	24	90,705	1,582,141	0	0	48	48
9th	12	156,226	0	0	0	24	77,548	1,390,484	0	0	47	47
10th	15	176,795	0	0	0	24	82,128	1,454,440	1	18,791	24	25
11th	11	123,832	2	135,581	1,010	22	77,645	1,343,226	2	31,825	48	50
12th	8	444,386	24	2,127,881	2,227	0		0	11	165,391	59	70
13th	7	486,278	24	2,040,901	1,974	0		0	0	0	72	72
14th	9	415,135	18	1,420,470	1,811	11	37,683	657,054	0	0	61	61
15th	9	535,464	15	1,062,459	1,476	24	92,585	1,574,143	0	0	48	48
16th	21	1,066,446	0	0	0	24	93,413	1,584,285	0	0	48	48
17th	8	125,708	0	0	0	4	15,638	268,535	1	20,456	61	62
18th	13	257,920	1	17,208	191	15	47,508	856,474	0	0	60	60
19th	12	753,302	15	1,212,130	1,715	18	65,404	1,150,364	0	0	45	45
20th	21	1,155,237	13	962,666	1,556	12	37,939	663,536	6	109,584	54	60
21st	13	824,802	11	1,100,029	1,761	4	12,043	209,468	0	0	66	66
22nd	6	292,706	20	1,775,899	1,665	0		0	0	0	72	72
23rd	22	604,770	1	38,171	223	0		0	0	0	72	72
24th	22	432,711	1	12,809	213	0		0	16	327,487	58	74
25th	15	506,761	13	690,291	1,449	0		0	24	559,161	48	72
26th	2	52,758	24	1,538,169	1,405	0		0	5	104,849	65	70
27th	7	221,120	18	1,388,190	1,690	7	23,916	421,304	0	0	67	67
28th	0	9,470	0	9,618	152	24	86,738	1,517,741	0	0	48	48
29th	0	0	0	0	0	24	77,570	1,379,098	0	0	48	48
30th	0	66	0	0	0	24	82,986	1,473,069	1	15,059	30	31
Totals	360	14,583,856	245	18,422,923		448	1,587,889	27,855,798	87	1,702,510	1,540	1,627
				Maximum	2,227						Maximum	74

December - 2024

Daily Data for Air Permit

Elmer E. Ross Power Station

Date	Run Time, Hours				KiloWatt Hours Generated				Fuel Oil Used, gal				Gas, Roots Meter, cu ft			
	Eng 1	Eng 2	Eng 3	Total	Gen. 1	Gen 2	Gen 3	Total	Eng. 1	Eng. 2	Eng. 3	Total	Eng. 1	Eng. 2	Eng. 3	Total
1st	0	24	0	24	0	42,605	0	42,605	0	42	0	42	0	758,615	0	758,615
2nd	14	24	0	38	32,065	48,508	72	80,646	47	45	0	92	556,988	842,614	1,251	1,400,853
3rd	24	6	18	48	48,285	7,902	40,884	97,071	75	13	61	149	836,633	136,926	708,400	1,681,959
4th	24	0	23	47	50,905	0	51,070	101,975	59	0	58	117	856,054	0	858,826	1,714,880
5th	17	8	24	49	30,979	19,826	51,199	102,005	42	42	53	138	514,887	329,521	850,944	1,695,352
6th	0	24	24	48	0	51,188	51,620	102,809	0	41	55	96	0	844,584	851,709	1,696,293
7th	0	24	24	48	0	51,201	51,632	102,834	0	46	56	102	0	849,671	856,824	1,706,495
8th	0	10	24	34	0	14,840	40,773	55,614	0	21	54	75	0	255,480	701,931	957,411
9th	0	16	17	33	0	36,844	39,490	76,334	0	41	72	113	0	631,989	677,382	1,309,371
10th	0	24	24	48	0	50,645	50,960	101,605	0	38	57	95	0	857,905	863,252	1,721,157
11th	0	24	24	48	0	49,473	49,749	99,222	0	93	61	153	0	811,694	816,227	1,627,921
12th	0	24	24	48	0	51,252	51,535	102,787	0	36	48	84	0	859,767	864,503	1,724,270
13th	0	24	24	48	0	50,718	51,054	101,772	0	52	64	117	0	870,151	875,911	1,746,062
14th	0	24	7	31	0	45,089	8,064	53,153	0	47	16	63	0	790,606	141,399	932,005
15th	0	2	0	2	0	62	0	62	0	0	0	0	0	1,252	0	1,252
16th	17	0	18	35	36,802	3	38,178	74,983	75	0	111	186	649,392	55	673,669	1,323,116
17th	24	7	16	47	50,988	17,699	33,116	101,804	60	49	37	146	858,102	297,863	557,328	1,713,293
18th	24	10	9	43	39,871	14,521	22,391	76,783	127	26	59	213	654,510	238,365	367,565	1,260,440
19th	19	0	14	33	25,471	0	26,023	51,494	124	0	45	169	369,241	0	377,247	746,488
20th	11	5	17	33	17,429	7,656	30,497	55,581	208	86	99	392	280,742	123,315	491,237	895,294
21st	24	0	24	48	51,541	0	51,462	103,003	59	0	60	119	884,867	0	883,502	1,768,369
22nd	16	0	24	40	29,241	0	41,851	71,092	40	0	66	106	521,348	0	746,173	1,267,521
23rd	14	4	9	27	32,471	14,027	15,104	61,602	95	24	111	230	504,275	217,840	234,559	956,674
24th	24	24	0	48	50,416	50,084	0	100,500	58	40	0	99	844,034	838,469	0	1,682,503
25th	14	24	0	38	22,482	39,991	0	62,473	32	50	0	82	385,082	684,970	0	1,070,052
26th	13	12	0	25	32,132	28,842	0	60,973	47	34	0	82	545,272	489,435	0	1,034,707
27th	24	24	0	48	50,152	49,885	0	100,037	57	41	0	98	840,216	835,757	0	1,675,973
28th	24	24	0	48	50,921	50,735	0	101,655	60	45	0	104	853,153	850,034	0	1,703,187
29th	16	23	0	39	27,105	48,847	0	75,952	39	50	0	89	456,645	822,943	0	1,279,588
30th	22	24	0	46	49,180	49,070	0	98,250	54	35	0	89	825,704	823,871	0	1,649,575
31st	24	24	0	48	49,063	48,660	0	97,722	62	52	0	114	825,964	819,174	0	1,645,138
Totals	389	463	388	1,240	777,500	940,174	796,725	2,514,398	1,419	1,088	1,244	3,751	13,063,109	15,882,866	13,399,839	42,345,814
	Sum of Engines		1,240		Sum of Engines		2,514,398		Sum of Engines		3,751		Sum of Engines		42,345,814	

December - 2024

Daily Data for Air Permit

SD1 Flare Burners, Turbine, and Boiler

Date	Flares A-190,191,192,193		Flares A-194,195			Turbine			Boiler		Run Time Check	
	Run Time Hrs	Gas cu ft	Run Time Hrs	Gas cu ft	Peak 1-hr Flow, SCFM	Run Time Hrs	Power KWh	Gas cu ft	Run Time Hrs	Gas cu ft	Engine Hrs	Eng + Boiler Hrs
1st	4	37,759	0	0	0	24	67,129	1,277,553	0	0	24	24
2nd	6	76,994	0.1	1,138	19	24	80,407	1,467,349	1.3	25,165	38	39
3rd	19	644,807	0.1	342	6	24	88,104	1,559,301	0	0	48	48
4th	7	476,706	18	1,570,837	1,957	24	92,163	1,578,480	0	0	47	47
5th	5	281,234	20	1,653,654	1,709	24	91,517	1,563,014	0	0	49	49
6th	0.1	3,676	24	1,846,446	1,763	24	91,763	1,558,832	0	0	48	48
7th	14	588,358	11	879,035	1,552	24	91,986	1,569,112	0	0	48	48
8th	10	172,608	0	0	0	24	80,358	1,419,734	2	27,866	34	36
9th	8	111,775	0	0	0	24	77,948	1,399,055	3	32,171	33	36
10th	12	480,602	10	631,138	1,418	24	89,932	1,566,503	0	0	48	48
11th	13	526,440	14	967,955	1,613	24	92,212	1,569,283	0	0	48	48
12th	23	698,290	0	0	0	24	89,676	1,581,603	0	0	48	48
13th	20	565,799	0	0	0	24	89,307	1,591,921	0	0	48	48
14th	9	114,862	0	0	0	24	77,824	1,433,427	0	0	31	31
15th	8	120,275	0	0	0	24	84,559	1,525,569	24	340,855	2	26
16th	13	375,111	3	105,561	769	24	86,142	1,569,820	6	102,541	35	41
17th	18	667,522	2	123,243	961	24	91,652	1,602,678	0	0	47	47
18th	13	400,514	6	556,331	1,967	24	91,161	1,597,471	1.1	10,812	43	44
19th	10	377,893	11	861,690	1,567	24	90,763	1,574,239	13	161,378	33	46
20th	5	222,799	18	1,034,576	1,364	15	50,228	918,207	18	325,845	33	51
21st	20	670,744	0	0	0	24	87,453	1,561,524	0	0	48	48
22nd	7	91,975	0	0	0	24	79,846	1,444,349	1.1	11,259	40	41
23rd	20	560,276	4	257,763	1,375	24	87,085	1,573,593	6	83,730	27	33
24th	20	679,269	0	0	0	24	87,932	1,547,771	0	0	48	48
25th	6	56,433	0	0	0	24	74,536	1,350,793	2	25,812	38	40
26th	15	480,911	3	160,595	1,119	24	84,023	1,520,752	15	232,400	25	40
27th	19	769,032	0	0	0	24	86,209	1,545,189	0	0	48	48
28th	23	766,490	0	0	0	24	85,130	1,539,395	0	0	48	48
29th	10	172,162	0	0	0	24	86,235	1,524,440	6	68,164	39	45
30th	10	337,379	10	598,491	1,138	24	89,117	1,572,354	0	0	46	46
31st	6	125,019	12	884,126	1,600	24	88,981	1,571,930	0	0	48	48
Totals	370	11,653,714	166	12,132,921		734	2,631,378	46,675,241	98	1,447,998	1,240	1,338
				Maximum	1,967						Maximum	51

Attachment 2 - Combustion Device Summaries **EBMUD Main Wastewater Plant** **July 1 - December 31, 2024**

