EAST BAY
MUNICIPAL UTILITY DISTRICT

AMIT MUTSUDDY
DIRECTOR OF WASTEWATER
(510) 287-1149
amit.mutsuddy@ebmud.com

July 31, 2023

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

TV Tracking #: 772

1. ☐ RECEIVED IN ENFORCEMENT: 07/31/2023

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 January 1, 2023, to June 30, 2023.

One instance of non-compliance occurred on April 2, 2023, when a digester gas leak occurred from the overflow pipe from Digester 8. The release lasted 19 minutes, from 1:53 PM to 2:12 PM and released 19,500 cubic feet of digester gas. The cause of the release was improper valve positioning. A three-way valve was placed in the wrong setting and when a P-trap in the overflow piping was flushed and cleared of liquid, digester gas was released until it could be isolated. The non-compliance was reported to the Bay Area Air Quality Management District (BAAQMD) and Notice of Violation A61147 was issued to EBMUD on May 11, 2023. Two corrective actions were put in place: (1) additional arrow indicators pointing to the direction of flow were installed on the three-way valves to help clarify to staff where water (or gas) will flow during cleaning and (2) Standard Operating Procedures for cleaning the overflow pipe were drafted and staff were trained on the instructions.

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

AM:CD:bmy

Attachment

O:\WTD - Admin\Regulatory Compliance\BAAQMD\Transmittal letter Jan-June 2023.docx

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

for

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

Reporting Period: January 1, 2023 – June 30, 2023

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	Condition 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. Last annual performance test completed on 12/1/2022.
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	 Conditions met in last performance test (see 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. 15,097 hours in last year. See Attachment 2. Jul-Dec 2022: 8,229 hours Jan-Jun 2023: 6,868 hours
	15. Combined diesel consumption for S-37, S-38, and S-39	150,000 gallons in any rolling 365 day period	Condition met. 22,741 gallons in last year. See Attachment 2. Jul-Dec 2022: 11,616 gallons Jan-Jun 2023: 11,125 gallons
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 performance tests completed in September 2022.

Source	Monitoring Requirement	Limit	Monitoring Results
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 9/30/2022.
	Condition 21663 Annual gasoline throughput	334,000 gal per year	Condition met. 29,798 gal in last year. See Attachment 4. July-Dec 2022: 13,948 gal Jan-June 2023: 15,850 gal
S-51 Diesel Engine Back-up Generator *(removed 1/25/2023)*	**Condition 22850** 1. Hours of operation	50 hours/year reliability-related hours	Condition met. Generator ran 4.9 hours in last 12 months. Refer to Attachment 5.
S-53 Diesel Engine Back-up Generator	**Condition 22830** 1. Hours of operation	30 hours/year reliability-related hours	Condition met. Generator ran 6.8 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 is out of service and did not run in last 12 months. 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. 276,593 MMBtu in last 12 months. Refer to Attachment 2. Jan-Jun 2023: 129,217 MMBtu Jul-Dec 2022: 147,376 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: 6,662 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: 2,324 lb
	5. Daily monitoring of H2S to demonstrate compliance with SO2 limits	Daily monitoring per 40 CFR 60.4370	See Attachment 11 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 1, 2022.
	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 0.2 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 14.8 hours in last 12 months. Refer to Attachment 5.
S-60 Diesel Engine Back-up Generator *(installed 1/25/2023)*	**Condition 22850**		
	1. Hours of operation	50 hours/year reliability-related hours	Condition met. Generator ran 3.7 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 122 MGD influent. Maximum dry weather monthly flow was 57 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 for scrubber 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.		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 2./11. Venting of digester gas only allowed under listed exceptions. 3. Sulfur content of digester gas 4. Combined digester gas flow rate to combustion sources 6. Gas flow to A-194, A-195 7. Source testing of A-194, A-195 (every 8,760 hours of use or 5 years) Emission limits for A-194, A-195 9. NOx limit 10. CO limit 11a. H2S limit 12. Daily sampling and testing of digester gas for H2S 13. Hours of flaring per day	 0.70 lb/hour from PRV <200 ppmv annual average <3,400 scfm annual average <3,000 cfm, 1-hr average 0.12 lb/MMBtu 0.20 lb/MMBtu 0.032 lb/hour	 Inspections conducted by Operations on daily rounds. Violation on 4/2/2023 when gas vented from Digester 8. Condition met. Refer to Attachment 12 for the H2S gas sampling records. Condition met. See Attachment 13 for combined digester gas flow rates. Condition met. Attachment 1 contains gas flow records. Condition met. Source test last conducted 4/27/22. Condition met. Source test last conducted 4/27/22. Condition met. Refer to Attachment 11. 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
JANUARY-JUNE 2023

January - 2023

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	3	0	3	0	3,762	0	3,762	0	4	0	4	0	63,968	0	63,968
2nd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3rd	0	7	8	15	0	11,579	15,254	26,833	0	19	33	52	0	213,691	281,510	495,201
4th	0	0	24	24	0	0	49,950	49,950	0	0	34	34	0	0	873,665	873,665
5th	0	16	18	34	0	33,751	36,177	69,927	0	30	35	65	0	577,530	619,045	1,196,575
6th	0	24	23	47	0	41,700	42,638	84,338	0	28	33	61	0	751,690	768,604	1,520,294
7th	0	24	16	40	0	42,653	25,869	68,522	0	27	22	49	0	778,680	472,275	1,250,955
8th	0	7	0	7	0	11,969	0	11,969	0	9	0	9	0	214,486	0	214,486
9th	0	17	17	34	0	29,007	28,803	57,810	0	38	32	70	0	555,405	551,487	1,106,892
10th	0	24	23	47	0	46,925	48,343	95,268	0	25	37	62	0	842,454	867,904	1,710,358
11th	0	24	24	48	0	51,198	52,284	103,482	0	24	31	55	0	877,692	896,314	1,774,006
12th	0	24	24	48	0	51,820	52,779	104,599	0	31	33	64	0	879,764	896,057	1,775,821
13th	0	24	24	48	0	51,890	52,909	104,798	0	26	31	57	0	879,098	896,360	1,775,458
14th	0	23	24	47	0	44,241	48,518	92,759	0	36	37	72	0	779,627	854,988	1,634,615
15th	0	0	16	16	0	0	31,089	31,089	0	0	33	33	0	0	551,080	551,080
16th	0	12	24	36	0	24,523	49,556	74,080	0	18	37	55	0	439,964	889,064	1,329,028
17th	0	24	17	41	0	49,018	35,181	84,199	0	30	27	57	0	852,929	612,157	1,465,086
18th	0	24	24	48	0	51,563	52,686	104,248	0	39	32	71	0	869,096	888,023	1,757,119
19th	0	24	24	48	0	51,948	53,022	104,970	0	35	36	71	0	854,595	872,257	1,726,852
20th	0	24	24	48	0	51,897	52,991	104,888	0	27	33	60	0	859,007	877,108	1,736,115
21st	0	19	24	43	0	36,743	48,603	85,347	0	21	27	49	0	625,467	827,361	1,452,828
22nd	0	0	24	24	0	0	44,397	44,397	0	0	36	36	0	0	810,859	810,859
23rd	0	16	23	39	0	31,542	45,679	77,221	0	47	56	103	0	569,485	824,744	1,394,229
24th	0	24	24	48	0	48,892	49,933	98,825	0	25	33	59	0	851,300	869,414	1,720,714
25th	0	24	24	48	0	51,835	52,905	104,740	0	29	33	61	0	870,518	888,493	1,759,011
26th	0	24	24	48	0	50,125	51,177	101,302	0	29	34	62	0	860,636	878,691	1,739,327
27th	0	24	24	48	0	48,996	50,033	99,029	0	26	34	60	0	861,196	879,415	1,740,611
28th	0	24	24	48	0	48,559	49,576	98,135	0	30	33	63	0	838,855	856,417	1,695,272
29th	0	24	2	26	0	51,377	1,454	52,831	0	26	3	30	0	898,349	25,427	923,776
30th	0	24	11	35	0	51,206	26,654	77,859	0	37	28	65	0	895,934	466,351	1,362,285
31st	0	24	24	48	0	45,707	46,798	92,505	0	34	33	67	0	811,579	830,960	1,642,539
Totals	0	552	582	1,134	0	1,114,426	1,195,257	2,309,683	0	751	904	1,655	0	19,372,995	20,826,030	40,199,025
	Sum of Engines		1,134		Sum of Engines		2,309,683		Sum of Engines		1,655		Sum of Engines		40,199,025	

January - 2023

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	0.1	1,282	21	24	82,094	1,403,412	22	362,143	3	25
2nd	0	0	3	26,471	179	24	88,132	1,504,015	24	389,265	0	24
3rd	0	0	8	108,398	341	24	91,157	1,544,672	15	278,529	15	30
4th	0	0	21	670,807	872	24	88,591	1,497,453	15	375,518	24	39
5th	0	0	24	1,213,184	1,381	24	88,548	1,476,250	14	339,707	34	48
6th	0	0	10	177,345	312	24	81,936	1,381,730	0	0	47	47
7th	0	0	5	68,045	424	24	85,861	1,463,453	9	211,009	40	49
8th	0	0	8	126,568	410	24	81,522	1,448,732	24	453,832	7	31
9th	0	0	8	136,402	726	24	77,408	1,409,802	7	116,380	34	41
10th	0	0	17	562,381	784	24	77,929	1,406,723	0	0	47	47
11th	0	0	23	915,023	1,206	24	86,569	1,468,447	0	0	48	48
12th	0	0	24	1,438,060	1,628	24	84,122	1,450,777	0.2	4,069	48	48
13th	0	0	16	403,591	840	24	80,914	1,403,614	0	0	48	48
14th	0	0	9	190,807	582	24	82,038	1,398,695	0	0	47	47
15th	0	0	7	114,360	494	24	82,393	1,406,643	18	387,795	16	34
16th	0	0	6	112,411	422	24	85,602	1,482,791	5	140,851	36	41
17th	0	0	13	492,166	1,207	24	84,274	1,446,516	0	0	41	41
18th	0	0	19	1,308,403	1,793	24	88,275	1,476,498	0	0	48	48
19th	0	0	24	1,680,034	1,665	24	91,237	1,495,022	0	0	48	48
20th	0	0	24	1,503,681	1,645	24	91,531	1,502,919	0	0	48	48
21st	0	0	11	326,955	708	24	87,952	1,468,069	0	0	43	43
22nd	0	0	3	38,861	160	24	74,232	1,328,171	0.4	7,307	24	24
23rd	0.4	3,217	11	367,127	896	22	74,811	1,334,553	3	55,870	39	42
24th	0	0	17	1,056,153	1,348	24	86,598	1,493,474	0	0	48	48
25th	0.7	6,614	23	1,040,781	1,316	18	63,737	1,098,798	6	157,962	48	54
26th	0	0	18	462,120	742	24	83,136	1,434,798	0	0	48	48
27th	0	0	10	324,701	879	24	87,050	1,469,762	0	0	48	48
28th	0	0	8	184,878	667	24	83,980	1,418,386	0	0	48	48
29th	0	0	4	42,771	212	24	85,209	1,449,079	0	0	26	26
30th	0	0	14	259,982	465	24	88,362	1,504,399	4	50,579	35	39
31st	0	0	1.4	12,937	90	24	84,882	1,409,167	0	0	48	48
Totals	1.1	9,831	387	15,366,685		736	2,600,082	44,476,820	168	3,330,816	1,134	1,302
				Maximum	1,793						Maximum	54

