DOCKETED	
Docket Number:	85-AFC-01C
Project Title:	Compliance - Watson Cogeneration Company AFC
TN #:	232850
Document Title:	Watson Cogeneration 2020Q1 Emissions Report
Description:	N/A
Filer:	Craig Chi
Organization:	Watson Cogeneration Company
Submitter Role:	Applicant
Submission Date:	4/27/2020 8:07:30 AM
Docketed Date:	4/27/2020

Watson Cogeneration Company
22850 South Wilmington Avenue
Telephone (310) 816-1700
P.O. Box 6203
Carson, California 90749-6203

VIA EMAIL

April 22, 2020

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 – 1st Quarter 2020
Submittal # 393

Dear Mr. Ali:

Attached is Watson Cogeneration Company's (Facility #06755) Quarterly Emissions Report for the first 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 first quarter of 2020, Watson Cogeneration Company (WCC) experienced two breakdown events.

- 1/6/2020 – WCC experienced a Breakdown under Rule 430 at 3:20 PM, resulting in an exceedance of CEC Permit Conditions AQ-17. The issue was resolved at 3:38 PM, and notification was made to AQMD at 3:56 PM. Subsequent report was issued on 1/13/2020 and is attached.
- 2/22/2020 – WCC experienced a breakdown event under AQMD Rule 430, at 4:22 PM, resulting in an exceedance of CEC Permit Conditions AQ-17. Notification was made at 5:05 PM. Subsequent report was issued 3/20/2020 and is attached.

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

Sincerely,

Craig Chi
Cogen Operations Engineer

bcc: Connie Chow, Marathon Los Angeles Refinery
Jimmie Espie, WCC
David Booth, 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	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
1/1/20		711	725	719	694	0	2365	350	134	2005	1240	2248	2362
1/2/20		870	873	863	853	0	2939	389	131	1817	1173	2117	2220
1/3/20		991	983	975	969	0	3497	288	133	1783	1240	2091	2090
1/4/20		987	1000	986	968	0	3481	338	122	1825	1217	2071	2047
1/5/20		988	1007	996	975	0	3362	481	123	1867	1223	2067	2181
1/6/20		883	907	874	870	0	3049	369	115	1995	1256	2323	2340
1/7/20		903	930	899	888	0	3074	440	107	1984	1228	2355	2360
1/8/20		919	929	923	896	0	3066	465	135	1879	1167	2196	2308
1/9/20		973	986	978	956	0	3498	270	125	1925	1210	2184	2335
1/10/20		853	856	822	833	0	3002	230	132	1789	1207	2316	2227
1/11/20		949	959	918	928	0	2797	821	135	1963	1250	2362	2344
1/12/20		869	883	839	851	0	2849	468	126	1932	1254	2362	2363
1/13/20		807	827	782	789	0	2795	286	126	1902	1210	2362	2332
1/14/20		840	882	816	822	0	2859	381	120	1879	1313	2362	2308
1/15/20		847	884	854	846	0	2871	442	119	1889	1334	2292	2294
1/16/20		988	1010	1001	978	0	3179	653	145	1902	1396	2194	2275
1/17/20		824	849	835	824	0	2594	603	135	1949	1396	2255	2298
1/18/20		798	831	819	792	0	2591	533	116	1997	1396	2337	2348
1/19/20		834	839	832	822	0	2719	486	122	1888	1396	2362	2361
1/20/20		758	759	751	745	0	2679	194	141	1805	1396	2059	2066
1/21/20		793	791	778	776	0	2662	347	129	1745	1396	1986	1986
1/22/20		796	798	783	789	0	2703	329	134	1791	1396	2057	1986
1/23/20		857	861	841	852	0	2934	357	119	1809	1379	2136	2009
1/24/20	Y	1021	891	991	1000	0	3395	361	146	1653	1266	2147	1960
1/25/20		1303	59	1290	1276	0	3403	349	176	1847	-135	2157	2165
1/26/20		1257	58	1248	1235	0	3342	276	179	1986	-145	2201	2360
1/27/20	Y	1104	609	1088	1098	0	3359	401	140	2042	649	2322	2307
1/28/20		999	1031	972	988	0	3411	455	125	1783	1439	2280	2149
1/29/20		1013	1041	995	991	0	3475	424	141	1878	1531	2172	2132
1/30/20		970	1011	961	955	0	3344	428	125	1962	1451	2322	2310
1/31/20	Y	953	1018	961	960	0	3389	372	132	1880	1389	2362	2362
2/1/20		8	1268	1231	1231	0	3217	390	131	18	1610	2362	2363
2/2/20		9	1193	1143	1142	0	3065	284	138	1	1625	2362	2365
2/3/20		8	1162	1096	1118	0	3032	216	136	6	1647	2362	2360
2/4/20		8	1212	1136	1170	0	3131	257	139	7	1634	2362	2361
2/5/20		8	1316	1258	1293	0	3314	425	136	3	1950	2362	2369
2/6/20		9	1272	1235	1222	0	3270	332	136	2	1854	2127	2331
2/7/20		9	1249	1209	1196	0	3353	179	131	8	1549	1879	2146
2/8/20		10	1283	1239	1230	0	3328	302	132	9	1396	1773	2045
2/9/20	Y	299	964	933	916	0	2635	332	145	543	1396	1759	1990
2/10/20		725	778	728	727	0	2492	330	136	1931	1396	1745	1896
2/11/20		781	821	771	776	0	2490	525	133	1953	1396	1873	1809
2/12/20		1035	1064	1026	1035	0	3017	1002	140	2034	1396	1840	1767
2/13/20		1055	1110	1065	1064	0	3255	927	113	1888	1417	1745	1693
2/14/20	Y	1112	1160	1000	1111	0	3308	956	120	2023	1396	1574	1765
2/15/20		1486	1507	18	1471	0	3289	1089	105	2286	1413	23	2152
2/16/20		1161	1195	8	1162	0	2770	646	110	2312	1396	17	2117
2/17/20		1086	1130	8	1083	0	2599	598	110	2344	1396	18	2094
2/18/20		1457	1503	11	1444	0	3128	1170	118	2424	1527	17	2252
2/19/20		1460	1506	10	1449	0	3117	1189	118	2538	1443	19	2364
2/20/20		1294	1351	9	1298	0	2943	897	112	2494	1532	15	2312
2/21/20		1258	1291	9	1237	0	2525	1139	131	2516	1667	6	1812
2/22/20		1097	1124	8	1088	0	2129	1054	134	2402	1571	2	2470
2/23/20		1415	1447	10	1394	0	2973	1173	121	2525	1500	11	2407
2/24/20		1538	1562	10	1535	0	2891	1642	112	2402	1885	24	2293
2/25/20		1472	1479	10	1466	0	2205	2104	119	2363	2166	19	2502
2/26/20		1523	1559	10	1529	0	2665	1843	113	1954	1978	25	2044
2/27/20		1675	1724	13	1669	0	2983	1987	112	2651	1926	11	2915
2/28/20	Y	1673	1701	434	1645	0	3359	1940	156	2679	2022	580	2963

