

DOCKETED

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| Docket Number: | 85-AFC-01C |
| Project Title: | Compliance - Watson Cogeneration Company AFC |
| TN #: | 240410 |
| Document Title: | CEC 3rd Quarter '21 Emissions Report |
| Description: | N/A |
| Filer: | Craig Chi |
| Organization: | Watson Cogeneration Company |
| Submitter Role: | Applicant |
| Submission Date: | 11/8/2021 8:42:32 AM |
| Docketed Date: | 11/8/2021 |

Watson Cogeneration Company

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



VIA EMAIL

November 5, 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 – 3rd Quarter 2021
Submittal # 398**

Dear Mr. Ali:

Attached is Watson Cogeneration Company's (Facility #06755) Quarterly Emissions Report for the third quarter of 2021. 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 third quarter of 2021, Watson Cogeneration Company (WCC) experienced one breakdown / excess emissions incident as currently required by the SCAQMD.

- 9/9/2021 – WCC experienced a Deviation with Excess Emissions at 7 PM, resulting in an exceedance of CEC Permit Conditions A248.3. The issue continued intermittently until 11 AM on 9/10/2021. AQMD was notified at 3:56 PM on 9/10/2021, and subsequent report was issued 9/21/2021.

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

Sincerely,

A handwritten signature in blue ink, appearing to read 'Craig Chi', is written over a horizontal line.