Turbine Operation			Data Source	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Semi-annual Totals	Limits	
Run Time	Total	hrs	metered	462	743	702	707	448	734	3,796		
Digester Gas	Total	cu ft	metered	25,468,147	44,258,565	42,340,146	43,227,959	27,855,798	46,675,241	229,825,856		
Thermal Throughput[3]	Total	MMBTU		16,890	29,363	28,019	28,547	18,352	30,784	151,955	389,820	MMBTU HHV per 12-Month period
	Total	MMBTU/hr		36.6	39.5	39.9	40.4	41.0	41.9	x		
Nitrogen Oxide[4]	Max	ppm	sampled	6.1	5.6	8.0	8.0	9.0	7.0	x	23	ppm at any time
Carbon Monoxide[4]	Max	ppm	sampled	2.0	4.6	3.0	1.0	3.0	0.0	x	100	
Sulfur Dioxide[4]	Max	ppm	sampled	9.9	4.1	0.0	0.0	0.0	0.0	x	150	
Nitrogen Oxide	Total	lbs	calc'd	Based on last annual source test mass load rate (1.3 lbs/hr) x run time (1,881hrs+3,796hrs)-->						7,380	34,400	lbs per 12-Month period
Carbon Monoxide	Total	lbs	calc'd	Based on last annual source test mass load rate (0.21 lbs/hr) x run time (1,881hrs+3,796hrs)-->						1,192	92,200	
Engine Operation												
Run Time	Eng #1	hrs	metered	477	627	292	541	571	389	2,897		
	Eng #2	hrs	metered	154	33	463	264	403	463	1,780		
	Eng #3	hrs	metered	520	650	549	403	566	388	3,076		
	Total	hrs	sum	1,151	1,310	1,304	1,208	1,540	1,240	7,753	25,316	hr/365 days
Diesel Fuel[1]	Eng #1	gal	calc'd	1,189	1,372	616	1,142	1,491	1,419	7,229		
	Eng #2	gal	calc'd	322	220	732	630	911	1,088	3,903		
	Eng #3	gal	calc'd	1,214	1,355	845	758	1,462	1,244	6,878		
	Total	gal	sum	2,725	2,947	2,193	2,530	3,864	3,751	18,010	150,000	gal/365 days
Digester Gas[2]	Eng #1	cu ft	metered	16,551,676	21,310,904	9,547,861	18,342,777	19,751,776	13,063,109	98,568,103		
	Eng #2	cu ft	metered	5,219,852	996,870	15,873,315	8,888,585	13,728,609	15,882,866	60,590,097		
	Eng #3	cu ft	metered	18,117,557	22,419,113	18,779,705	13,674,096	19,507,350	13,399,839	105,897,660		
	Total	cu ft	sum	39,889,085	44,726,887	44,200,881	40,905,458	52,987,735	42,345,814	265,055,860		
Thermal Throughput[3]	Eng #1	MMBTU/hr		23.4	22.9	21.9	22.7	23.2	22.7	x	25	MMBTU/hr
	Eng #2	MMBTU/hr		22.8	21.0	22.9	22.6	22.8	23.0	x	25	MMBTU/hr
	Eng #3	MMBTU/hr		23.4	23.2	22.9	22.7	23.1	23.2	x	25	MMBTU/hr
Natural Gas	Total	cu ft	metered	-	-	-	-	-	-	-		
Boiler Operation												
Run Time	Boiler	hrs	metered	291	48	28	103	87	98	655		
Digester Gas	Boiler	cu ft	metered	5,189,306	746,201	427,695	1,299,287	1,702,510	1,447,998	10,812,997		
Thermal Thruput[3]	Boiler	MMBTU/hr		11.8	10.4	10.0	8.4	12.9	9.8	x	20.41	MMBTU/hr
Flare Operation (A-190,191,192,193)												
Run Time	Flares	hrs	metered	398	439	441	462	360	370	2,470		
Digester Gas	Flares	cu ft	metered	13,315,136	15,882,886	15,027,809	18,973,652	14,583,856	11,653,714	89,437,053		
Thermal Thruput[3]	Flares	MMBTU/hr		22.2	24.0	22.5	27.1	26.7	20.8	x		
Flare Operation (A-194,195)												
Run Time	Flares	hrs	metered	105	267	91	114	245	166	988		
Digester Gas	Flares	cu ft	metered	7,519,738	15,965,383	6,319,553	8,441,188	18,422,923	12,132,921	68,801,706		
Thermal Thruput[3]	Flares	MMBTU/hr		47.4	39.7	45.9	48.7	49.5	48.2	x		
Max Total Flow	Flares	scfm	metered	1,718	1,911	1,752	1,771	2,227	1,967	x	3,000	scfm/1 hr avg
Digester Gas HHV	12-mo Avg	BTU/scf	sampled	663	663	662	660	659	660	x	12-month rolling avg	

(1) Diesel use per engine (gal) **=** diesel withdrawn from common storage tank daily (gal) **x** ratio of fuel used per engine (single day tank level / sum of all day tanks)

(2) Digester gas usage (cf) = DCS/PI flow data from common engine line meter (scfm) x minutes of gas flow x (engine hours/sum of engine hours)

(3) Thermal Throughput is estimated using the 12-month HHV average and monthly digester gas flow volumes combined with similar diesel fuel data..

(4) Monthly turbine exhaust check - ppm corrected to 15% O2.

ATTACHMENT 3

ANNUAL SOURCE TEST RESULTS

- **Enclosed Flares A-194, A-195, Blue Sky Environmental, 8/8/2024**
- **Engines #1 and #3, S-37 and S-39, Blue Sky Environmental, 8/21/2024**
- **Engine #2, S-38, Blue Sky Environmental, 9/20/2024**
- **Boiler, S-55, Blue Sky Environmental, 11/5/2024**
- **Turbine, S-56, Blue Sky Environmental, 12/3/2024**

Table #1

East Bay Municipal Utility District
Flare #1 (A-194)

Parameter	Run 1	Run 2	Run 3	Average Results	Permit Limits
Test Date	8/8/24	8/8/24	8/8/24	--	
Test Time	0929-1012	1028-1108	1122-1201	--	
Standard Temperature, °F	70	70	70	--	
Flare Temperature, °F	1,252	1,258	1,227	1,246	
Fuel:					
Fuel Flow Rate, DSCFM	474	484	489	482	
Fuel Heat Input, MMBtu/hr	19.4	19.7	19.9	19.7	
Stack Gas:					
Exhaust Flow Rate, DSCFM *(EPA Method 19)*	11,518	11,859	12,316	11,898	
Oxygen (O_2), % volume dry	15.6	15.7	15.8	15.7	
Carbon Dioxide (CO_2), % volume dry	3.9	3.8	3.8	3.8	
CO_2, lb/hr	3,074	3,114	3,178	3,122	
NO_X Emissions (reported as NO_2):					
NO_X, ppmvd	16.8	17.2	17.2	17.1	
NO_X, ppmvd @ 15% O_2	18.7	19.4	20.0	19.3	
NOx, lb/hr	1.38	1.46	1.51	1.45	
NOx, lb/day	33.1	34.9	36.3	34.8	
NOx, lb/MMBtu	0.071	0.074	0.076	0.074	0.12
CO Emissions:					
CO, ppmvd	5.6	4.5	4.2	4.7	
CO, ppmvd @ 15% O_2	6.2	5.0	4.9	5.4	
CO, lb/hr	0.28	0.23	0.23	0.24	
CO, lb/day	6.7	5.5	5.4	5.9	
CO, lb/MMBtu	0.014	0.012	0.011	0.012	0.2
THC Emissions (reported as CH_4):					
THC, ppmvd	2.2	3.2	<2.0	<2.5	
THC, lb/hr	0.064	0.093	<0.061	<0.073	
Methane (CH_4) Emissions:					
CH_4, ppmvd	<2.0	<2.0	<2.0	<2.0	
CH_4, lb/hr	<0.057	<0.059	<0.061	<0.059	
NMOC Emissions (reported as CH_4):					
NMOC, ppmvd	<0.2	<1.2	<2.0	<1.1	
NMOC, ppmvd @ 3% O_2	<0.8	<4.0	<7.0	<3.9	
NMOC, lb/hr	<0.007	<0.034	<0.061	<0.034	
Hydrogen Sulfide (H_2S) Emissions:					
Inlet H_2S, ppmvd	21.2	268	227	172	
Inlet H_2S, lb/hr	0.053	0.684	0.586	0.441	
Outlet H_2S, ppmvd	<0.071	<0.076	<0.074	<0.074	
Outlet H_2S, lb/hr	<0.00431	<0.00475	<0.00481	<0.00463	0.032
Outlet H_2S, lb/MMBtu	<0.0002225	<0.0002410	<0.0002411	<0.0002349	
H_2S Destruction Efficiency, %	>91.86%	>99.31%	>99.18%	>96.78%	
Inlet Hydrocarbons (reported as CH_4):					
NMOC, ppmvd *(EPA Method 25C)*	124.0	133.0	110.0	122.3	
NMOC, lb/hr	0.1459	0.1598	0.1335	0.1464	
NMOC Destruction Efficiency, %	>95.42%	>78.48%	>54.21%	>76.03%	
CH_4, ppmvd	681,000	677,000	678,000	678,667	
CH_4, lb/hr	801	813	823	813	
CH_4 Destruction Efficiency, %	>99.99%	>99.99%	>99.99%	>99.99%	
THC, ppmvd as CH_4	681,124	677,133	678,110	678,789	
THC, lb/hr as CH_4	801	814	823	813	
THC Destruction Efficiency, %	>99.99%	>99.99%	>99.99%	>99.99%	

Table #2

East Bay Municipal Utility District
Flare #2 (A-195)

Parameter	Run 1	Run 2	Run 3	Average Results	Permit Limits
Test Date	8/8/24	8/8/24	8/8/24	--	
Test Time	1329-1421	1504-1545	1558-1638	--	
Standard Temperature, °F	70	70	70	--	
Flare Temperature, °F	1,292	1,276	1,267	1,278	
Fuel:					
Fuel Flow Rate, DSCFM	492	484	479	485	
Fuel Heat Input, MMBtu/hr	19.2	19.4	19.1	19.2	
Stack Gas:					
Exhaust Flow Rate, DSCFM *(EPA Method 19)*	10,468	10,581	10,273	10,441	
Oxygen (O_2), % volume dry	15.1	15.1	15.1	15.1	
Carbon Dioxide (CO_2), % volume dry	4.3	4.3	4.4	4.3	
CO_2, lb/hr	3,097	3,113	3,055	3,088	
NO_X Emissions (reported as NO_2):					
NO_X, ppmvd	20.0	19.2	19.9	19.7	
NO_X, ppmvd @ 15% O_2	20.4	19.6	20.1	20.0	
NOx, lb/hr	1.50	1.45	1.46	1.47	
NOx, lb/day	35.9	34.8	35.0	35.3	
NOx, lb/MMBtu	0.0778	0.0747	0.0765	0.0763	0.12
CO Emissions:					
CO, ppmvd	78.4	78.3	54.5	70.4	
CO, ppmvd @ 15% O_2	79.9	80.0	55.0	71.7	
CO, lb/hr	3.56	3.60	2.43	3.20	
CO, lb/day	85.5	86.4	58.4	76.8	
CO, lb/MMBtu	0.1852	0.1854	0.1276	0.1661	0.2
THC Emissions (reported as CH_4):					
THC, ppmvd	45.1	45.9	26.1	39.0	
THC, lb/hr	1.171	1.206	0.666	1.014	
Methane (CH_4) Emissions:					
CH_4, ppmvd	20.8	33.7	9.2	21.3	
CH_4, lb/hr	0.541	0.885	0.236	0.554	
NMOC Emissions (reported as CH_4):					
NMOC, ppmvd	24.2	12.2	16.8	17.8	
NMOC, ppmvd @ 3% O_2	75.0	37.9	51.6	54.8	
NMOC, lb/hr	0.630	0.321	0.430	0.460	
Hydrogen Sulfide (H_2S) Emissions:					
Inlet H_2S, ppmvd	157	164	61.7	127.6	
Inlet H_2S, lb/hr	0.407	0.419	0.156	0.327	
Outlet H_2S, ppmvd	<0.075	<0.065	<0.071	<0.070	
Outlet H_2S, lb/hr	<0.00019	<0.00017	<0.00018	<0.00018	0.032
Outlet H_2S, lb/MMBtu	<0.000010	<0.0000085	<0.0000094	<0.0000094	
H_2S Destruction Efficiency, %	>99.95%	>99.96%	>99.88%	>99.93%	
Inlet Hydrocarbons (reported as CH_4):					
NMOC, ppmvd *(EPA Method 25C)*	122	140	117	126.3	
NMOC, lb/hr	0.1490	0.1682	0.1391	0.1521	
NMOC Destruction Efficiency, %	-322.85%	-90.99%	-208.85%	-207.56%	
CH_4, ppmvd	650,000	666,000	662,000	659,333	
CH_4, lb/hr	794	800	787	794	
CH_4 Destruction Efficiency, %	>99.93%	>99.89%	>99.97%	>99.93%	
THC, ppmvd as CH_4	650,122	666,140	662,117	659,460	
THC, lb/hr as CH_4	794	800	787	794	
THC Destruction Efficiency, %	>99.85%	>99.85%	>99.92%	>99.87%	