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
2/29/20		1287	1294	1272	1259	0	3150	1800	162	2284	1522	2362	2350
3/1/20		1374	1387	1342	1365	0	3667	1662	140	2362	1589	2362	2362
3/2/20		1306	1351	1291	1307	0	3398	1752	105	2362	1717	2429	2362
3/3/20		1317	1358	1305	1285	0	3389	1765	111	2362	1711	2486	2414
3/4/20		1350	1388	1314	1334	0	3395	1865	125	2362	1558	2287	2184
3/5/20		1468	1526	1434	1463	0	3638	2159	93	2553	1723	2465	2415
3/6/20		1323	1369	1297	1315	0	3648	1543	114	1955	1448	1864	1812
3/7/20		1265	1294	1219	1238	0	3434	1443	139	1998	1404	2104	1907
3/8/20		1045	1112	1044	1054	0	3484	667	104	2040	1396	2023	1821
3/9/20		915	977	928	928	0	3150	494	105	2025	1396	1817	1727
3/10/20		936	995	946	939	0	3283	414	120	1920	1393	1763	1667
3/11/20		1078	1134	1080	1083	0	3764	502	110	1738	1254	1607	1503
3/12/20		1038	1097	1043	1054	0	3670	462	100	1717	1316	1525	1546
3/13/20		1144	1208	1153	1154	0	3673	884	102	1845	1396	1706	1730
3/14/20		1095	1115	1051	1052	0	3480	687	146	2040	1396	1933	1838
3/15/20		1122	1146	1078	1080	0	3334	967	126	2062	1396	2001	1896
3/16/20		923	947	916	890	0	2517	1014	144	2140	1396	1866	2008
3/17/20		910	945	878	882	0	2566	932	118	2255	1396	1997	1986
3/18/20		910	941	873	877	0	2586	904	111	2250	1411	2089	1974
3/19/20		851	867	825	818	0	2536	683	141	2198	1407	1858	1735
3/20/20		813	837	802	789	0	2338	761	142	2106	1423	1724	1695
3/21/20		888	915	848	850	0	2381	994	125	2104	1423	1760	1737
3/22/20		944	971	916	913	0	2384	1211	150	2103	1423	1852	1772
3/23/20		975	980	937	935	0	2482	1208	137	1973	1459	1804	1777
3/24/20		958	984	926	919	0	2823	843	120	2081	1463	1707	1760
3/25/20		965	993	941	940	0	2874	839	125	2178	1468	1746	1722
3/26/20		1063	1086	1043	1033	0	3185	922	118	2192	1476	1882	1921
3/27/20		1049	1085	1033	1037	0	3324	762	117	2185	1476	1960	1928
3/28/20		1163	1194	1121	1123	0	3710	763	129	2094	1476	1922	1773
3/29/20		1123	1142	1076	1081	0	3675	623	125	2094	1476	1901	1744
3/30/20		867	898	846	830	0	2540	787	114	2036	1476	1728	1747
3/31/20		866	894	824	829	0	2462	835	115	1933	1476	1720	1734