Craig Chi
Watson Cogeneration Operations Engineer

bcc: Shelley Zhang, Marathon Los Angeles Refinery
Jimmie Espie, WCC
Paul O'Brien, 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 |
| 7/1/21 | | 1029 | 1067 | 1038 | 1052 | 0 | 3786 | 310 | 90 | 1914 | 1177 | 1859 | 1303 |
| 7/2/21 | | 1038 | 1074 | 1044 | 1057 | 0 | 3736 | 397 | 81 | 1991 | 1182 | 1914 | 1308 |
| 7/3/21 | | 987 | 1033 | 989 | 1006 | 0 | 3324 | 600 | 90 | 2073 | 1285 | 1997 | 1444 |
| 7/4/21 | | 983 | 1033 | 987 | 1005 | 0 | 3372 | 537 | 99 | 2194 | 1307 | 2086 | 1463 |
| 7/5/21 | | 1023 | 1074 | 1032 | 1047 | 0 | 3471 | 610 | 95 | 2072 | 1219 | 1949 | 1342 |
| 7/6/21 | | 1039 | 1088 | 1049 | 1061 | 0 | 3448 | 693 | 96 | 1989 | 1207 | 1916 | 1339 |
| 7/7/21 | | 1049 | 1097 | 1058 | 1071 | 0 | 3412 | 767 | 96 | 1972 | 1209 | 1971 | 1320 |
| 7/8/21 | | 1034 | 1081 | 1043 | 1056 | 0 | 3510 | 607 | 98 | 2025 | 1144 | 1904 | 1278 |
| 7/9/21 | | 1040 | 1085 | 1044 | 1061 | 0 | 3398 | 744 | 88 | 1964 | 1172 | 1828 | 1284 |
| 7/10/21 | | 984 | 1043 | 995 | 1014 | 0 | 3228 | 731 | 77 | 1943 | 1225 | 1889 | 1336 |
| 7/11/21 | | 971 | 1039 | 988 | 1006 | 0 | 3100 | 795 | 108 | 2068 | 1280 | 1995 | 1403 |
| 7/12/21 | | 1030 | 1099 | 1056 | 1071 | 0 | 3419 | 733 | 105 | 2043 | 1216 | 1942 | 1333 |
| 7/13/21 | | 1035 | 1079 | 1044 | 1061 | 0 | 3266 | 875 | 78 | 1925 | 1154 | 1792 | 1248 |
| 7/14/21 | | 1031 | 1046 | 1038 | 1052 | 0 | 3115 | 951 | 100 | 1897 | 1139 | 1778 | 1296 |
| 7/15/21 | | 1083 | 743 | 1099 | 1125 | 0 | 2903 | 1051 | 95 | 2148 | 676 | 2023 | 1515 |
| 7/16/21 | | 1023 | 1085 | 1046 | 1067 | 0 | 3181 | 947 | 92 | 1851 | 1161 | 1812 | 1318 |
| 7/17/21 | | 977 | 1033 | 985 | 1013 | 0 | 3268 | 650 | 90 | 2136 | 1249 | 2058 | 1411 |
| 7/18/21 | | 977 | 1025 | 974 | 1003 | 0 | 3285 | 607 | 86 | 2196 | 1235 | 2052 | 1394 |
| 7/19/21 | | 1037 | 1081 | 1039 | 1058 | 0 | 3365 | 763 | 87 | 2191 | 1161 | 1925 | 1287 |
| 7/20/21 | | 1040 | 1083 | 1042 | 1062 | 0 | 3463 | 680 | 84 | 2160 | 1187 | 1949 | 1342 |
| 7/21/21 | | 1046 | 1093 | 1051 | 1068 | 0 | 3446 | 719 | 93 | 2115 | 1186 | 2051 | 1378 |
| 7/22/21 | | 1040 | 1098 | 1057 | 1073 | 0 | 3427 | 720 | 121 | 1960 | 1119 | 1876 | 1253 |
| 7/23/21 | | 1029 | 1076 | 1043 | 1054 | 0 | 3458 | 635 | 109 | 1850 | 1156 | 1763 | 1259 |
| 7/24/21 | | 987 | 1037 | 996 | 1014 | 0 | 3269 | 648 | 116 | 2027 | 1247 | 1997 | 1426 |
| 7/25/21 | | 993 | 1041 | 999 | 1015 | 0 | 3126 | 816 | 104 | 2165 | 1269 | 2073 | 1429 |
| 7/26/21 | | 1022 | 1071 | 1033 | 1037 | 0 | 3389 | 683 | 91 | 1930 | 1135 | 1861 | 1259 |
| 7/27/21 | | 1038 | 1085 | 1048 | 1054 | 0 | 3402 | 732 | 91 | 1929 | 1141 | 1894 | 1279 |
| 7/28/21 | | 1027 | 1072 | 1037 | 1047 | 0 | 3343 | 746 | 93 | 2043 | 1196 | 1968 | 1327 |
| 7/29/21 | | 1027 | 1077 | 1043 | 1050 | 0 | 3303 | 800 | 93 | 2115 | 1211 | 1968 | 1357 |
| 7/30/21 | | 1028 | 1081 | 1047 | 1051 | 0 | 3427 | 687 | 94 | 2109 | 1160 | 1987 | 1316 |
| 7/31/21 | | 983 | 1034 | 996 | 1005 | 0 | 3247 | 673 | 98 | 2120 | 1265 | 2067 | 1399 |
| 8/1/21 | | 960 | 1005 | 967 | 981 | 0 | 3046 | 770 | 98 | 2175 | 1290 | 2118 | 1473 |
| 8/2/21 | | 1013 | 1056 | 1026 | 1034 | 0 | 3324 | 712 | 93 | 2101 | 1225 | 2013 | 1377 |
| 8/3/21 | | 1002 | 1054 | 1022 | 1029 | 0 | 3312 | 700 | 94 | 2014 | 1156 | 2008 | 1313 |
| 8/4/21 | | 1018 | 1061 | 1029 | 1036 | 0 | 3446 | 602 | 95 | 1939 | 1179 | 1942 | 1303 |
| 8/5/21 | | 1027 | 1072 | 1038 | 1050 | 0 | 3658 | 424 | 105 | 2125 | 1198 | 1992 | 1366 |
| 8/6/21 | | 1031 | 1088 | 1046 | 1055 | 0 | 3700 | 398 | 122 | 2049 | 1155 | 1884 | 1297 |
| 8/7/21 | | 979 | 1033 | 990 | 1003 | 0 | 3429 | 463 | 114 | 2189 | 1278 | 2112 | 1441 |
| 8/8/21 | | 968 | 1020 | 978 | 991 | 0 | 3523 | 326 | 108 | 2265 | 1246 | 2147 | 1428 |
| 8/9/21 | | 1025 | 1071 | 1039 | 1045 | 0 | 3568 | 509 | 103 | 2092 | 1169 | 1936 | 1298 |
| 8/10/21 | | 1010 | 1054 | 1026 | 1031 | 0 | 3660 | 366 | 94 | 1793 | 1113 | 1806 | 1242 |
| 8/11/21 | | 1010 | 1053 | 1022 | 1026 | 0 | 3769 | 251 | 93 | 1785 | 1107 | 1809 | 1212 |
| 8/12/21 | | 1007 | 1052 | 1019 | 1027 | 0 | 3410 | 596 | 99 | 2036 | 1192 | 1965 | 1326 |
| 8/13/21 | | 1015 | 1064 | 1029 | 1037 | 0 | 3672 | 366 | 107 | 1898 | 1117 | 1858 | 1260 |
| 8/14/21 | | 967 | 1014 | 972 | 988 | 0 | 3376 | 462 | 102 | 1942 | 1209 | 1831 | 1361 |
| 8/15/21 | | 970 | 1016 | 1001 | 1012 | 0 | 3415 | 487 | 97 | 2088 | 1209 | 2065 | 1394 |
| 8/16/21 | | 1019 | 1067 | 1034 | 1039 | 0 | 3553 | 502 | 106 | 2012 | 1114 | 1916 | 1240 |
| 8/17/21 | | 1027 | 1079 | 1039 | 1048 | 0 | 3666 | 414 | 113 | 1957 | 1096 | 1803 | 1233 |
| 8/18/21 | | 1018 | 1075 | 1032 | 1039 | 0 | 3632 | 416 | 116 | 1812 | 1108 | 1732 | 1241 |
| 8/19/21 | | 1025 | 1073 | 1038 | 1043 | 0 | 3717 | 361 | 100 | 1862 | 1136 | 1810 | 1283 |
| 8/20/21 | | 1017 | 1065 | 1028 | 1034 | 0 | 3667 | 381 | 95 | 1851 | 1095 | 1732 | 1212 |
| 8/21/21 | | 948 | 996 | 963 | 970 | 0 | 3448 | 339 | 91 | 1977 | 1172 | 1814 | 1333 |
| 8/22/21 | | 940 | 983 | 962 | 1001 | 0 | 3509 | 281 | 95 | 2018 | 1192 | 1917 | 1421 |
| 8/23/21 | | 1010 | 1053 | 1023 | 1029 | 0 | 3690 | 327 | 99 | 1804 | 1128 | 1879 | 1284 |
| 8/24/21 | | 1023 | 1063 | 1034 | 1048 | 0 | 3768 | 302 | 99 | 1436 | 1127 | 1909 | 1288 |
| 8/25/21 | | 1037 | 1075 | 1043 | 1061 | 0 | 3788 | 330 | 97 | 1474 | 1106 | 1899 | 1314 |
| 8/26/21 | | 1017 | 1053 | 1025 | 1040 | 0 | 3704 | 338 | 93 | 1743 | 1111 | 1687 | 1261 |
| 8/27/21 | | 1023 | 1060 | 1031 | 1045 | 0 | 3721 | 347 | 91 | 1683 | 1101 | 1739 | 1247 |
| 8/28/21 | | 988 | 1028 | 1004 | 1008 | 0 | 3605 | 332 | 92 | 1396 | 1195 | 1930 | 1367 |

