



Shell Chemical Appalachia LLC
300 Frankfort Rd
Monaca, PA 15061

June 30, 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 204 Low Pressure (LP) Header System Visible Emissions
Malfunction Report, June 23, 2022**

Dear Mr. Gorog,

Shell Chemical Appalachia LLC (“Shell”) is submitting this malfunction 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 June 23 a butene railcar was being offloaded to the butene storage vessel in order to fill it prior to facility startup. At 13:30, following line-purging with nitrogen, this railcar was being depressured to the LP Header System. Butene remaining in this railcar was heard flowing out through the line and action was taken to close the valve and re-isolate the railcar. At 13:32 the continuous vent thermal oxidizer (CVTO)¹ tripped offline due to a high temperature spike in the combustion zone. Vent gas was rerouted to the multipoint ground flare (MPGF)².

At 13:35 visible emissions were observed at the MPGF coming up over the heat shield wall in a generally south-southwest direction towards the interior of the facility. Visible emissions were black and nearly continuous for approximately 11 minutes until 13:46. Corrective action included Operations taking manual control of the MPGF assist air fans and increasing fan speed to eliminate the visible emissions.

At 13:45 the CVTO burner was restored and began ramping up temperature to reach the minimum setpoint before switching back over to the CVTO. Setpoint temperature was reached on June 24 at ~3:35 at which time vent gas flow was switched back to the CVTO and the MPGF was isolated.

¹ Identified as the LP Incinerator, Control ID C204A in PA-04-00740C, and part of the LP Header System.

² Identified as the LP Multipoint Ground Flare (MPGF), Control ID C204B in PA-04-00740C, and part of the LP Header System.

Investigation into the event is ongoing for further details, cause, and corrective actions.

- **Time when the incident was first observed, and duration of excess emissions**
June 23, 2022 at 13:35 for 11 minutes until 13:46 for visible emissions, and for 14 hours until June 24 at 3:35 for use of the MPGF until the CVTO was restored.
- **Estimated rate of excess emissions**
Visible emissions > 0% for 11 minutes

Emissions Summary (total lbs/event)	
CO2e	17,426.3
CO2	16,108.4
Methane (CH4)	50.3
CO	46.8
NOx	10.3
N2O	0.2
SO2	0
PM (filterable)	0.3
PM (10/2.5)	1.1
VOC	18.0
HAP (Total)	0.3

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 Beudway, Air Quality Specialist
Anna Fabrizi, District Supervisor