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]
1/1/20		1120.2	1.3	80.8	269.8	180.9
1/2/20		1046.1	1.1	75.5	327.4	219.5
1/3/20		1122.1	1.5	93.6	370.4	248.2
1/4/20		1123.4	1.1	100.6	372.7	249.8
1/5/20		1148.7	2.1	111.1	375.4	251.6
1/6/20		1140.3	2.5	99.0	334.3	224.1
1/7/20		1086.8	2.8	116.2	342.6	229.7
1/8/20		1047.2	3.9	102.7	347.1	232.7
1/9/20		1067.5	3.3	110.2	368.0	246.6
1/10/20		1086.7	5.9	127.6	318.1	213.1
1/11/20		1027.2	4.3	128.3	356.1	239.0
1/12/20		1002.3	1.3	105.0	326.0	218.6
1/13/20		1033.9	1.6	92.7	303.3	203.3
1/14/20		885.4	3.0	92.0	318.0	213.2
1/15/20		844.0	3.1	76.6	324.8	217.8
1/16/20		742.5	3.6	91.6	376.9	252.8
1/17/20		797.2	2.5	87.0	315.8	211.9
1/18/20		819.4	3.4	81.6	307.0	205.9
1/19/20		863.6	2.4	61.5	315.1	211.3
1/20/20		744.6	5.2	60.4	285.0	191.0
1/21/20		799.0	1.5	59.0	297.0	199.1
1/22/20		781.6	3.0	73.4	299.6	200.9
1/23/20		870.5	1.0	71.0	322.7	216.3
1/24/20	Y	848.1	13.4	64.7	369.2	247.4
1/25/20		995.7	1.7	11.9	371.6	249.1
1/26/20		959.6	3.1	19.7	359.1	240.7
1/27/20	Y	1006.7	2.3	31.9	369.0	247.3
1/28/20		992.9	3.5	59.1	377.7	253.1
1/29/20		920.5	2.6	49.7	382.3	256.2
1/30/20		972.4	3.6	59.4	368.7	247.1
1/31/20	Y	898.2	3.5	87.8	368.2	246.8
2/1/20		922.2	2.9	41.5	353.8	237.1
2/2/20		868.3	2.3	55.8	329.8	221.0
2/3/20		1347.0	5.2	59.9	319.8	214.3
2/4/20		1322.7	44.6	49.0	333.5	223.5
2/5/20		1043.4	2.2	54.2	366.7	245.8

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]
2/6/20		869.0	2.0	60.1	353.6	237.0
2/7/20		1073.0	2.2	52.7	346.1	231.9
2/8/20		1168.2	3.1	50.6	355.7	238.4
2/9/20	Y	1216.3	3.2	58.0	294.6	197.5
2/10/20		1078.0	5.8	78.0	280.1	187.8
2/11/20		1060.2	3.1	107.1	298.4	200.2
2/12/20		1021.1	3.0	126.9	394.8	265.0
2/13/20		1090.6	2.5	111.4	407.3	273.3
2/14/20	Y	951.0	17.6	112.9	415.8	279.0
2/15/20		956.5	8.5	40.5	425.4	285.5
2/16/20		924.6	5.7	45.5	334.2	224.2
2/17/20		958.2	5.3	53.1	313.4	210.2
2/18/20		963.3	10.8	44.5	419.3	281.5
2/19/20		1016.1	9.1	37.5	420.2	282.1
2/20/20		815.2	3.9	44.3	374.9	251.6
2/21/20		821.1	8.5	48.6	360.6	242.3
2/22/20		1024.0	9.1	46.6	315.5	212.0
2/23/20		976.4	9.9	59.3	405.1	272.1
2/24/20		874.7	37.3	61.6	441.9	297.0
2/25/20		1159.2	58.5	74.4	422.4	284.3
2/26/20		723.9	68.4	43.3	440.1	295.9
2/27/20		803.8	45.0	43.9	483.9	325.3
2/28/20	Y	1156.5	41.9	89.0	519.0	348.8
2/29/20		1066.0	41.8	99.9	486.4	326.9
3/1/20		1212.0	32.1	82.0	519.7	349.1
3/2/20		1221.5	39.0	79.4	499.7	335.7
3/3/20		1242.6	32.3	80.4	500.6	336.4
3/4/20		1227.1	26.0	61.5	512.3	344.2
3/5/20		1204.7	30.5	72.1	560.5	376.7
3/6/20		1108.9	21.7	105.8	503.9	338.4
3/7/20		1193.1	8.8	99.6	476.5	320.0
3/8/20		1006.2	6.2	79.7	403.0	270.2
3/9/20		1041.5	7.1	88.6	354.9	237.9
3/10/20		954.3	6.4	91.2	361.1	242.0
3/11/20		1107.2	7.0	90.0	414.1	277.5
3/12/20		1299.6	10.3	82.8	400.4	268.4

