O.Reg. 206/24 – Air Pollution – Discharge of Benzene from INEOS Styrolution Hourly (May 16, 2025)

Ontario Regulation 206/24: Air Pollution – Discharge of Benzene from INEOS Styrolution ("O.Reg. 206/24") requires a report to be submitted to the District Manager of the Ministry of the Environment, Conservation and Parks' ("MECP") Sarnia District Office, the Chief of the Aamjiwnaang First Nation ("AFN"), and the Ministry's Spills Action Centre within 14 days after an exceedance notification. This report describes the benzene concentration measured at eGC#3 above 90 µg/m^3 over any hour that occurred on May 16, 2025 (MECP Reference #1-09GVOQ).

This report contains the information requested in the regulation to the best of our abilities, with the understanding that eGC emission contributors cannot be considered with 100% certainty, as it is difficult to find exact source of emissions from such low concentrations. However, INEOS Styrolution has made every effort reasonable to attempt to identify any potential processes, events and/or sources from onsite activities during this period that may have contributed to the final value. The attached table summarizes these findings.

Summary of the Hourly Exceedance on May 16, 2025:

Time Period	Measured Benzene Concentration (Rolling Hourly Average - µg/m^3)	Wind Direction	Wind Speed (km/hr)
10:00	176.25	WSW	6.55

Analysis of the Contravention:

eGC#3 is located on the east side of Styrene II (see Figure 1) next to the hazardous waste laydown area. During this period, the site continues to be shutdown/idled with limited activity anticipated to produce benzene emissions. The alert at eGC#3 was a single, 10-minute spike at 10:00 that caused an exceedance of the hourly average threshold of 90µg/m^3 (see Figure 2). Our third-party consultant confirmed that the unit calibrations passed and that the reading appeared valid.

On May 16, 2025, at 10:10, the site received an exceedance alert from eGC#3. At that time, a third party contractor was on site to disconnect and dismantle the larger thermal oxidizer that was used to control emissions as per Part B of the benzene removal plan from tank MT303. MT303 was thoroughly cleaned during Part B and further emission testing of the tank after cleaning indicated no hydrocarbon emissions (including benzene) were present in the tank. Operations immediately stopped all work when the alert was received and checked various other sources around eGC#3 as potential benzene source contributors and no benzene emissions, equipment leaks, or equipment malfunctions were identified. Given the wind direction and location of the larger thermal oxidizer, it is believed that when disconnecting the TO hoses from the tank a diminutive amount of residual benzene released causing the eGC exceedance.

Figure 1: Aerial view of eGC#3 and the proximity of the larger thermal oxidizer (including wind direction)

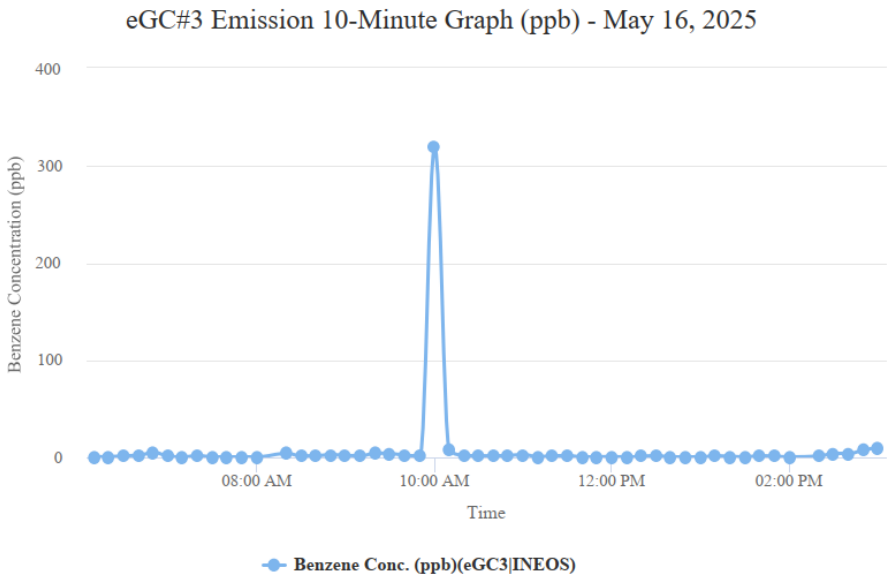

Figure 2: eGC#3 10-minute benzene emission graph capturing the elevated reading that skewed the hourly-average