

DOCKETED

Docket Number:	85-AFC-01C
Project Title:	Compliance - Watson Cogeneration Company AFC
TN #:	236528
Document Title:	Watson Cogeneration 2020Q4 Emissions Report
Description:	N/A
Filer:	Craig Chi
Organization:	Watson Cogeneration Company
Submitter Role:	Applicant
Submission Date:	1/30/2021 2:00:47 AM
Docketed Date:	1/30/2021

Watson Cogeneration Company

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VIA EMAIL

January 30, 2021

Mr. Anwar Ali
Compliance Project Manager
California Energy Commission
1516 9th Street, MS-2000
Sacramento, California 95814-5512

**Subject: Watson Cogeneration Company (Facility #06755)
 Quarterly Emissions Report – AQ 28 – 4th Quarter 2020
 Submittal # 395**

Dear Mr. Ali:

Attached is Watson Cogeneration Company's (Facility #06755) Quarterly Emissions Report for the fourth quarter of 2020. The report contains a table of emission limits (Table 1), a table of daily fuel and ammonia usage (Table 2A), a table of daily emissions (Table 2B), and a table of emissions during start up mode (Table 2C) for each of the site's four gas turbines. A CEC permit has been issued for a fifth train, but it has been removed from Table 1 since the unit has not been built. Along with the quarterly emissions report, please find copies of the last sulfur content analysis in the quarter for our refinery fuel gas and butane.

During the fourth quarter of 2020, Watson Cogeneration Company (WCC) experienced zero breakdown / excess emissions incident as currently required by the SCAQMD.

If you have any questions concerning this report, please do not hesitate to contact the undersigned.

Sincerely,



Craig Chi
Watson Cogeneration Operations Engineer

bcc: Shelley Zhang, Marathon Los Angeles Refinery
 Jimmie Espie, WCC
 Mike Nour, WCC

Table 1**Emission Limits as required by the California Energy Commission Conditions of Certification**

Turbine Number	Concentration Limits (ppmv @ 15% O ₂)				Maximum Daily Emission Limits ⁴ (lbs/day)					Start-Up/Shutdown Emission Limits ⁵ (lbs/day)				
	NO _x	SO ₂	CO	NH ₃	NO _x	SO ₂	CO	PM	ROG	NO _x	SO ₂	CO	PM	ROG
1 - 4	8	2	2.5 ¹ 4.5 ²	20	2600	246	568	1244	531	2156	59	82	186	108
5		---	2.5 ³	20	209	10	64	95	18	449	8	296	92	32

Notes:

1. Limit applies when turbine is operated at or above 85% capacity, except during startup and shutdown.
2. Limit applies when turbine is operated below 85% capacity, except during startup and shutdown.
3. Limit applies when turbine is operated at or above 50% capacity.
4. Limits do not apply on days when a start-up or shutdown has occurred. Limits pertain to combined emissions from Units 1-4.
5. Limits apply only on days when a start-up or shutdown has occurred. Limits pertain to stack emissions from individual Units.

