2700-FM-AQ0023 Rev. 1/2008

pennsylvania DEPARTMENT OF ENVIRONMENTAL PROTECTION

# INSPECTION REPORT

Commonwealth of Pennsylvania
Department of Environmental Protection
Air Quality Program

| Date(s) of Inspection: | TV ☒ PA ☒ SM ☐ GP ☐ NM ☐ MEGA ☐ | Permit #(s): | Expiration Date: | Case #: | PF ID #: |
|---|---|---|---|---|---|
| 1/18/2022 | | PA-04-00740C | 10/28/2022 | 04-00740 | 775836 |

| Company Name: | Municipality: | County: |
|---|---|---|
| Shell Chemical Appalachia, LLC | Potter and Center Townships | Beaver |

| Plant Name: | Physical Location: | Federal ID — Plant Code #: |
|---|---|---|
| Shell Polymers Monaca Site | 300 Frankfort Road | 46-1624986-1 |

| Responsible Official: | Mailing Address: |
|---|---|
| William Watson | 300 Frankfort Road |
| Title: General Manager | Monaca, PA 15061 |
| Phone #(s): 724-709-2825 | Contact Person: Kim Kaal, 724.709.2467 |

## Mark (X) All Inspection Types That Apply To This Inspection:

| | | | | | |
|---|---|---|---|---|---|
| ☐ | Full Compliance Evaluation (FCE) | ☐ | Plan Approval Inspection | ☐ | File Review (FR) |
| ☐ | Operating Permit Inspection (PI) | ☒ | Initial Permit Inspection (IPI) | ☐ | Complaint Inspection (CI) |
| ☐ | Routine/Partial (RTPT) | ☐ | Follow-Up Inspection (Ref. Date:_____) | ☐ | Sample Collection (SC) |
| ☐ | Minor Source(s) Inspection (RFD) | ☐ | Stack Test Observation | ☐ | Multi-Media Inspection (MM) |
| ☐ | Other: | ☒ | Announced | | |

| | |
|---|---|
| Annual Compliance Certification Received: ☐ YES ☐ NO ☐ N/A | Date Received: |
| AIMS Report Received: ☐ YES ☐ NO ☐ N/A | Date Received: |

## Mark (X) All Activities That Apply:

| | | | | | |
|---|---|---|---|---|---|
| ☒ | File Review | ☒ | Pre-Inspection Briefing | ☐ | Exit Interview/Briefing |
| ☒ | Pre-Inspection Observations | ☐ | Check For New/Unreported Sources | ☐ | Sample(s) Collected |
| ☐ | Visible Emissions Observations | ☐ | Verify Operation of CEMS | ☐ | Other |

**Compliance Status:** ☐ In ☐ Out ☒ Pending ☐ Awaiting Co. Report **Needs a Follow-Up Inspection?** ☒ Yes ☐ No

On 1/18/2022, DEP Scott Beaudway, Anna Fabrizi, Trent Greener, Rich Basso, and I visited the site as part of the first of multiple Initial Operating Permit Inspections. We met with Kim Kaal (Environmental Manager) and Alan Binder (Environmental Engineer). We reviewed Plan Approval conditions and I was provided electronic site records. We also toured the facility. This initial operating inspection consisted of verifying compliance with the conditions of Plan Approval PA-04-00740B, as well as Sources 101, 102, 103 – Combustion Turbine Units #1, 2, & 3; 104 – Cogeneration Plant Cooling Tower; 105 – 2 Diesel-Fired Emergency Generator Engines; 106 - 2 Diesel Fire Pump Engines; 107 – 3 Natural Gas-Fired Emergency Generator Engines; and 408 – Storage Tanks (Diesel Fuel < 150 Gallons from Plan Approval PA-04-00740C. I was provided electronic site records and I had a follow up call with Alan Binder, Kim Kaal, and Jim Sewell of Shell to go over the provided records.

| Company Representative: | Title: | Signature: | Date: |
|---|---|---|---|
| Kimberly Kaal | Environmental Manager | Kimberly Kaal | 11/17/22 |
| DEP Representative: | Title: | Signature: | Date/Time: |
| Melissa L. Jativa | Env Eng Specialist | Melissa L. Jativa/MLJ | July 26, 2022 |

This document is official notification that a representative of the Department of Environmental Protection, Air Quality Program, inspected the identified site. The findings of this inspection are shown above and on any attached pages, and may include violations uncovered during the inspection. Violations may also be discovered upon review of sample results or from any additional review of Department records. Notification will be forthcoming, if such violations are noted.