February - 2023

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	44,012	44,858	88,869	0	37	42	79	0	790,819	806,024	1,596,843
2nd	0	24	24	48	0	51,769	52,910	104,679	0	33	35	68	0	889,915	909,543	1,799,458
3rd	0	24	22	46	0	48,604	42,317	90,921	0	35	36	71	0	840,159	731,474	1,571,633
4th	0	24	15	39	0	48,027	30,285	78,312	0	40	35	75	0	855,696	539,597	1,395,293
5th	0	24	13	37	0	46,765	21,881	68,646	0	32	22	54	0	841,665	393,813	1,235,478
6th	0	20	9	29	0	41,358	16,488	57,846	0	41	30	71	0	734,193	292,698	1,026,891
7th	0	24	13	37	0	51,687	30,580	82,267	0	32	24	56	0	903,942	534,802	1,438,744
8th	0	24	24	48	0	51,892	52,828	104,720	0	27	36	63	0	880,899	896,795	1,777,694
9th	0	24	24	48	0	50,477	51,434	101,912	0	41	42	83	0	868,461	884,925	1,753,386
10th	0	24	24	48	0	49,657	50,233	99,890	0	27	37	65	0	872,919	883,038	1,755,957
11th	0	24	24	48	0	51,336	52,041	103,377	0	39	42	81	0	883,398	895,518	1,778,916
12th	0	16	24	40	0	27,724	47,260	74,984	0	23	39	62	0	488,552	832,811	1,321,363
13th	0	13	21	34	0	28,365	43,787	72,152	0	25	48	72	0	514,719	794,568	1,309,287
14th	0	24	14	38	0	49,102	28,513	77,615	0	35	29	63	0	879,707	510,843	1,390,550
15th	0	24	24	48	0	50,921	52,049	102,970	0	33	39	72	0	873,962	893,333	1,767,295
16th	0	24	24	48	0	51,664	52,795	104,459	0	30	36	66	0	861,985	880,861	1,742,846
17th	0	24	24	48	0	50,019	50,640	100,659	0	39	40	79	0	863,455	874,174	1,737,629
18th	0	22	19	41	0	41,667	35,556	77,223	0	82	24	106	0	742,238	633,392	1,375,630
19th	0	24	1	25	0	51,612	253	51,865	0	40	35	76	0	894,839	4,387	899,226
20th	0	24	14	38	0	49,475	30,052	79,527	0	30	36	67	0	874,471	531,173	1,405,644
21st	0	6	16	22	0	11,127	35,595	46,721	0	32	39	70	0	195,743	626,197	821,940
22nd	0	24	24	48	0	44,360	51,453	95,813	0	44	104	149	0	730,868	847,727	1,578,595
23rd	0	24	24	48	0	49,860	52,874	102,733	0	36	40	76	0	837,553	888,184	1,725,737
24th	0	24	24	48	0	50,774	51,847	102,621	0	31	45	76	0	838,900	856,624	1,695,524
25th	0	23	24	47	0	51,007	52,879	103,885	0	37	39	76	0	842,512	873,437	1,715,949
26th	0	14	20	34	0	26,778	43,927	70,704	0	23	43	66	0	447,763	734,521	1,182,284
27th	0	12	24	36	0	22,364	48,945	71,310	0	30	38	68	0	391,296	856,367	1,247,663
28th	0	24	25	49	0	46,931	51,479	98,410	0	32	38	69	0	820,465	899,958	1,720,423
Totals	0	606	562	1,168	0	1,239,332	1,175,759	2,415,091	0	985	1,093	2,078	0	21,461,094	20,306,784	41,767,878
		Sum of Engines	1,168			Sum of Engines	2,415,091			Sum of Engines	2,078			Sum of Engines	41,767,878	

February - 2023

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	1.2	11,183	119	24	63,584	1,306,740	0	0	48	48
2nd	0	0	20	747,190	915	24	74,749	1,529,964	0	0	48	48
3rd	0	0	9	183,059	639	24	72,164	1,454,731	0	0	46	46
4th	0	0	10	237,301	658	24	70,657	1,425,069	5	116,904	39	44
5th	0	0	3	47,232	304	24	69,219	1,434,547	0	0	37	37
6th	0.03	199	6	206,976	837	24	73,315	1,493,790	4	87,468	29	33
7th	0	0	12	380,368	781	24	71,261	1,482,814	0	0	37	37
8th	0	0	22	801,700	992	24	75,431	1,500,065	0	0	48	48
9th	0	0	11	299,162	610	24	71,474	1,448,193	0	0	48	48
10th	0	0	10	179,370	425	24	69,360	1,435,691	0	0	48	48
11th	0	0	14	386,298	776	24	73,687	1,458,596	0	0	48	48
12th	0	0	0.9	7,577	32	24	64,500	1,360,976	0	0	40	40
13th	0	0	5	105,804	440	24	69,392	1,453,403	0	0	34	34
14th	0	0	12	224,659	468	24	73,084	1,486,685	0	0	38	38
15th	0	0	18	1,295,923	2,041	24	75,485	1,504,207	0	0	48	48
16th	0	0	24	1,428,047	1,660	24	76,998	1,483,810	0	0	48	48
17th	0	0	15	394,557	689	24	69,550	1,409,499	0	0	48	48
18th	0	0	8	105,129	277	24	69,444	1,428,619	0	0	41	41
19th	0.1	778	8	144,204	458	24	70,445	1,381,840	10	240,323	25	35
20th	0	0	2	41,561	358	24	66,014	1,375,196	0.8	19,583	38	39
21st	0.9	15,095	18	1,165,949	2,069	15	43,384	903,812	21	360,733	22	43
22nd	0.7	10,746	20	748,462	1,149	24	72,827	1,492,433	2	44,003	48	50
23rd	0	0	24	1,310,771	1,880	24	73,733	1,491,409	0	0	48	48
24th	0	0	20	537,494	970	24	73,626	1,439,513	0	0	48	48
25th	0	0	20	561,396	704	24	76,852	1,497,781	0	0	47	47
26th	0.02	202	6	93,116	333	24	70,119	1,366,561	6	136,119	34	40
27th	0	0	3	52,198	277	23	67,278	1,338,017	4	116,327	36	40
28th	0	0	20	852,040	1,192	12	35,445	736,530	12	299,477	49	61
Totals	2	27,020	344	12,548,726		649	1,933,077	39,120,491	66	1,420,937	1,168	1,234
				Maximum	2,069						Maximum	61

March - 2023

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	23	47	0	41,483	42,652	84,135	0	38	37	75	0	755,180	776,465	1,531,645
2nd	0	24	24	48	0	42,367	44,578	86,945	0	31	39	70	0	770,149	810,326	1,580,475
3rd	0	24	24	48	0	44,837	47,373	92,210	0	34	38	72	0	785,146	829,561	1,614,707
4th	0	10	24	34	0	16,075	45,892	61,967	0	22	38	60	0	292,261	834,340	1,126,601
5th	0	0	6	6	0	0	8,065	8,065	0	0	9	9	0	0	148,626	148,626
6th	0	18	19	37	0	33,431	36,995	70,426	0	34	49	83	0	587,902	650,583	1,238,485
7th	0	24	24	48	0	48,412	51,690	100,102	0	28	35	63	0	829,505	885,676	1,715,181
8th	0	24	24	48	0	49,333	52,817	102,150	0	41	45	86	0	835,298	894,289	1,729,587
9th	0	24	24	48	0	51,223	52,827	104,050	0	32	39	71	0	839,244	865,514	1,704,758
10th	0	24	24	48	0	50,816	52,844	103,660	0	39	39	78	0	840,486	874,016	1,714,502
11th	0	24	24	48	0	50,157	52,299	102,456	0	33	39	73	0	834,255	869,875	1,704,130
12th	0	23	8	31	0	42,840	11,273	54,113	0	33	6	40	0	761,857	200,471	962,328
13th	0	24	15	39	0	45,471	33,152	78,622	0	34	38	72	0	815,791	594,774	1,410,565
14th	0	22	23	45	0	42,398	50,153	92,551	0	34	47	81	0	753,058	890,784	1,643,842
15th	0	21	22	43	0	40,136	43,702	83,839	0	45	44	89	0	702,498	764,911	1,467,409
16th	0	24	24	48	0	46,158	48,498	94,656	0	33	40	73	0	792,451	832,614	1,625,065
17th	0	24	20	44	0	44,221	37,951	82,171	0	35	39	74	0	773,991	664,250	1,438,241
18th	0	24	17	41	0	45,446	31,075	76,520	0	36	40	76	0	773,947	529,208	1,303,155
19th	0	2	0	2	0	1,047	0	1,047	0	0	0	0	0	18,588	0	18,588
20th	0	8	2	10	0	17,375	263	17,638	0	15	16	31	0	300,439	4,549	304,988
21st	0	23	9	32	0	44,567	18,865	63,432	0	77	54	131	0	735,724	311,420	1,047,144
22nd	0	24	24	48	0	50,772	52,823	103,595	0	32	39	71	0	841,557	875,551	1,717,108
23rd	0	24	24	48	0	49,086	51,877	100,963	0	30	39	68	0	827,025	874,059	1,701,084
24th	0	24	17	41	0	47,593	32,776	80,369	0	40	22	62	0	811,479	558,847	1,370,326
25th	0	24	7	31	0	49,285	14,735	64,020	0	33	29	62	0	829,592	248,022	1,077,614
26th	0	24	0	24	0	46,611	0	46,611	0	28	0	28	0	804,333	0	804,333
27th	0	24	10	34	0	46,432	22,518	68,950	0	39	22	60	0	812,680	394,127	1,206,807
28th	8	19	22	49	14,576	34,052	44,103	92,731	66	25	45	136	248,684	580,993	752,476	1,582,153
29th	24	0	12	36	47,451	0	23,732	71,182	65	0	36	100	856,296	0	428,265	1,284,561
30th	24	0	14	38	48,407	0	29,731	78,137	39	0	39	77	854,009	0	524,526	1,378,535
31st	24	0	20	44	45,243	0	37,070	82,314	41	0	44	85	795,815	0	652,054	1,447,869
Totals	80	578	530	1,188	155,676	1,121,626	1,072,327	2,349,629	210	901	1,045	2,156	2,754,804	19,305,429	18,540,179	40,600,412
		Sum of Engines	1,188			Sum of Engines	2,349,629			Sum of Engines	2,156			Sum of Engines	40,600,412	