Table 2A
Daily Fuel & Ammonia Usage

Date	Unit Start-Up or Shutdown	Fuel Usage - By Unit (mmbtu/hr)					Fuel Usage - By Fuel Type (mmbtu/hr)			Ammonia Usage - By Unit (lbs/day)			
		GTG #1	GTG #2	GTG #3	GTG #4	Boiler #42	Natural Gas	Refinery Gas	Butane	GTG #1	GTG #2	GTG #3	GTG #4
10/1/20		1080	1110	1052	1044	0	3822	327	138	1933	1252	1933	1933
10/2/20		1080	1107	1041	1040	0	3471	657	140	1933	1262	1933	1933
10/3/20		1011	1033	1005	973	0	3293	578	150	1933	1293	1933	1933
10/4/20		1005	1036	1005	973	0	3441	444	133	1933	1284	1933	1933
10/5/20		1063	1093	1025	1026	0	3660	413	133	1933	1171	1933	1933
10/6/20		1076	1099	1031	1033	0	3824	278	136	1933	1205	1933	1933
10/7/20		1076	1102	1038	1039	0	3897	210	149	1933	1175	1933	1933
10/8/20		1075	1099	1064	1039	0	3832	291	153	1933	1239	1933	1933
10/9/20	Y	935	1135	1063	1065	0	3820	212	166	1750	1258	1933	1933
10/10/20		80	1190	1163	1138	0	3120	246	205	0	1557	1933	1933
10/11/20		9	1187	1158	1134	0	2929	427	133	0	1557	1933	1933
10/12/20		10	1200	1136	1138	0	2989	367	128	0	1549	2025	2025
10/13/20		10	1177	1120	1121	0	2890	406	132	0	1461	2056	2085
10/14/20		10	1195	1134	1135	0	2834	503	136	0	1465	2006	2092
10/15/20		10	1179	1123	1118	0	2817	484	128	0	1395	2147	2142
10/16/20		10	1190	1139	1130	0	2865	471	132	0	1333	2138	2138
10/17/20		10	1165	1152	1115	0	2708	592	141	0	1393	2134	2134
10/18/20		10	1165	1144	1113	0	2778	523	131	0	1449	2147	2147
10/19/20		9	1181	1140	1124	0	2914	410	131	0	1335	2147	2147
10/20/20		8	1193	1153	1136	0	2894	464	131	0	1384	2147	2147
10/21/20		9	1204	1157	1144	0	2964	419	130	0	1400	2147	2147
10/22/20		9	1192	1153	1136	0	2913	433	144	0	1319	2147	2147
10/23/20		8	1200	1160	1148	0	2905	477	135	0	1491	2147	2147
10/24/20		17	1173	1149	1116	0	3116	208	132	0	1510	2147	2147
10/25/20		8	1181	1161	1129	0	3081	265	133	0	1543	2147	2147
10/26/20		13	1195	1130	1144	0	3087	255	140	0	1665	2147	2147
10/27/20		8	1185	1097	1146	0	2982	318	135	0	1718	2223	2243
10/28/20		16	1203	1102	1152	0	3035	303	136	0	1702	2362	2362
10/29/20	Y	244	1165	1063	1114	0	3185	273	128	386	1533	2304	2303
10/30/20		944	1094	1007	1048	0	3705	272	116	1933	1304	1933	1933
10/31/20		934	1059	1000	1004	0	3743	138	116	1933	1396	1864	1933
11/1/20		936	1060	991	1000	0	3685	203	99	1933	1398	1857	1933
11/2/20		950	1086	1019	1029	0	3712	258	114	1933	1293	1933	1933
11/3/20		960	1110	1042	1042	0	3847	203	104	1933	1251	1933	1933
11/4/20		955	1106	1042	1042	0	3860	185	101	1933	1238	1933	1933
11/5/20		967	1072	991	996	0	3777	154	96	1933	1396	1933	1933
11/6/20	Y	895	1100	1034	1035	0	3705	223	136	1713	1351	1933	1933
11/7/20	Y	505	1114	1066	1066	0	3451	158	143	907	1603	1933	1933
11/8/20		1013	1064	995	1011	0	3797	163	123	1933	1478	1933	1933
11/9/20		1054	1102	1009	1056	0	3248	857	115	2060	1628	2066	2066
11/10/20		1067	1133	1044	1080	0	3039	1184	101	2147	1681	2147	2147
11/11/20		1020	1077	995	1016	0	3195	807	105	2147	1657	2147	2147
11/12/20		1031	1090	989	1028	0	3866	176	96	2034	1356	2147	2122
11/13/20	Y	549	1151	1075	1100	0	3574	182	118	1053	1478	2144	2147
11/14/20		1032	1097	1024	1033	0	4092	1	94	2029	1283	2125	2131
11/15/20		1044	1096	990	1047	0	4038	48	90	1868	1295	2107	1941
11/16/20		1111	1151	1048	1096	0	4228	79	100	1885	1358	2188	2120
11/17/20		1029	1080	1000	1016	0	3856	170	100	1710	1293	2006	1967
11/18/20		1032	1086	961	1012	0	3756	242	93	1744	1239	2076	1980
11/19/20		1019	1083	981	1019	0	3973	35	94	1836	1291	2061	1962
11/20/20		1017	1083	981	1021	0	3895	114	94	1831	1269	2140	2001
11/21/20		1021	1077	986	1023	0	3775	235	97	1897	1312	2038	1996
11/22/20		1028	1079	964	1021	0	3865	112	115	1897	1257	1958	1948
11/23/20		1018	1070	968	1025	0	3823	148	110	1787	1285	2044	1808
11/24/20		1022	1068	942	1022	0	3826	115	114	1732	1305	2071	1887
11/25/20		1055	1104	985	1053	0	3849	243	104	1688	1262	2003	2008
11/26/20		1022	1088	965	1041	0	3853	162	102	1944	1371	2011	2076
11/27/20		1061	1114	985	1064	0	3912	204	107	2114	1527	2138	2141
11/28/20		1028	1093	981	1030	0	3832	203	97	2134	1422	2147	2147