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]
3/13/20		1249.2	8.2	62.9	441.6	296.2
3/14/20		1125.4	9.7	62.4	408.6	274.0
3/15/20		1193.8	13.2	63.7	419.9	281.8
3/16/20		1271.3	20.8	68.1	349.1	234.5
3/17/20		1345.7	11.5	76.7	343.3	230.5
3/18/20		1354.4	9.5	100.4	341.9	229.5
3/19/20		1235.0	8.6	92.5	318.7	213.9
3/20/20		1252.7	10.4	84.6	307.7	206.5
3/21/20		1368.0	10.1	75.4	332.6	223.3
3/22/20		1250.1	11.5	73.2	356.1	239.3
3/23/20		1140.8	9.1	74.4	363.8	244.4
3/24/20		1197.7	11.3	92.2	359.2	241.1
3/25/20		1251.8	9.4	109.3	364.1	244.4
3/26/20		1363.2	9.2	105.9	400.7	268.9
3/27/20		1318.4	6.8	108.2	398.4	267.2
3/28/20		1229.3	7.6	98.9	435.9	292.4
3/29/20		1136.2	6.0	94.7	418.7	280.8
3/30/20		1178.2	9.5	101.2	326.5	219.1
3/31/20		1283.7	12.2	130.6	323.9	217.4

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
1/31/20	Y	257.7	0.9	24.2	90.2	60.4
2/9/20	Y	78.9	0.6	13.4	28.3	19.0

Date	Unit	Total Mass Emissions - GTG's #2				
	Start-Up	Midnight - Midnight				
	or Shutdown	(lbs/day)				
		NOX	SO2	CO	PM 1	ROG 1
1/24/20	Y	131.4	11.2	18.4	84.3	56.5
1/27/20	Y	116.6	0.8	8.9	57.6	38.7

Date	Unit	Total Mass Emissions - GTG's #3				
	Start-Up	Midnight - Midnight				
	or Shutdown	(lbs/day)				
		NOX	SO2	CO	PM 1	ROG 1
2/14/20	Y	186.5	12.2	31.4	94.9	63.7
2/28/20	Y	162.5	2.3	14.8	41.4	27.8

Date	Unit	Total Mass Emissions - GTG's #4				
	Start-Up	Midnight - Midnight				
	or Shutdown	(lbs/day)				
		NOX	SO2	CO	PM 1	ROG 1
	NONE					

Unit	Cogeneration Unit	
Sample Point	Eff.Before Compress	
Profile #	9007	
Date	3/30/2020	
Time	06:00	
Sample No.	1740172	
Status	Complete	
H2S - SCD-HiLvl	<1.0	ppm
COS - SCD-HiLvl	1	ppm
MeSH - SCD-HiLvl	<1.0	ppm
EtSH - SCD-HiLvl	<1.0	ppm
DMDS - SCD-HiLvl	3	ppm
Other S Compds-SCD-HiLvl	1	ppm
Sulfur (sum)-SCD-Calc	5	ppm

Unit	Cogeneration Unit	
Sample Point	Butane - TK 79	
Profile #	9010	
Date	3/30/2020	
Time	06:00	
Sample No.	1740173	
Status	Complete	
H2S - SCD-LoLvl	<0.1	ppm
COS - SCD-LoLvl	<0.1	ppm
MeSH - SCD-LoLvl	<0.1	ppm
EtSH - SCD-LoLvl	0.8	ppm
DMDS - SCD-LoLvl	0.1	ppm
Other S Cmpds-SCD-LoLvl	0.9	ppm
Sulfur (sum)-SCD-Calc	1.8	ppm

Connie Chow
Environmental Department

Tesoro Refining & Marketing Company LLC
A subsidiary of Marathon Petroleum Corporation

Los Angeles Refinery – Carson Operations
2350 E. 223rd Street
Carson, California 90810
310-816-8100

January 13, 2019

VIA Certified Mail No. 7018 0360 0001 1216 0491
Return Receipt Requested

Title V Administrator
South Coast Air Quality Management District
PO Box #4944
Diamond Bar, CA 91765

Re: Title V Deviation Breakdown Report for Cogen
Notification # 593471
Facility ID No. 174655

Dear Title V Administrator,

Tesoro Los Angeles Refinery, Carson Operations is providing the enclosed Form 500-N for the Title V deviation breakdown notification made on January 6th, 2019 at 3:56 PM (Notification No. 593471).