March - 2023

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	0.03	194	3	24	78,217	1,401,872	0	0	47	47
2nd	0.1	934	5	93,179	381	24	79,952	1,410,682	0	0	48	48
3rd	0.03	255	10	188,526	384	24	81,372	1,387,686	0	0	48	48
4th	0	0	7	110,382	267	24	78,897	1,370,291	0	0	34	34
5th	0	0	5	95,480	539	24	77,449	1,364,404	19	308,444	6	25
6th	0	0	4	72,203	320	24	83,359	1,422,371	5	78,572	37	42
7th	0	0	22	492,069	775	24	89,353	1,522,545	0	0	48	48
8th	0	0	24	1,204,217	1,592	24	88,678	1,485,781	0	0	48	48
9th	0	0	24	932,995	1,286	24	87,579	1,448,301	0	0	48	48
10th	0.4	6,829	24	1,115,295	1,234	24	84,731	1,431,580	0	0	48	48
11th	0	0	8	179,740	749	24	86,146	1,446,218	0	0	48	48
12th	0	0	5	63,265	321	23	76,324	1,346,747	6	139,776	31	37
13th	0.3	3,212	5	153,891	940	22	75,225	1,348,068	3	71,691	39	42
14th	0	0	20	736,835	1,751	24	83,685	1,484,383	1.3	19,750	45	46
15th	0	0	15	641,411	1,489	24	85,999	1,430,479	3	56,932	43	46
16th	0	0	17	480,876	897	24	83,409	1,382,112	0	0	48	48
17th	0	0	21	711,494	1,245	24	79,294	1,381,585	4	85,965	44	48
18th	0	0	20	447,979	475	24	80,856	1,359,848	5	128,525	41	46
19th	0	0	15	314,051	500	24	80,491	1,380,496	23	383,271	2	25
20th	0	0	20	737,782	1,110	24	84,126	1,471,691	22	426,886	10	32
21st	0	0	24	1,787,923	2,482	17	59,504	1,053,299	19	468,203	32	51
22nd	0	0	24	1,548,317	1,989	10	34,935	589,366	14	348,289	48	62
23rd	0	0	23	794,578	1,101	24	87,865	1,438,911	0	10,611	48	48
24th	0.1	687	14	335,900	733	23	78,511	1,278,520	23	479,279	41	64
25th	0	0	22	1,297,683	1,770	24	88,901	1,462,330	17	276,108	31	48
26th	0	0	6	90,539	346	24	82,047	1,369,616	24	368,287	24	48
27th	0	0	12	318,640	820	22	75,931	1,284,467	16	281,485	34	50
28th	0	0	23	1,251,754	1,633	9	31,891	566,841	17	326,532	49	66
29th	2	36,435	13	560,028	1,455	24	82,322	1,417,711	11	265,273	36	47
30th	0	0	21	872,646	1,278	24	88,116	1,466,569	15	364,785	38	53
31st	0	0	18	454,999	702	24	88,347	1,471,856	16	415,791	44	60
Totals	2	48,352	473	18,084,871		700	2,443,512	41,676,626	264	5,304,455	1,188	1,452
				Maximum	2,482						Maximum	66

April - 2023

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	14	38	49,310	0	29,619	78,929	28	0	25	53	851,973	0	511,758	1,363,731
2nd	15	0	0	15	23,870	0	0	23,870	36	0	0	36	431,532	0	0	431,532
3rd	13	9	0	22	24,873	17,281	30	42,184	36	55	6	97	441,098	306,465	532	748,095
4th	24	24	0	48	42,077	41,483	0	83,560	29	25	0	54	769,745	758,891	0	1,528,636
5th	24	16	0	40	48,654	31,773	0	80,427	33	26	0	59	853,161	557,140	0	1,410,301
6th	24	24	0	48	51,174	49,971	0	101,145	28	27	0	54	863,810	843,503	0	1,707,313
7th	21	12	1	34	41,825	19,209	37	61,071	19	15	8	42	738,202	339,040	647	1,077,889
8th	24	0	0	24	48,552	0	0	48,552	30	0	0	30	857,928	0	0	857,928
9th	7	0	0	7	9,132	0	0	9,132	8	0	0	8	166,922	0	0	166,922
10th	0	8	0	8	77	16,172	80	16,329	11	20	17	49	1,378	290,367	1,439	293,184
11th	8	14	0	22	14,167	26,435	92	40,694	18	23	10	51	254,059	474,072	1,652	729,783
12th	0	24	0	24	0	51,550	0	51,550	0	25	0	25	0	828,018	0	828,018
13th	13	24	0	37	26,162	48,782	0	74,944	46	13	0	59	434,215	809,650	0	1,243,865
14th	24	24	0	48	48,266	47,448	0	95,714	28	30	0	57	824,289	810,326	0	1,634,615
15th	24	24	0	48	47,676	47,859	0	95,535	34	31	0	65	781,711	784,709	0	1,566,420
16th	16	4	0	20	28,056	3,973	0	32,029	22	6	0	28	490,840	69,512	0	560,352
17th	8	11	0	19	14,039	22,803	0	36,843	20	23	0	43	247,458	401,933	0	649,391
18th	24	20	1	45	48,349	38,031	0	86,380	26	27	6	60	828,273	651,527	0	1,479,800
19th	24	24	0	48	51,296	50,129	9	101,434	28	28	0	57	854,755	835,305	147	1,690,207
20th	24	11	14	49	51,193	20,979	31,222	103,395	27	11	24	62	855,723	350,677	521,901	1,728,301
21st	24	0	24	48	48,999	0	50,698	99,697	28	0	28	56	832,026	0	860,867	1,692,893
22nd	24	0	23	47	46,408	0	44,796	91,204	31	0	31	62	808,992	0	780,884	1,589,876
23rd	10	0	0	10	16,537	0	0	16,537	15	0	0	15	289,866	0	0	289,866
24th	13	10	1	24	30,109	22,187	0	52,296	31	28	8	67	518,383	381,980	0	900,363
25th	24	24	0	48	45,364	44,658	0	90,022	27	28	0	55	784,123	771,932	0	1,556,055
26th	24	24	0	48	46,309	45,050	0	91,360	31	27	0	57	804,141	782,276	0	1,586,417
27th	24	24	0	48	50,883	50,723	0	101,606	24	28	0	52	836,483	833,858	0	1,670,341
28th	24	24	0	48	51,038	49,516	0	100,554	32	28	0	60	858,287	832,697	0	1,690,984
29th	24	18	0	42	49,259	34,382	0	83,641	41	19	0	59	815,396	569,139	0	1,384,535
30th	7	0	0	7	9,744	0	0	9,744	18	0	0	18	175,123	0	0	175,123
Totals	539	397	78	1,014	1,063,398	780,397	156,583	2,000,377	786	540	162	1,488	18,269,892	13,283,017	2,679,827	34,232,736
		Sum of Engines	1,014			Sum of Engines	2,000,377			Sum of Engines	1,488			Sum of Engines	34,232,736	

April - 2023

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	20	543,109	820	24	73,254	1,436,119	12	293,997	38	50
2nd	0	0	1	10,847	67	24	60,660	1,278,738	24	550,928	15	39
3rd	0	1,065	9	224,973	751	24	74,410	1,461,345	14	319,300	22	36
4th	0	0	5	105,283	465	24	65,771	1,364,580	0	0	48	48
5th	0	0	15	673,421	1,368	24	73,730	1,473,265	8	192,953	40	48
6th	0	0	19	482,572	658	24	73,559	1,457,787	0	0	48	48
7th	0	280	5	80,775	380	24	70,475	1,423,486	13	269,685	34	47
8th	0	0	9	142,575	367	24	70,629	1,408,797	24	447,687	24	48
9th	0	0	7	139,168	520	24	65,105	1,349,386	24	518,531	7	31
10th	0	170	3	49,085	432	24	68,316	1,411,259	24	460,585	8	32
11th	3	76,782	14	1,012,660	1,864	24	68,938	1,451,428	24	506,653	22	46
12th	0	8,028	24	1,468,065	1,613	24	72,777	1,428,552	24	513,525	24	48
13th	0	0	16	584,193	941	24	71,876	1,432,745	11	192,605	37	48
14th	0	0	14	854,284	1,672	24	72,915	1,455,278	0	0	48	48
15th	0	0	11	345,745	1,063	24	71,783	1,351,937	0	0	48	48
16th	0	0	0	0	0	24	64,224	1,269,440	10	237,674	20	30
17th	0	1,506	7	154,218	579	24	72,178	1,416,411	13	346,288	19	32
18th	0	0	13	307,024	710	24	72,198	1,456,081	3	84,645	45	48
19th	0	0	20	490,948	788	24	73,288	1,452,331	0	0	48	48
20th	0	0	24	848,444	1,092	24	71,588	1,428,112	0	0	49	49
21st	0	0	15	326,639	550	24	65,962	1,348,642	0	0	48	48
22nd	0	0	10	315,747	753	24	65,176	1,385,772	0	7,280	47	47
23rd	0	0	0	754	13	24	64,649	1,331,107	24	475,344	10	34
24th	9	235,848	21	665,031	1,058	24	69,809	1,432,684	9	151,412	24	33
25th	0	0	9	411,544	1,221	24	65,219	1,329,713	0	0	48	48
26th	0	0	13	893,935	1,750	24	66,235	1,383,962	0	0	48	48
27th	0	0	20	765,049	966	24	69,568	1,391,584	0	0	48	48
28th	0	0	24	977,054	1,159	24	70,776	1,428,534	0	0	48	48
29th	0	0	6	116,062	486	24	68,789	1,362,541	6	155,128	42	48
30th	0	0	0	280	5	24	62,047	1,299,336	24	503,450	7	31
Totals	13	323,679	355	12,989,484		720	2,075,904	41,900,952	291	6,227,670	1,014	1,305
				Maximum	1,864						Maximum	50