TABLE 1

East Bay Municipal Utility District
Engine #1 (S-37)
2,148 kW

Parameter	Run 1	Run 2	Run 3	Average Results	Permit Limits
Test Date	08/21/24	08/21/24	08/21/24	--	
Test Time	0943-1044	1104-1204	1221-1321	--	
Standard Temperature, °F	70	70	70	--	
Operating Parameters:					
Generator kW	2,141	2,146	2,157	2,148	
Engine BHp	2,868	2,876	2,890	2,878	
Fuel:					
Fuel Flow Rate, DSCFM	587.7	583.3	583.6	584.9	
Heat Input, MMBtu/hr *(calculated)*	22.6	22.2	21.0	21.9	
Stack Gas:					
Exhaust Flow Rate, DSCFM *(EPA Method 19)*	8,775	8,482	8,083	8,447	
Oxygen (O_2), % volume dry	12.57	12.42	12.47	12.49	
Carbon Dioxide (CO_2), % volume dry	5.85	6.17	6.38	6.13	
NO_X Emissions (reported as NO_2):					
NO_X, ppmvd	28.3	27.2	25.7	27.1	
NOx, ppmvd @ 15% O_2	20.0	18.9	18.0	19.0	70
NOx, lb/hr	1.77	1.65	1.49	1.64	
NOx, lb/day	42.5	39.6	35.7	39.2	
NO_X, g/BHp-hr	0.280	0.260	0.233	0.258	
CO Emissions:					
CO, ppmvd	260	269	268	266	
CO, ppmvd @ 15% O_2	184	187	188	186	2,000
CO, lb/hr	9.89	9.91	9.43	9.74	
CO, lb/day	237	238	226	234	
CO, g/BHp-hr	1.56	1.56	1.48	1.54	

DEFINITIONS:

ppmvd = parts per million concentration by volume expressed on a dry gas basis
lb/hr = pound per hour emission rate
Tstd. = standard temperature (°R = °F+460)
MW = molecular weight
DSCFM = dry standard cubic feet per minute
NO_X = oxides of nitrogen, reported as NO_2 (MW = 46)
CO = carbon monoxide (MW = 28)

CALCULATIONS:

ppm @ 15% O_2 = ppm · 5.9 / (20.9 - %O_2)
lb/hr = ppm · 8.223 E-05 · DSCFM · MW / Tstd. °R
lb/day = lb/hr · 24
g/BHp-hr = lb/hr · 453.6 / BHp
Engine BHp = Engine Kw · 1.34
Engine kW = Generator kW / 0.95

TABLE 2

East Bay Municipal Utility District
Engine #3 (S-39)
2,149 kW

Parameter	Run 1	Run 2	Run 3	Average Results	Permit Limits
Test Date	08/21/24	08/21/24	08/21/24	--	
Test Time	1414-1516	1549-1649	1704-1805	--	
Standard Temperature, °F	70	70	70	--	
Operating Parameters:					
Generator kW	2,144	2,148	2,154	2,149	
Engine BHp	2,873	2,879	2,887	2,880	
Fuel:					
Fuel Flow Rate, SCFM	607.1	606.2	605.6	606.3	
Heat Input, MMBtu/hr *(calculated)*	23.4	23.3	23.3	23.3	
Stack Gas:					
Exhaust Flow Rate, DSCFM *(EPA Method 19)*	8,979	9,211	9,174	9,121	
Oxygen (O_2), % volume dry	12.49	12.71	12.69	12.63	
Carbon Dioxide (CO_2), % volume dry	6.40	6.21	6.37	6.33	
NO_X Emissions (reported as NO_2):					
NO_X, ppmvd	40.9	40.5	39.9	40.4	
NOx, ppmvd @ 15% O_2	28.7	29.2	28.6	28.8	70
NOx, lb/hr	2.62	2.66	2.61	2.63	
NOx, lb/day	62.9	63.9	62.7	63.1	
NO_X, g/BHp-hr	0.413	0.420	0.410	0.414	
CO Emissions:					
CO, ppmvd	274	266	273	271	
CO, ppmvd @ 15% O_2	192	192	196	193	2,000
CO, lb/hr	10.7	10.7	10.9	10.7	
CO, lb/day	257	256	261	258	
CO, g/BHp-hr	1.69	1.68	1.71	1.69	

DEFINITIONS:

ppmvd = parts per million concentration by volume expressed on a dry gas basis
lb/hr = pound per hour emission rate
Tstd. = standard temperature (°R = °F+460)
MW = molecular weight
DSCFM = dry standard cubic feet per minute
NO_X = oxides of nitrogen, reported as NO_2 (MW = 46)
CO = carbon monoxide (MW = 28)

CALCULATIONS:

ppm @ 15% O_2 = ppm · 5.9 / (20.9 - %O_2)
lb/hr = ppm · 8.223 E-05 · DSCFM · MW / Tstd. °R
lb/day = lb/hr · 24
g/BHp-hr = lb/hr · 453.6 / BHp
Engine BHp = Engine Kw · 1.34
Engine kW = Generator kW / 0.95

TABLE 1

East Bay Municipal Utility District (EBMUD)
Engine #2 (S-38)

Parameter	Run 1	Run 2	Run 3	Average Results	Permit Limits
Test Date	09/20/24	09/20/24	09/20/24	--	
Test Time	0911-1016	1059-1203	1229-1332	--	
Standard Temperature, °F	70	70	70	--	
Process Parameters:					
Engine (Generator), kW	2,144	2,137	2,137	2,139	
Engine, BHp	2,873	2,864	2,864	2,867	
Stack Gas:					
Flow Rate, DSCFM *(EPA Method 5)*	9,141	9,890	10,136	9,722	
Oxygen (O_2), % volume dry	12.7	13.4	13.1	13.1	
Carbon Dioxide (CO_2), % volume dry	6.7	6.6	6.3	6.5	
Water Vapor (H_2O), % *(EPA Method 5)*	10.3	5.3	2.3	5.9	
NO_X Emissions (calculated as NO_2):					
NO_X, ppmvd	24.4	34.9	31.8	30.4	
NO_X, ppmvd @ 15% O_2	17.6	27.6	24.0	23.1	
NO_X, lb/hr	1.59	2.47	2.30	2.12	
NOx, lb/day	38.3	59.2	55.2	50.9	
NO_X, g/Bhp-hr	0.252	0.391	0.365	0.336	1.25
CO Emissions:					
CO, ppmvd	327.4	333.0	323.1	327.8	
CO, ppmvd @ 15% O_2	235.5	263.4	243.8	247.6	
CO, lb/hr	13.0	14.3	14.2	13.8	
CO, lb/day	312	343	341	332	
CO, g/Bhp-hr	2.05	2.27	2.25	2.19	3.0
CH_4 Emissions:					
CH_4, ppmv wet *(EPA Method 25A)*	1,783	2,559	2,322	2,221	
CH_4, ppmvd	1,987	2,701	2,375	2,354	
CH_4, lb/hr	45.1	66.3	59.8	57.1	
CH_4, g/BHp-hr	7.12	10.5	9.47	9.03	
POC Emissions (calculated as CH_4):					
POC, ppmv wet *(EPA Method 25A)*	13.1	32.2	25.8	23.7	
POC, ppmvd	14.6	33.9	26.4	25.0	
POC, lb/hr	0.331	0.833	0.665	0.610	
POC, lb/day	7.94	20.0	15.9	14.6	
POC, g/BHp-hr	0.0522	0.132	0.105	0.0965	0.6

WHERE:

ppmvd = parts per million concentration by volume expressed on a dry gas basis

DSCFM = dry standard cubic foot per minute

MW = molecular weight

Tstd. = standard temperature (°R = °F+460)

CO = carbon monoxide (MW = 28)

NO_X = oxides of nitrogen, reported as NO_2 (MW = 46)

NH_3 = ammonia (MW = 17)

POC precursor organic compounds = NMOC = non-methane organic compounds, calculated as CH_4 (MW = 16)

CH_4 = methane (MW = 16)

CALCULATIONS:

ppmv @ 15% O_2 = ppmv · 5.9 / (20.9 - %O_2)

lb/hr = ppmvd · 8.223 E-05 · DSCFM · MW / Tstd. °R

g/BHp-hr = lb/hr · 453.6 / BHp

Engine BHp = Engine kW · 1.34

lb/hr = pound per hour emission rate

g/Bhp-hr = grams per brakehorse power hour

TABLE 2
Total Particulate Results

East Bay Municipal Utility District (EBMUD)
Engine #2 (S-38)