Date: 11/16/2022 Reviewed By MRG

**Shell Chemical Appalachia, LLC**

**PA-04-00740C**

A "√" indicates compliance with the permit condition.

**Section C Site Level Requirements:**

_√__#002 Reasonable actions shall be taken to prevent particulate from becoming airborne from the following activities: construction/demolition, road maintenance, road use, land clearing, stockpiles etc.

**No fugitive emissions observed

_√__#003 No fugitive PM to cross property lines.

**No fugitive emissions observed

_√__#004 No malodors to cross property lines.

**No malodors detected crossing property lines

_√__#005 Emissions from the Facility shall not equal or exceed in any consecutive 12-month period:

| Air Contaminant | Emission Rate (tons) |
|---|---|
| NOx | 328.5 |
| CO | 983.7 |
| PM (filterable) | 74.3 |
| PM10 | 168.9 |
| PM2.5 | 163.7 |
| SOx | 22.4 |
| VOC | 516.2 |
| HAP | 32.0 |
| Ammonia | 154 |
| CO2e** | 2,304,499 |

** This limit includes 854 tpy CO2e from SF6 Equipment included in PA-04-00740B.

**Facility Wide 12-Month Rolling Totals as of January 1, 2022 vs. the facility-wide emission limitation

| Pollutant | Total (tons) | Limit (tons) |
|---|---|---|
| NOx | 10.91 | 328.5 |
| CO | 6.73 | 983.7 |
| PM (filterable) | 2.10 | 74.3 |
| PM 10 | 7.07 | 168.9 |
| PM 2.5 | 7.04 | 163.7 |
| SO2 | 0.45 | 22.4 |
| VOC | 4.58 | 516.2 |
| HAP | 0.13 | 32.0 |
| Ammonia | 2.80 | 154 |
| CO2e | 137,733 | 2,304,499 |

_√__#006 No open burning

**No open burning observed

_√__#007 Sulfur content of the gaseous fuels combusted at this facility shall not exceed 0.5 grains per 100 dscf.

**Gas sampled daily and averaged monthly. Sulfur content from January 16, 2022 sample was 0.014 gr/100cu.ft

_√__#009 Performance testing shall be conducted as follows:

(a) Shall submit… a pre-test protocol to the Department for review at least 45 days prior to the performance of any EPA reference method stack test
(b) Shall notify the Regional Air Quality Manager at least 15 days prior to any performance test
(c) A complete test report shall be submitted to the Department no later than 60 calendar days after completion of the on-site testing portion of an emission test program

**Sources 101, 102, and 103 are required by Section E, Group G02, Condition #011 to conduct Stack Testing within 180 days of initial start-up

**Initial startup dates were 6/20/21 for Source 102, 6/24/21 for Source 101, and 6/30/21 for Source 103.

**The Department granted an extension until April 1, 2021 for Shell to conduct Stack Testing on Sources 101, 102, and 103.

**Stack Test of Source 101, 102, and 103 conducted between 1/20/2022-1/29/2022
**Protocol for Sources 101, 102, and 103 submitted 7/17/2021
**15-day Notification for Source 101, 102, and 103 received by email on 12/29/2021
**Results of Sources 101, 102, and 103 Testing were submitted on March 23, 2022 and appear to be in compliance pending review by the Source Testing Section.

_√__#011, 029 Shall conduct a daily inspection for presence of visible emissions, fugitive emissions and malodors during daylight hours while the plant is operating. If abnormal, facility shall take immediate corrective action. Shall keep a log with all incidents to include: date, time name and title of observer, and any corrective actions/observations. Employees shall be trained to observe air contamination sources, air cleaning devices, stacks, fugitive emission areas, and process equipment.

** Daily inspections are conducted and logged. Employees are trained in visible air emissions, AVO, and fugitive emissions.

_√__#013 All records to be maintained onsite for at least 5 years and made available upon request.