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 |
| 8/29/21 | | 988 | 1031 | 995 | 1010 | 0 | 3534 | 395 | 95 | 1484 | 1225 | 2041 | 1394 |
| 8/30/21 | | 1032 | 1077 | 1044 | 1051 | 0 | 3665 | 442 | 98 | 1556 | 1137 | 1803 | 1280 |
| 8/31/21 | | 1033 | 1081 | 1041 | 1051 | 0 | 3683 | 421 | 102 | 1510 | 1129 | 1810 | 1275 |
| 9/1/21 | | 1032 | 1075 | 1037 | 1047 | 0 | 3732 | 352 | 106 | 1396 | 1115 | 1871 | 1262 |
| 9/2/21 | | 1027 | 1068 | 1032 | 1044 | 0 | 3738 | 340 | 94 | 1492 | 1178 | 1878 | 1314 |
| 9/3/21 | | 1029 | 1068 | 1038 | 1051 | 0 | 3626 | 465 | 96 | 1530 | 1261 | 1911 | 1376 |
| 9/4/21 | | 984 | 1027 | 998 | 1008 | 0 | 3585 | 337 | 95 | 1530 | 1330 | 1739 | 1540 |
| 9/5/21 | | 978 | 1024 | 1009 | 991 | 0 | 3661 | 248 | 92 | 1530 | 1334 | 1656 | 1608 |
| 9/6/21 | | 1018 | 1009 | 965 | 984 | 0 | 3370 | 481 | 124 | 1530 | 1232 | 1685 | 1517 |
| 9/7/21 | | 1039 | 1066 | 1025 | 1035 | 0 | 3544 | 517 | 105 | 1530 | 1166 | 1640 | 1366 |
| 9/8/21 | | 1043 | 1079 | 1045 | 1056 | 0 | 3768 | 362 | 93 | 1404 | 1112 | 1568 | 1279 |
| 9/9/21 | | 1042 | 1075 | 1043 | 1037 | 0 | 3623 | 485 | 88 | 1530 | 1036 | 1494 | 1274 |
| 9/10/21 | | 1048 | 1082 | 1050 | 1060 | 0 | 3627 | 527 | 86 | 1530 | 1048 | 1585 | 1201 |
| 9/11/21 | | 1035 | 1064 | 1007 | 1046 | 0 | 3594 | 472 | 85 | 1530 | 1121 | 1857 | 1312 |
| 9/12/21 | | 1002 | 1054 | 1012 | 1040 | 0 | 3590 | 427 | 91 | 1530 | 1126 | 1816 | 1298 |
| 9/13/21 | | 1012 | 1075 | 1051 | 1054 | 0 | 3699 | 406 | 89 | 1530 | 1280 | 1859 | 1496 |
| 9/14/21 | | 1038 | 1080 | 1056 | 1057 | 0 | 3660 | 466 | 104 | 1530 | 1205 | 1832 | 1427 |
| 9/15/21 | | 1028 | 1072 | 1043 | 1065 | 0 | 3725 | 383 | 101 | 1530 | 1258 | 1878 | 1394 |
| 9/16/21 | | 1038 | 1087 | 1053 | 1067 | 0 | 3779 | 364 | 103 | 1530 | 1273 | 1776 | 1518 |
| 9/17/21 | | 1030 | 1081 | 1052 | 1060 | 0 | 3572 | 541 | 110 | 1568 | 1222 | 1774 | 1433 |
| 9/18/21 | | 1037 | 489 | 1055 | 1047 | 0 | 1712 | 1822 | 94 | 1544 | 852 | 1774 | 2383 |
| 9/19/21 | | 1065 | 14 | 1086 | 1078 | 0 | 1137 | 1997 | 107 | 1530 | -91 | 1772 | 2469 |
| 9/20/21 | | 1133 | 14 | 1146 | 1164 | 0 | 1322 | 2006 | 129 | 1531 | -100 | 1815 | 2318 |
| 9/21/21 | | 1123 | 11 | 1141 | 1164 | 0 | 1659 | 1680 | 100 | 1530 | -67 | 1772 | 2208 |
| 9/22/21 | | 390 | 10 | 1081 | 1092 | 0 | 1201 | 1299 | 74 | 564 | -71 | 1772 | 2223 |
| 9/23/21 | | 8 | 691 | 1090 | 1110 | 0 | 1736 | 1068 | 95 | -2 | 725 | 1772 | 1835 |
| 9/24/21 | | 9 | 1201 | 1168 | 1196 | 0 | 2501 | 937 | 136 | 1 | 1543 | 1772 | 1678 |
| 9/25/21 | | 9 | 1244 | 1192 | 1222 | 0 | 2977 | 556 | 135 | 3 | 1457 | 1772 | 1994 |
| 9/26/21 | | 9 | 1237 | 1178 | 1206 | 0 | 2906 | 585 | 140 | -18 | 1444 | 1772 | 2130 |
| 9/27/21 | | 9 | 1246 | 1188 | 1218 | 0 | 2952 | 559 | 150 | -19 | 1496 | 1772 | 1955 |
| 9/28/21 | | 9 | 1255 | 1193 | 1225 | 0 | 3034 | 506 | 143 | -18 | 1509 | 2128 | 1945 |
| 9/29/21 | | 9 | 1242 | 1186 | 1218 | 0 | 3213 | 306 | 137 | 0 | 1489 | 2293 | 2046 |
| 9/30/21 | | 10 | 1239 | 1189 | 1225 | 0 | 2965 | 569 | 130 | 6 | 1583 | 2148 | 2416 |