Parameter	Run 1	Run 2	Run 3	Average Results	Permit Limits
Test Date	09/20/24	09/20/24	09/20/24	--	
Test Time	0911-1011	1159-1259	1229-1329	--	
Standard Temperature, °F	70	70	70	--	
Sampling Parameters:					
Sample Duration, minutes	60	60	60	--	
Sample Volume, DSCF	34.14	37.11	40.59	37.28	
Isokinetic Rate, %	102.3	102.8	109.7	104.9	
Flue Gas Temperature, °F	412.0	411.6	420.7	414.7	
Process Parameters:					
Engine (Generator), kW	2,144	2,137	2,137	2,139	
Engine, BHp	2,873	2,864	2,864	2,867	
Flue Gas Parameters:					
Volumetric Flow Rate, ACFM	16,814	17,170	17,233	17,073	
Volumetric Flow Rate, DSCFM	9,141	9,890	10,136	9,722	
Moisture (H_2O), % volume	10.3	5.3	2.3	5.9	
Oxygen (O_2), % volume dry	12.7	13.4	13.1	13.1	
Carbon Dioxide (CO_2), % volume dry	6.7	6.6	6.3	6.5	
Filterable Particulate Emissions:					
Filterable Particulate, mg	6.51	7.08	3.38	5.65	
Filterable Particulate, gr/DSCF	0.00294	0.00294	0.00129	0.00239	
Filterable Particulate, lb/hr	0.230	0.249	0.112	0.197	
Filterable Particulate, lb/day	5.53	5.98	2.68	4.73	
Filterable Particulate, lb/yr	2,018	2,184	979	1,727	
Filterable Particulate, g/hp-hr	0.0364	0.0395	0.0177	0.0312	0.085

Table #1

East Bay Municipal Utility District
Boiler (S-55)

Parameter	Run 1	Run 2	Run 3	Average Results	Permit Limits
Test Location	Outlet	Outlet	Outlet	--	--
Test Date	11/5/24	11/5/24	11/5/24	--	--
Test Time	1040-1115	1129-1159	1213-1243	--	--
Standard Temperature, °F	70	70	70	--	--
Process Parameters:					
Boiler Rating, MMBtu/hr	20.925	20.925	20.925	--	--
Load, MMBtu/hr	7.3	7.4	7.2	7.3	--
Firing Rate, % Capacity	35%	35%	34%	35%	--
Stack Gas:					
Exhaust Flow Rate, DSCFM *(EPA Method 19)*	1,630	1,658	1,611	1,633	--
Oxygen (O_2), % volume dry	6.7	6.7	6.7	6.7	--
NO_X Emissions (reported as NO_2):					
NO_X, ppmvd	18.6	18.8	19.4	18.9	--
NO_X, ppmvd @ 3% O_2	23.4	23.7	24.4	23.8	30
NO_X, lb/MMBtu	0.0284	0.0287	0.0295	0.0289	--
NO_X, lb/hr	0.217	0.223	0.223	0.221	--
CO Emissions:					
CO, ppmvd	<1.0	<1.0	<1.0	<1.0	--
CO, ppmvd @ 3% O_2	<1.3	<1.3	<1.3	<1.3	50
CO, lb/MMBtu	<0.0009	<0.0009	<0.0009	<0.0009	--
CO, lb/hr	<0.007	<0.007	<0.007	<0.007	--

WHERE:

ppmvd = parts per million concentration by volume expressed on a dry gas basis

DSCFM = dry standard cubic foot per meter

NO_X = oxides of nitrogen, reported as NO_2 (MW = 46)

CO = carbon monoxide (MW = 28)

NH_3 = ammonia

lb/MMBtu = pound per million Btu

lb/hr = pound per hour emission rate

Fd = 8710 (EPA F Factor for Natural Gas)

Tstd. = standard temperature (°R = °F+460)

CALCULATIONS:

3% O_2 correction = ppmvd (NOx, CO, NH_3) · 17.9/(20.9 - %O_2)

lb/hr = ppmvd · 8.223 E-5 · dscfm · MW of pollutant / Tstd. °R

lb/MMBtu = Fd · MW · ppmvd · 2.59E-9 · 20.9 / (20.9 - %O_2)

<Value = 2% of Analyzer Range

TABLE 1

East Bay Municipal Utility District
DG Turbine #1 (S-56)

Parameter	Run 1	Run 2	Run 3	Average Results	Permit Limits
Test Date	12/03/24	12/03/24	12/03/24	--	
Test Time	1621-1654	1720-1750	1805-1835	--	
Standard Temperature, °F	70	70	70	--	
Process Parameters:					
Turbine Rating, kW	4,500	4,500	4,500	--	
Turbine, kW	3,740	3,762	3,778	3,760	
Turbine, % Rated Power	83.1	83.6	84.0	83.6	
Fuel:					
Fuel Flow Rate, DSCFM	1,112	1,112	1,111	1,112	
Heat Input, MMBtu/hr	43.0	42.9	43.2	43.0	
Total Reduced Sulfur, ppmv in Fuel	419	443	452	438	
Stack Gas:					
Exhaust Flow Rate, DSCFM *(EPA Method 19)*	28,970	29,478	29,737	29,395	
Oxygen (O_2), % volume dry	16.1	16.2	16.2	16.2	
Carbon Dioxide (CO_2), % volume dry	4.3	4.3	4.3	4.3	
Water Vapor (H_2O), % volume *(EPA Method 4)*	5.0	6.2	8.0	6.4	
NO_X Emissions (reported as NO_2):					
NOx, ppmvd	6.1	6.1	6.1	6.1	
NOx, ppmvd @ 15% O_2	7.6	7.7	7.7	7.7	23
NOx, lb/hr	1.3	1.3	1.3	1.3	
NOx, lb/yr	11,131	11,311	11,395	11,279	
NOx, lb/MMBtu	0.030	0.030	0.030	0.030	
CO Emissions:					
CO, ppmvd	1.6	1.7	1.7	1.6	
CO, ppmvd @ 15% O_2	2.0	2.1	2.1	2.0	100
CO, lb/hr	0.20	0.21	0.22	0.21	
CO, lb/yr	1,753	1,871	1,893	1,839	
CO, lb/MMBtu	0.0047	0.0050	0.0050	0.0049	
SO_2 Emissions:					
SO_2, ppmvd	4.8	5.7	6.2	5.6	
SO_2, ppmvd @ 15% O_2	5.9	7.2	7.8	7.0	150
SO_2, lb/hr	1.4	1.7	1.8	1.6	
SO_2, lb/yr	12,127	14,658	16,096	14,294	
SO_2, lb/MMBtu	0.032	0.039	0.043	0.038	
THC Emissions (reported as CH_4):					
THC, ppmv wet *(EPA Method 25A)*	<2.0	<2.0	<2.0	<2.0	
THC, ppmvd	<2.1	<2.1	<2.2	<2.1	
THC, lb/hr	<0.15	<0.16	<0.16	<0.16	
Methane (CH_4) Emissions:					
CH_4, ppmv wet *(EPA Method 18 modified)*	1.8	1.4	0.5	1.2	
CH_4, ppmvd	1.9	1.5	0.5	1.3	
CH_4, lb/hr	0.14	0.11	0.040	0.095	
NMOC Emissions (reported as CH_4):					
NMOC, ppmvd	<0.2	<0.6	<1.6	<0.8	
NMOC, ppmvd @ 15% O_2	<0.3	<0.8	<2.0	<1.0	
NMOC, lb/hr	<0.015	<0.047	<0.12	<0.061	
NMOC, lb/MMBtu	<0.00035	<0.0011	<0.0028	<0.0014	
Inlet:					
Inlet CH_4, % *(ASTM D-1945)*	40.9	40.8	41.1	40.9	
Inlet CH_4, lb/hr	1,129	1,126	1,134	1,129	
CH_4 Destruction Efficiency, %	99.988%	99.990%	99.996%	99.992%	
Inlet THC (TOC), %	40.92	40.82	41.13	40.96	
Inlet THC (TOC), lb/hr	1,129	1,127	1,134	1,130	
THC (TOC) Destruction Efficiency, %	>99.987%	>99.986%	>99.986%	>99.986%	
Inlet NMOC, ppmvd *(EPA Method 25C)*	216	233	272	240	
Inlet NMOC, lb/hr	0.596	0.643	0.750	0.663	
NMOC Destruction Efficiency, %	>97.46%	>92.72%	>83.96%	>91.38%	

Attachment 4
Gasoline Facility Throughput (S-48)

MAIN WASTEWATER TREATMENT PLANT
GASOLINE DISPENSING FACILITY
Maintenance Center (3,000 gallon gasoline compartment)
Year: 2024
As of December 31, 2024

MONTH	GALLONS RECEIVED	RECEIVED YR-TO-DATE	GALLONS ISSUED	ISSUED YR-TO-DATE	COMMENTS
JAN	8519	8519	8775	8775	
FEB	5505	14024	5243	14018	
MAR	500	14524	2488	16506	Updated from 2,733 due to audit reconciliation in October 2024
APR	0	0	0	0	Station out of service
MAY	1204	15728	0	0	Station out of service, delivery for testing upgraded station equipment
JUN	0	0	0	0	Station out of service
JUL	1717	17445	1515	18021	
AUG	3490	20935	2649	20670	
SEP	2412	23347	2583	23253	
OCT	2518	25865	2811	26064	
NOV	2701	28566	2636	28700	
DEC	2906	31472	3494	32194	
Total		31472		32194	

ATTACHMENT 5

Hours of Operation for Standby Emergency Generators

January 1, 2024 – June 30, 2024

Source	Location	Hours Meter Begin	Hours Meter End	Emergency Use Hours	Reliability-related Hours	Limit on reliability-related Hours
S-53	West of Admin Bldg	136.7	138.8	0	2.1	30
S-54	East Bayshore RWP*	37	37	0	0	50
S-58	North of Maintenance	20.9	20.9	0	0	50
S-59	North of PGS	20.7	33.9	0	13.2	50
S-60	Dechlorination	23.6	36.5	7.5	5.4	50

**S-54 is currently out of service and fuel tank is empty*

January 1, 2024 – June 30, 2024

Source	Location	Hours Meter Begin	Hours Meter End	Emergency Use Hours	Reliability-related Hours	Limit on reliability-related Hours
S-53	West of Admin Bldg	136.4	136.7	0	0.3	30
S-54	East Bayshore RWP	37	37	0	0	50
S-58	North of Maintenance	20.4	20.9	0	0.5	50
S-59	North of PGS	20.4	20.7	0	0.3	50
S-60	Dechlorination	18.8	23.6	0.1	4.7	50

January 1, 2024 – December 31, 2024 (last 12 months total)

Source	Location	Hours Meter Begin	Hours Meter End	Emergency Use Hours	Reliability-related Hours	Limit on reliability-related Hours
S-53	West of Admin Bldg	136.4	138.8	0	2.4	30
S-54	East Bayshore RWP	37	37	0	0	50
S-58	North of Maintenance	20.4	20.9	0	0.5	50
S-59	North of PGS	20.4	33.9	0	13.5	50
S-60	Dechlorination	18.8	36.5	7.6	10.1	50

ATTACHMENT 6

TURBINE MONTHLY TEST RESULTS

TABLE # 1

EBMUD-JUL-2024
DG TURBINE #1 (S-56)
3146 kW

RUN	1	LIMITS
Test Date	7/10/24	
Test Time	1708-1723	
PGS-2 Turbine kW	3,146	
PGS-2 Fuel Flow Rate, DSCFM	942	
Oxygen, O_2, %	17.4	
NOx, ppm	3.6	
NOx, ppm @ 15% O_2	**6.1**	**23**
CO, ppm	1.2	
CO, ppm @ 15% O_2	**2.0**	**100**
SO_2, ppm	5.9	
SO_2, ppm @ 15% O_2	**9.9**	**150**