Please contact me at (310) 847-5633 if you have questions or comments regarding this report.

Sincerely,

Connie Chow
Senior Environmental Engineer

Enclosure

cc: Env File 3E05-0046708

ecc: ECC 2020-1-6 Cogen NOx Exceedance
George Lamont, SCAQMD
Jose Enriquez, SCAQMD
Joshua Valdez, Marathon
David Booth, Marathon

South Coast Air Quality Management District

Form 500-N
Deviations, Emergencies, & Breakdowns

Mail Application To:
PO Box 4944
Diamond Bar, CA 91765

Tel: (909) 396-3385
www.aqmd.gov

**This written report is in addition to requirements to verbally report certain types of incidents. Verbal reports may be made by calling AQMD at 1-800-288-7664 (1-800-CUT-SMOG) or AQMD enforcement personnel.*

Section I - Facility Information

1. Permit to be issued to (Business name of operator to appear on permit): Tesoro Refining & Marketing Company LLC

2. Valid AQMD Facility ID (Available on Permit or Invoice Issued by AQMD): 174655

3. Address (where incident occurred): 2350 E. 223rd St

City: Carson **State:** CA **Zip Code:** 90810

4. Mailing Address (if different from Item 2): 2350 E. 223rd St

City: Carson **State:** CA **Zip Code:** 90810

5. Provide the name, title, and phone number of the person to contact for further information

Name	Title	Phone
Connie Chow	Senior Environmental Engineer	310-847-5633

Section II - Reporting of Breakdowns, Deviations, and Emergencies

1. This written notification is to report a(n):

	Type of Incident	Verbal Report Due*	Written Report Due
a. ☐	Emergency under Rule 3002 (g)	Within 1 hour of discovery.	Within 2 working days from when the emission limit was exceeded
b. ☑	Breakdown under: ☑ Rule 430 (Non-RECLAIM) ☐ Rule 2004 (RECLAIM) ☐ Rule 218 (Non-RECLAIM) [See Rule 218 (f)(3)]	For Rules 430 2004 - Within 1 hour of discovery For Rule 218 - Within 24 hours or next business day for failure/shutdown exceeding 24 hours.	For Rules 430 2004 - Within 7 calendar days after breakdown is corrected, but no later than 30 days from the start of the breakdown, unless a written extension is granted For Rule 218 - With required semi-annual reports
c. ☐	Deviation with excess emissions [See Title V Permit, Section K, Condition No. 22B]	Within 72 hours of discovery of the deviation or shorter reporting period if required by an applicable State or Federal Regulation	Within 14 days of discovery of the deviation
d. ☐	Other Deviation [See Title V Permit, Section K, Condition Nos. 22D & 23]	None	With required semi-annual reports

2. The incident was first discovered by: Operations **on?** 1/6/2020 (Date) 3:20:00 PM (Time)

3. The incident was first reported to: AQMD Operator #6 **on?** 1/6/2020 (Date) 3:56:00 PM (Time)

a. ◉ Via Phone

b. ○ In Person Notification Number (Required): 593471

4. When did the incident actually occur? 1/6/2020 (Date) 3:20:00 PM (Time)

AQMD USE ONLY	Recieved By:		Assigned By:		Inspector:
	Date/Time Recieved:		Date/Time Assigned:		Date/Time Recieved Assignmen
	Date Delivered to Team:		Date Reviewed Inspector Repo		Date Facility Inspected:
	Team:	Sector:	Breakdown/Deviation Notification		Date Completed Report
	Recommended Action:	Cancel Notification	Grant Relief	Issue NOV No. _____	Other: _____
	Final Action:	Cancel Notification	Grant Relief	Issue NOV No. _____	Other _____

5. Has the incident stopped? a. (•) Yes, on: 1/6/2020 (Date) 3:38:00 PM (Time) b. ( ) No

6. What was the total duration of the incident? 0.3 (Days) (Hours)

7. For equipment with an operating cycle, as defined in Rule 430 (b)(3)(A), when was the end of the operating cycle during which the incident occured? N/A (Date) (Time)

8. Describe the incident and identify each piece of equipment (by permit, application, or device number) affected. Attach photos (when available) of the affected equipment and attach additional pages as necessary. Devices Affected: 1236, 1237

See Attachment

9. This incident may have resulted in a:

a. [✓] Violation of Permit Condition(s): A248.1

b. [✓] Violation of AQMD Rule(s): R203(b), R2004(f)(1), R3002(c)(1), R2005, NOX: 8 PPMV (4) [RULE 2005, 6-3-2011

