



Shell Chemical Appalachia LLC
300 Frankfort Rd
Monaca, PA 15061

March 24, 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 ID 102 Combustion Turbine/Duct Burner Unit #2 NOx
Emissions Malfunction Report, March 8, 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 March 8 at ~2:00 PM Shell instrument technicians performed maintenance on the Unit #2 SCR catalyst temperature thermocouples to replace the transmitter puck. While replacing the thermocouple puck a high temperature reading resulted in closure of the ammonia valve and interruption of ammonia injection. This resulted in two block-hour averages of elevated NOx emissions (above 2 ppmvd @ 15% O2).

Maintenance was being performed to resolve faulty reading temperature spikes beginning on March 7, and which could have resulted in shutdown of the ammonia injection system. A safety interlock bypass was implemented to prevent an ammonia injection system shutdown due to faulty high temperature readings. However, a secondary interlock was missed and not bypassed, resulting the valve closure upon prolonged high temperature readings. The secondary interlock was located and bypassed resulting in reopening of the ammonia valve, restoring ammonia injection, and stabilizing NOx control.

Corrective actions include increasing operator awareness of multiple control system interlocks and completing a sensory round on the console to locate such interlocks and understand expected results. Improvements to console interfaces and control system interlocks are under review.

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

March 8, 2022 at ~ 2:00 PM 2 hours (Unit #2)

- **Estimated rate of excess emissions**
03/8/22 Unit #2 – NOx rate between 3.39 and 6.11 ppmvd NOx @ 15% O2, and 14.4 lbs total excess emissions over 2 block hours.

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

Sincerely,

Kimberly Kaal

Kimberly Kaal
Environmental Manager, Attorney-in-Fact

CC:
Scott Beaudway, Air Quality Specialist
Anna Fabrizi, District Supervisor