



Shell Chemical Appalachia LLC  
300 Frankfort Rd  
Monaca, PA 15061

February 21, 2022

Mark Gorog P.E., Regional Manager Air Quality  
Program Pennsylvania Department of Environmental  
Protection Southwest Regional Office  
400 Waterfront Drive  
Pittsburgh, PA 15222

**RE: PA-04-00740C Source IDs 101, 102, 103 Combustion Turbine/Duct Burner Units #1, #2, #3 NOx and CO Emissions Malfunctions Report, February 4 through 15, 2022**

Dear Mr. Gorog,

Shell Chemical Appalachia LLC (“Shell”) is submitting this incident report to the Pennsylvania Department of Environmental Protection (PADEP).

- **Name and location of the facility**

Shell Polymers Monaca  
300 Frankfort Road, Monaca PA, 15061

- **Nature and cause of the incident**

On February 4 at ~12:00 PM Unit #2 SCR Heater A tripped due to reaching a high temperature limit, interrupting ammonia injection while switching to SCR Heater B. This resulted in three hours of elevated NOx emissions (above 2 ppmvd @ 15% O2) while the switch was made between heaters, SCR Heater A restarted, stable ammonia injection restored, and brought NOx emissions back under the limit. A final report to summarize results of the elevated NOx emissions investigation will be provided upon closure.

On February 5 starting at 6:00 AM, and subsequently on February 13, 14, and 15, 2022, Units #1 and #3 operated with elevated CO emissions (above 2 ppmvd @ 15% O2). The direct cause of elevated CO emissions remains under investigation. Available process data, fuel quality, and CEMS performance are being evaluated. Shell intends to perform emissions testing of the combustion turbines upstream of the CO catalyst control device for further diagnosis of the turbine performance.

- **Time when the incident was first observed, and duration of excess emissions**

February 4, 2022 at ~ 12:00 PM 3 hours (Unit #2)  
February 5, 2022 at ~ 6:00 AM 6 hours (Unit #3)  
February 5, 2022 at ~ 9:00 AM 3 hours (Unit #1)  
February 13, 2022 at ~11:00 PM 22 hours (Unit #3)

- **Estimated rate of excess emissions**

02/4/22 Unit #2 – NOx rate between 3.26 and 5.71 ppmvd NOx @ 15% O2, and 20.3 lbs total excess emissions over 3 hours.

02/5/22 Unit #1 – CO rate between 2.65 and 4.13 ppmvd @ 15% O2, and 10.7 lbs total excess emissions over 3 hours.

02/5/22-2/15/22 Unit #3 – CO rate between 2.51 and 3.21 ppmvd @ 15% O2, and 91.9 lbs total excess emissions over 28 hours.

If you have any questions regarding this matter, please contact me at (724) 709-2467 or [kimberly.kaal@shell.com](mailto:kimberly.kaal@shell.com).

Sincerely,



Kimberly Kaal  
Environmental Manager, Attorney-in-Fact

CC:

Scott Beaudway, Air Quality Specialist  
Anna Fabrizi, District Supervisor