10. What was the probable cause of the incident? Attach additional pages as necessary.

See Attachment

11. Did the incident result in excess emissions? ( ) No (•) Yes (Complete the following and attach calculations.)

[ ] VOC	lbs	[✓] NOX	21.43 ppm	lbs	[ ] SOx	lbs	[ ] H2S	lbs	
[ ] CO	lbs	[ ] PM		lbs	[ ] Other	lbs			pollutant

12. For RECLAIM facilities Subject to Rule 2004 (i)(3) ONLY: If excess emissions of NOx and/or SOx were reported in Item 11, do you want these emissions to be counted when determining compliance with your annual allocations?

a. ( ) Yes, for: [ ] NOx [ ] SOx b. ( ) No, for: [ ] NOx [ ] SOx

If box 12(b) above is checked, include all information specified in Rule 2004(i)(3)(B) and (C), as applicable.

13. Describe the steps taken to correct the problem (i.e., steps taken to mitigate excess emissions, equipment repairs, etc.) and the preventative measures employed to avoid future incidents. Include photos of the failed equipment if available and attach additional pages as necessary.

See Attachment

14. Was the facility operating properly prior to the incident?

a. (•) Yes b. ( ) No, because:

15. Did the incident result from operator error, neglect or improper operation or maintenance procedures?

a. ( ) Yes b. (•) No, because: See Attachment

16. Has the facility returned to compliance?

a. ( ) No, because:

b. (•) Yes (Attach evidence such as emissions calculations, contemporaneous operating logs or other credible evidence.)

Section III - Certification Statement

I certify under penalty of law that based on information and belief formed after reasonable inquiry, the statements and information in this document and in all attachments and other materials are true, accurate, and complete.

For Title V Facilities ONLY: [✓] I also certify under penalty of law that that I am the responsible official for this facility as defined in AQMD Regulation XXX.

DIK

Signature of Responsible Official (Brad Levi delegate) | Vice President, Tesoro Los Angeles Refinery (Title) | 1/13/20 (Date)

~~Brad Levi~~ Austin Fontenot | 310-816-8100 (Phone) | 310-847-5475 (Fax)

Type or Print Name of Responsible Official

2350 E. 223rd St (Address) | Carson (City:) | CA (State) | 90810 (Zip Code)

Section IV - Attachments

8. Describe the incident and identify each piece of equipment (by permit, application, or device number) affected. Attach photos (when available) of the affected equipment and attach additional pages as necessary.

On January 6th at approximately 3:20 pm, Cogeneration Unit 93's Gas Turbine Generator (GTG) experienced an unexpected sudden drop in DeNOx steam flow, resulting in elevated NOx stack emissions. The 15-minute average concentration limit of 8 ppm corrected to 15% O2 was exceeded from 3:20 pm to 3:38 pm.

10. What was the probable cause of the incident? Attach additional pages as necessary.

When the fog pumps for Unit 93 were taken off line due to maintenance activity, Unit 93's power output suddenly and unexpectedly fluctuated erratically. The power fluctuation caused the DeNOx steam system to trip. This reduction in DeNOx steam flow caused NOx emissions to increase above the limit of 8 ppm.

The cause for Unit 93's GTG's power output erratic response was unanticipated, as similar maintenance activities had occurred on the same day at Cogen's sister units (Unit 91, 92 and 94) that did not result in a similar event. In addition, Unit 93's fog pumps are taken offline regularly without incident. It has been determined that Unit 93's GTG is more sensitive to temperature fluctuations and fog pump operation due to its unique air duct configuration.

13. Describe the steps taken to correct the problem (i.e., steps taken to mitigate excess emissions, equipment repairs, etc.) and the preventative measures employed to avoid future incidents. Include photos of the failed equipment if available and attach additional pages as necessary.

In response to the trip of the DeNOx steam system, Operations immediately increased ammonia rates to reduce NOx emissions. Within a few minutes, DeNOx steam flow was re-established back to normal levels, bringing the NOx concentration down. The 15 min average NOx concentration dropped below the 8 ppm limit at 3:38 pm on the same day.

To prevent reoccurrence of similar incidents, during the next Unit 93 outage in the 1st quarter of 2020, the GTG will be thoroughly inspected to determine if improvements can be made to reduce the sensitivity of the GTG to temperature variations and fog pump operability. In the interim, to minimize power fluctuations, fog pump operation and inlet temperatures for GTG 93 will be closely monitored and maintenance procedures reviewed to determine what improvements can be made.

15. Did the incident result from operator error, neglect or improper operation or maintenance procedures?

No. The incident was a result of an unexpected abnormal power fluctuation at Unit 93's GTG.