WHERE,

ppm = Parts Per Million Concentration

NOx = Oxides of Nitrogen as NO_2 (MW = 46)

CO = Carbon Monoxide (MW = 28)

SO_2 = Sulfur Dioxide (MW= 64)

CALCULATIONS,

PPM @ 15% O_2 = ppm * 5.9 / (20.9 - %O_2)

TABLE # 1

EBMUD-AUG-2024
DG TURBINE #1 (S-56)
3447 kW

RUN	1	LIMITS
Test Date	8/8/24	
Test Time	0950-1005	
PGS-2 Turbine kW	3,862	
PGS-2 Fuel Flow Rate, DSCFM	985	
Oxygen, O_2, %	16.9	
NOx, ppm	3.8	
NOx, ppm @ 15% O_2	**5.6**	**23**
CO, ppm	3.1	
CO, ppm @ 15% O_2	**4.6**	**100**
SO_2, ppm	2.8	
SO_2, ppm @ 15% O_2	**4.1**	**150**

WHERE,

ppm = Parts Per Million Concentration

NOx = Oxides of Nitrogen as NO_2 (MW = 46)

CO = Carbon Monoxide (MW = 28)

SO_2 = Sulfur Dioxide (MW= 64)

CALCULATIONS,

PPM @ 15% O_2 = ppm * 5.9 / (20.9 - %O_2)

EBMUD
Turbine Monthly Emissions Check (15 min)

Turbine	Data	Limits
Test Date	09/11/2024	--
Test Start Time	10:18	--
Test End Time	10:32	--
PGS Turbine, kW	3,765	--
PGS Turbine Digester Gas Flow Rate, DSCFM	1021	--
Oxygen, O2 %	16.58	--
NOx, ppm		--
NOx, ppm @ 15% O2	8	**23**
CO, ppm		--
CO, ppm @ 15% O2	3	**100**
SO2, ppm		--
SO2, ppm @ 15% O2	0	**150**
Sampler (name)	Jorge Gonzalez	**--**

Analyzer	Alternate Analyzer Used?	Y ☐ N ☑ If yes, record info below.
Ecom EN3	Make/Model	
S/N 5258	Serial Number	

Abbreviations
kW=kilowatts
DCSM=dry standard cubic feet per minute
PPM=parts per million
NOx=Oxides of nitrogen (NO ppm + NO2 ppm)
CO=Carbon Monoxide

Calculations (done by ecom EN3)
ppm@15% O2 = ppm * 5.9 / (20.9-%O2)

EBMUD
Turbine Monthly Emissions Check (15 min)

Turbine	Data	Limits
Test Date	10/08/2024	--
Test Start Time	12:08	--
Test End Time	12:22	--
PGS Turbine, kW	3,608	--
PGS Turbine Digester Gas Flow Rate, DSCFM	1028	--
Oxygen, O2 %	16.44	--
NOx, ppm		--
NOx, ppm @ 15% O2	8	**23**
CO, ppm		--
CO, ppm @ 15% O2	1	**100**
SO2, ppm		--
SO2, ppm @ 15% O2	0	**150**
Sampler (name)	M. Steward	**--**

Analyzer
Ecom EN3
S/N 5258

Alternate Analyzer Used? Y ☐ N ☑ If yes, record info below.
Make/Model
Serial Number

Abbreviations
kW=kilowatts
DCSM=dry standard cubic feet per minute
PPM=parts per million
NOx=Oxides of nitrogen (NO ppm + NO2 ppm)
CO=Carbon Monoxide

Calculations (done by ecom EN3)
ppm@15% O2 = ppm * 5.9 / (20.9-%O2)

EBMUD
Turbine Monthly Emissions Check (15 min)

Turbine	Data	Limits
Test Date	11-5-24	--
Test Start Time	0839	--
Test End Time	0853	--
PGS Turbine, kW	3750	--
PGS Turbine Digester Gas Flow Rate, DSCFM	1164	--
Oxygen, O2 %	16.29	--
NOx, ppm		--
NOx, ppm @ 15% O2	9	**23**
CO, ppm		--
CO, ppm @ 15% O2	3	**100**
SO2, ppm		--
SO2, ppm @ 15% O2	0	**150**
Sampler (name)	JORGE CABRERA	--

Analyzer
Ecom EN3
S/N 5258

Alternate Analyzer Used? Y ☐ N ☒ If yes, record info below.
Make/Model
Serial Number

Abbreviations
kW=kilowatts
DCSM=dry standard cubic feet per minute
PPM=parts per million
NOx=Oxides of nitrogen (NO ppm + NO2 ppm)
CO=Carbon Monoxide

Calculations (done by ecom EN3)
ppm@15% O2 = ppm * 5.9 / (20.9-%O2)

EBMUD
Turbine Monthly Emissions Check (15 min)

Turbine	Data	Limits
Test Date	12-4-2024	--
Test Start Time	1733:57	--
Test End Time	1747:58	--
PGS Turbine, kW	3750	--
PGS Turbine Digester Gas Flow Rate, DSCFM	1068	--
Oxygen, O2 %	18.36	--
NOx, ppm		--
NOx, ppm @ 15% O2	7	**23**
CO, ppm		--
CO, ppm @ 15% O2	0	**100**
SO2, ppm		--
SO2, ppm @ 15% O2	0	**150**
Sampler (name)	ANDRES GONZALEZ	--

Analyzer
Ecom EN3
S/N 5258

Alternate Analyzer Used? Y ☐ N ☒ If yes, record info below.
Make/Model
Serial Number

Abbreviations
kW=kilowatts
DCSM=dry standard cubic feet per minute
PPM=parts per million
NOx=Oxides of nitrogen (NO ppm + NO2 ppm)
CO=Carbon Monoxide

Calculations (done by ecom EN3)
ppm@15% O2 = ppm * 5.9 / (20.9-%O2)

ATTACHMENT 7

MAIN WASTEWATER TREATMENT PLANT FLOWS

East Bay Municipal Utility District
ANNUAL WASTEWATER MONITORING SUMMARY 2024

STATION: WWTP INFLUENT - INF-001
STATION: WWTP EFFLUENT - EFF-001/EFF-001B
FLOWS & CONVENTIONAL POLLUTANTS (R2-2020-0024)

	INF (MGD)				EFF (MGD)			CBOD						TSS					
	Mo. Avg	Max Daily Avg	Min Daily Avg	3-mo Dry Season Avg	Mo. Avg	Max Daily Avg	Min Daily Avg	Inf (INF-001) mg/L Month Avg	Eff mg/L Month Avg	Eff mg/L Max Week Avg	# excs/ # of Analyses Mo.	Week Avg	% Removal Month Avg	Inf mg/L Month Avg	Eff mg/L Month Avg	Eff mg/L Max Week Avg	# excs/ # of Analyses Mo.	Week Avg	% Removal Month Avg
Limits:				**120**					**25**	**40**			**Min 85**		**30**	**45**			**Min 85**
Jan	75	138	52		69	131	48	217	7	7	0/ 1	0/ 4	97%	282	7	8	0/ 1	0/ 4	98%
Feb	93	149	63		88	147	56	240	8	9	0/ 1	0/ 4	97%	492	11	15	0/ 1	0/ 4	98%
Mar	70	102	56		65	95	51	287	8	12	0/ 1	0/ 5	97%	304	9	12	0/ 1	0/ 5	97%
Apr	60	93	50		56	88	48	371	7	10	0/ 1	0/ 4	98%	615	10	15	0/ 1	0/ 4	98%
May	52	85	45		49	81	42	365	8	8	0/ 1	0/ 4	98%	438	8	10	0/ 1	0/ 4	98%
Jun	47	51	42		44	47	42	372	8	12	0/ 1	0/ 5	98%	516	11	14	0/ 1	0/ 5	98%
Jul	46	49	41		43	47	36	354	8	9	0/ 1	0/ 4	98%	491	11	16	0/ 1	0/ 4	98%
Aug	47	51	43	47	44	48	42	380	8	13	0/ 1	0/ 5	98%	618	11	11	0/ 1	0/ 5	98%
Sep	45	48	42		44	47	42	364	7	8	0/ 1	0/ 4	98%	472	13	17	0/ 1	0/ 4	97%
Oct	44	49	42		43	46	41	415	9	9	0/ 1	0/ 4	98%	635	16	15	0/ 1	0/ 4	98%
Nov	54	157	42		50	150	41	394	7	12	0/ 1	0/ 5	98%	654	11	24	0/ 1	0/ 5	98%
Dec	70	115	49		64	111	44	276	6	7	0/ 1	0/ 4	98%	430	9	12	0/ 1	0/ 4	98%
Avg	59	91	47		55	87	44	336	7	10			98%	496	10	14			98%
Max	93	157	63		88	150	56	415	9	13			98%	654	16	24			98%
Min	44	48	41		43	46	36	217	6	7			97%	282	7	8			97%
Exc/Analyses											0/ 12	0/ 52	0/12				0/ 12	0/ 52	0/12

Exc / Analyses = number of exceedances / number of analyses

ATTACHMENT 8 -- IPS Scrubber Inlet and Outlet H2S Readings, ppm

(A-462 is Fine Screen Room Scrubber, A-463,A-464 are Course Screen Room/IPS Scrubbers)

	Coarse Scrubber		Fine Scrubber		Coarse Scrubber		Fine Scrubber	
	Inlet Avg	Outlet Avg	Inlet Avg	Outlet Avg	Inlet Max	Outlet Max	Inlet Max	Outlet Max
01-Jul-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
02-Jul-24	0.1	0.0	0.0	0.0	1.7	0.0	0.0	0.3
03-Jul-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
04-Jul-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
05-Jul-24	0.1	0.0	0.0	0.0	1.8	0.0	0.0	0.0
06-Jul-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
07-Jul-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
08-Jul-24	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0
09-Jul-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
10-Jul-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11-Jul-24	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0
12-Jul-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13-Jul-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14-Jul-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15-Jul-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16-Jul-24	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0
17-Jul-24	0.2	0.0	0.0	0.0	2.0	0.0	3.3	1.4
18-Jul-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19-Jul-24	0.0	0.0	0.0	0.0	1.7	0.0	0.0	0.0
20-Jul-24	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0
21-Jul-24	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0
22-Jul-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23-Jul-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24-Jul-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25-Jul-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
26-Jul-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
27-Jul-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28-Jul-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29-Jul-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30-Jul-24	0.0	0.0	0.1	0.1	0.0	0.0	18.8	11.2
31-Jul-24	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.0
Monthly Avg	0.0	0.0	0.0	0.0				
Monthly Max					2.0	0.0	18.8	11.2