May - 2023

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	9	18	0	27	17,941	35,968	0	53,909	26	36	0	62	314,558	630,627	0	945,185
2nd	24	24	0	48	50,742	48,962	0	99,705	28	28	0	56	860,720	830,526	0	1,691,246
3rd	24	24	0	48	49,887	49,514	0	99,401	35	36	0	71	831,295	825,092	0	1,656,387
4th	24	24	0	48	50,958	50,576	0	101,534	30	31	0	61	839,128	832,837	0	1,671,965
5th	24	18	0	42	48,870	36,620	0	85,491	37	34	0	70	830,326	622,194	0	1,452,520
6th	18	12	0	30	33,169	19,480	0	52,650	24	16	0	40	577,372	339,091	0	916,463
7th	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8th	6	10	7	23	13,037	18,494	15,633	47,164	21	36	30	87	230,615	327,141	276,543	834,299
9th	0.33	24	24	48	49	48,407	50,717	99,174	19	28	33	80	831	814,050	852,886	1,667,767
10th	0	24	24	48	0	48,353	51,502	99,856	0	13	34	47	0	819,278	872,635	1,691,913
11th	0	24	24	48	0	50,809	52,903	103,712	0	32	16	48	0	836,094	870,563	1,706,657
12th	0	24	24	48	0	50,613	52,292	102,905	0	28	36	64	0	830,883	858,451	1,689,334
13th	0	12	24	36	0	22,069	50,930	73,000	0	17	29	46	0	371,088	856,384	1,227,472
14th	0	0	7	7	0	0	10,427	10,427	0	0	17	17	0	0	187,484	187,484
15th	0.30	8	7	15	0	17,820	17,487	35,307	29	27	19	75	0	314,796	308,913	623,709
16th	9	24	13	46	19,251	47,455	22,622	89,327	21	30	19	70	318,594	785,354	374,381	1,478,329
17th	24	24	0	48	47,223	46,662	0	93,885	27	26	0	53	805,800	796,222	0	1,602,022
18th	24	24	0	48	45,512	45,702	0	91,214	41	35	0	76	773,531	776,752	0	1,550,283
19th	16	16	0	32	31,843	30,434	0	62,278	26	31	0	57	538,277	514,456	0	1,052,733
20th	6	19	0	25	11,743	38,735	0	50,478	13	22	0	35	192,846	636,109	0	828,955
21st	0	10	0	10	0	19,336	0	19,336	0	23	0	23	0	337,248	0	337,248
22nd	23	24	10	57	47,985	47,226	24,368	119,579	41	30	25	96	837,848	824,591	425,472	2,087,911
23rd	23	24	24	71	51,294	49,840	53,210	154,343	30	28	35	94	863,881	839,384	896,143	2,599,408
24th	24	24	24	72	51,239	50,860	53,233	155,332	32	29	35	96	850,271	843,977	883,351	2,577,599
25th	24	24	24	72	49,326	48,970	51,300	149,596	32	31	34	98	832,326	826,319	865,645	2,524,290
26th	24	24	24	72	48,977	48,068	50,922	147,966	32	26	26	84	831,916	816,492	864,954	2,513,362
27th	21	24	22	67	39,452	47,676	44,017	131,144	32	37	37	106	674,830	815,496	752,909	2,243,235
28th	0	24	0	24	0	43,963	0	43,963	0	27	0	27	0	770,419	0	770,419
29th	13	24	0	37	28,263	45,502	0	73,765	29	29	0	58	502,508	809,000	0	1,311,508
30th	7	24	19	50	12,449	47,665	43,164	103,277	43	33	57	133	209,982	804,014	728,083	1,742,079
31st	21	24	24	69	43,472	47,001	49,370	139,843	35	25	32	92	747,020	807,650	848,355	2,403,025
Totals	389	603	325	1,317	792,684	1,202,779	694,096	2,689,559	683	823	515	2,022	13,464,475	20,397,180	11,723,152	45,584,807
	Sum of Engines		1,317		Sum of Engines		2,689,559		Sum of Engines		2,021		Sum of Engines		45,584,807	

EBMUD

May - 2023

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	6	69,384	220	24	84,970	1,471,686	15	224,439	27	42
2nd	0	4,997	14	436,497	769	24	81,719	1,366,645	0	0	48	48
3rd	0	9,388	19	925,896	1,720	23	78,321	1,266,988	0	0	48	48
4th	0	0	20	586,968	911	24	83,794	1,394,335	0	5,492	48	48
5th	0	0	6	106,181	347	24	82,955	1,378,645	4	63,896	42	46
6th	0	0	2	31,828	250	24	75,174	1,302,750	12	269,639	30	42
7th	0	0	3	45,876	261	24	82,766	1,418,717	24	534,500	0	24
8th	0	600	13	528,320	1,487	24	82,622	1,409,727	8	189,366	23	31
9th	0	0	16	377,098	708	24	81,672	1,382,960	0	0	48	48
10th	0	0	15	612,737	1,077	24	82,657	1,412,167	0	0	48	48
11th	0	0	22	1,223,826	1,466	24	82,359	1,392,199	0	0	48	48
12th	0	0	15	541,559	1,118	24	81,350	1,362,489	0	0	48	48
13th	0	0	0	2,172	25	24	77,725	1,339,329	0	0	36	36
14th	0	0	0	0	0	24	76,339	1,349,010	18	339,269	7	25
15th	1	20,837	17	933,557	1,774	24	81,658	1,416,394	15	298,487	15	30
16th	0	0	8	195,507	633	24	78,377	1,297,488	0	0	46	46
17th	0	0	11	309,299	859	24	78,230	1,299,623	0	0	48	48
18th	0	261	15	434,908	805	21	63,031	1,075,912	3	57,593	48	51
19th	0	130	21	699,182	1,087	13	42,242	756,374	11	325,381	32	43
20th	0	0	17	313,420	434	24	78,909	1,312,883	5	91,682	25	30
21st	0	393	2	34,337	137	13	35,150	639,960	24	494,005	10	34
22nd	17	564,226	2	41,825	241	0	0	0	13	310,384	57	70
23rd	24	859,609	0	0	0	0	0	0	0	0	71	71
24th	14	571,076	11	621,267	1,662	0	0	0	0	0	72	72
25th	17	632,448	10	341,731	850	0	0	0	0	0	72	72
26th	23	468,027	0	0	0	0	0	0	0	0	72	72
27th	20	465,950	0	0	0	0	0	0	4	102,591	67	71
28th	23	319,262	0	0	0	0	0	0	24	651,487	24	48
29th	21	305,449	0	0	0	0	0	0	19	464,377	37	56
30th	22	734,572	1	33,453	558	0	0	0	15	280,191	50	65
31st	23	573,644	0	0	0	0.27	0	2,865	2	47,052	69	71
Totals	204	5,530,869	266	9,446,828		478	1,592,020	27,049,146	217	4,749,831	1,317	1,534
				Maximum	1,774						Maximum	72

June - 2023

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	22	10	56	48,190	42,860	20,031	111,080	49	43	20	111	825,655	734,330	343,197	1,903,182
2nd	24	19	0	43	47,833	37,188	0	85,021	33	30	0	63	817,843	635,842	0	1,453,685
3rd	24	3	0	27	47,366	4,561	0	51,927	39	7	0	46	820,269	78,986	0	899,255
4th	18	0	0	18	28,880	0	0	28,880	31	0	0	31	525,108	0	0	525,108
5th	15	0	8	23	31,901	0	15,350	47,251	30	0	23	53	568,501	0	273,541	842,042
6th	24	0	14	38	50,207	0	31,050	81,257	38	0	28	66	879,821	0	544,124	1,423,945
7th	21	0	24	45	42,546	0	49,626	92,172	40	0	35	75	727,505	0	848,564	1,576,069
8th	17	0	24	41	32,181	0	46,006	78,186	33	0	34	66	573,744	0	820,222	1,393,966
9th	24	0	19	43	46,304	0	37,171	83,475	50	0	21	70	803,960	0	645,387	1,449,347
10th	16	0	0	16	31,050	0	0	31,050	30	0	0	30	540,736	0	0	540,736
11th	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12th	20	5	0	25	40,601	7,745	0	48,347	39	25	0	64	739,567	141,087	0	880,654
13th	24	18	0	42	48,072	34,880	0	82,952	33	32	0	64	847,809	615,153	0	1,462,962
14th	24	24	0	48	47,851	46,687	0	94,539	30	28	0	58	832,209	811,962	0	1,644,171
15th	24	24	0	48	43,938	42,955	0	86,892	36	31	0	68	785,324	767,753	0	1,553,077
16th	24	24	0	48	44,809	44,406	0	89,215	32	30	0	62	790,951	783,835	0	1,574,786
17th	24	17	0	41	40,991	26,936	0	67,928	26	24	0	50	721,311	473,992	0	1,195,303
18th	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19th	17	0	9	26	33,452	0	15,304	48,756	36	0	29	65	617,680	0	282,593	900,273
20th	24	0	24	48	48,539	0	50,147	98,687	32	0	36	68	866,038	0	894,725	1,760,763
21st	24	0	24	48	51,070	0	52,620	103,690	17	0	16	33	845,817	0	871,483	1,717,300
22nd	10	0	24	34	19,149	0	52,889	72,038	18	0	36	53	318,818	0	880,591	1,199,409
23rd	13	0	24	37	26,987	0	50,870	77,857	32	0	31	63	461,722	0	870,337	1,332,059
24th	24	0	3	27	46,924	0	4,351	51,275	27	0	7	34	847,355	0	78,569	925,924
25th	24	0	0	24	45,779	0	0	45,779	41	0	0	41	839,402	0	0	839,402
26th	24	0	1	25	50,942	0	334	51,276	32	0	24	56	914,948	0	6,007	920,955
27th	20	0	12	32	42,113	0	28,537	70,650	66	0	20	85	733,536	0	497,058	1,230,594
28th	24	0	24	48	47,870	0	48,459	96,329	55	0	51	107	812,748	0	822,743	1,635,491
29th	24	0	24	48	48,777	0	49,970	98,748	41	0	36	77	858,784	0	879,792	1,738,576
30th	24	0	24	48	45,339	0	46,397	91,736	36	0	28	64	816,375	0	835,410	1,651,785
Totals	599	156	292	1,047	1,179,662	288,219	599,112	2,066,993	1,001	251	475	1,727	20,733,536	5,042,940	10,394,343	36,170,819
		Sum of Engines	1,047			Sum of Engines	2,066,993			Sum of Engines	1,727			Sum of Engines	36,170,819	

