


2700-FM-AQ0023 Rev. 1/2008 		INSPECTION REPORT		Commonwealth of Pennsylvania Department of Environmental Protection Air Quality Program	
Date(s) of Inspection: 1/18/2022	TV <input checked="" type="checkbox"/> SM <input type="checkbox"/> NM <input type="checkbox"/>	PA <input checked="" type="checkbox"/> GP <input type="checkbox"/> MEGA <input type="checkbox"/>	Permit #(s): PA-04-00740B	Expiration Date: 10/28/2022	Case #: 04-00740
Company Name: Shell Chemical Appalachia, LLC			Municipality: Potter and Center Townships	County: Beaver	
Plant Name: Shell Polymers Monaca Site			Physical Location: 300 Frankfort Road		Federal ID — Plant Code #: 46-1624986-1
Responsible Official: William Watson			Mailing Address: 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:

<input type="checkbox"/> Full Compliance Evaluation (FCE)	<input type="checkbox"/> Plan Approval Inspection	<input type="checkbox"/> File Review (FR)
<input type="checkbox"/> Operating Permit Inspection (PI)	<input checked="" type="checkbox"/> Initial Permit Inspection (IPI)	<input type="checkbox"/> Complaint Inspection (CI)
<input type="checkbox"/> Routine/Partial (RTPT)	<input type="checkbox"/> Follow-Up Inspection (Ref. Date: _____)	<input type="checkbox"/> Sample Collection (SC)
<input type="checkbox"/> Minor Source(s) Inspection (RFD)	<input type="checkbox"/> Stack Test Observation	<input type="checkbox"/> Multi-Media Inspection (MM)
<input type="checkbox"/> Other:	<input checked="" type="checkbox"/> 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:

<input checked="" type="checkbox"/> File Review	<input checked="" type="checkbox"/> Pre-Inspection Briefing	<input checked="" type="checkbox"/> Exit Interview/Briefing
<input type="checkbox"/> Pre-Inspection Observations	<input type="checkbox"/> Check For New/Unreported Sources	<input type="checkbox"/> Sample(s) Collected
<input type="checkbox"/> Visible Emissions Observations	<input type="checkbox"/> Verify Operation of CEMS	<input type="checkbox"/> 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 with electronic site records. 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: Kimberly Kaal	Title: Environmental Manager	Signature: <i>Kimberly Kaal</i>	Date: 9/30/22
DEP Representative: Melissa L. Jativa	Title: Env Eng Specialist	Signature: Melissa L. Jativa/MLJ	Date/Time: 9/8/2022

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.

Shell Chemical Appalachia, LLC

Facility Description

The facility is a petrochemicals complex located in Potter and Center Townships, Beaver County, PA.

Plan Approval PA-04-00740B, Issued February 18, 2021, Extended October 5, 2021 and March 30, 2022

This plan approval is for the installation and temporary operation of sulfur hexafluoride (SF6)-insulated high voltage equipment associated with the cogen area of the Shell Polymers Monaca Site.

SECTION A. Plan Approval Inventory List

YES NO 504 GAS INSULATED SWITCHGEAR (SF6)
 YES NO Z504 FUGITIVE EMISSIONS (GAS INSULATED SWITCHGEAR)

PERMIT MAPS (Section A)

PROC 504 → Z504

Section C Site Level Requirements:

A "√" indicates compliance with the permit condition.

#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 Emissions from the Facility shall not exceed the following on a 12-month rolling sum basis:

• Greenhouse Gases, expressed as Carbon Dioxide Equivalent (CO₂e): 2,249,147 tpy

**Greenhouse Gas emissions from 2021 annual emissions inventory: 137,741

#005 The Owner/Operator shall maintain the following comprehensive and accurate records:

(a) Emissions (expressed in tons) of CO₂e on a 12-month rolling sum basis.

(b) Monitoring information and report data as specified in 25 Pa. Code Chapter 139 Subchapter C and the most recent version of the Department's Continuous Source Monitoring Manual.