Table 2A
Daily Fuel & Ammonia Usage

Date	Unit Start-Up or Shutdown	Fuel Usage - By Unit (mmbtu/hr)					Fuel Usage - By Fuel Type (mmbtu/hr)			Ammonia Usage - By Unit (lbs/day)			
		GTG #1	GTG #2	GTG #3	GTG #4	Boiler #42	Natural Gas	Refinery Gas	Butane	GTG #1	GTG #2	GTG #3	GTG #4
11/29/20		1007	1066	950	1018	0	3820	122	99	2076	1408	2147	2147
11/30/20		1033	1082	954	1032	0	3868	138	96	2039	1411	2147	2147
12/1/20		1043	1091	963	1035	0	3851	176	105	1945	1329	2147	2138
12/2/20		1037	1083	1000	1034	0	3727	319	109	1816	1351	2061	1983
12/3/20		1048	1104	1005	1048	0	3807	299	100	2105	1478	2205	2189
12/4/20		1053	1113	1004	1056	0	3916	213	97	2139	1461	2195	2194
12/5/20		1061	1120	1023	1061	0	3893	271	102	2178	1472	2072	2198
12/6/20		1050	1108	1002	1049	0	3801	312	97	2128	1445	1993	2201
12/7/20		1065	1103	1009	1046	0	3836	285	102	2117	1417	2139	2204
12/8/20		1059	1096	1008	1032	0	3804	292	100	2197	1469	2255	2257
12/9/20		1046	1081	996	1037	0	3843	219	99	2171	1473	2164	2225
12/10/20		1053	1085	1012	1032	0	3837	233	113	2128	1377	2025	2233
12/11/20		1045	1085	977	1029	0	4006	22	107	2094	1387	1725	2180
12/12/20		1054	1086	1011	1029	0	3844	233	102	2040	1357	1776	2165
12/13/20		1035	1095	1007	1035	0	3657	419	96	2008	1411	2118	2202
12/14/20		1040	1096	1009	1039	0	3773	305	106	2060	1388	2152	2186
12/15/20		1059	1096	1000	1045	0	3822	277	100	2199	1461	2248	2254
12/16/20		1049	1098	997	1050	0	3896	200	99	2145	1452	2182	2248
12/17/20		1065	1112	1004	1065	0	3606	529	111	2092	1475	2006	2230
12/18/20		1082	1134	1000	1077	0	3900	293	99	2178	1424	1975	2249
12/19/20		1080	1140	999	1080	0	4194	3	102	2240	1520	2010	2257
12/20/20		1059	1102	1017	1054	0	3818	318	95	2213	1481	2137	2255
12/21/20		1065	1105	1020	1043	0	3994	139	100	2133	1434	2225	2259
12/22/20		1087	1115	1045	1074	0	3944	241	136	1818	1398	2024	2010
12/23/20		1048	1112	1026	1057	0	3965	172	107	1971	1425	2083	2114
12/24/20		1045	1097	1014	1048	0	4006	94	104	2255	1562	2255	2255
12/25/20		1024	1087	998	1027	0	3988	49	100	2234	1461	2212	2255
12/26/20		1035	1094	978	1035	0	3983	54	105	2171	1377	2072	2238
12/27/20		1041	1094	977	1032	0	3989	28	128	2085	1345	1868	2186
12/28/20		1073	1117	982	1081	0	3972	145	137	2065	1341	1932	2239
12/29/20		1067	1106	987	1056	0	4002	86	127	2140	1414	2200	2220
12/30/20		1067	1100	993	1063	0	3910	200	113	2104	1481	2249	2248
12/31/20		1086	1124	1015	1076	0	3851	326	124	2021	1450	2219	2241