	Coarse Scrubber		Fine Scrubber		Coarse Scrubber		Fine Scrubber	
	Inlet Avg	Outlet Avg	Inlet Avg	Outlet Avg	Inlet Max	Outlet Max	Inlet Max	Outlet Max
01-Aug-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
02-Aug-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
03-Aug-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
04-Aug-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
05-Aug-24	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0
06-Aug-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
07-Aug-24	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0
08-Aug-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
09-Aug-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Aug-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11-Aug-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12-Aug-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13-Aug-24	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0
14-Aug-24	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0
15-Aug-24	0.7	0.0	0.0	0.0	3.6	0.0	0.0	0.0
16-Aug-24	0.5	0.0	0.0	0.0	3.2	0.3	0.0	0.0
17-Aug-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18-Aug-24	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0
19-Aug-24	0.4	0.0	0.0	0.0	3.1	0.0	0.0	0.0
20-Aug-24	0.4	0.0	0.0	0.0	4.4	0.0	0.0	0.4
21-Aug-24	0.6	0.0	0.0	0.0	3.6	0.0	0.0	0.0
22-Aug-24	0.1	0.0	0.0	0.0	3.4	0.0	0.0	0.0
23-Aug-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24-Aug-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25-Aug-24	0.8	0.0	0.0	0.0	3.4	0.0	0.0	0.0
26-Aug-24	0.3	0.0	0.0	0.0	3.2	0.0	0.0	0.0
27-Aug-24	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0
28-Aug-24	0.0	0.0	0.0	0.0	0.0	0.0	3.1	1.4
29-Aug-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30-Aug-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
31-Aug-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Monthly Avg	0.1	0.0	0.0	0.0				
Monthly Max					4.4	0.3	3.1	1.4

ATTACHMENT 8 -- IPS Scrubber Inlet and Outlet H2S Readings, ppm

	Coarse Scrubber		Fine Scrubber		Coarse Scrubber		Fine Scrubber	
	Inlet Avg	Outlet Avg	Inlet Avg	Outlet Avg	Inlet Max	Outlet Max	Inlet Max	Outlet Max
01-Sep-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
02-Sep-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
03-Sep-24	0.2	0.0	0.0	0.0	3.7	0.0	0.0	0.3
04-Sep-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
05-Sep-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
06-Sep-24	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0
07-Sep-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
08-Sep-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
09-Sep-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Sep-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11-Sep-24	0.4	0.0	0.0	0.0	5.7	0.0	0.0	0.0
12-Sep-24	0.4	0.0	0.0	0.0	5.1	0.0	0.0	0.0
13-Sep-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
14-Sep-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15-Sep-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16-Sep-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17-Sep-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18-Sep-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19-Sep-24	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
20-Sep-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21-Sep-24	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
22-Sep-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23-Sep-24	0.9	0.0	0.0	0.0	4.5	0.4	0.0	0.3
24-Sep-24	0.3	0.0	0.0	0.0	2.7	0.0	0.0	0.0
25-Sep-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26-Sep-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27-Sep-24	0.6	0.0	0.0	0.0	2.6	0.0	0.0	0.0
28-Sep-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29-Sep-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30-Sep-24	0.9	0.0	0.0	0.0	4.9	0.0	0.0	0.0
Monthly Avg	0.1	0.0	0.0	0.0				
Monthly Max					5.7	0.5	0.0	0.3

	Coarse Scrubber		Fine Scrubber		Coarse Scrubber		Fine Scrubber	
	Inlet Avg	Outlet Avg	Inlet Avg	Outlet Avg	Inlet Max	Outlet Max	Inlet Max	Outlet Max
01-Oct-24	2.8	0.0	0.0	0.0	11.8	0.0	0.0	0.0
02-Oct-24	2.2	0.0	0.0	0.0	7.9	0.0	0.0	0.3
03-Oct-24	2.7	0.0	0.0	0.0	10.1	0.0	0.0	0.0
04-Oct-24	2.5	0.0	0.0	0.0	11.8	0.0	0.0	0.0
05-Oct-24	1.9	0.0	0.0	0.0	6.8	0.0	0.0	0.0
06-Oct-24	1.3	0.0	0.0	0.0	3.9	0.0	0.0	0.0
07-Oct-24	1.9	0.0	0.0	0.0	12.0	0.0	0.0	0.0
08-Oct-24	1.0	0.0	0.0	0.0	10.3	0.0	0.0	0.0
09-Oct-24	0.9	0.0	0.0	0.0	7.6	0.0	0.0	0.3
10-Oct-24	0.3	0.0	0.0	0.0	2.2	0.0	0.0	0.0
11-Oct-24	0.2	0.0	0.0	0.0	1.7	0.0	0.0	0.0
12-Oct-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13-Oct-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14-Oct-24	0.1	0.0	0.0	0.0	1.6	0.0	0.0	0.0
15-Oct-24	2.2	0.0	0.0	0.0	9.1	0.0	0.0	0.0
16-Oct-24	0.1	0.0	0.0	0.0	1.6	0.0	0.0	0.0
17-Oct-24	2.9	0.0	0.0	0.0	11.4	0.0	0.0	0.3
18-Oct-24	2.3	0.0	0.0	0.0	6.8	0.0	0.0	0.0
19-Oct-24	2.3	0.0	0.0	0.1	6.2	0.0	0.0	0.5
20-Oct-24	1.6	0.0	0.0	0.0	4.8	0.0	0.0	0.0
21-Oct-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22-Oct-24	1.8	0.0	0.0	0.0	9.8	0.0	0.0	0.0
23-Oct-24	0.4	0.0	0.0	0.0	2.7	0.0	0.0	0.0
24-Oct-24	3.4	0.0	0.0	0.0	14.9	0.0	0.0	0.3
25-Oct-24	1.8	0.0	0.0	0.0	7.3	0.0	0.0	0.4
26-Oct-24	1.4	0.0	0.0	0.0	5.3	0.0	0.0	0.0
27-Oct-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28-Oct-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29-Oct-24	0.6	0.0	0.0	0.0	3.0	0.0	0.0	0.0
30-Oct-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
31-Oct-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Monthly Avg	1.3	0.0	0.0	0.0				
Monthly Max					14.9	0.0	0.0	0.5

ATTACHMENT 8 -- IPS Scrubber Inlet and Outlet H2S Readings, ppm

	Coarse Scrubber		Fine Scrubber		Coarse Scrubber		Fine Scrubber	
	Inlet Avg	Outlet Avg	Inlet Avg	Outlet Avg	Inlet Max	Outlet Max	Inlet Max	Outlet Max
01-Nov-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
02-Nov-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
03-Nov-24	1.1	0.0	0.0	0.0	4.5	0.0	0.0	0.0
04-Nov-24	0.4	0.0	0.0	0.0	2.9	0.0	0.0	0.0
05-Nov-24	0.8	0.0	0.0	0.0	4.1	0.0	0.0	0.3
06-Nov-24	0.3	0.0	0.0	0.0	1.7	0.0	0.0	0.3
07-Nov-24	2.0	0.0	0.0	0.1	5.9	0.0	0.0	0.4
08-Nov-24	2.2	0.0	0.0	0.0	6.3	0.0	0.0	0.3
09-Nov-24	0.2	0.0	0.0	0.0	1.7	0.0	0.0	0.0
10-Nov-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11-Nov-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12-Nov-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13-Nov-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
14-Nov-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
15-Nov-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
16-Nov-24	0.8	0.0	0.0	0.0	3.3	0.0	0.0	0.0
17-Nov-24	1.0	0.0	0.0	0.0	4.8	0.0	0.0	0.0
18-Nov-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19-Nov-24	0.4	0.0	0.1	0.1	2.4	0.0	1.5	1.2
20-Nov-24	1.7	0.0	0.0	0.0	5.2	0.0	0.0	0.0
21-Nov-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22-Nov-24	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.4
23-Nov-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24-Nov-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25-Nov-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26-Nov-24	0.0	0.0	0.1	0.0	0.0	0.0	1.6	0.0
27-Nov-24	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0
28-Nov-24	0.9	0.0	0.0	0.0	4.5	0.0	0.0	0.3
29-Nov-24	0.2	0.0	0.0	0.0	2.5	0.0	0.0	0.0
30-Nov-24	0.4	0.0	0.0	0.0	3.0	0.0	1.6	0.0
Monthly Avg	0.4	0.0	0.0	0.0				
Monthly Max					6.3	0.0	1.6	1.2

	Coarse Scrubber		Fine Scrubber		Coarse Scrubber		Fine Scrubber	
	Inlet Avg	Outlet Avg	Inlet Avg	Outlet Avg	Inlet Max	Outlet Max	Inlet Max	Outlet Max
01-Dec-24	0.1	0.0	0.0	0.0	2.5	0.0	0.0	0.3
02-Dec-24	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.9
03-Dec-24	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.5
04-Dec-24	0.0	0.0	0.2	0.2	0.0	0.0	1.5	1.4
05-Dec-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
06-Dec-24	0.0	0.0	0.1	0.0	0.0	0.0	1.5	0.3
07-Dec-24	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.7
08-Dec-24	0.0	0.0	0.1	0.1	0.0	0.0	1.6	1.3
09-Dec-24	1.6	0.0	0.0	0.1	4.4	0.0	0.0	0.3
10-Dec-24	0.9	0.0	0.3	0.3	5.4	0.0	3.7	2.1
11-Dec-24	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.4
12-Dec-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
13-Dec-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14-Dec-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15-Dec-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16-Dec-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17-Dec-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18-Dec-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19-Dec-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
20-Dec-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21-Dec-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22-Dec-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23-Dec-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24-Dec-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25-Dec-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26-Dec-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27-Dec-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28-Dec-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29-Dec-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30-Dec-24	1.4	0.0	0.0	0.0	2.9	0.0	0.0	0.0
31-Dec-24	0.0	0.0	0.0	0.0	2.9	0.0	0.0	0.0
Monthly Avg	0.1	0.0	0.0	0.0				
Monthly Max					5.4	0.0	3.7	2.1

ATTACHMENT 8 -- IPS Scrubber Inlet and Outlet H2S Readings - Related Outages

Influent Pump Station Odor Scrubber Outage Table

Start	Finish	Duration	Reason
17-Oct-24 12:41	17-Oct-24 12:44	0:03	Rotating between A463 and A464
	Total Down Time	0:03	

Attachment 9

Odor Scrubber Mainteance Records for S-110 (IPS, W-12) and S-170 (Dewatering Building, W-25/W-30)