(c) Maintenance procedures and schedules for each air contamination source and air cleaning device authorized under this plan approval.

(d) Maintenance conducted on each air contamination source authorized under this plan approval.

(e) Amount of sulfur hexafluoride (SF₆) dielectric added to each SF₆-insulated high voltage equipment on a monthly basis.

(f) Date and time that each alarm associated with a SF₆-insulated high voltage equipment is activated, the corrective action taken to remedy the problem associated with each alarm, and the date the corrective action remedied the problem.

(g) Results of quarterly LDAR inspections including the date, time, name, and title of the observer, along with any corrective action taken as a result.

** (a) Records were provided and reviewed. See attached Site Level Rolling 12-Month Emissions.

** (c, e) Records were provided and reviewed.

** (e, f) No SF₆ alarms were triggered in the past 12 months. SF₆ dielectric added to each SF₆-insulated high voltage equipment was zero in 2021. This is captured in the monthly pressure gauge inspections (see attached December 2021 pressure gauge inspection report).

** (g) The results of the quarterly LDAR inspections are included in the SF₆ Annual Report. See attached.

#006 All records to be maintained onsite for at least 5 years and made available upon request.

#007 Malfunction notification, reporting, and responses

**No malfunctions have been reported for Source 504, Gas Insulated Switchgear

#008 AIMS report due March 1 annually

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

#009 The permittee shall construct, operate, and maintain all air contamination sources authorized under this Plan Approval in accordance with the manufacturer's specifications and recommended maintenance schedules.

√ #010 The permittee shall comply with all applicable requirements under 40 CFR Part 98 related to the Mandatory Greenhouse Gas Reporting Rule.

**Included in AES/AIMS

√ #011 Air contamination sources and air cleaning devices authorized for construction and temporary operation under this Plan Approval are as follows:

- SF6-insulated high voltage equipment; controlled by leak detection and repair ("LDAR).

√ #012 Upon determination by the permittee that the air contamination sources covered by this Plan Approval and Plan Approval PA-04-00740C are in compliance with all operative conditions of the Plan Approvals, the permittee shall contact the Department and schedule the Initial Operating Permit Inspection.

**This was the first of multiple initial operating permit inspections for this facility. This first initial operating inspection included all sources covered under PA-04-00740B.

√ #013 Upon completion of the Initial Operating Permit Inspection and determination by the Department that the source(s) covered by this Plan Approval and Plan Approval PA-04-00740C are in compliance with all conditions of the Plan Approvals, the permittee shall submit the Title V Operating Permit (TVOP) application within 120 days after the Department provides notice to the permittee that the application is due.

**Once compliance with all sources covered under PA-04-00740C has been determined, the permittee will submit the Title V Operating Permit (TVOP) application.

√ #014 The permittee shall submit requests to extend the temporary operation periods at least 15 days prior to the expiration date of any authorized period of temporary operation.

**Extension requests have been received in a timely manner.

Section D Source Level requirements:

Source 504 - GAS INSULATED SWITCHGEAR (SF6)

√ #001 The emissions from the SF6-Insulated High Voltage Equipment installed and operated under this authorization shall not exceed the following on a 12-month rolling sum basis:

- Greenhouse Gases, expressed as Carbon Dioxide Equivalent (CO2e): 854 tpy

**There have been no reportable emissions from the SF6-Insulated High Voltage Equipment.

√ #002 The permittee shall implement a sulfur hexafluoride (SF6) leak detection and repair (LDAR) program to minimize SF6- Insulated High Voltage Equipment leaks as follows:

(a) SF6-insulated high voltage equipment are to be state-of-the-art enclosed pressure system equipped with low pressure alarms that are triggered when:

(1) 10% of the SF6 by weight has escaped from any SF6-Insulated High Voltage Equipment.

(2) A leak exceeds 5,000 ppm SF6.

(b) When alarms are triggered, the operator shall take corrective action as soon as practicable to repair the SF6-insulated high voltage equipment to a like-new state to minimize emissions of SF6 to the maximum extent possible.