June - 2023

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	15	362,490	4	279,651	1,177	13	44,185	825,389	1.1	16,976	56	57
2nd	17	278,259	0	0	0	24	83,795	1,484,789	0	0	43	43
3rd	8	85,722	0	0	0	24	84,642	1,487,400	0	0	27	27
4th	2	13,586	0	0	0	24	73,677	1,351,624	7	123,855	18	25
5th	10	189,436	0	0	0	24	80,275	1,474,458	11	176,417	23	34
6th	14	320,820	5	390,374	1,300	24	83,821	1,521,992	11	146,947	38	49
7th	15	308,999	0	0	0	24	79,718	1,415,251	1.0	15,558	45	46
8th	12	162,670	0	0	0	24	81,698	1,474,908	1.3	19,793	41	42
9th	14	236,945	0	0	0	24	85,991	1,549,729	0.7	9,632	43	44
10th	3	26,881	0	0	0	24	72,727	1,320,753	9	159,207	16	25
11th	18	443,076	0	0	0	6	13,149	277,335	24	694,387	0	24
12th	11	208,055	0	0	0	19	62,569	1,205,923	5	153,408	25	30
13th	8	85,687	0	0	0	24	84,854	1,542,849	0	0	42	42
14th	8	170,152	0	0	0	24	84,811	1,529,805	0	0	48	48
15th	0.1	247	2	21,463	185	24	77,311	1,428,619	0	0	48	48
16th	0	0	9	317,096	978	24	81,130	1,446,073	0	0	48	48
17th	0	0	0.03	487	8	24	74,620	1,353,160	1.1	16,848	41	42
18th	0	0	0	0	0	24	72,145	1,322,491	24	352,594	0	24
19th	0	0	3	53,869	295	24	83,119	1,536,225	6	86,971	26	32
20th	10	419,408	16	1,243,417	1,747	23	79,447	1,481,500	0	0	48	48
21st	10	371,341	24	2,073,712	1,751	24	85,411	1,498,385	0	0	48	48
22nd	12	464,847	19	1,323,403	1,787	24	84,995	1,520,136	0	0	34	34
23rd	12	332,830	7	458,105	1,553	24	84,354	1,504,860	0	0	37	37
24th	0.03	186	0	0	0	24	75,398	1,396,238	0	0	27	27
25th	0.4	1,640	0	0	0	24	71,387	1,352,693	0	0	24	24
26th	4	88,982	11	666,209	1,429	24	83,509	1,546,809	0	0	25	25
27th	14	422,325	15	997,996	1,561	21	73,480	1,370,285	4	66,960	32	36
28th	11	220,949	6	501,067	1,721	24	84,372	1,509,254	0	0	48	48
29th	2	24,478	9	398,788	1,102	24	84,093	1,522,956	0	0	48	48
30th	9	96,087	0.8	13,104	142	24	77,441	1,406,948	0	0	48	48
Totals	239	5,336,098	132	8,738,741		683	2,288,124	41,658,837	106	2,039,553	1,047	1,153
				Maximum	1,787						Maximum	57

Attachment 2 - Combustion Device Summaries **EBMUD Main Wastewater Plant** **January 1 - June 30, 2023**

Engine Thermal Throughput - Thermal Mass Meter, Common Engine Digester Gas Line

Turbine Operation			Data Source	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Semi-annual Totals	Limits	
Run Time	Total	hrs	metered	736	649	700	720	478	683	3,966		
Digester Gas	Total	cu ft	metered	2,600,082	39,120,491	41,676,626	41,900,952	27,049,146	41,658,837	194,006,134		
Thermal Throughput[3]	Total	MMBTU		1,730	25,977	27,660	27,939	18,081	27,830	129,217	389,820	MMBTU per 12-Month period
	Total	MMBTU/hr		2.4	40.0	39.5	38.8	37.8	40.7	x		
Nitrogen Oxide[4]	Max	ppm	sampled	6.4	7.2	5.8	5.6	5.8	4.5	x	23	ppm at any time
Carbon Monoxide[4]	Max	ppm	sampled	5.1	1.3	2.5	6.0	1.8	5.2	x	100	
Sulfur Dioxide[4]	Max	ppm	sampled	6.1	5.0	3.2	4.1	1.3	4.3	x	150	
Nitrogen Oxide	Total	lbs	calc'd	Based on last annual source test mass load rate (0.86 lbs/hr) x run time (3,781+3,966hrs)-->						6,662	34,400	lbs per 12-Month period
Carbon Monoxide	Total	lbs	calc'd	Based on last annual source test mass flow rate (0.3 lbs/hr) x run time (3,781+3,966hrs)---->						2,324	92,200	
Engine Operation												
Run Time	Eng #1	hrs	metered	-	-	80	539	389	599	1,607		
	Eng #2	hrs	metered	552	606	578	397	603	156	2,892		
	Eng #3	hrs	metered	582	562	530	78	325	292	2,369		
	Total	hrs	sum	1,134	1,168	1,188	1,014	1,317	1,047	6,868	25,316	hr/365 days
Diesel Fuel[1]	Eng #1	gal	calc'd	-	-	210	786	683	1,001	2,680		
	Eng #2	gal	calc'd	751	985	901	540	823	251	4,251		
	Eng #3	gal	calc'd	904	1,093	1,045	162	515	475	4,194		
	Total	gal	sum	1,655	2,078	2,156	1,488	2,021	1,727	11,125	150,000	gal/365 days
Digester Gas[2]	Eng #1	cu ft	metered	-	-	2,754,804	18,269,892	13,464,475	20,733,536	55,222,707		
	Eng #2	cu ft	metered	19,372,995	21,461,094	19,305,429	13,283,017	20,397,180	5,042,940	98,862,655		
	Eng #3	cu ft	metered	20,826,030	20,306,784	18,540,179	2,679,827	11,723,152	10,394,343	84,470,315		
	Total	cu ft	sum	40,199,025	41,767,878	40,600,412	34,232,736	45,584,807	36,170,819	238,555,677		
Thermal Throughput[3]	Eng #1	MMBTU/hr		-	-	23.2	22.8	23.4	23.4	x	25	MMBTU/hr
	Eng #2	MMBTU/hr		23.5	23.7	22.4	22.5	22.8	21.8	x	25	MMBTU/hr
	Eng #3	MMBTU/hr		24.0	24.3	23.5	23.2	24.3	24.0	x	25	MMBTU/hr
Natural Gas	Total	cu ft	metered	-	-	-	-	-	-	-		
Boiler Operation												
Run Time	Boiler	hrs	metered	168	66	264	291	217	106	1,112		
Digester Gas	Boiler	cu ft	metered	3,330,816	1,420,937	5,304,455	6,227,670	4,749,831	2,039,553	23,073,262		
Thermal Thruput[3]	Boiler	MMBTU/hr		13.2	14.3	13.3	14.3	14.6	12.8	x	20.41	MMBTU/hr
Flare Operation (A-190,191,192,193)												
Run Time	Flares	hrs	metered	1.1	2	2	13	204	239	461		
Digester Gas	Flares	cu ft	metered	9,831	27,020	48,352	323,679	5,530,869	5,336,098	11,275,849		
Thermal Thruput[3]	Flares	MMBTU/hr		6.2	10.6	13.2	17.1	18.1	14.9	x		
Flare Operation (A-194,195)												
Run Time	Flares	hrs	metered	387	344	473	355	266	132	1,958		
Digester Gas	Flares	cu ft	metered	15,366,685	12,548,726	18,084,871	12,989,484	9,446,828	8,738,741	77,175,335		
Thermal Thruput[3]	Flares	MMBTU/hr		26.4	24.2	25.4	24.4	23.7	44.1	x		
Max Total Flow	Flares	scfm	metered	1,793	2,069	2,482	1,864	1,774	1,787	x	3,000	scfm
Digester Gas HHV	12-mo Avg	BTU/scf	sampled	666	664	664	667	668	668	x		

(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

2023 CARB Annual Data, Engines, Flares, Boiler with mmBTU - Rolling Avg

ATTACHMENT 3

ANNUAL SOURCE TEST RESULTS

Note: No source tests completed during reporting period of January 1, 2023 - June 30, 2023

Attachment 4
Gasoline Facility Throughput (S-48)

MAIN WASTEWATER TREATMENT PLANT
GASOLINE DISPENSING FACILITY
Maintenance Center (3,000 gallon gasoline compartment)
Year: 2023
As of June 30, 2023

MONTH	GALLONS RECEIVED	RECEIVED YR-TO-DATE	GALLONS ISSUED	ISSUED YR-TO-DATE	COMMENTS
JAN	4100	4100	3316	3316	
FEB	2268	6368	2294	5610	
MAR	2178	8546	2616	8226	
APR	2202	10748	2400	10626	
MAY	3102	13850	2385	13011	
JUN	2000	15850	2267	15278	
JUL					
AUG					
SEP					
OCT					
NOV					
DEC					
Total					

ATTACHMENT 5

Hours of Operation for Stand-by Emergency Generators

January 1, 2023 – June 30, 2023

Source	Location	Hours Meter Begin	Hours Meter End	Emergency Use Hours	Reliability-related Hours	Limit on reliability-related Hours
S-51	Dechlorination*	763.1	763.7	0	0.6	50
S-53	West of Admin Bldg	134.0	136.4	0	2.4	30
S-54	East Bayshore RWP**	36	36	0	0	50
S-58	North of Maintenance	20.2	20.4	0	0.2	50
S-59	North of PGS	6.3	14.8	7.7	0.8	50
S-60	Dechlorination*	9.9	13.6	0	3.7	50

**S-51 removed 1/25/2023 and replaced with S-60*
***Generator out of service but still in place*

July 1, 2022 – December 31, 2022

Source	Location	Hours Meter Begin	Hours Meter End	Emergency Use Hours	Reliability-related Hours	Limit on reliability-related Hours
S-51	Dechlorination	758.8	763.1	0.4	3.9	50
S-53	West of Admin Bldg	129.6	134.0	0	4.4	30
S-54	East Bayshore RWP*	36	36	0	0	50
S-58	North of Maintenance	20.2	20.2	0	0	50
S-59	North of PGS	0	6.3	0	6.3	50

**Generator out of service but still in place*

July 1, 2022 – June 30, 2023 (last 12 months total)

Source	Location	Hours Meter Begin	Hours Meter End	Emergency Use Hours	Reliability-related Hours	Limit on reliability-related Hours
S-51	Dechlorination*	758.8	763.7	0.4	4.5	50
S-53	West of Admin Bldg	129.6	136.4	0	6.8	30
S-54	East Bayshore RWP**	36	36	0	0	50
S-58	North of Maintenance	20.2	20.4	0	0.2	50
S-59	North of PGS	0	14.8	7.7	7.1	50
S-60	Dechlorination*	9.9	13.6	0	3.7	50