_√__#014 The following comprehensive and accurate records:

a. Monthly rolling 12-month totals of the hours of operation in each defined operating mode for each combustion turbine.

b. Calendar year totals for each diesel-fired emergency generator, natural gas-fired emergency generator, and fire pump engine of (and as defined in 40 CFR Part 60 Subpart IIII and 40 CFR Part 60 Subpart JJJJ):

1) Hours of emergency operation,

2) Hours of maintenance and/or testing operation,

3) Hours of non-emergency operation that is not maintenance and/or testing, and

4) Hours of operation.

c. Monthly rolling 12-month totals (in MMscf) of tail gas and natural gas consumed by each combustion turbine, and duct burner.

i. Monthly rolling 12-month averages of calculated TDS from each cooling tower.

j. Records including a description of testing methods, results, all operating data collected during tests, and a copy of the calculations performed to determine compliance with emission standards for the combustion turbines

k. Copies of manufacturer’s or EPC contractor’s equipment design specifications necessary to determine compliance with required control efficiencies or outlet emission rates.

l. Copies of maintenance procedures and schedules for all air contamination sources and air cleaning devices authorized under this plan approval.

m. Records of any maintenance conducted on the air contamination sources and air cleaning devices authorized under this plan approval.

n. Records that diesel fuel’s total sulfur content does not exceed 15 ppm, and that either cetane index is a minimum of 40 or aromatic content does not exceed 35 % by volume.

o. Records that each gaseous fuel’s total sulfur content does not exceed 0.5 grains per 100 dscf. This may be demonstrated by a current, valid purchase contract, tariff sheet or transportation contract for the fuel; or fuel total sulfur content monitoring in accordance with 40 CFR §§60.4360 and 60.4370, applicable to the turbines.

p. Records of observations of visible stack emissions, fugitive emissions, and potentially objectionable odors including the date, time, name, and title of the observer, along with any corrective action taken as a result.

**(b) - hours of operation for each emergency engine/fire pump engine is logged; (c) – rolling 12-month totals maintained. See attachment; (i) -TDS for the cogen cooling tower is calculated daily and averaged monthly; (k) copies of manufacturer guarantees and design specifications are maintained onsite and were provided; (m) – maintenance records are maintained onsite and were provided; (n) - Per Fuel Delivery records (attached copy) 15 ppm; (o) – sulfur content sampled daily and averaged monthly. Sulfur content from January 16, 2022 sample was 0.014 gr/100cu.ft; (p) – records were provided.

_√__#016 Shall provide the Department with a statement; in a form as the Department may prescribe; for classes or categories of sources; showing the actual emissions of NOx, CO, VOC, SOx, PM10, PM2.5, HAP (per the Department's Emissions Inventory Reporting Instructions), NH3, and GHG (including but not limited to CO2, CH4, and N2O) for each reporting period. A description of the method used to calculate the emissions and the time period over which the calculation is based shall be included. The statement shall also contain a certification by a company officer or the plant manager that the information contained in the statement is accurate.

** Submittal of Annual Air Emissions reporting for 2021 was granted an extension until April 1 due to AIMS downtime. Annual Air Emissions for 2021 were submitted by Shell on 3/14/2022

_√__#018 Malfunction notification, reporting, and responses

**Malfunctions are reported in accordance with 25 Pa. Code §127.444

_√__#019 AIMS report due March 1 annually

** Annual Air Emissions for 2021 were granted an extension until April 1 due to AIMS downtime. Annual Air Emissions for 2021 were submitted by Shell on 3/14/2022

_√__#024 Shall develop and implement a leak detection and repair (LDAR) program for the facility

**LDAR Program in place. See LDAR Inspection History Report and Leaker Detail Report Attachments.

_√__#028 All air contamination sources and air cleaning devices authorized under this Plan Approval shall be operated and maintained in accordance with the specifications and maintenance schedule recommended by the manufacturer, developed and approved by the engineering procurement and construction contractor, or developed by the Owner/Operator in accordance with industry standards.
_√__#031 Shall inform the Department of the specific make and model of equipment and design details prior to startup for all air contamination sources and all air cleaning devices listed in Section A of this Plan Approval by submitting appropriate pages of the Plan Approval application forms.
**Shell has submitted startup notifications to the Department prior to startup of each air contamination source and air cleaning device. The notification for the Cogeneration Plant Cooling Water Tower is attached.