Connie Chow
Environmental Department

Tesoro Refining & Marketing Company LLC
A subsidiary of Marathon Petroleum Corporation

Los Angeles Refinery – Carson Operations
2350 E. 223rd Street
Carson, California 90810
310-816-8100

March 20, 2020

VIA Certified Mail No. 7019 1640 0001 5296 7745
Return Receipt Requested

Title V Administrator
South Coast Air Quality Management District
PO Box #4944
Diamond Bar, CA 91765

Re: Title V Deviation Breakdown Report for Cogen
Notification # 600455
Facility ID No. 174655

Dear Title V Administrator,

Tesoro Los Angeles Refinery, Carson Operations is providing the enclosed Form 500-N for the Title V deviation breakdown notification made on February 22nd, 2020 at 3:56 PM (Notification No. 600455). Please note that an extension was granted by Supervising Inspector, Eduardo Esparza, with a new due date of March 23, 2020.

Please contact me at (310) 847-5633 if you have questions or comments regarding this report.

Sincerely,

Connie Chow
Environmental Compliance Supervisor

Enclosure

cc: Env File 3E05-0046708

ecc: ECC 2020-2-22 Cogen NOx Exceedance
George Lamont, SCAQMD
Joshua Valdez, Marathon
David Booth, Marathon

South Coast Air Quality Management District

Form 500-N
Deviations, Emergencies, & Breakdowns

Mail Application To:
PO Box 4944
Diamond Bar, CA 91765

Tel: (909) 396-3385
www.aqmd.gov

**This written report is in addition to requirements to verbally report certain types of incidents. Verbal reports may be made by calling AQMD at 1-800-288-7664 (1-800-CUT-SMOG) or AQMD enforcement personnel.*

Section I - Facility Information

1. Permit to be issued to (Business name of operator to appear on permit): Tesoro Refining & Marketing Company LLC

2. Valid AQMD Facility ID (Available on Permit or Invoice Issued by AQMD): 174655

3. Address (where incident occurred): 2350 E. 223rd St

City: Carson **State:** CA **Zip Code:** 90810

4. Mailing Address (if different from Item 2): 2350 E. 223rd St

City: Carson **State:** CA **Zip Code:** 90810

5. Provide the name, title, and phone number of the person to contact for further information

Name	Title	Phone
Connie Chow	Environmental Compliance Supervisor	310-847-5633

Section II - Reporting of Breakdowns, Deviations, and Emergencies

1. This written notification is to report a(n):

	Type of Incident	Verbal Report Due*	Written Report Due
a. ☐	Emergency under Rule 3002 (g)	Within 1 hour of discovery.	Within 2 working days from when the emission limit was exceeded
b. ☑	Breakdown under: ☑ Rule 430 (Non-RECLAIM) ☐ Rule 2004 (RECLAIM) ☐ Rule 218 (Non-RECLAIM) [See Rule 218 (f)(3)]	For Rules 430 2004 - Within 1 hour of discovery For Rule 218 - Within 24 hours or next business day for failure/shutdown exceeding 24 hours.	For Rules 430 2004 - Within 7 calendar days after breakdown is corrected, but no later than 30 days from the start of the breakdown, unless a written extension is granted For Rule 218 - With required semi-annual reports
c. ☐	Deviation with excess emissions [See Title V Permit, Section K, Condition No. 22B]	Within 72 hours of discovery of the deviation or shorter reporting period if required by an applicable State or Federal Regulation	Within 14 days of discovery of the deviation
d. ☐	Other Deviation [See Title V Permit, Section K, Condition Nos. 22D & 23]	None	With required semi-annual reports

2. The incident was first discovered by: Operations **on?** 2/22/2020 (Date) 4:22:00 PM (Time)

3. The incident was first reported to: AQMD Operator #5 **on?** 2/22/2020 (Date) 5:05:00 PM (Time)

a. ◉ Via Phone

b. ○ In Person Notification Number (Required): 600455

4. When did the incident actually occur? 2/22/2020 (Date) 4:22:00 PM (Time)

AQMD USE ONLY					
	Recieved By:		Assigned By:		Inspector:
	Date/Time Recieved:		Date/Time Assigned:		Date/Time Recieved Assignmen
	Date Delivered to Team:		Date Reviewed Inspector Repo		Date Facility Inspected:
	Team:	Sector:	Breakdown/Deviation Notification		Date Completed Report:
	Recommended Action:	Cancel Notification	Grant Relief	Issue NOV No. _____	Other: _____
	Final Action:	Cancel Notification	Grant Relief	Issue NOV No. _____	Other: _____

5. Has the incident stopped? a. (•) Yes, on: 2/22/2020 (Date) 4:46:00 PM (Time) b. ( ) No

6. What was the total duration of the incident? 0 Days 0.42 Hours

7. For equipment with an operating cycle, as defined in Rule 430 (b)(3)(A), when was the end of the operating cycle during which the incident occured? N/A (Date) (Time)