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 |
| 7/1/21 | | 673.7 | 2.4 | 174.6 | 395.7 | 265.1 |
| 7/2/21 | | 678.4 | 1.9 | 145.1 | 398.5 | 267.0 |
| 7/3/21 | | 714.3 | 3.1 | 147.0 | 380.1 | 254.9 |
| 7/4/21 | | 692.3 | 3.9 | 141.3 | 379.4 | 254.4 |
| 7/5/21 | | 661.1 | 3.6 | 169.7 | 395.4 | 265.1 |
| 7/6/21 | | 689.4 | 4.5 | 168.4 | 401.3 | 269.1 |
| 7/7/21 | | 667.0 | 4.0 | 165.1 | 405.1 | 271.7 |
| 7/8/21 | | 670.9 | 3.9 | 117.1 | 399.0 | 267.5 |
| 7/9/21 | | 697.0 | 4.0 | 156.9 | 400.7 | 268.8 |
| 7/10/21 | | 729.5 | 3.2 | 159.6 | 382.5 | 256.5 |
| 7/11/21 | | 707.8 | 4.0 | 131.7 | 379.5 | 254.6 |
| 7/12/21 | | 652.9 | 49.0 | 114.0 | 403.3 | 270.5 |
| 7/13/21 | | 783.0 | 2.8 | 107.8 | 400.0 | 268.4 |
| 7/14/21 | | 733.5 | 5.5 | 119.8 | 395.2 | 265.2 |
| 7/15/21 | | 710.4 | 6.6 | 95.2 | 384.5 | 258.1 |
| 7/16/21 | | 745.0 | 4.2 | 105.9 | 400.4 | 268.7 |
| 7/17/21 | | 686.7 | 2.1 | 92.2 | 379.6 | 254.5 |
| 7/18/21 | | 691.1 | 3.3 | 92.9 | 376.8 | 252.6 |
| 7/19/21 | | 695.7 | 2.9 | 118.5 | 399.4 | 267.9 |
| 7/20/21 | | 684.6 | 3.0 | 92.1 | 400.3 | 268.4 |
| 7/21/21 | | 677.3 | 2.8 | 141.8 | 403.4 | 270.5 |
| 7/22/21 | | 737.7 | 3.1 | 122.0 | 404.3 | 271.2 |
| 7/23/21 | | 714.4 | 2.1 | 98.5 | 398.0 | 266.9 |
| 7/24/21 | | 715.2 | 2.2 | 108.0 | 382.1 | 256.3 |
| 7/25/21 | | 722.3 | 3.3 | 134.7 | 383.7 | 257.4 |
| 7/26/21 | | 694.4 | 3.0 | 137.1 | 394.3 | 264.4 |
| 7/27/21 | | 724.8 | 2.4 | 107.0 | 400.3 | 268.5 |
| 7/28/21 | | 690.1 | 1.2 | 104.1 | 396.3 | 265.8 |
| 7/29/21 | | 715.7 | 1.5 | 135.8 | 397.7 | 266.8 |
| 7/30/21 | | 751.7 | 1.4 | 122.0 | 398.6 | 267.3 |
| 7/31/21 | | 765.1 | 1.8 | 123.7 | 380.7 | 255.3 |
| 8/1/21 | | 715.0 | 4.3 | 99.1 | 371.0 | 248.9 |
| 8/2/21 | | 717.9 | 3.3 | 126.1 | 391.2 | 262.3 |
| 8/3/21 | | 774.5 | 5.0 | 120.4 | 389.0 | 260.9 |
| 8/4/21 | | 709.5 | 4.3 | 107.0 | 392.3 | 263.0 |
| 8/5/21 | | 624.9 | 1.5 | 93.0 | 396.1 | 265.4 |