**Section D Source Level requirements:**

**Sources 101, 102, 103 - COMBUSTION TURBINE/DUCT BURNER UNITS #1, 2, & 3**
Three (3) General Electric, Frame 6B, natural gas-fired combustion turbines, 41.5 MW, Combustion turbine 481.4 MMBtu/hr each; Duct Burner 234 MMBtu/hr each; controlled by SCR and oxidation catalysts.
has conditions in Section E Groups G02 & G13.

**Source 104 – Cogeneration Plant Cooling Tower**
6 cell counter-flow mechanical draft, 4.443 MMgal/hr water flow capacity; controlled by drift eliminators.
_√__#001 Cooling tower water total dissolved solids (TDS) shall not exceed 2,000 ppmw on a monthly 12-month rolling average.
**Samples are taken daily. TDS usually ranges between 200 and 800 ppm. Recently the highest sampled value was 832 ppm which occurred in January 2022.
_√__#002 Maximum designed water circulation rate through the cogen cooling tower shall not exceed 4,443,360 gallons per hour.
_√__#003 The cogen cooling tower shall be equipped with drift/mist eliminators designed not to exceed 0.0005% drift loss.
**Drift Eliminators have been installed with manufacturers guarantee of less than 0.0005%
_√__#004 The Owner/Operator shall perform TDS and electrical conductivity testing upon the cogen cooling tower water according to ASTM Methods D5907-13 and D5391-14 (or other methods deemed acceptable by the Department). Initial testing is required within 180 days of startup of the cooling towers or on an alternative schedule as approved by the Department.
**Initial Test sampling was collected on 6/24/2022. The test report is attached.
_√__#005 The Owner/Operator shall, at a minimum of once per month, calculate TDS for the cogen cooling tower water. TDS shall be calculated by measuring electrical conductivity according to ASTM Method D5391-14 (or other method deemed acceptable by the Department) and multiplying the result by the correlation factor derived during the most recent simultaneous TDS and electrical conductivity test.
**TDS is calculated daily.

**Source 105 - Diesel-Fired Emergency Generator Engines (2)**
**(**103 bhp; 67 bhp)
Also has conditions in Section E Group G03.
_√__#001 Non-emergency operation of each diesel-fired emergency generator engine shall not exceed 100 hours in any consecutive 12-month period.
**Hours of operation are logged for the diesel-fired emergency generator engines.

**Source 106 - Diesel Fire Pump Engines (2)**
488 bhp each
has conditions in Section E Group G03**.**

**Source 107 - Natural Gas-Fired Emergency Generator Engines (3)**
(158 bhp, 50 bhp, 113 bhp)
_√__#001 Visible emissions shall not exceed the following:
a. Equal to or greater than 10% for a period or periods aggregating more than three (3) minutes in any one (1) hour; and
b. Equal to or greater than 30% at any time.

**Emergency generator engines were not operating at the time of inspection. No visible emissions observed.
_√__#002, 003 Shall be certified to meet the following NOx, VOC, and CO emission standards: (Additional authority for this condition is derived from 40 CFR §60.4233)

| | Emission standards (g/HP-hr) | | |
|---|---|---|---|
| Engine Size | NOx | VOC | CO |
| 158 hp | 2.0 | 1.0 | 4.0 |
| 113 hp | 5.79* | | 387 |
| 50 HP | 5.39* | | 387 |

* The emission standards are in terms of NOx + VOC.
**Emission data sheets were provided and reviewed.
_√__#004 Non-emergency operation of each natural gas-fired emergency generator engine shall not exceed 100 hours in any consecutive 12-month period.
_√__#005 Shall comply with the applicable 40 CFR Part 60 Subpart JJJJ notification, reporting, and recordkeeping requirements:
Owners or operators of stationary SI ICE must meet the following notification, reporting and recordkeeping requirements.
(a) Owners and operators of all stationary SI ICE must keep the following records:
(1) All notifications submitted to comply with this subpart and all documentation supporting any notification.
(2) Maintenance conducted on the engine.
(3) If the stationary SI internal combustion engine is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR parts 90, 1048, 1054, and 1060, as applicable.
(4) If the stationary SI internal combustion engine is not a certified engine or is a certified engine operating in a non-certified manner and subject to §60.4243(a)(2), documentation that the engine meets the emission standards.
** Engines certified by manufacturer; maintenance records were provided.
_√__#006 The Owner/Operator of a stationary SI ICE subject to the emission standards specified in §60.4233(e) shall comply with the applicable 40 CFR Part 60 Subpart JJJJ compliance demonstration requirements [40 CFR §60.4243]
_√__#008 Must install a non-resettable hour meter.
**Non-resettable hour meter was verified during inspection.
_√__#010 These emergency generator engines must meet the requirements of 40 CFR Part 63 Subpart ZZZZ by meeting the requirements of 40 CFR Part 60 Subpart JJJJ. No further requirements apply for the emergency generator engines under 40 CFR Part 63 Subpart ZZZZ.