**S-51 removed 1/25/2023 and replaced with S-60*

***Generator out of service but still in place*

ATTACHMENT 6

TURBINE MONTHLY TEST RESULTS

TABLE # 1

EBMUD-JAN-2023
DG TURBINE #1 (S-56)
3447 kW

RUN	1	LIMITS
Test Date	1/12/23	
Test Time	1721-1736	
PGS-2 Turbine kW	3,447	
PGS-2 Fuel Flow Rate, DSCFM	987	
Oxygen, O_2, %	17.1	
NOx, ppm	4.1	
NOx, ppm @ 15% O_2	**6.4**	**23**
CO, ppm	3.3	
CO, ppm @ 15% O_2	**5.1**	**100**
SO_2, ppm	3.9	
SO_2, ppm @ 15% O_2	**6.1**	**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)

TABLE # 1

EBMUD-FEB-2023
DG TURBINE #1 (S-56)
3738 kW

RUN	**1**	**LIMITS**
Test Date	2/16/23	
Test Time	1854-1909	
PGS-2 Turbine kW	3,738	
PGS-2 Fuel Flow Rate, DSCFM	1,047	
Oxygen, O_2, %	16.9	
NOx, ppm	4.9	
NOx, ppm @ 15% O_2	**7.2**	**23**
CO, ppm	0.9	
CO, ppm @ 15% O_2	**1.3**	**100**
SO_2, ppm	3.4	
SO_2, ppm @ 15% O_2	**5.0**	**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-MAR-2023
DG TURBINE #1 (S-56)
3447 kW

RUN	1	LIMITS
Test Date	3/22/23	
Test Time	1749-1804	
PGS-2 Turbine kW	3,447	
PGS-2 Fuel Flow Rate, DSCFM	961	
Oxygen, O_2, %	16.9	
NOx, ppm	3.9	
NOx, ppm @ 15% O_2	**5.8**	**23**
CO, ppm	1.7	
CO, ppm @ 15% O_2	**2.5**	**100**
SO_2, ppm	2.2	
SO_2, ppm @ 15% O_2	**3.2**	**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-APR-2023
DG TURBINE #1 (S-56)
3628 kW

RUN	**1**	**LIMITS**
Test Date	4/17/23	
Test Time	2009-2024	
PGS-2 Turbine kW	3,628	
PGS-2 Fuel Flow Rate, DSCFM	1,013	
Oxygen, O_2, %	16.9	
NOx, ppm	3.8	
NOx, ppm @ 15% O_2	**5.6**	**23**
CO, ppm	4.1	
CO, ppm @ 15% O_2	**6.0**	**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)

TABLE # 1

EBMUD-MAY-2023
DG TURBINE #1 (S-56)
3738 kW

RUN	**1**	**LIMITS**
Test Date	5/12/23	
Test Time	1130-1145	
PGS-2 Turbine kW	3,738	
PGS-2 Fuel Flow Rate, DSCFM	936	
Oxygen, O_2, %	16.7	
NOx, ppm	4.1	
NOx, ppm @ 15% O_2	**5.8**	**23**
CO, ppm	1.3	
CO, ppm @ 15% O_2	**1.8**	**100**
SO_2, ppm	0.9	
SO_2, ppm @ 15% O_2	**1.3**	**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-JUN-2023
DG TURBINE #1 (S-56)
3628 kW

RUN	1	LIMITS
Test Date	6/15/23	
Test Time	0927-0942	
PGS-2 Turbine kW	3,567	
PGS-2 Fuel Flow Rate, DSCFM	1,074	
Oxygen, O_2, %	16.6	
NOx, ppm	3.3	
NOx, ppm @ 15% O_2	**4.5**	**23**
CO, ppm	3.8	
CO, ppm @ 15% O_2	**5.2**	**100**
SO_2, ppm	3.1	
SO_2, ppm @ 15% O_2	**4.3**	**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)

ATTACHMENT 7

MAIN WASTEWATER TREATMENT PLANT FLOWS

East Bay Municipal Utility District
MONTHLY WASTEWATER MONITORING SUMMARY JUNE 2023

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

	INF (MGD)				EFF (MGD)			CBOD						TSS						Oil and Grease	
	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. Avg	# excs/ # of Analyses 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. Avg	# excs/ # of Analyses Week Avg	% Removal Month Avg	Eff mg/L Month Avg	Eff mg/L Daily Max
Limits:				**120**					**25**	**40**			**Min 85**		**30**	**45**			**Min 85**	**10**	**20**
																				4x/year	
Jan	122	230	61		117	228	57	187	8	13	0/ 1	0/ 4	96%	462	13	21	0/ 1	0/ 4	97%		
Feb	68	120	56		62	112	51	252	4	4	0/ 1	0/ 4	98%	396	6	6	0/ 1	0/ 4	99%	< 1.3	< 1.3
Mar	108	201	74		102	203	66	177	10	15	0/ 1	0/ 4	94%	381	17	24	0/ 1	0/ 4	96%		
Apr	64	83	55		58	80	49	357	5	6	0/ 1	0/ 5	99%	762	7	10	0/ 1	0/ 5	99%		
May	57	72	47		51	69	38	381	6	9	0/ 1	0/ 4	98%	588	8	9	0/ 1	0/ 4	99%	E 2.8	E 2.8
Jun	50	54	47		45	48	43	565	7	7	0/ 1	0/ 4	99%	870	10	10	0/ 1	0/ 4	99%		
Jul																					
Aug																					
Sep																					
Oct																					
Nov																					
Dec																					
Avg	78	127	57		73	123	51	320	7	9			97%	576	10	13			98%	E 2.1	E 2.1
Max	122	230	74		117	228	66	565	10	15			99%	870	17	24			99%	E 2.8	E 2.8
Min	50	54	47		45	48	38	177	4	4			94%	381	6	6			96%	< 1.3	< 1.3
Exc/Analyses				0/0							0/ 6	0/ 25	0/6				0/ 6	0/ 25	0/6	0/2	0/2

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-Jan-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
02-Jan-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
03-Jan-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
04-Jan-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
05-Jan-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
06-Jan-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
07-Jan-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
08-Jan-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
09-Jan-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Jan-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11-Jan-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12-Jan-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13-Jan-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14-Jan-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15-Jan-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16-Jan-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17-Jan-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18-Jan-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19-Jan-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20-Jan-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21-Jan-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22-Jan-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23-Jan-23	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0
24-Jan-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25-Jan-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26-Jan-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27-Jan-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28-Jan-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29-Jan-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30-Jan-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31-Jan-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Monthly Avg	0.0	0.0	0.0	0.0				
Monthly Max					0.0	0.9	0.0	0.0

	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-Feb-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
02-Feb-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
03-Feb-23	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0
04-Feb-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
05-Feb-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
06-Feb-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
07-Feb-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
08-Feb-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
09-Feb-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Feb-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11-Feb-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12-Feb-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13-Feb-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14-Feb-23	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
15-Feb-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16-Feb-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17-Feb-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18-Feb-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19-Feb-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20-Feb-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21-Feb-23	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
22-Feb-23	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0
23-Feb-23	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0
24-Feb-23	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0
25-Feb-23	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
26-Feb-23	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
27-Feb-23	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0
28-Feb-23	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Monthly Avg	0.0	0.0	0.0	0.0				
Monthly Max					0.1	0.0	1.6	0.0

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-Mar-23	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
02-Mar-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
03-Mar-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
04-Mar-23	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
05-Mar-23	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
06-Mar-23	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
07-Mar-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
08-Mar-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
09-Mar-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Mar-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11-Mar-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12-Mar-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13-Mar-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14-Mar-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15-Mar-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16-Mar-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17-Mar-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18-Mar-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19-Mar-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20-Mar-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21-Mar-23	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
22-Mar-23	0.1	0.0	0.0	0.0	11.2	0.0	0.0	0.0
23-Mar-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24-Mar-23	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
25-Mar-23	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
26-Mar-23	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
27-Mar-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28-Mar-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29-Mar-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30-Mar-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31-Mar-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Monthly Avg	0.0	0.0	0.0	0.0				
Monthly Max					11.2	0.0	0.0	0.0

	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-Apr-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
02-Apr-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
03-Apr-23	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
04-Apr-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
05-Apr-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
06-Apr-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
07-Apr-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
08-Apr-23	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0
09-Apr-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Apr-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11-Apr-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12-Apr-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13-Apr-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14-Apr-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15-Apr-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16-Apr-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17-Apr-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18-Apr-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19-Apr-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20-Apr-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21-Apr-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
22-Apr-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23-Apr-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24-Apr-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25-Apr-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26-Apr-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27-Apr-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28-Apr-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29-Apr-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30-Apr-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Monthly Avg	0.0	0.0	0.0	0.0				
Monthly Max					0.1	0.7	0.0	0.3

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-May-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
02-May-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
03-May-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
04-May-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
05-May-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
06-May-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
07-May-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
08-May-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
09-May-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-May-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11-May-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12-May-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13-May-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14-May-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15-May-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16-May-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
17-May-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18-May-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
19-May-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20-May-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21-May-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22-May-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23-May-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24-May-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25-May-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6
26-May-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27-May-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28-May-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29-May-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
30-May-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31-May-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Monthly Avg	0.0	0.0	0.0	0.0				
Monthly Max					0.0	0.0	0.0	0.6

	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-Jun-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
02-Jun-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
03-Jun-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
04-Jun-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
05-Jun-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
06-Jun-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
07-Jun-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
08-Jun-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
09-Jun-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
10-Jun-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11-Jun-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12-Jun-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13-Jun-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14-Jun-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15-Jun-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16-Jun-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17-Jun-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18-Jun-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19-Jun-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20-Jun-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21-Jun-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22-Jun-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23-Jun-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24-Jun-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25-Jun-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26-Jun-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27-Jun-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28-Jun-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29-Jun-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30-Jun-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Monthly Avg	0.0	0.0	0.0	0.0				
Monthly Max					0.0	0.0	0.0	0.3

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

Influent Pump Station Odor Scrubber Outage Table

Start	Finish	Duration	Reason
02-Mar-23 12:58	02-Mar-23 13:00	0:02	Not logged, Power glitch A463
21-Mar-23 17:07	21-Mar-23 18:20	1:13	Power failure multiple locations at IPS including A462, A463/A464
	Total Down Time	1:15	

Attachment 9

Odor Scrubber Mainteance Records for S-110 (IPS, W-12, W-30) and S-170 (Sludge Handling, W-25)