Area	Wonum	Description	Assetnum	Req Dept	Resp Dept	Status	Type	Reported By	Report Date
W-12 Headworks: IPS, Barscreens (S-110)									
W-12	2024081272	W-12-IRR-SOV-230 - Make Up Water Solenoid Failed W-12-IRR-SOV-230 - Make Up Water Solenoid Failed [[Coarse Screen OCU, Biofilter #2]]	W-12-IRR-AIT-228	PO	MEN	COMP	CM	JOCHOA	7/8/2024
W-12	2024094311	Check calibration of sensor Outlet readings correlate with inlet spikes, but some outlet readings show H2S without any inlet H2S reading. This should not be possible. [[Fine Screen OCU, inlet H2S analyzer]]	W-12-AT-651	PO	IN	COMP	CM	JBARGE	7/31/2024
W-12	2024094313	Check calibration of sensor Outlet readings correlate with inlet spikes, but some outlet readings show H2S without any inlet H2S reading. This	W-12-AT-667	PO	IN	COMP	CM	JBARGE	7/31/2024
W-12	2024106857	Hose going from sample point to analyzer broken and falling apart. [[Coarse Screen OCU, outlet H2S sampler]]	W-12-FA-AIT-003	PO	IN	COMP	CM	MEDWARDS	8/29/2024
W-12	2024106859	Unit is disconnected and showing sensor missing error [[Coarse Screen OCU. Mid-point H2S sampler]]	W-12-FA-AIT-002	PO	IN	COMP	BD	MEDWARDS	8/29/2024
W-30 Sludge Handling; Dewatering Building (S-170)									
W-30	2024081416	Odor scrubber control panel (see long description) <> Northside control panel has a hypo leak <> Note: Could not find specific asset for this work order, please refer to description	W-30-INS-WFR-00	PO	MEN	COMP	CM	JFROLICK	7/23/2024
W-30	2024119496	The odor scrubber sump pumps are getting air bound. They may need tubing replacement	W-30-PMP-001-06	PO	MEN	COMP	BD	SZUBRZYC	9/28/2024
W-30	2024119498	Air compressor in the shack needs 3 belts changed...it has been getting noisier and vibrating	W-30-TKS-301-00	PO	MEN	COMP	BD	SZUBRZYC	9/28/2024
W-30	2024119647	Dewatering Odor Scrubber Hypo pinhole leak. Marked with notice tag. *see info* ODOR SCUBBER HAS A LEAK ON THE INLET LINE. THIS LEAK IS LOCATED AFTER THE FIRST INLET VALVE NEXT TO THE FLUSHING/OPERATING PANEL. THIS LEAK IS A PINHOLE LEAK. THE LEAK WILL BE MARKED BY A NOTICE TAG. THIS WILL NEED TO BE PROPERLY LOTO BEFORE FIXING . I DID NOT LOTO BECAUSE UNIT IS STILL IN SERVICE. UNIT #1. NORTH SIDE. UNIT CLOSER TO DEWATERING ENTERANCE DOOR.	W-30-TKS-301-00	PO	MEN	COMP	BD	BLOPEZ	10/14/2024
W-30	2024143903	Hypo Leak - Inside Instrumentation Panel on PSI Gauge Hypo Leak - Inside Instrumentation Panel coming from PSI Gauge Coupling	W-30-TKS-301-00	PO	MEN	COMP	CM	JOCHOA	11/26/2024
W-25	25-12259	Rotameter for odor scrubber pipes needs to be replaced. It is only allowing 10% flow and we need mor	W-25-DSL-CTF-0C5-01	PO	MEN	COMP	BD	SZUBRZYC	12/27/2024

ATTACHMENT 10 -- S-170 Waste Activated Sludge Throughput

2024 July - December Gravity Belt Thickener Summary Flow Table

Note: Kgal=1,000 gallons

Daily Flows	July Kgal	August Kgal	September Kgal	October Kgal	November Kgal	December Kgal
1st	492	1,215	1,479	519	1,529	1,347
2nd	1,291	1,130	1,408	735	773	1,353
3rd	1,355	1,119	1,319	681	735	1,364
4th	1,418	1,226	1,411	733	843	1,495
5th	1,363	1,201	1,470	902	1,037	1,543
6th	1,346	1,242	1,552	883	1,024	1,543
7th	1,302	1,279	1,366	853	1,084	1,554
8th	1,343	964	1,364	887	1,130	1,355
9th	1,391	1,197	1,350	891	1,128	1,854
10th	1,302	1,329	1,452	895	1,122	2,267
11th	1,321	1,282	1,297	935	1,160	1,632
12th	1,326	1,140	1,372	899	1,173	1,191
13th	1,308	1,233	1,452	931	1,215	1,207
14th	1,303	1,264	1,481	929	1,221	1,190
15th	1,281	1,243	1,473	747	1,244	1,208
16th	1,232	1,230	1,006	699	1,237	1,178
17th	1,170	1,245	623	845	1,244	1,835
18th	1,229	1,242	717	772	1,886	2,278
19th	866	1,246	743	752	2,280	1,631
20th	1,267	1,351	692	767	1,681	1,226
21st	1,285	1,316	666	730	1,611	1,237
22nd	1,279	1,271	638	680	1,673	1,221
23rd	713	1,296	581	709	1,144	1,499
24th	1,255	1,271	634	778	1,106	1,513
25th	1,462	1,275	601	923	1,181	1,222
26th	1,287	1,249	686	956	1,137	1,222
27th	1,329	1,269	1,089	830	1,310	1,210
28th	1,372	1,301	917	775	1,336	1,227
29th	1,284	1,335	775	1,396	1,348	1,187
30th	1,194	1,400	765	2,058	1,351	1,228
31st	596	1,484		2,107		1,213
Monthly Total	37,961	38,843	32,375	28,197	37,942	44,229
Semi-Annual Total	219,547					

Gravity Belt Thickener and Dewatering Centrifuge Odor Scrubber Outage Table

Start	Finish	Duration	Reason
30-Sep-24 08:05	30-Sep-24 11:50	3:45	Compressor down for sump pump work, also ordered compressor belts
01-Oct-24 12:55	01-Oct-24 13:34	0:39	Compressor down for belt replacement
	Total Down Time, DWB	4:24	
25-Jul-24 08:06	25-Jul-24 08:46	0:40	Hypo leak repair
29-Sep-24 22:40	29-Sep-24 23:20	0:40	Sump backed up, hypo off until sump drained enough to stop stack spraying
30-Sep-24 08:05	30-Sep-24 11:50	3:45	Compressor down for sump pump work, also ordered compressor belts
01-Oct-24 12:55	01-Oct-24 13:34	0:39	Compressor down for belt replacement
26-Nov-24 07:50	26-Nov-24 08:05	0:15	Equipment restart after power down for PGS work, scrubber/belt overlap
	Total Down Time, THK	5:59	

ATTACHMENT 11

2024 July - December Blend Tank Summary Flow Table

Daily Flows	July Kgal	August Kgal	September Kgal	October Kgal	November Kgal	December Kgal
1st	266	908	467	784	870	567
2nd	923	763	647	768	646	789
3rd	949	746	777	744	500	893
4th	921	632	823	839	710	837
5th	810	736	753	569	767	938
6th	736	799	763	422	836	885
7th	721	780	638	699	827	796
8th	713	666	504	806	745	531
9th	754	723	690	735	568	779
10th	829	625	748	767	517	874
11th	794	519	814	776	727	908
12th	738	497	835	602	882	788
13th	673	663	740	505	879	805
14th	554	882	627	695	815	582
15th	707	871	531	849	913	503
16th	792	760	638	862	754	704
17th	870	765	702	830	576	810
18th	882	717	737	780	879	906
19th	706	789	732	638	990	965
20th	696	865	780	465	954	920
21st	568	806	661	686	963	813
22nd	855	823	478	782	924	629
23rd	846	924	719	780	689	826
24th	717	898	876	810	614	830
25th	871	771	783	787	690	540
26th	794	840	871	634	861	670
27th	691	863	912	472	903	783
28th	587	893	667	572	736	588
29th	696	906	417	937	676	496
30th	899	786	590	1,085	674	633
31st	565	799		939		782
Monthly Total	23,122	24,014	20,922	22,619	23,085	23,371
Semi-Annual Total	137,132					

ATTACHMENT 12 - DIGESTER GAS SAMPLING DATA

EBMUD Biogas H2S
July - December 2024

2024	Cogen Feed H2S (ppm)	365 Day Avg H2S (ppm)
7/1/2024	56	166
7/2/2024	1	165
7/3/2024	68	165
7/4/2024	134	164
7/5/2024	100	164
7/6/2024	100	164
7/7/2024	132	163
7/8/2024	170	163
7/9/2024	204	163
7/10/2024	244	162
7/11/2024	334	163
7/12/2024	186	163
7/13/2024	176	163
7/14/2024	146	163
7/15/2024	152	163
7/16/2024	154	162
7/17/2024	112	162
7/18/2024	146	162
7/19/2024	138	161
7/20/2024	122	161
7/21/2024	118	160
7/22/2024	128	160
7/23/2024	140	160
7/24/2024	319	160
7/25/2024	134	160
7/26/2024	140	160
7/27/2024	167	160
7/28/2024	154	160
7/29/2024	299	160
7/30/2024	443	161
7/31/2024	251	161
8/1/2024	372	162
8/2/2024	322	162
8/3/2024	179	162
8/4/2024	172	162
8/5/2024	257	162
8/6/2024	276	163
8/7/2024	316	163
8/8/2024	300	163
8/9/2024	188	163
8/10/2024	197	164
8/11/2024	198	164
8/12/2024	214	164
8/13/2024	252	164
8/14/2024	255	164
8/15/2024	284	165
8/16/2024	273	165
8/17/2024	180	165
8/18/2024	175	165
8/19/2024	245	166
8/20/2024	157	165
8/21/2024	202	165
8/22/2024	298	166
8/23/2024	245	166
8/24/2024	158	166
8/25/2024	123	165
8/26/2024	184	165
8/27/2024	152	165
8/28/2024	160	165
8/29/2024	215	164
8/30/2024	272	164
8/31/2024	196	164

Rolling 365-Day limit: 200 ppm

2024	Cogen Feed H2S (ppm)	365 Day Avg H2S (ppm)
9/1/2024	216	165
9/2/2024	232	165
9/3/2024	367	166
9/4/2024	332	166
9/5/2024	201	166
9/6/2024	270	166
9/7/2024	252	166
9/8/2024	190	166
9/9/2024	222	166
9/10/2024	192	166
9/11/2024	260	167
9/12/2024	234	167
9/13/2024	292	167
9/14/2024	277	167
9/15/2024	195	167
9/16/2024	210	168
9/17/2024	140	167
9/18/2024	151	167
9/19/2024	212	166
9/20/2024	240	166
9/21/2024	179	166
9/22/2024	180	166
9/23/2024	380	167
9/24/2024	369	167
9/25/2024	296	167
9/26/2024	162	167
9/27/2024	122	167
9/28/2024	210	167
9/29/2024	191	167
9/30/2024	219	167
10/1/2024	154	167
10/2/2024	335	168
10/3/2024	211	168
10/4/2024	168	168
10/5/2024	153	168
10/6/2024	151	168
10/7/2024	205	168
10/8/2024	297	168
10/9/2024	288	169
10/10/2024	177	169
10/11/2024	178	169
10/12/2024	116	169
10/13/2024	89	169
10/14/2024	176	168
10/15/2024	344	168
10/16/2024	172	168
10/17/2024	197	168
10/18/2024	152	168
10/19/2024	148	168
10/20/2024	180	168
10/21/2024	153	168
10/22/2024	209	168
10/23/2024	256	167
10/24/2024	293	168
10/25/2024	224	168
10/26/2024	189	168
10/27/2024	228	168
10/28/2024	115	168
10/29/2024	209	168
10/30/2024	108	168
10/31/2024	148	168