**Section E Source Group Restrictions:**

**Group G02 Cogeneration Units**
Sources 101, 102, & 103 - COMBUSTION TURBINE/DUCT BURNER UNITS #1, 2, & 3
_√__#001 HCHO emissions from each of the combustion turbines with duct burners shall not exceed 91 ppbvd @ 15% O2.
**Results of Sources 101, 102, and 103 testing were submitted on March 23, 2022 and appear to be in compliance pending review by the Source Testing Section.
_√__#002 Visible emissions from each of the combustion turbines and duct burners stack shall not exceed 10% opacity at any time.
**Other than uncombined water vapor, no visible emissions observed.
_√__#003, 009 NOx emissions from the combustion turbines with duct burners shall not exceed the following:
• 2 ppmvd @ 15% O2 from each turbine/duct burner on a 1-hour average, excluding periods of defined startup or shutdown.
• 113 lb/hr from each turbine/duct burner during periods of startup or shutdown.
• 70.4 tons from all turbines and duct burners combined in any consecutive 12-month period.
**The facility has installed CEMS and received certification of their CEMS on July 1, 2022; NOx emissions for the consecutive 12-month period through December 31, 2021 from all turbines and duct burners combined was 7.36 tons.
_√__#004 VOC emissions from each of the combustion turbines with duct burners shall not exceed the following: 1 ppmvd @ 15% O2 on a 1-hour average.
**Results of Sources 101, 102, and 103 testing were submitted on March 23, 2022 and appear to be in compliance pending review by the Source Testing Section.
_√__#005 CO emissions from the combustion turbines with duct burners shall not exceed the following:
• 2 ppmvd @ 15% O2 from each turbine/duct burner on a 1-hour average, excluding periods of defined startup or shutdown.