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 |
| 8/6/21 | | 674.4 | 1.4 | 111.9 | 399.1 | 267.5 |
| 8/7/21 | | 682.1 | 1.6 | 99.6 | 379.1 | 254.1 |
| 8/8/21 | | 650.3 | 1.8 | 101.2 | 374.2 | 250.7 |
| 8/9/21 | | 642.4 | 2.3 | 110.5 | 395.5 | 265.1 |
| 8/10/21 | | 722.6 | 1.5 | 136.3 | 389.7 | 261.1 |
| 8/11/21 | | 692.8 | 1.5 | 105.5 | 388.6 | 260.3 |
| 8/12/21 | | 657.2 | 3.1 | 110.4 | 388.7 | 260.6 |
| 8/13/21 | | 652.1 | 2.5 | 106.6 | 392.0 | 262.7 |
| 8/14/21 | | 739.8 | 3.2 | 118.3 | 372.8 | 249.9 |
| 8/15/21 | | 646.7 | 2.8 | 97.5 | 378.4 | 253.7 |
| 8/16/21 | | 651.6 | 2.1 | 102.5 | 393.7 | 263.9 |
| 8/17/21 | | 632.1 | 1.6 | 102.0 | 396.7 | 265.8 |
| 8/18/21 | | 683.8 | 1.6 | 70.9 | 393.9 | 264.0 |
| 8/19/21 | | 693.6 | 1.6 | 78.0 | 395.1 | 264.7 |
| 8/20/21 | | 722.7 | 1.9 | 84.6 | 391.9 | 262.6 |
| 8/21/21 | | 651.3 | 1.2 | 63.7 | 366.7 | 245.7 |
| 8/22/21 | | 640.7 | 1.9 | 62.9 | 367.3 | 246.1 |
| 8/23/21 | | 681.1 | 1.0 | 87.9 | 389.1 | 260.7 |
| 8/24/21 | | 780.0 | 1.5 | 74.2 | 394.1 | 264.0 |
| 8/25/21 | | 768.7 | 2.9 | 80.7 | 398.6 | 267.0 |
| 8/26/21 | | 758.0 | 2.1 | 86.2 | 391.0 | 261.9 |
| 8/27/21 | | 777.2 | 2.2 | 95.4 | 393.3 | 263.5 |
| 8/28/21 | | 861.5 | 2.7 | 105.2 | 380.9 | 255.2 |
| 8/29/21 | | 836.8 | 3.0 | 119.9 | 380.6 | 255.1 |
| 8/30/21 | | 801.2 | 3.9 | 137.4 | 397.8 | 266.6 |
| 8/31/21 | | 816.6 | 2.0 | 78.4 | 397.8 | 266.6 |
| 9/1/21 | | 822.5 | 3.0 | 85.6 | 396.3 | 265.5 |
| 9/2/21 | | 692.0 | 5.4 | 122.9 | 394.4 | 264.3 |
| 9/3/21 | | 684.1 | 3.1 | 85.8 | 396.0 | 265.4 |
| 9/4/21 | | 748.1 | 1.6 | 113.1 | 379.8 | 254.5 |
| 9/5/21 | | 728.0 | 1.8 | 95.3 | 378.2 | 253.4 |
| 9/6/21 | | 685.2 | 3.6 | 116.5 | 376.2 | 252.2 |
| 9/7/21 | | 641.2 | 3.2 | 133.8 | 394.2 | 264.3 |
| 9/8/21 | | 763.5 | 3.6 | 98.9 | 399.3 | 267.5 |
| 9/9/21 | | 705.5 | 3.7 | 155.3 | 397.0 | 266.1 |
| 9/10/21 | | 745.7 | 5.9 | 182.9 | 401.3 | 269.0 |