Table 2B
Daily Emissions

Date	Unit Start-Up or Shutdown	Total Mass Emissions - GTG's #1 - 4				
		Midnight - Midnight				
		(lbs/day)				
		NOX	SO2	CO	PM ¹	ROG ¹
10/1/20		777.0	2.4	78.8	405.3	271.6
10/2/20		765.2	2.6	98.4	404.2	271.1
10/3/20		715.2	2.9	94.3	380.9	255.4
10/4/20		702.4	1.9	81.0	380.3	254.9
10/5/20		681.9	3.3	104.4	397.9	266.7
10/6/20		703.1	3.3	109.7	400.7	268.4
10/7/20		702.1	6.0	123.9	402.2	269.4
10/8/20		776.9	4.5	127.1	404.3	270.9
10/9/20	Y	734.9	4.6	101.4	396.8	265.8
10/10/20		791.3	3.3	46.3	337.7	226.3
10/11/20		786.6	1.6	48.8	330.3	221.4
10/12/20		686.9	1.5	87.0	329.7	221.0
10/13/20		676.5	1.7	66.9	324.4	217.5
10/14/20		682.4	1.8	59.0	329.0	220.6
10/15/20		625.3	2.1	60.6	324.8	217.8
10/16/20		584.6	1.4	51.4	328.4	220.2
10/17/20		628.1	1.5	72.3	326.2	218.8
10/18/20		591.7	1.4	84.7	325.1	218.0
10/19/20		617.7	1.5	77.1	327.0	219.2
10/20/20		642.4	3.0	53.7	330.4	221.6
10/21/20		632.1	3.1	81.7	332.6	223.0
10/22/20		684.8	2.4	73.6	330.4	221.5
10/23/20		641.0	2.0	79.2	333.0	223.3
10/24/20		695.3	1.3	66.8	326.6	218.8
10/25/20		744.5	1.8	79.4	329.0	220.4
10/26/20		856.9	2.4	83.9	329.3	220.6
10/27/20		826.8	3.3	59.9	325.1	217.9
10/28/20		661.5	1.6	69.8	328.6	220.2
10/29/20	Y	723.4	1.9	102.6	339.1	227.2
10/30/20		670.4	2.4	135.5	386.9	259.2
10/31/20		713.2	1.7	148.0	377.4	252.8
11/1/20		715.9	1.5	142.5	376.7	252.3
11/2/20		649.4	2.1	122.9	386.1	258.7
11/3/20		721.7	3.3	132.1	392.5	262.9
11/4/20		736.1	1.4	128.4	391.6	262.3
11/5/20		817.6	1.3	119.6	380.3	254.7

Table 2B
Daily Emissions

Date	Unit Start-Up or Shutdown	Total Mass Emissions - GTG's #1 - 4				
		Midnight - Midnight				
		(lbs/day)				
		NOX	SO2	CO	PM ¹	ROG ¹
11/6/20	Y	713.3	2.7	117.6	384.0	257.2
11/7/20	Y	934.1	3.2	62.9	354.5	237.4
11/8/20		1005.5	3.5	79.5	385.8	258.4
11/9/20		1025.3	11.5	114.8	400.2	268.5
11/10/20		887.1	10.4	149.3	410.6	275.7
11/11/20		791.3	5.1	160.2	389.4	261.3
11/12/20		809.9	2.7	91.5	391.0	261.8
11/13/20	Y	774.8	3.1	86.5	366.1	245.2
11/14/20		884.1	2.5	166.0	395.0	264.4
11/15/20		945.4	2.9	132.2	394.2	263.9
11/16/20		813.9	12.0	80.8	416.0	278.5
11/17/20		881.9	4.0	77.5	389.7	261.0
11/18/20		936.0	3.9	83.6	386.6	258.9
11/19/20		810.9	2.5	89.5	387.1	259.2
11/20/20		839.5	3.4	82.2	387.4	259.4
11/21/20		838.0	2.3	69.3	388.1	260.0
11/22/20		766.8	2.4	72.5	386.5	258.8
11/23/20		840.3	2.6	74.5	385.4	258.1
11/24/20		870.5	5.6	69.0	382.9	256.4
11/25/20		858.1	4.9	70.6	396.5	265.6
11/26/20		916.2	4.5	60.2	388.8	260.4
11/27/20		874.8	3.4	64.7	399.1	267.3
11/28/20		948.6	2.1	62.2	390.4	261.5
11/29/20		914.3	2.4	68.6	381.7	255.6
11/30/20		763.2	1.6	80.5	387.3	259.4
12/1/20		795.8	2.1	83.0	390.4	261.4
12/2/20		852.7	2.9	101.1	392.8	263.1
12/3/20		883.6	2.5	64.7	397.6	266.3
12/4/20		919.2	5.4	72.0	399.2	267.4
12/5/20		842.7	2.6	75.6	403.1	270.1
12/6/20		891.5	1.7	89.0	397.9	266.6
12/7/20		929.9	3.2	75.0	399.1	267.4
12/8/20		941.8	1.5	53.0	396.6	265.7
12/9/20		893.5	2.7	67.8	393.1	263.3
12/10/20		885.7	3.2	56.6	395.2	264.7
12/11/20		858.4	2.9	109.6	390.3	261.3