• 276 lb/hr from each turbine/duct burner during periods of startup or shutdown.
• 45.0 tons from all turbines and duct burners combined in any consecutive 12-month period.
**The facility has installed CEMS and received certification of their CEMS on July 1, 2022; CO emissions for the consecutive 12-month period through December 31, 2021 from all turbines and duct burners combined was 3.2 tons.
_√__#006 PM10 and PM2.5 emissions from each of the combustion turbines with duct burners shall not exceed the following: 0.0066 lb/MMBtu.
**Results of Sources 101, 102, and 103 testing were submitted on March 23, 2022 and appear to be in compliance pending review by the Source Testing Section.
_√__#007 GHG emissions from the combustion turbines with duct burners shall not exceed the following:
• 1,030 lbs CO2e/MWh from all turbines and duct burners combined on a daily 30-day rolling average.
• 1,100,762 tons of CO2e from all turbines and duct burners combined in any consecutive 12-month period.
Compliance with these limits may be determined through CO2 calculations in accordance with 40 CFR Part 75 Appendix G and multiplied by a factor of 1.0010.
**CO2e emissions for the consecutive 12-month period through December 31, 2021 from all turbines and duct burners combined was 131,656 tons. Part 75 CO2 quarterly emissions for October 1, 2021 through January 1, 2022 is attached.
_√__#008 NH3 emissions from each of the combustion turbines with duct burners shall not exceed 5 ppmvd at 15% O2.
**Results of Sources 101, 102, and 103 testing were submitted on March 23, 2022 and appear to be in compliance pending review by the Source Testing Section.
_√__#010 The Owner/Operator shall comply with the applicable SO2 limits specified in 40 CFR §60.4330. [Compliance with natural gas fuel sulfur limit of 0.5 grains/100 dscf will show compliance with this requirement.]
**Sulfur content sampled daily and averaged monthly. Sulfur content from January 16, 2022 sample was 0.014 gr/100cu.ft
_√__#011 Shall perform VOC, PM10, PM2.5, HCHO, NH3, Benzene, and Toluene emission testing upon each of the three combustion turbines with duct burners according to the requirements of 25 Pa. Code Chapter 139. Initial performance testing is required within 180 days of startup of the turbines or on an alternative schedule as approved by the Department.
**Initial startup dates were 6/20/21 for Source 102, 6/24/21 for Source 101, and 6/30/21 for Source 103. The Department granted an extension until April 1, 2021 for Shell to conduct Stack Testing on Sources 101, 102, and 103. Stack Test of Source 101, 102, and 103 conducted between 1/20/2022-1/29/2022. Results of Sources 101, 102, and 103 Testing were submitted on March 23, 2022 and appear to be in compliance pending review by the Source Testing Section.
_√__#012, 013 Shall comply with the applicable NOx performance testing requirements specified in 40 CFR §60.4400 & §60.4405.
**Shell has installed CEMS and received certification of their CEMS on July 1, 2022
_√__#015 Shall install and operate NOx continuous monitoring systems to monitor NOx emissions from each combustion turbine in accordance with 25 Pa. Code §123.51.
**Shell has installed CEMS and received certification of their CEMS on July 1, 2022
_√__#016 Shall monitor for ammonia slip from each combustion turbine. Ammonia slip monitoring shall be conducted at a minimum of once each day for each source for the first 60 days of operation. Monitoring may subsequently be reduced to a minimum of once each week for each source if operating procedures have been developed to prevent excess amounts of ammonia from being introduced in the control device and when operation of the control device has been proven successful with regard to controlling ammonia slip.
**Ammonia slip is recorded hourly
_√__#017 Shall install and operate CO continuous monitoring systems to monitor CO emissions from each combustion turbine.
**Shell has installed CEMS and received certification of their CEMS on July 1, 2022.
_√__#018 Shall continuously monitor and record the catalyst bed inlet temperature for each SCR system.
**Records provided and reviewed
_√__#019 §40 CFR 60.4340: (a) If you are not using water or steam injection to control NOX emissions, you must perform annual performance tests in accordance with §60.4400 to demonstrate continuous compliance… (b) As an alternative, you may install, calibrate, maintain and operate one of the following continuous monitoring systems: Continuous emission monitoring
_√__#020 §40 CFR 60.4345 (a) Each NOx diluent CEMS must be installed and certified…
**Shell has installed CEMS and received certification of their CEMS on July 1, 2022.
_√__#021 §40 CFR 60.4350 (a) All CEMS data must be reduced to hourly averages…
(b) For each unit operating hour… the data acquisition and handling system must calculate and record the hourly NOX emission rate in units of ppm or lb/MMBtu…
**Shell received certification of CEMS on July 1, 2022. The CEMSs have been certified retroactively to January 31, 2022 for Unit 1 and January 28, 2022 for Units 2 and 3, which are the dates following completion of performance specification testing, respectively. The first quarterly report for Shell is due August 8, 2022.
_√__#022 §40 CFR 60.4360 You must monitor the total sulfur content of the fuel being fired in the turbine…
**Currently sampling gas daily and averaged monthly