**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 |
| 9/11/21 | | 701.6 | 4.8 | 115.9 | 392.8 | 263.3 |
| 9/12/21 | | 730.3 | 5.4 | 126.3 | 388.6 | 260.4 |
| 9/13/21 | | 759.6 | 4.8 | 105.8 | 396.6 | 265.7 |
| 9/14/21 | | 711.7 | 10.5 | 154.3 | 400.2 | 268.2 |
| 9/15/21 | | 769.4 | 3.6 | 144.3 | 398.0 | 266.7 |
| 9/16/21 | | 862.3 | 4.6 | 108.3 | 401.5 | 269.0 |
| 9/17/21 | | 1184.6 | 6.8 | 131.5 | 399.7 | 268.0 |
| 9/18/21 | | 1174.7 | 116.8 | 102.9 | 346.4 | 233.2 |
| 9/19/21 | | 1251.2 | 293.4 | 53.8 | 310.3 | 209.2 |
| 9/20/21 | | 1053.6 | 228.7 | 67.3 | 330.7 | 222.8 |
| 9/21/21 | | 815.1 | 87.7 | 58.3 | 328.3 | 221.0 |
| 9/22/21 | | 567.6 | 17.7 | 34.7 | 245.7 | 165.4 |
| 9/23/21 | | 694.7 | 14.1 | 97.0 | 275.9 | 185.5 |
| 9/24/21 | | 630.1 | 7.0 | 39.0 | 339.4 | 227.9 |
| 9/25/21 | | 646.5 | 3.3 | 78.1 | 347.4 | 233.0 |
| 9/26/21 | | 623.0 | 6.9 | 93.1 | 343.9 | 230.7 |
| 9/27/21 | | 614.6 | 7.1 | 93.6 | 346.8 | 232.6 |
| 9/28/21 | | 611.1 | 2.0 | 99.1 | 348.7 | 233.8 |
| 9/29/21 | | 597.8 | 5.6 | 85.8 | 345.7 | 231.7 |

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 | | | | |
|---------|-------------------------|----------------------------------|-----|------|------|-------|
| | | Midnight - Midnight (lbs/day) | | | | |
| | Start-Up or Shutdown | NOX | SO2 | CO | PM 1 | ROG 1 |
| 9/22/21 | SD | 50.4 | 1.4 | 13.0 | 37.3 | 25.1 |

| Date | | Total Mass Emissions - GTG's #2 | | | | |
|-----------|----|----------------------------------|-----|------|------|-------|
| | | Midnight - Midnight (lbs/day) | | | | |
| | | NOX | SO2 | CO | PM 1 | ROG 1 |
| 7/14/2021 | SD | 139.8 | 1.6 | 37.1 | 99.2 | 66.6 |
| 7/15/2021 | SU | 105.4 | 2.6 | 16.6 | 70.5 | 47.4 |
| 9/18/2021 | SD | 47.2 | 4.3 | 16.4 | 46.7 | 31.4 |
| 9/23/2021 | SU | 197.9 | 3.5 | 40.7 | 65.8 | 44.2 |

| 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 | 9/30/2021 |
| Time | 06:00 |
| Sample No. | 1896096 |
| 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 |
| DMS - SCD-HiLvl | <1.0 | ppm |
| Other S Compds-SCD-HiLvl | 2 | ppm |
| Sulfur (sum)-SCD-Calc | 5 | ppm |

| Unit | Sample Point |
|------|--------------|
|------|--------------|

| | |
|------------|-----------|
| Profile # | 9010 |
| Date | 9/20/2021 |
| Time | 06:00 |
| Sample No. | 1893147 |
| Status | Complete |

| | | |
|--------------------------|------|-----|
| H2S - SCD-LoLvl | <0.1 | ppm |
| COS - SCD-LoLvl | <0.1 | ppm |
| MeSH - SCD-LoLvl | <0.1 | ppm |
| EtSH - SCD-LoLvl | 0.4 | ppm |
| DMS - SCD-LoLvl | <0.1 | ppm |
| Other S Compds-SCD-LoLvl | 1.0 | ppm |
| Sulfur (sum)-SCD-Calc | 1.4 | ppm |



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

September 21, 2021

7020 1290 0001 3795 9869
VIA Certified Mail
Return Receipt Requested

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

Re: Title V Excess Emissions Deviation Report Notification #669216
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 Excess Emissions Deviation Notification made on September 10, 2021, at approximately 3:56 PM. If there are any questions, please contact me at (310) 847-5680.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Shelley Zhang'.

Shelley Zhang
HES Professional

Enclosure: SCAQMD Form 500-N

cc: Env File 3E05-0046708

ecc: George Lamont, SCAQMD
Robert Nguyen, Marathon
Connie Chow, Marathon



*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): <u>Tesoro Refining & Marketing Company LLC</u> | 2. Valid AQMD Facility ID (Available on Permit or Invoice Issued by AQMD): <u>174655</u> | |
| 3. Address (where incident occurred): <u>2350 E. 223rd St</u> | | |
| City: <u>Carson</u> | State: <u>CA</u> | Zip Code: <u>90810</u> |
| 4. Mailing Address (if different from Item 2): <u>2350 E. 223rd St</u> | | |
| City: <u>Carson</u> | State: <u>CA</u> | Zip Code: <u>90810</u> |
| 5. Provide the name, title, and phone number of the person to contact for further information | | |
| <u>Shelley Zhang</u> | <u>HES Professional</u> | <u>310-847-5680</u> |
| Name | Title | Phone |