Table 2B
Daily Emissions

Date	Unit Start-Up or Shutdown	Total Mass Emissions - GTG's #1 - 4				
		Midnight - Midnight				
		(lbs/day)				
		NOX	SO2	CO	PM ¹	ROG ¹
12/12/20		882.0	1.8	84.8	394.9	264.5
12/13/20		981.2	1.8	66.3	394.6	264.5
12/14/20		987.1	4.0	69.5	395.5	265.0
12/15/20		884.1	4.8	100.9	396.9	265.9
12/16/20		874.6	2.3	108.1	396.3	265.4
12/17/20		911.3	3.4	78.8	401.8	269.4
12/18/20		852.7	1.9	104.1	405.7	271.7
12/19/20		910.8	1.6	123.8	405.7	271.6
12/20/20		896.2	2.5	90.4	400.0	268.0
12/21/20		899.6	2.4	104.8	399.8	267.7
12/22/20		870.5	2.7	75.5	408.4	273.6
12/23/20		950.4	5.2	107.9	400.9	268.5
12/24/20		881.7	3.0	107.2	397.0	265.8
12/25/20		881.7	1.1	101.1	390.5	261.5
12/26/20		839.4	1.9	121.5	391.0	261.7
12/27/20		891.4	3.1	119.5	391.2	261.9
12/28/20		972.6	3.7	114.8	401.9	269.1
12/29/20		902.1	7.5	161.6	398.0	266.5
12/30/20		894.5	6.3	96.2	399.1	267.3
12/31/20		988.7	2.9	77.4	406.7	272.5

1. PM & ROG emission estimates were calculated using fuel based emission factors and fuel usage data.

Fuel	PM	ROG
Natural Gas:	0.00393	0.00263
Refinery Gas:	0.00402	0.00272
Butane:	0.00402	0.00272

The foregoing fuel based emission factors have been updated based on 1997 & 1998 stack testing.

Table 2C
Daily Emissions for Individual Units during Startup

Date	Unit	Total Mass Emissions - GTG's #1				
	Start-Up	Midnight - Midnight				
	or Shutdown	(lbs/day)				
		NOX	SO2	CO	PM 1	ROG 1
10/9/2020	SD	163.2	2.1	30.2	101.9	68.4
10/29/2020	SU	0.0	0.0	25.2	1.0	0.7
11/6/2020	SD	154.5	0.2	22.8	99.1	66.5
11/7/2020	SU	136.4	0.3	4.1	99.0	66.4
11/13/2020	SD/SU	241.8	0.8	17.9	98.2	65.9

Date		Total Mass Emissions - GTG's #2				
		Midnight - Midnight				
		(lbs/day)				
		NOX	SO2	CO	PM 1	ROG 1
None						

Date		Total Mass Emissions - GTG's #3				
		Midnight - Midnight				
		(lbs/day)				
		NOX	SO2	CO	PM 1	ROG 1
None						

Date		Total Mass Emissions - GTG's #4				
		Midnight - Midnight				
		(lbs/day)				
		NOX	SO2	CO	PM 1	ROG 1
None						

Unit	Cogeneration Unit
Sample Point	Eff.Before Compress

Profile #	9007
Date	12/17/2020
Time	06:00
Sample No.	1812898
Status	Complete

H2S - SCD-HiLvl	<1.0	ppm
COS - SCD-HiLvl	3	ppm
MeSH - SCD-HiLvl	<1.0	ppm
EtSH - SCD-HiLvl	<1.0	ppm
DMDS - SCD-HiLvl	1	ppm
Other S Compds-SCD-HiLvl	1	ppm
Sulfur (sum)-SCD-Calc	5	ppm

Unit	Cogeneration Unit
Sample Point	Eff.Before Compress

Profile #	9010
Date	12/21/2020
Time	06:00
Sample No.	1813940
Status	Complete

H2S - SCD-LoLvl	<0.10	ppm
COS - SCD-LoLvl	<0.10	ppm
MeSH - SCD-LoLvl	<0.10	ppm
EtSH - SCD-LoLvl	<0.10	ppm
DMDS - SCD-LoLvl	<0.10	ppm
Other S Compds-SCD-LoLvl	4.6	ppm
Sulfur (sum)-SCD-Calc	4.6	ppm