_√__#023 §40 CFR 60.4365 You may elect not to monitor the total sulfur content of the fuel combusted in the turbine, if the fuel is demonstrated not to exceed potential sulfur emissions of 26 ng SO2/J (0.060 lb SO2/MMBtu)… You must use one of the following sources of information to make the required demonstration:
(a) The fuel quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the fuel, specifying that … the total sulfur content for natural gas… is 20 grains of sulfur or less per 100 SCF…
(b) Representative fuel sampling data which show that the sulfur content of the fuel does not exceed 26 ng SO2/J (0.060 lb SO2/MMBtu)…
**Gas sampled daily and averaged monthly.
_x__#025 The Owner/Operator shall maintain records of the hourly 4-hour rolling average of each combustion turbine's oxidation catalyst inlet temperature.
**Shell submitted a request to the Department on December 15, 2021, for approval of an alternate compliance demonstration for monitoring the inlet temperature of each combustion turbines oxidation catalyst. The determination is still under review with the Department.
_√__#026, 027 40 CFR §63.6145(c) If you start up your new or reconstructed stationary combustion turbine on or after March 5, 2004, you must submit an Initial Notification of 40 CFR Part 63 Subpart YYYY not later than 120 calendar days after you become subject to this subpart.
**Shell submitted initial notification on May 26, 2016
_√__#028 §40 CFR 60.4375 (a) For each affected unit required to continuously monitor parameters or emissions, or to periodically determine the fuel sulfur content under this subpart, you must submit reports of excess emissions and monitor downtime, in accordance with §60.7(c). Excess emissions must be reported for all periods of unit operation, including start-up, shutdown, and Malfunction
(b) … you must submit a written report of the results of each performance test before the close of business on the 60th day following the completion of the performance test
**Compliance to be determined by the CEMS group
_x__#030 Shall continuously monitor and maintain the 4-hour rolling average of each combustion turbine's oxidation catalyst inlet temperature within its designed operating temperature range.
**Shell submitted a request to the Department on December 15, 2021, for approval of an alternate compliance demonstration for monitoring the inlet temperature of each combustion turbines oxidation catalyst. The determination is still under review with the Department.
_√__#032, 033, 034 Shall comply with the applicable requirements of 40 CFR Part 97 Subpart AAAAA, BBBBB, CCCCC – TR NOx Annual, NOx Ozone Season, and SO2 Group 1 Trading Program for each of the three combustion turbines and duct burners.
**Compliance with these conditions will be addressed during the TV application review.
_√__#037 §40 CFR 60.4333 (a) You must operate and maintain your stationary combustion turbine, air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practices
_√__#039, 040 §40 CFR 72.9 Acid Rain Program: shall comply with the applicable permit requirements, including the requirement to submit a complete Acid Rain permit application as specified in 40 CFR §72.9(a).
**Acid rain permit application submitted

**Group G13 NSPS Subpart TTTT**
Sources 101, 102, & 103 - COMBUSTION TURBINE/DUCT BURNER UNITS #1, 2, & 3
_√__#001 §40 CFR 60.5520 Shall comply with the applicable CO2 limit in Table 2 of 40 CFR Part 60 Subpart TTTT
**According to §40 CFR 60.5520(d) Stationary combustion turbines that are only permitted to burn fuels with a consistent chemical composition (*i.e.,* uniform fuels) that result in a consistent emission rate of 160 lb CO2/MMBtu or less are not subject to any monitoring or reporting requirements under this subpart… Stationary combustion turbines qualifying under this paragraph are only required to maintain purchase records for permitted fuels. CO2 emission are measured and recorded hourly.
_√__#002 §40 CFR 60.5535 Combustion turbines qualifying under § 60.5520(d)(1) are not subject to any requirements in this section other than the requirement to maintain fuel purchase records for permitted fuel(s).
_√__#003 Shall comply with the applicable compliance demonstration and excess emission determination requirements specified in 40 CFR §60.5540.
**CO2 emission are measured and recorded hourly.
_√__#004 Shall comply with the applicable recordkeeping requirements specified in 40 CFR §60.5560. 40 CFR §60.5560(b)(1): For affected EGUs subject to the Acid Rain Program, you must follow the applicable recordkeeping requirements and maintain records as required under 40 CFR Part 75 Subpart F .
**The CEMS at Shell received certification on July 1, 2022.
_√__#005 Shall comply with the applicable record form and retention requirements specified in 40 CFR §60.5565.
_√__#006 Shall comply with the applicable notification requirements specified in 40 CFR §60.5550.

**Startup notification submitted
_√__#007 Shall comply with the applicable reporting requirements specified in 40 CFR §60.5555.
** Per 40 CFR §60.5555(c)(1): For affected EGUs under this subpart that are also subject to the Acid Rain Program, you must meet all applicable reporting requirements and submit reports as required under subpart G of part 75 of this chapter.
_√__#008 Shall comply with the applicable general requirements specified in 40 CFR §60.5525.
** Only required to maintain purchase records for permitted fuels.
_√__#009 Shall comply with the applicable general provisions of 40 CFR Part 60 Subpart A specified in Table 3 to 40 CFR Part 60 Subpart TTTT