Area	Wonum	Description	Assetnum	Req Dept	Resp Dept	Status	Type	Report Date	Reported By
W-25	2023014117	Please build two platforms so ops can access grease points on new exhaust fan bearings	W-25-MISC-000-00	PO	MEN	COMP	CM	RHELMERS	2/14/2023
W-30	2023027133	High vibrations on the fan area...maybe loose belts or buildup on the fan blades	W-30-FAN-301-00	PO	MEN	COMP	BD	SZUBRZYC	3/2/2023
W-12	2023027323	Power outage and PGE and PGS lost, w/o for callout response	W-12-MISC-000-00	PO	EL	COMP	BD	CAMAN	3/22/2023
W-12	2023040356	New Odor Scrubber Inlet H2S pump has a fault showing	W-12-FA-AIT-001	PO	IN	COMP	CM	JBECHTOL	4/11/2023
W-12	2023040380	Please replace broken belt on this fan.	W-12-FAN-EF4-00	PO	MEN	COMP	CM	TZELENSK	4/13/2023
W-25	2023051707	H2S sensor in the office is maxed out and alarming after a power outage	W-25-INS-001-01	PO	IN	COMP	BD	SZUBRZYC	4/26/2023
W-25	2023056127	Odor scrubber mister rotameter is broken and no longer adjustable...request replacement	W-25-DSL-CTF-401	PO	MEN	COMP	BD	SZUBRZYC	4/28/2023
W-12	2023056132	Odor scrubber's HMI screen is locked and requires a password to gain access	W-12-MSL-OCS-01	PO	IN	COMP	CM	MMYEE	4/30/2023
W-12	2023056159	#2 Odor Scrubber nutrient tank pump is not pumping.	W-12-IRR-PMP-232	PO	MEN	COMP	CM	DGARCIA	5/3/2023
W-25	2023056178	Support for Fire Alarm Panel Connection at Dewatering Building BACKGROUND: The SD402 Contractor needs to connect the new Dewatering building air handling unit to the existing Dewatering Building fire alarm control panel. The Contractor is responsible for running the wire to the panel, however, they are requesting support from the District for landing the wire and possible programming of the panel. SCOPE: Support Contractor connecting new air handling unit to existing fire alarm panel.	W-25-MISC-000-00	SS	ST	DONE	PJ	LSERVANDE	5/4/2023
W-30	2023056271	Cut in Tees and Valves into the Odor scrubber sump fill piping	W-30-PMP-001-06	MEP	MEN	DONE	CM	JDUARTE	5/15/2023
W-12	2023069745	New odor scrubber inlet H2S pump has a fault showing (Reference# 2023040356).	W-12-FA-AIT-001	PO	IN	COMP	CM	DGARCIA	5/30/2023
W-12	2023069754	replace strainer on #2 BTF nutrient Tk the strainer (nutrient pump suction inside tank) appears to be plugged. also please replace all tubing from tk to pump	W-12-MISC-000-00	PO	MEN	COMP	CM	JBECHTOL	5/31/2023
W-12	2023069782	Odor scrubber feed pump leak W-12-IRR-PMP-232	W-12-IRR-PMP-132	PO	MEN	COMP	CM	DPERILLO	6/4/2023
W-12	2023069953	Odor scrubber's HMI screen is locked and requires a password to gain access	W-12-MSL-OCS-01	PO	IN	COMP	CM	MMYEE	6/28/2023
W-12	2023069955	Odor scrubber H2S inlet sample pump displaying a fail alarm	W-12-FA-PMP-001	PO	IN	COMP	CM	MMYEE	6/28/2023

ATTACHMENT 10 -- S-170 Waste Activated Sludge Throughput

2023 January - June Gravity Belt Thickener Summary Flow Table

Note: Kgal=1,000 gallons

Daily Flows	January Kgal	February Kgal	March Kgal	April Kgal	May Kgal	June Kgal
1st	1,502	785	1,273	910	1,348	1,411
2nd	1,325	914	1,378	949	1,483	1,407
3rd	1,010	918	1,540	891	1,202	1,488
4th	797	907	1,934	872	1,345	1,575
5th	783	903	2,049	912	1,285	1,553
6th	799	1,000	1,627	920	1,426	1,507
7th	821	1,169	1,362	1,002	1,504	1,618
8th	903	1,210	1,591	911	1,501	1,580
9th	902	1,350	1,580	1,081	1,602	1,643
10th	899	1,249	1,581	1,151	1,642	1,912
11th	1,120	1,264	1,845	1,205	1,290	1,588
12th	1,389	1,286	1,799	1,145	1,307	1,600
13th	1,284	1,159	1,888	1,212	1,297	1,450
14th	1,173	1,247	1,868	1,242	1,268	1,426
15th	1,154	1,087	1,334	1,175	822	1,425
16th	1,174	1,093	913	1,027	1,028	1,290
17th	1,154	1,097	913	1,113	945	1,236
18th	1,146	1,149	935	1,175	860	1,290
19th	1,042	1,231	932	1,362	614	1,271
20th	913	1,117	1,173	1,441	1,238	1,374
21st	917	1,204	1,224	1,395	971	1,392
22nd	913	1,614	1,624	1,403	889	1,387
23rd	930	1,935	1,777	1,364	1,027	1,342
24th	883	1,783	1,758	1,419	1,246	1,318
25th	458	1,560	1,748	1,457	1,433	1,357
26th	827	1,472	1,808	1,409	1,446	1,381
27th	827	1,295	1,853	1,202	1,437	1,436
28th	865	1,148	1,848	1,313	1,453	1,645
29th	898		1,865	1,363	1,454	1,565
30th	913		1,405	1,404	1,398	1,377
31st	901		914		1,409	
Monthly Total	30,621	34,145	47,338	35,429	39,167	43,845
Semi-Annual Total	230,545					

Gravity Belt Thickener and Dewatering Centrifuge Odor Scrubber Outage Table

Start	Finish	Duration	Reason
26-Jan-23 09:15	26-Jan-23 11:00	1:45	Hypo and flush water secured for maintenance work on nearby storm drain
	Total Down Time, DWB	1:45	

ATTACHMENT 11

2023 January - June Blend Tank Summary Flow Table

Daily Flows	January Kgal	February Kgal	March Kgal	April Kgal	May Kgal	June Kgal
1st	824	818	700	860	1,040	850
2nd	882	948	1,059	727	1,097	998
3rd	821	890	850	866	1,061	864
4th	952	820	863	860	1,094	727
5th	969	720	856	1,033	1,020	923
6th	726	719	1,059	1,067	1,037	917
7th	851	841	1,089	864	943	1,005
8th	599	961	983	989	1,024	916
9th	811	953	1,059	780	1,135	983
10th	693	944	1,181	907	1,131	883
11th	891	942	1,082	892	1,044	739
12th	920	834	979	1,055	1,045	842
13th	891	809	965	990	882	833
14th	894	833	1,180	1,073	888	902
15th	714	907	1,061	975	927	900
16th	680	916	872	923	889	883
17th	714	854	938	962	947	756
18th	868	866	874	1,010	942	640
19th	800	830	744	1,140	721	793
20th	907	735	935	1,129	846	858
21st	705	894	996	1,121	736	912
22nd	571	1,066	1,050	1,115	892	814
23rd	741	1,113	1,062	873	940	835
24th	946	1,073	1,052	1,077	992	672
25th	652	998	1,115	1,172	1,078	644
26th	885	766	919	1,124	994	748
27th	901	839	1,026	1,062	925	817
28th	922	778	1,155	1,121	792	909
29th	909		1,219	972	770	875
30th	830		1,138	908	913	760
31st	816		930		958	
Monthly Total	25,288	24,668	30,991	29,647	29,706	25,198
Semi-Annual Total	165,498					

ATTACHMENT 12 - DIGESTER GAS SAMPLING DATA

EBMUD Biogas H2S
January - June 2023

2023	Cogen Feed H2S (ppm)	365 Day Avg H2S (ppm)
1/1/2023	86	117
1/2/2023	52	117
1/3/2023	83	117
1/4/2023	117	117
1/5/2023	73	116
1/6/2023	97	116
1/7/2023	86	116
1/8/2023	75	116
1/9/2023	76	116
1/10/2023	66	116
1/11/2023	95	116
1/12/2023	113	116
1/13/2023	81	116
1/14/2023	91	116
1/15/2023	56	116
1/16/2023	64	116
1/17/2023	60	116
1/18/2023	136	116
1/19/2023	132	116
1/20/2023	84	116
1/21/2023	124	116
1/22/2023	59	116
1/23/2023	156	116
1/24/2023	76	116
1/25/2023	81	116
1/26/2023	115	116
1/27/2023	74	116
1/28/2023	81	116
1/29/2023	77	116
1/30/2023	70	116
1/31/2023	163	116
2/1/2023	85	116
2/2/2023	207	117
2/3/2023	198	117
2/4/2023	224	117
2/5/2023	135	117
2/6/2023	137	118
2/7/2023	222	118
2/8/2023	183	118
2/9/2023	234	118
2/10/2023	300	119
2/11/2023	196	119
2/12/2023	246	119
2/13/2023	256	120
2/14/2023	221	120
2/15/2023	194	120
2/16/2023	189	120
2/17/2023	172	120
2/18/2023	187	120
2/19/2023	119	120
2/20/2023	169	120
2/21/2023	104	120
2/22/2023	238	121
2/23/2023	195	121
2/24/2023	172	121
2/25/2023	186	120
2/26/2023	214	120
2/27/2023	96	120
2/28/2023	191	120

Raw gas readings subbed 03/05 and
03/30 due to low post carbon vessel readings

2023	Cogen Feed H2S (ppm)	365 Day Avg H2S (ppm)
3/1/2023	142	121
3/2/2023	141	121
3/3/2023	150	121
3/4/2023	148	121
3/5/2023	98	120
3/6/2023	87	120
3/7/2023	157	120
3/8/2023	83	120
3/9/2023	159	120
3/10/2023	169	120
3/11/2023	144	120
3/12/2023	147	119
3/13/2023	60	119
3/14/2023	70	119
3/15/2023	130	119
3/16/2023	123	118
3/17/2023	110	118
3/18/2023	86	118
3/19/2023	82	118
3/20/2023	100	118
3/21/2023	100	117
3/22/2023	126	117
3/23/2023	174	117
3/24/2023	144	117
3/25/2023	154	117
3/26/2023	131	118
3/27/2023	202	118
3/28/2023	134	118
3/29/2023	114	118
3/30/2023	126	117
3/31/2023	102	117
4/1/2023	144	117
4/2/2023	120	117
4/3/2023	124	117
4/4/2023	173	117
4/5/2023	270	117
4/6/2023	154	117
4/7/2023	263	117
4/8/2023	180	117
4/9/2023	274	118
4/10/2023	211	118
4/11/2023	286	118
4/12/2023	418	119
4/13/2023	292	119
4/14/2023	295	120
4/15/2023	297	120
4/16/2023	256	121
4/17/2023	235	121
4/18/2023	265	121
4/19/2023	282	122
4/20/2023	305	122
4/21/2023	324	122
4/22/2023	371	122
4/23/2023	229	123
4/24/2023	263	123
4/25/2023	215	123
4/26/2023	236	123
4/27/2023	190	123
4/28/2023	198	123
4/29/2023	152	123
4/30/2023	176	123

