

Environmental Reportable Events Summary



| Event Date: 05/05/2022 | | | | | | | |
|--|---|--------------------------|----------------|--|---|---|---|
| Event Title: Tank 2005 Vents Opened to Atmosphere | | | | | | | |
| Impacted Media (air, water, or soil): Air | | | | | | | |
| Operating Unit: Plant 1 Sulfur Recovery Complex | | | | | | | |
| <p>Event Summary: While under normal operation, a threaded plug and cap on a sulfur line cracked and fell off. In order to safely make the repair to the line, tank T-2005 vents had to be opened to atmosphere. A new line end cap was installed without the threaded plug to prevent the event from happening again.</p> <p>This event began 05/04/2022 at 10:56 a.m. and ended on 05/04/2022 at 11:17 a.m. once the end cap was installed and the T-2005 vents were closed.</p> <p>The specific permit terms or conditions exceeded for this event include:</p> | | | | | | | |
| <table border="1"> <thead> <tr> <th>Permit Term or Condition</th> <th>Reported Value</th> </tr> </thead> <tbody> <tr> <td>Emissions from sulfur pit (T2005) are routed to the TGU and vented through the TGU incinerator (H-25).</td> <td>Sulfur pit emissions vented to atmosphere</td> </tr> </tbody> </table> | | Permit Term or Condition | Reported Value | Emissions from sulfur pit (T2005) are routed to the TGU and vented through the TGU incinerator (H-25). | Sulfur pit emissions vented to atmosphere | | |
| Permit Term or Condition | Reported Value | | | | | | |
| Emissions from sulfur pit (T2005) are routed to the TGU and vented through the TGU incinerator (H-25). | Sulfur pit emissions vented to atmosphere | | | | | | |
| <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> | | | | | | | |
| Event Date: 05/06/2022 | | | | | | | |
| Event Title: No. 3 Sulfur Recovery Unit (SRU) Trip | | | | | | | |
| Impacted Media (air, water, or soil): Air | | | | | | | |
| Operating Unit: Plant 2 Sulfur Recovery Complex, Plant 2 Flare | | | | | | | |
| <p>Event Summary: While under normal operation, an electrical feed in a substation failed, causing a circuit breaker to trip, preventing a more serious issue. This breaker trip caused several pumps to trip offline in the No. 3 SRU. The SRU treats refinery fuel gas and flare gas to reduce H₂S concentrations. While the unit was offline, H₂S concentrations remained elevated but were combusted at the flare tip and in the refinery fuel gas system. At the flare tip, and in the refinery fuel gas system, H₂S is combusted, which results in the generation of Sulfur Dioxide (SO₂) and water vapor.</p> <p>This event began 05/06/2022 at 8:30 a.m. and ended on 05/06/2022 at 06:00 p.m. once the electrical issue was resolved and the unit was returned to a stable operating condition.</p> <p>The specific permit terms or conditions exceeded for this event include:</p> | | | | | | | |
| <table border="1"> <thead> <tr> <th>Permit Term or Condition</th> <th>Reported Value</th> </tr> </thead> <tbody> <tr> <td>162 ppm H₂S in flare gas for a 3-hour average</td> <td>330 ppm H₂S in flare gas for a 3-hour average</td> </tr> <tr> <td>162 ppm H₂S in fuel gas for a 3-hour average</td> <td>267 ppm H₂S in flare gas for a 3-hour average</td> </tr> </tbody> </table> | | Permit Term or Condition | Reported Value | 162 ppm H ₂ S in flare gas for a 3-hour average | 330 ppm H ₂ S in flare gas for a 3-hour average | 162 ppm H ₂ S in fuel gas for a 3-hour average | 267 ppm H ₂ S in flare gas for a 3-hour average |
| Permit Term or Condition | Reported Value | | | | | | |
| 162 ppm H ₂ S in flare gas for a 3-hour average | 330 ppm H ₂ S in flare gas for a 3-hour average | | | | | | |
| 162 ppm H ₂ S in fuel gas for a 3-hour average | 267 ppm H ₂ S in flare gas for a 3-hour average | | | | | | |
| <p>In addition, a report was made pursuant to the Emergency Planning and Community Right-to-Know Act (EPCRA) for a reportable quantity (RQ) of SO₂ (over 500 lbs 24-hour total). The RQ was 990 lbs of SO₂ (24- hour total).</p> <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: 05/09/2022 | |
| Event Title: Tier 2 Event – Fire in Plant 1 Fluidized Catalytic Cracking Unit (FCCU) | |
| Impacted Media (air, water, or soil): Air | |
| Operating Unit: Plant 1 Fluidized Catalytic Cracking Unit (FCCU) | |
| <p>Event Summary: During normal operation of the FCCU, one of the refinery boilers tripped, causing a loss of steam pressure and flow. This required operations to reduce the rate of the FCCU until the boiler could be restarted. As the boiler came back online, the feed rate setpoint was incorrect, which caused the emergency shutdown devices to automatically take the unit offline as designed. One of the FCCU columns cooled quickly, pulling liquid into a vapor line which caused a flange to separate, which caused a fire. The plant alarm was sounded, which activated the Suncor Emergency Operations Center (EOC) and Emergency Response Team (ERT). The fire was quickly brought under control and no injuries were reported.</p> <p>The Plant 1 FCCU remains shut down as of this report being written while the investigation into the cause of the fire continues. More details regarding this Tier 2 event will be included in a separate summary report that will be posted online.</p> <p>This event began 05/09/2022 at 2:00 p.m. and ended on 05/09/2022 at 10:00 p.m. once the unit was safely shutdown.</p> <p>The specific permit terms or conditions exceeded for this event include:</p> | |
| Permit Term or Condition | Reported Value |
| 500 ppm CO at 0% O ₂ for a 1-hour average | 2,030 ppm CO at 0% O ₂ for a 1-hour average |
| 162 ppm H ₂ S in flare gas for a 3-hour average | 217 ppm H ₂ S in flare gas for a 3-hour average |
| Flares shall be operated with no visible emissions except for periods not to exceed a total of 5 minutes during any 2 consecutive hours. | Flare emissions visible for approximately 12 minutes |
| <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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