**Group G03 Diesel-Fired Emergency Generator/Fire Pump Engines**
Source 105 – Diesel Fired Emergency Generator Engines & Source 106 - Diesel Fire Pump Engines
_√___#001 Visible emissions from each diesel-fired emergency generator engine shall not exceed the following:
a. Equal to or greater than 10% for a period or periods aggregating more than three (3) minutes in any 1 hour;
b. Greater than 20% during the acceleration mode;
c. Greater than 15% during the lugging mode; and
d. Equal to or greater than 30% at any time.
**Emergency generator engines were not operating at the time of inspection. No visible emissions observed.
_√__#002 Visible emissions from each diesel-fired fire pump engine shall not exceed the following:
a. Equal to or greater than 10% for a period or periods aggregating more than 3 minutes in any 1 hour; and
b. Equal to or greater than 30% at any time.
**Fire pump engines were not operating at the time of inspection. No visible emissions observed.
_√__#003 The 103 bhp Parking Garage diesel-fired emergency generator engine shall be certified to meet the following NMHC + NOx emission standard, and CO and PM Tier 2 Emission Standards derived from Table 1 to Subpart B of Part 89:
a. 2.37 g/bhp-hr of NMHC + NOx
b. 0.50 g/bhp-hr of CO
c. 0.06 g/bhp-hr of PM
The 67 bhp Telecom Hut & Tower diesel-fired emergency generator engine shall be certified to meet the following emission standard for NMHC + NOx and Tier 2 Emission Standards for CO and PM:
a. 2.83 g/bhp-hr of NMHC + NOx
b. 0.67 g/bhp-hr of CO
c. 0.22 g/bhp-hr of PM
**Emission data sheets were provided and reviewed.
_√__#004 Each diesel-fired fire pump engine shall be certified to meet the following Emission Standards for Stationary Fire Pump Engines in Table 4 to Subpart IIII of Part 60:
a. 3.0 g/bhp-hr of NMHC + NOx
b. 2.6 g/bhp-hr of CO
c. 0.15 g/bhp-hr of PM
**Emission data sheets were provided and reviewed. Fire pump spec sheet is attached.
_√__#005, 006 All NR diesel fuel is subject to the following per-gallon standards:
1) Sulfur content: 15 ppm maximum for NR diesel fuel.
2) Cetane index or aromatic content, as follows:
i. A minimum cetane index of 40; or
ii. A maximum aromatic content of 35 volume percent.
**Per Fuel Delivery records (attached copy) 15 ppm
_√__#007 Shall install non-resettable hour meters as specified in 40 CFR §60.4209(a).
**Non-resettable hour meter was verified during inspection.
_√__#008 §40 CFR 60.4214**:** (b) If the stationary CI internal combustion engine is an emergency stationary internal combustion engine, the owner or operator is not required to submit an initial notification. Starting with the model years in table 5 to this subpart, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the owner or operator must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time.
**Hours of operation are logged for the diesel-fired emergency generator engines and fire pump engines.
_√__#009 The Owner/Operator shall comply with the applicable initial notification requirements specified in 40 CFR §63.6645(f).
**Initial Notification not required: The diesel-fired emergency engines meet the requirements of Subpart ZZZZ by complying with the requirements of 40 CFR Part 60 Subpart IIII.
_√__#011 §40 CFR 60.4211**:** (a) If you are an owner or operator and must comply with the emission standards specified in this subpart, you must do all of the following…

(1) Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions;
(2) Change only those emission-related settings that are permitted by the manufacturer; and
(3) Meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they apply to you
(c) If you are an owner or operator of a 2007 model year and later stationary CI internal combustion engine and must comply with the emission standards specified in §60.4204(b) or §60.4205(b), or if you are an owner or operator of a CI fire pump engine that is manufactured during or after the model year that applies to your fire pump engine power rating in table 3 to this subpart (2009) and must comply with the emission standards specified in §60.4205(c), you must comply by purchasing an engine certified to the emission standards in §60.4204(b), or §60.4205(b) or (c), as applicable, for the same model year and maximum (or in the case of fire pumps, NFPA nameplate) engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in paragraph (g) of this section
(f) If you own or operate an emergency stationary ICE, you must operate the emergency stationary ICE according to… (1) There is no time limit on the use of emergency stationary ICE in emergency situations. (2) You may operate your emergency stationary ICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by this section counts as part of the 100 hours per calendar year. (3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations.
** Engines certified by manufacturer; hours of operation are logged for the diesel-fired emergency generator engines and fire pump engines.
_√__#016 Shall comply with the criteria for limited requirements as specified in 40 CFR §63.6590(b)(1)(i).
** All diesel-fired engines are rated less than 500 hp; requirement not applicable.