2023	Cogen Feed H2S (ppm)	365 Day Avg H2S (ppm)
5/1/2023	182	123
5/2/2023	168	124
5/3/2023	172	124
5/4/2023	282	124
5/5/2023	186	124
5/6/2023	142	124
5/7/2023	138	123
5/8/2023	183	123
5/9/2023	130	123
5/10/2023	191	124
5/11/2023	128	124
5/12/2023	196	124
5/13/2023	182	124
5/14/2023	151	124
5/15/2023	207	124
5/16/2023	150	124
5/17/2023	198	124
5/18/2023	149	124
5/19/2023	111	124
5/20/2023	191	124
5/21/2023	237	125
5/22/2023	302	125
5/23/2023	204	125
5/24/2023	199	126
5/25/2023	173	126
5/26/2023	213	126
5/27/2023	278	127
5/28/2023	132	127
5/29/2023	128	127
5/30/2023	177	127
5/31/2023	21	126
6/1/2023	150	126
6/2/2023	123	126
6/3/2023	99	126
6/4/2023	104	127
6/5/2023	109	126
6/6/2023	154	127
6/7/2023	147	127
6/8/2023	133	127
6/9/2023	201	127
6/10/2023	146	127
6/11/2023	164	127
6/12/2023	210	128
6/13/2023	228	128
6/14/2023	262	129
6/15/2023	288	129
6/16/2023	245	130
6/17/2023	250	130
6/18/2023	258	131
6/19/2023	321	131
6/20/2023	403	132
6/21/2023	215	132
6/22/2023	195	133
6/23/2023	241	133
6/24/2023	190	134
6/25/2023	242	134
6/26/2023	216	134
6/27/2023	279	135
6/28/2023	141	135
6/29/2023	189	135
6/30/2023	220	136

ATTACHMENT 13 - TOTAL DIGESTER GAS COMBUSTION

EBMUD Biogas to Combustion Devices
January - June 2023

2023	Total Combustion, SCFM		
	Daily Max	Daily Avg	365-Day Avg
1/1/2023	1,810	1,272	2,551
1/2/2023	1,730	1,333	2,551
1/3/2023	2,313	1,686	2,551
1/4/2023	3,090	2,373	2,552
1/5/2023	4,161	2,935	2,554
1/6/2023	2,670	2,138	2,552
1/7/2023	2,560	2,079	2,549
1/8/2023	2,020	1,559	2,546
1/9/2023	2,562	1,923	2,547
1/10/2023	3,348	2,555	2,550
1/11/2023	3,637	2,887	2,550
1/12/2023	4,198	3,242	2,552
1/13/2023	3,216	2,488	2,551
1/14/2023	2,993	2,239	2,550
1/15/2023	2,483	1,709	2,549
1/16/2023	2,946	2,129	2,550
1/17/2023	3,658	2,364	2,552
1/18/2023	4,170	3,154	2,555
1/19/2023	4,027	3,404	2,557
1/20/2023	4,042	3,294	2,559
1/21/2023	3,083	2,255	2,559
1/22/2023	2,029	1,517	2,559
1/23/2023	3,252	2,191	2,560
1/24/2023	3,723	2,966	2,564
1/25/2023	4,115	2,822	2,565
1/26/2023	3,140	2,525	2,566
1/27/2023	3,352	2,455	2,566
1/28/2023	3,029	2,291	2,565
1/29/2023	2,062	1,678	2,564
1/30/2023	2,919	2,206	2,566
1/31/2023	2,597	2,128	2,566
2/1/2023	2,666	2,024	2,564
2/2/2023	3,299	2,831	2,565
2/3/2023	2,980	2,229	2,564
2/4/2023	2,833	2,205	2,563
2/5/2023	2,575	1,887	2,563
2/6/2023	3,147	1,955	2,564
2/7/2023	3,227	2,293	2,565
2/8/2023	3,321	2,833	2,565
2/9/2023	3,084	2,431	2,564
2/10/2023	2,791	2,341	2,563
2/11/2023	3,252	2,517	2,563
2/12/2023	2,533	1,868	2,561
2/13/2023	2,972	1,992	2,562
2/14/2023	3,007	2,154	2,561
2/15/2023	4,464	3,172	2,562
2/16/2023	4,053	3,232	2,562
2/17/2023	3,092	2,460	2,560
2/18/2023	2,617	2,020	2,559
2/19/2023	3,150	1,852	2,558
2/20/2023	2,676	1,974	2,559
2/21/2023	3,399	2,270	2,559
2/22/2023	3,574	2,692	2,560
2/23/2023	4,236	3,144	2,561
2/24/2023	3,450	2,550	2,560
2/25/2023	3,091	2,622	2,561
2/26/2023	3,271	1,930	2,560
2/27/2023	2,471	1,913	2,560
2/28/2023	3,544	2,506	2,561

3,400 Annual Average Limit

2023	Total Combustion, SCFM		
	Daily Max	Daily Avg	365-Day Avg
3/1/2023	2,256	2,037	2,560
3/2/2023	3,494	2,143	2,557
3/3/2023	2,924	2,216	2,554
3/4/2023	2,256	1,811	2,551
3/5/2023	2,180	1,332	2,548
3/6/2023	2,388	1,953	2,549
3/7/2023	3,083	2,590	2,550
3/8/2023	3,922	3,069	2,551
3/9/2023	3,672	2,838	2,552
3/10/2023	4,089	2,964	2,551
3/11/2023	3,079	2,313	2,548
3/12/2023	2,426	1,820	2,545
3/13/2023	3,901	2,075	2,545
3/14/2023	3,913	2,698	2,545
3/15/2023	3,157	2,498	2,543
3/16/2023	3,195	2,422	2,540
3/17/2023	3,533	2,512	2,539
3/18/2023	2,713	2,250	2,536
3/19/2023	1,921	1,457	2,532
3/20/2023	2,793	2,043	2,531
3/21/2023	4,708	3,071	2,532
3/22/2023	4,283	2,919	2,533
3/23/2023	3,420	2,740	2,532
3/24/2023	3,823	2,406	2,529
3/25/2023	3,865	2,857	2,530
3/26/2023	2,850	1,828	2,528
3/27/2023	3,110	2,147	2,528
3/28/2023	3,352	2,588	2,528
3/29/2023	3,660	2,475	2,528
3/30/2023	3,959	2,835	2,529
3/31/2023	3,370	2,632	2,529
4/1/2023	3,122	2,526	2,529
4/2/2023	2,341	1,578	2,527
4/3/2023	3,507	1,913	2,527
4/4/2023	2,747	2,082	2,526
4/5/2023	3,704	2,604	2,525
4/6/2023	2,997	2,533	2,524
4/7/2023	2,688	1,981	2,521
4/8/2023	2,481	1,984	2,519
4/9/2023	2,026	1,510	2,517
4/10/2023	2,234	1,538	2,516
4/11/2023	4,005	2,624	2,517
4/12/2023	3,663	2,949	2,518
4/13/2023	3,109	2,398	2,516
4/14/2023	3,945	2,739	2,515
4/15/2023	3,577	2,267	2,514
4/16/2023	1,953	1,436	2,511
4/17/2023	2,576	1,783	2,509
4/18/2023	3,189	2,311	2,509
4/19/2023	3,119	2,523	2,508
4/20/2023	3,398	2,781	2,508
4/21/2023	2,902	2,339	2,508
4/22/2023	3,134	2,291	2,507
4/23/2023	1,845	1,457	2,504
4/24/2023	3,483	2,352	2,506
4/25/2023	3,683	2,290	2,506
4/26/2023	4,061	2,684	2,505
4/27/2023	3,390	2,658	2,505
4/28/2023	3,729	2,845	2,506
4/29/2023	2,897	2,096	2,505
4/30/2023	1,768	1,374	2,502

2023	Total Combustion, SCFM		
	Daily Max	Daily Avg	365-Day Avg
5/1/2023	2,690	1,882	2,502
5/2/2023	3,676	2,430	2,501
5/3/2023	4,073	2,680	2,500
5/4/2023	3,309	2,541	2,499
5/5/2023	2,593	2,084	2,497
5/6/2023	2,581	1,751	2,494
5/7/2023	1,976	1,388	2,491
5/8/2023	3,276	2,058	2,491
5/9/2023	3,020	2,380	2,492
5/10/2023	3,358	2,581	2,491
5/11/2023	3,753	3,002	2,491
5/12/2023	3,361	2,495	2,490
5/13/2023	2,446	1,784	2,487
5/14/2023	1,649	1,303	2,484
5/15/2023	5,117	2,287	2,486
5/16/2023	2,931	2,063	2,485
5/17/2023	3,085	2,230	2,484
5/18/2023	3,284	2,166	2,482
5/19/2023	2,988	1,968	2,478
5/20/2023	2,779	1,769	2,474
5/21/2023	2,308	1,046	2,469
5/22/2023	3,117	2,086	2,470
5/23/2023	3,134	2,402	2,470
5/24/2023	3,900	2,618	2,470
5/25/2023	3,794	2,429	2,469
5/26/2023	2,632	2,070	2,468
5/27/2023	2,671	1,953	2,466
5/28/2023	1,466	1,209	2,462
5/29/2023	2,036	1,445	2,461
5/30/2023	2,648	1,938	2,460
5/31/2023	2,693	2,102	2,459
6/1/2023	4,037	2,353	2,459
6/2/2023	2,737	2,234	2,457
6/3/2023	2,282	1,717	2,454
6/4/2023	1,885	1,399	2,451
6/5/2023	2,550	1,863	2,451
6/6/2023	3,929	2,642	2,454
6/7/2023	2,835	2,303	2,453
6/8/2023	2,788	2,119	2,452
6/9/2023	2,870	2,254	2,449
6/10/2023	2,001	1,422	2,444
6/11/2023	1,297	982	2,439
6/12/2023	2,329	1,700	2,438
6/13/2023	2,556	2,147	2,439
6/14/2023	2,776	2,322	2,438
6/15/2023	2,718	2,086	2,436
6/16/2023	3,318	2,318	2,434
6/17/2023	2,186	1,782	2,431
6/18/2023	1,374	1,163	2,427
6/19/2023	2,676	1,790	2,427
6/20/2023	4,923	3,406	2,431
6/21/2023	4,618	3,931	2,433
6/22/2023	4,096	3,130	2,434
6/23/2023	3,313	2,519	2,433
6/24/2023	1,923	1,613	2,430
6/25/2023	1,659	1,523	2,428
6/26/2023	3,347	2,238	2,430
6/27/2023	4,156	2,839	2,433
6/28/2023	4,287	2,687	2,433
6/29/2023	3,745	2,559	2,430
6/30/2023	2,529	2,200	2,426