2024	Cogen Feed H2S (ppm)	365 Day Avg H2S (ppm)
11/1/2024	97	167
11/2/2024	149	167
11/3/2024	125	167
11/4/2024	128	167
11/5/2024	152	167
11/6/2024	140	167
11/7/2024	163	167
11/8/2024	220	167
11/9/2024	226	166
11/10/2024	167	166
11/11/2024	142	166
11/12/2024	178	165
11/13/2024	129	165
11/14/2024	160	165
11/15/2024	227	164
11/16/2024	150	164
11/17/2024	128	164
11/18/2024	137	164
11/19/2024	187	163
11/20/2024	118	163
11/21/2024	144	163
11/22/2024	172	163
11/23/2024	204	163
11/24/2024	150	163
11/25/2024	170	162
11/26/2024	241	162
11/27/2024	150	162
11/28/2024	218	162
11/29/2024	164	162
11/30/2024	158	162
12/1/2024	119	162
12/2/2024	148	162
12/3/2024	241	162
12/4/2024	169	162
12/5/2024	113	161
12/6/2024	173	161
12/7/2024	176	161
12/8/2024	123	161
12/9/2024	167	160
12/10/2024	421	161
12/11/2024	170	160
12/12/2024	150	160
12/13/2024	123	160
12/14/2024	184	160
12/15/2024	162	160
12/16/2024	138	160
12/17/2024	178	160
12/18/2024	207	161
12/19/2024	154	161
12/20/2024	136	161
12/21/2024	182	161
12/22/2024	185	161
12/23/2024	206	161
12/24/2024	208	162
12/25/2024	169	162
12/26/2024	180	162
12/27/2024	288	163
12/28/2024	302	164
12/29/2024	236	164
12/30/2024	256	164
12/31/2024	166	164

ATTACHMENT 13 - TOTAL DIGESTER GAS COMBUSTION

EBMUD Biogas to Combustion Devices
July - December 2024

2024	Total Combustion, SCFM		
	Daily Max	Daily Avg	365-Day Avg
7/1/2024	608	502	2,119
7/2/2024	2,550	1,381	2,118
7/3/2024	2,928	2,405	2,119
7/4/2024	3,178	2,348	2,121
7/5/2024	2,838	2,012	2,121
7/6/2024	2,414	1,710	2,120
7/7/2024	1,383	1,205	2,120
7/8/2024	2,656	1,684	2,121
7/9/2024	2,892	2,257	2,123
7/10/2024	3,102	2,744	2,125
7/11/2024	3,513	2,488	2,124
7/12/2024	2,666	2,186	2,124
7/13/2024	1,998	1,506	2,123
7/14/2024	1,544	1,255	2,122
7/15/2024	2,385	1,599	2,123
7/16/2024	3,926	2,183	2,124
7/17/2024	5,722	3,602	2,128
7/18/2024	4,139	2,364	2,127
7/19/2024	2,001	1,649	2,125
7/20/2024	2,074	1,617	2,124
7/21/2024	1,639	1,336	2,122
7/22/2024	3,215	2,060	2,124
7/23/2024	3,575	2,499	2,125
7/24/2024	4,713	3,760	2,130
7/25/2024	4,209	2,614	2,130
7/26/2024	3,756	2,841	2,132
7/27/2024	3,555	2,447	2,133
7/28/2024	1,770	1,346	2,132
7/29/2024	2,293	1,720	2,134
7/30/2024	3,566	2,420	2,136
7/31/2024	3,134	1,987	2,136
8/1/2024	3,987	3,519	2,139
8/2/2024	3,994	2,575	2,140
8/3/2024	2,702	1,779	2,139
8/4/2024	1,982	1,482	2,139
8/5/2024	2,387	1,766	2,139
8/6/2024	4,321	2,727	2,142
8/7/2024	4,651	3,440	2,145
8/8/2024	4,146	3,158	2,147
8/9/2024	3,765	2,829	2,149
8/10/2024	2,994	2,416	2,150
8/11/2024	3,025	2,014	2,151
8/12/2024	2,420	1,396	2,151
8/13/2024	4,544	2,146	2,152
8/14/2024	4,661	3,526	2,156
8/15/2024	4,771	3,229	2,159
8/16/2024	3,844	2,692	2,160
8/17/2024	2,655	1,856	2,159
8/18/2024	2,823	2,302	2,161
8/19/2024	4,515	3,438	2,167
8/20/2024	3,860	3,272	2,171
8/21/2024	4,685	3,666	2,176
8/22/2024	4,155	3,482	2,178
8/23/2024	5,206	3,909	2,182
8/24/2024	4,309	3,275	2,186
8/25/2024	2,825	2,250	2,188
8/26/2024	4,230	2,908	2,192
8/27/2024	2,983	2,431	2,194
8/28/2024	4,027	2,706	2,196
8/29/2024	3,777	3,108	2,198
8/30/2024	3,596	2,758	2,200
8/31/2024	2,964	2,382	2,201

2024	Total Combustion, SCFM		
	Daily Max	Daily Avg	365-Day Avg
9/1/2024	2,755	1,830	2,202
9/2/2024	2,249	1,808	2,203
9/3/2024	2,665	2,207	2,205
9/4/2024	3,555	2,685	2,206
9/5/2024	3,911	2,558	2,207
9/6/2024	3,387	2,451	2,207
9/7/2024	3,293	2,292	2,207
9/8/2024	2,743	1,991	2,208
9/9/2024	4,175	2,943	2,212
9/10/2024	3,904	3,042	2,215
9/11/2024	3,799	2,789	2,216
9/12/2024	3,427	2,429	2,216
9/13/2024	3,006	2,369	2,216
9/14/2024	3,117	2,336	2,216
9/15/2024	1,946	1,433	2,215
9/16/2024	3,691	2,418	2,218
9/17/2024	3,334	2,556	2,220
9/18/2024	5,315	3,963	2,224
9/19/2024	4,892	3,649	2,226
9/20/2024	4,754	3,298	2,229
9/21/2024	2,978	2,415	2,229
9/22/2024	2,252	1,750	2,227
9/23/2024	3,641	2,611	2,231
9/24/2024	3,313	2,613	2,234
9/25/2024	4,535	2,929	2,236
9/26/2024	4,033	2,873	2,235
9/27/2024	4,029	2,828	2,236
9/28/2024	3,714	2,470	2,236
9/29/2024	2,688	1,557	2,234
9/30/2024	2,948	2,129	2,236
10/1/2024	5,145	3,088	2,239
10/2/2024	4,068	2,845	2,240
10/3/2024	3,832	2,645	2,239
10/4/2024	3,994	3,143	2,238
10/5/2024	2,885	1,907	2,236
10/6/2024	1,684	1,146	2,233
10/7/2024	2,984	2,042	2,235
10/8/2024	3,273	2,500	2,237
10/9/2024	4,983	3,128	2,239
10/10/2024	3,823	2,918	2,239
10/11/2024	3,197	2,455	2,237
10/12/2024	2,305	1,616	2,234
10/13/2024	2,190	1,307	2,233
10/14/2024	2,749	1,999	2,235
10/15/2024	2,978	2,496	2,237
10/16/2024	4,707	3,342	2,240
10/17/2024	4,389	3,580	2,243
10/18/2024	4,691	3,275	2,245
10/19/2024	2,679	1,879	2,242
10/20/2024	1,649	1,264	2,240
10/21/2024	2,195	1,639	2,241
10/22/2024	3,684	2,685	2,244
10/23/2024	4,238	3,321	2,245
10/24/2024	4,650	3,548	2,248
10/25/2024	4,539	3,061	2,250
10/26/2024	2,841	2,103	2,250
10/27/2024	1,739	1,293	2,248
10/28/2024	2,408	1,780	2,249
10/29/2024	4,939	3,023	2,252
10/30/2024	5,038	3,837	2,255
10/31/2024	4,271	3,507	2,257

3,400 Annual Average Limit

2024	Total Combustion, SCFM		
	Daily Max	Daily Avg	365-Day Avg
11/1/2024	3,352	2,899	2,256
11/2/2024	3,810	2,839	2,256
11/3/2024	3,286	1,948	2,256
11/4/2024	3,339	2,259	2,259
11/5/2024	3,997	2,849	2,261
11/6/2024	5,347	3,975	2,265
11/7/2024	4,214	3,327	2,266
11/8/2024	3,365	2,625	2,264
11/9/2024	2,634	2,043	2,262
11/10/2024	2,511	1,781	2,263
11/11/2024	3,388	2,281	2,265
11/12/2024	4,648	3,399	2,269
11/13/2024	4,340	3,508	2,271
11/14/2024	4,692	3,165	2,273
11/15/2024	3,851	3,374	2,275
11/16/2024	3,697	3,015	2,277
11/17/2024	2,728	1,725	2,277
11/18/2024	3,771	2,123	2,279
11/19/2024	5,323	3,094	2,282
11/20/2024	4,512	3,273	2,285
11/21/2024	4,167	3,148	2,287
11/22/2024	4,003	3,053	2,289
11/23/2024	3,987	2,187	2,291
11/24/2024	2,595	1,979	2,292
11/25/2024	3,990	2,464	2,296
11/26/2024	3,353	2,851	2,299
11/27/2024	4,232	3,000	2,301
11/28/2024	3,581	2,260	2,301
11/29/2024	2,314	2,045	2,299
11/30/2024	2,257	1,686	2,298
12/1/2024	1,913	1,440	2,297
12/2/2024	3,383	2,064	2,298
12/3/2024	4,385	2,699	2,300
12/4/2024	4,920	3,709	2,304
12/5/2024	4,787	3,606	2,307
12/6/2024	4,130	3,545	2,310
12/7/2024	4,057	3,294	2,311
12/8/2024	2,783	1,791	2,309
12/9/2024	2,957	1,981	2,310
12/10/2024	3,780	3,055	2,314
12/11/2024	4,576	3,259	2,317
12/12/2024	3,346	2,781	2,317
12/13/2024	3,338	2,711	2,317
12/14/2024	2,505	1,722	2,315
12/15/2024	2,059	1,381	2,313
12/16/2024	3,865	2,415	2,316
12/17/2024	4,130	2,852	2,319
12/18/2024	4,183	2,657	2,320
12/19/2024	4,551	2,585	2,321
12/20/2024	3,619	2,362	2,320
12/21/2024	3,299	2,778	2,321
12/22/2024	2,826	1,955	2,320
12/23/2024	3,958	2,387	2,323
12/24/2024	3,527	2,715	2,327
12/25/2024	2,672	1,739	2,328
12/26/2024	5,153	2,382	2,330
12/27/2024	3,546	2,771	2,331
12/28/2024	3,331	2,784	2,331
12/29/2024	2,734	2,114	2,332
12/30/2024	4,299	2,888	2,337
12/31/2024	4,040	2,935	2,338