| 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. <input type="checkbox"/> Emergency under Rule 3002 (g) | Within 1 hour of discovery. | Within 2 working days from when the emission limit was exceeded |
| b. <input type="checkbox"/> Breakdown under: | | |
| <input type="checkbox"/> Rule 430 (Non-RECLAIM) | For Rules 430 2004 - Within 1 hour of discovery | 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 |
| <input type="checkbox"/> Rule 2004 (RECLAIM) | For Rule 218 - Within 24 hours or next business day for failure/shutdown exceeding 24 hours. | For Rule 218 - With required semi-annual reports |
| <input type="checkbox"/> Rule 218 (Non-RECLAIM) [See Rule 218 (f)(3)] | | |
| c. <input checked="" type="checkbox"/> 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. <input type="checkbox"/> 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: | <u>Environmental</u> | on? | <u>9/9/2021</u> | <u>7:00:00 PM</u> |
| | | | Date | Time |
| 3. The incident was first reported to: | <u>Operator 12</u> | on? | <u>9/10/2021</u> | <u>3:56:00 PM</u> |
| | | | Date | Time |
| a. <input checked="" type="radio"/> Via Phone | | | | |
| b. <input type="radio"/> In Person | Notification Number (Required): | <u>669216</u> | | |
| 4. When did the incident actually occur? | <u>9/9/2021</u> | | <u>7:00:00 PM</u> | |
| | Date | | Time | |

| | | | |
|------|-------------------------|------------------------------|----------------------------------|
| | Received By: | Assigned By: | Inspector: |
| | Date/Time Received: | Date/Time Assigned: | Date/Time Received Assignmen |
| AQMD | Date Delivered to Team: | Date Reviewed Inspector Repo | Date Facility Inspected: |
| USE | Team: | Sector: | Breakdown/Deviation Notification |
| ONLY | 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: 9/10/2021 11:00:00 AM b. No
 Date Time

6. What was the total duration of the incident? 12.5
 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 occurred? 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, 1253, 1237
 At 7 PM on September 9, 2021, the CO CEMS on Cogeneration Unit 93 (D1236, U93) indicated that the 2.5 ppm CO limit was exceeded. The exceedances continued intermittently until 11 AM on September 10, 2021.

9. This incident may have resulted in a:
 a. Violation of Permit Condition(s): A248.3
 b. Violation of AQMD Rule(s): CO: 2.5 PPMV (4) [RULE 1303(a)(1)-BACT, 5-10-1996]

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 lbs SOx lbs H2S lbs
 CO 0.94 ppm 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.
 The findings of the investigation were inconclusive, and since the issue self-resolved, no further corrective action was taken.

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.
 Signature of Responsible Official: Bradley J. Levi Vice President, Tesoro Los Angeles Refinery Date: 9-21-2021
 Brad Levi 310-816-8100 310-847-5475
 Type or Print Name of Responsible Official Phone Fax
 2350 E. 223rd St Carson CA 90810
 Address City: State Zip Code

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

A thorough investigation was conducted after the incident; however, the findings of the investigation were inconclusive. U93 returned to compliance at 11 AM on September 10, 2021, and there was no further CO exceedance since the incident. While this could not be verified, the suspected cause was a combustion issue that self-resolved.

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

The outcome of the investigation is inconclusive and has not identified any operator error that could have caused the incident.