(c) Each SF6-Insulated High Voltage Equipment shall be checked for leakage no less frequently than once every three months using either an OGI camera, a gas leak detector that meets the requirements of 40 CFR Part 60, Appendix A-7, Method 21, or other leak detection methods approved by the Department's Division of Source Testing and Monitoring. A leak is defined as: any positive indication, whether audible, visual, or odorous, determined during an AVO inspection; or any visible emissions detected by an OGI camera.

(d) Any leak detected from a fugitive emission component shall be repaired by the owner or operator of the facility as expeditiously as practicable. A first attempt at repair must be attempted within five (5) calendar days of detection, and repair must be completed no later than fifteen (15) calendar days after the leak is detected.

(e) Once a fugitive emission component has been repaired or replaced, the owner or operator must resurvey the component as soon as practicable, but no later than 30 calendar days after the leak is repaired.

(1) For repairs that cannot be made during the inspection when the leak is initially found, either a digital photograph must be taken of the component or the component must be tagged for identification purposes.

(2) A leak is considered repaired if there is no visible leak image when using an OGI camera.

**No SF6 alarms were triggered in the past 12 months. The results of the quarterly LDAR inspections are included in the SF6 Annual Report. See attached.

#003 Shall maintain the following comprehensive and accurate records:

√ (a) Amount of sulfur hexafluoride (SF6) dielectric added to or removed from high voltage equipment on a monthly basis.

**No SF6 dielectric added in the previous 12-month period. There were no quantity changes, fills, or handling in 2021.

√ (b) Record pressure gauge inspections monthly, and when density monitoring system or concentration monitor alarm sounds.

****The December 2021 pressure gauge inspection report is attached. The attached SF6 Annual Report includes the results of monthly pressure gauge inspections, SF6 concentration monitoring, and shows that no alarms were triggered during the past 12-months.**

 √ (c) Date and time that each alarm associated with SF6-insulated high voltage equipment is activated, the corrective action taken to remedy the problem associated with each alarm, and the date the corrective action remedied the problem.

****No alarms were activated during the during the past 12-months.**

 √ (d) Records of each LDAR inspection, including:

- (1) The date, start time, and end time of the inspection;
- (2) The monitoring instrument used;
- (3) The ambient temperature, sky conditions, and maximum wind speed at the time of inspection; and
- (4) Documentation of each fugitive emission including:
 - a) The identification of each component from which fugitive emissions were detected;
 - b) The instrument reading of each fugitive emissions component;
 - c) The status of repair of each component including:
 - (i) The repair methods applied in each attempt to repair the component;
 - (ii) The tagging or digital photographing of each component not repaired during the inspection in which fugitive emissions were discovered;
 - (iii) The reasons a component was placed on delay of repair;
 - (iv) The date of successful repair of the component; and
 - (v) The information on the instrumentation or method used to resurvey the component after repair, if it was not completed during the inspection in which the fugitive emissions were discovered.

****The results of the quarterly LDAR inspections are included in the SF6 Annual Report. See attached.**

 √ #004 Shall submit an annual report. The reporting period shall be no later than one year from the start of operations of the facility, unless otherwise approved by the Department. The initial and subsequent annual reports shall be submitted within 60 days of the end of the reporting periods. The report shall include: company name; facility site name; the beginning and ending dates of the reporting period; and the records of each LDAR inspection conducted during the reporting period.

****The annual report was received on January 10, 2022, for the reporting period beginning November 12, 2020, and ending November 12, 2021. It is attached.**

 √ #005 The enclosed SF6-Insulated High Voltage Equipment for Gas-Insulated Switchgear (GIS) equipment shall have a vendor guaranteed leak rate of 0.1% or less per year.

****GIS data sheets were provided and reviewed.**

 √ #006 The enclosed SF6-Insulated High Voltage Equipment on transformers shall have a vendor guaranteed leak rate of 0.5% or less per year.

****Transformer data sheets were provided and reviewed.**