8. Describe the incident and identify each piece of equipment (by permit, application, or device number) affected. Attach photos (when available) of the affected equipment and attach additional pages as necessary. Devices Affected: 1226, 1227

See Attachment

9. This incident may have resulted in a:

a. [x] Violation of Permit Condition(s): A248.1

b. [x] Violation of AQMD Rule(s): R203(b), R2004(f)(1), r3002(c)(1), NOX: 8 PPMV (4) [RULE 2005, 6-3-2011

10. What was the probable cause of the incident? Attach additional pages as necessary.

See Attachment

11. Did the incident result in excess emissions? ( ) No (•) Yes (Complete the following and attach calculations.)

[ ] VOC	lbs	[x] NOX	>47.8 ppm	lbs	[ ] SOx	lbs	[ ] H2S	lbs	
[ ] CO	lbs	[ ] PM		lbs	[ ] Other	lbs			pollutant

12. For RECLAIM facilities Subject to Rule 2004 (i)(3) ONLY: If excess emissions of NOx and/or SOx were reported in Item 11, do you want these emissions to be counted when determining compliance with your annual allocations?

a. ( ) Yes, for: [ ] NOx [ ] SOx b. ( ) No, for: [ ] NOx [ ] SOx

If box 12(b) above is checked, include all information specified in Rule 2004(i)(3)(B) and (C), as applicable.

13. Describe the steps taken to correct the problem (i.e., steps taken to mitigate excess emissions, equipment repairs, etc.) and the preventative measures employed to avoid future incidents. Include photos of the failed equipment if available and attach additional pages as necessary.

See Attachment

14. Was the facility operating properly prior to the incident?

a. (•) Yes b. ( ) No, because:

15. Did the incident result from operator error, neglect or improper operation or maintenance procedures?

a. ( ) Yes b. (•) No, because: See Attachment

16. Has the facility returned to compliance?

a. ( ) No, because:

b. (•) Yes (Attach evidence such as emissions calculations, contemporaneous operating logs or other credible evidence.)

Section III - Certification Statement

I certify under penalty of law that based on information and belief formed after reasonable inquiry, the statements and information in this document and in all attachments and other materials are true, accurate, and complete.

For Title V Facilities ONLY: [x] I also certify under penalty of law that that I am the responsible official for this facility as defined in AQMD Regulation XXX.

DIK Bradley Levi — Signature of Responsible Official

Vice President, Tesoro Los Angeles Refinery — Title

3-20-2020 — Date

Brad Levi — Type or Print Name of Responsible Official

310-816-8100 — Phone

310-847-5475 — Fax

2350 E. 223rd St — Address

Carson — City:

CA — State

90810 — Zip Code

Section IV - Attachments

8. Describe the incident and identify each piece of equipment (by permit, application, or device number) affected. Attach photos (when available) of the affected equipment and attach additional pages as necessary.

On February 22nd, 2020, at approximately 4:22 pm, Cogeneration's Gas Turbine Generator (GTG) Unit 91 experienced an unexpected sudden decrease in DeNOx steam flow, resulting in elevated NOx stack emissions. The 15-minute average concentration limit of 8 ppm corrected to 15% O2 was exceeded from 4:22 pm to 4:46 pm.

10. What was the probable cause of the incident? Attach additional pages as necessary.

A malfunction in the GTG Unit 91 Universal Controller Stand Alone-B (UCSB) main controller caused GTG Unit 91's power output to fluctuate erratically. The power output fluctuation caused the DeNOx steam flow to significantly decrease. This reduction in DeNOx steam flow caused NOx emissions to increase above the limit of 8 ppm.

13. Describe the steps taken to correct the problem (i.e., steps taken to mitigate excess emissions, equipment repairs, etc.) and the preventative measures employed to avoid future incidents. Include photos of the failed equipment if available and attach additional pages as necessary.

In response to the trip of the DeNOx steam system, Operations immediately increased ammonia rates to reduce NOx emissions. The UCSB controller was reset. Within a few minutes, DeNOx steam flow was re-established back to normal rates, bringing the NOx concentration down. The 15 min average NOx concentration dropped below the 8 ppm limit at 4:46 pm on the same day.
To prevent reoccurrence of similar incidents, Cogen will be shutting down GTG Unit 91 in the 2nd quarter of 2020 to perform repairs of the main UCSB controller for GTG Unit 91. The controller will be rebuilt and redownloaded.

In the interim, to minimize impacts of potential reoccurrence, Cogen will be closely monitoring power output.

15. Did the incident result from operator error, neglect or improper operation or maintenance procedures?

No. The incident was a result of a malfunctioning UCSB controller at GTG Unit 91 that caused fluctuation with DeNOx steam.