| Date and Time | CEMS Status | CO Concentration (ppm) | Comments |
|----------------|-------------|------------------------|--------------------------|
| 9/9/2021 17:00 | maintenance | 0.00 | SO2 spike RATA |
| 9/9/2021 17:15 | maintenance | 0.00 | SO2 spike RATA |
| 9/9/2021 17:30 | operation | 0.75 | |
| 9/9/2021 17:45 | operation | 1.13 | |
| 9/9/2021 18:00 | maintenance | 0.00 | |
| 9/9/2021 18:15 | operation | 0.47 | |
| 9/9/2021 18:30 | operation | 1.10 | |
| 9/9/2021 18:45 | operation | 2.05 | |
| 9/9/2021 19:00 | operation | 2.68 | |
| 9/9/2021 19:15 | operation | 2.93 | |
| 9/9/2021 19:30 | operation | 2.94 | |
| 9/9/2021 19:45 | operation | 3.14 | |
| 9/9/2021 20:00 | operation | 3.27 | |
| 9/9/2021 20:15 | operation | 3.30 | |
| 9/9/2021 20:30 | operation | 2.78 | |
| 9/9/2021 20:45 | maintenance | 0.00 | troubleshoot CO analyzer |
| 9/9/2021 21:00 | maintenance | 0.00 | troubleshoot CO analyzer |
| 9/9/2021 21:15 | maintenance | 0.00 | troubleshoot CO analyzer |
| 9/9/2021 21:30 | maintenance | 0.00 | troubleshoot CO analyzer |
| 9/9/2021 21:45 | maintenance | 0.00 | troubleshoot CO analyzer |
| 9/9/2021 22:00 | maintenance | 0.00 | troubleshoot CO analyzer |
| 9/9/2021 22:15 | maintenance | 0.00 | troubleshoot CO analyzer |
| 9/9/2021 22:30 | maintenance | 0.00 | troubleshoot CO analyzer |
| 9/9/2021 22:45 | operation | 1.08 | |
| 9/9/2021 23:00 | operation | 1.96 | |
| 9/9/2021 23:15 | operation | 2.73 | |
| 9/9/2021 23:30 | operation | 3.10 | |
| 9/9/2021 23:45 | operation | 3.21 | |
| 9/10/2021 0:00 | operation | 3.25 | |
| 9/10/2021 0:15 | operation | 3.44 | |
| 9/10/2021 0:30 | operation | 2.88 | |
| 9/10/2021 0:45 | operation | 3.13 | |
| 9/10/2021 1:00 | operation | 3.28 | |
| 9/10/2021 1:15 | operation | 3.14 | |
| 9/10/2021 1:30 | operation | 3.37 | |
| 9/10/2021 1:45 | operation | 3.36 | |
| 9/10/2021 2:00 | operation | 3.20 | |
| 9/10/2021 2:15 | operation | 3.01 | |
| 9/10/2021 2:30 | operation | 2.95 | |
| 9/10/2021 2:45 | operation | 3.02 | |
| 9/10/2021 3:00 | operation | 3.22 | |
| 9/10/2021 3:15 | operation | 3.08 | |
| 9/10/2021 3:30 | operation | 3.03 | |
| 9/10/2021 3:45 | operation | 3.06 | |
| 9/10/2021 4:00 | operation | 2.95 | |
| 9/10/2021 4:15 | operation | 2.90 | |
| 9/10/2021 4:30 | operation | 2.82 | |
| 9/10/2021 4:45 | operation | 2.84 | |
| 9/10/2021 5:00 | operation | 2.95 | |
| 9/10/2021 5:15 | operation | 2.93 | |
| 9/10/2021 5:30 | operation | 2.62 | |
| 9/10/2021 5:45 | operation | 2.64 | |
| 9/10/2021 6:00 | operation | 2.60 | |

| Date and Time | CEMS Status | CO Concentration (ppm) | Comments |
|-----------------|-------------|------------------------|---|
| 9/10/2021 6:15 | operation | 2.58 | |
| 9/10/2021 6:30 | operation | 2.69 | |
| 9/10/2021 6:45 | operation | 2.75 | |
| 9/10/2021 7:00 | operation | 2.97 | |
| 9/10/2021 7:15 | maintenance | 0.00 | daily automatic calibration |
| 9/10/2021 7:30 | operation | 0.80 | |
| 9/10/2021 7:45 | operation | 1.27 | |
| 9/10/2021 8:00 | operation | 2.77 | |
| 9/10/2021 8:15 | operation | 3.44 | |
| 9/10/2021 8:30 | operation | 3.03 | |
| 9/10/2021 8:45 | operation | 3.09 | |
| 9/10/2021 9:00 | operation | 2.90 | |
| 9/10/2021 9:15 | operation | 3.11 | |
| 9/10/2021 9:30 | operation | 2.81 | |
| 9/10/2021 9:45 | operation | 2.80 | |
| 9/10/2021 10:00 | operation | 2.69 | |
| 9/10/2021 10:15 | operation | 2.49 | |
| 9/10/2021 10:30 | operation | 2.97 | |
| 9/10/2021 10:45 | operation | 2.83 | |
| 9/10/2021 11:00 | operation | 2.29 | |
| 9/10/2021 11:15 | operation | 2.03 | |
| 9/10/2021 11:30 | operation | 1.70 | |
| 9/10/2021 11:45 | maintenance | 0.00 | replaced inlet filter, recalibrated, purged sampling system |
| 9/10/2021 12:00 | maintenance | 0.00 | replaced inlet filter, recalibrated, purged sampling system |
| 9/10/2021 12:15 | maintenance | 0.00 | replaced inlet filter, recalibrated, purged sampling system |
| 9/10/2021 12:30 | maintenance | 0.00 | replaced inlet filter, recalibrated, purged sampling system |
| 9/10/2021 12:45 | operation | 0.45 | |
| 9/10/2021 13:00 | operation | 0.50 | |
| 9/10/2021 13:15 | operation | 0.60 | |
| 9/10/2021 13:30 | operation | 0.81 | |
| 9/10/2021 13:45 | operation | 0.93 | |
| 9/10/2021 14:00 | operation | 0.99 | |
| 9/10/2021 14:15 | operation | 1.04 | |
| 9/10/2021 14:30 | operation | 0.98 | |
| 9/10/2021 14:45 | operation | 0.88 | |