

Environmental Reportable Events Summary



Event Date: July 29, 2023	
Event Title: Hydrogen Plant Pressure Swing Adsorption (PSA) Unit Trip	
Impacted Media (air, water, or soil): Air	
Operating Unit: Plant 1 – Main Plant Flare	
Event Summary: <p>On July 29, 2023, the pressure swing adsorption (PSA) unit at the Hydrogen Plant tripped. The PSA unit trip caused the pressure controller on the Plant 1 main plant flare gas recovery system to automatically open as designed, redirecting gases with elevated concentration of hydrogen sulfide (H₂S) to the Plant 1 Main Plant Flare. As a result, the Plant 1 Main Plant Flare H₂S limit was exceeded. Operators worked diligently to bring the PSA unit back online and restore the Hydrogen Plant's functionality. The issue was resolved once the PSA came back online. H₂S is combusted at the flare tip, which results in the generation of sulfur dioxide (SO₂) and water vapor.</p> <p>The Plant 1 Main Plant Flare exceeded the Hydrogen Sulfide (H₂S) 3-hour rolling average limit from 2:00 a.m. to 3:00 a.m. on July 29, 2023.</p> <p>The specific permit terms or conditions exceeded for this event include:</p>	
Permit Term or Condition	Maximum Reported Value
Title V Operating Permit, Condition 29.9: Fuel gas shall not contain H ₂ S in excess of 162 ppm, on a 3-hour rolling average.	192 ppm H ₂ S in flare gas (3-hr rolling average)
<p>The Commerce City North Denver Air Monitoring network of sensors within a three-mile radius of the refinery did not detect any levels above the acute health reference guidelines during this event.</p>	

**Information in this report is based on the facts known to Suncor Energy (U.S.A.), Inc. at the time of preparation. We may update or change the information contained herein if and to the extent additional facts become available.*

Environmental Reportable Events Summary



Event Date: August 14, 2023	
Event Title: Plant 1 – Gasoline Benzene Reduction Unit (GBR) faulty steam valve	
Impacted Media (air, water, or soil): Air	
Operating Unit: Plant 1 – GBR Flare	
<p>Event Summary: On August 14, 2023, Operations noticed that there was an increased amount of steam emitting from the flare tip, resulting in a decrease in the net heating value combustion zone (NHVcz). Operations identified and isolated a faulty steam valve as the cause. Once the faulty valve was isolated, Operations was able to return the NHVcz parameter to compliance. The NHVcz in the GBR Flare dropped below the limit of 270 Btu/scf during two 15-minute periods as a result of the flare’s steam valve malfunction.</p>	
<p>The specific permit terms or conditions exceeded for this event include:</p>	
Permit Term or Condition	Maximum Reported Value
Title V Operating Permit, Condition 60.7.2: Any 15-minute period in which waste gas is routed to the flare and the net heating value of flare combustion zone gas is less than 270 Btu/scf.	The Net Heating Value of the flare combustion zone in the GBR Flare dropped below the limit of 270 Btu/scf during two 15-minute block periods.
<p>The Commerce City North Denver Air Monitoring network of sensors within a three-mile radius of the refinery did not detect any levels above the acute health reference guidelines during this event.</p>	

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