

# Environmental Reportable Events Summary



<b>Event Date:</b> 09/15/2021
<b>Event Title:</b> Plant 2 Fluidized Catalytic Cracker (FCC) Startup Exceedances
<b>Impacted Media</b> (air, water, or soil): Air
<b>Event Summary:</b> This event is related to the Plant 2 FCC startup which began on September 10, 2021. When gas oil feed nozzles were opened, this caused a pressure increase in the main column and high H <sub>2</sub> S gases were relieved to the flare line as a result. Personnel reduced the operating pressure of the unit. This residual gas and liquid in the flare line was being swept out by operations and this activity resulted in intermittent exceedances of H <sub>2</sub> S in the flare gas stream. At the flare tip, H <sub>2</sub> S is combusted, which results in the generation of SO <sub>2</sub> and water vapor.  This event began 09/15 at 6:00 a.m. and was complete on 09/15 at 10:00 p.m.  The specific permit exceedances for this event were: <ul style="list-style-type: none"><li>● Permit limit of 162 parts per million (ppm) H<sub>2</sub>S in flare gas for a 3-hour average<ul style="list-style-type: none"><li>○ Reported at <b>257 ppm</b> H<sub>2</sub>S in flare gas for a 3-hour average</li></ul></li></ul> The Commerce City North Denver Air Monitoring network did not detect any levels above the acute health reference guidelines during this event.
<b>Event Date:</b> 09/18/2021
<b>Event Title:</b> Plant 2 FCC Startup Exceedances
<b>Impacted Media</b> (air, water, or soil): Air
<b>Event Summary:</b> This is a continuation of the first event on this report. This residual liquid and gas in the flare line was being swept out by operations and this activity resulted in intermittent exceedances of H <sub>2</sub> S in the flare gas stream. At the flare tip, H <sub>2</sub> S is combusted, which results in the generation of SO <sub>2</sub> and water vapor.  This event began 09/18 at 9:00 p.m. and was complete on 09/18 at 11:59 p.m.  The specific permit exceedances for this event were: <ul style="list-style-type: none"><li>● &gt;162 ppm H<sub>2</sub>S in flare gas for a 3-hour average<ul style="list-style-type: none"><li>○ reported at <b>182 ppm</b> H<sub>2</sub>S in flare gas for a 3-hour average</li></ul></li></ul> The Commerce City North Denver Air Monitoring network did not detect any levels above the acute health reference guidelines during this event.

*\*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



<b>Event Date:</b> 09/25/2021
<b>Event Title:</b> Plant 1 Hydrodesulfurization (HDS) Compressor Trip
<b>Impacted Media</b> (air, water, or soil): Air
<b>Event Summary:</b> <p>The main compressor for the #4HDS unit in Plant 1 tripped related to high motor temperature. When the compressor tripped this resulted in a high H<sub>2</sub>S stream being sent to the Plant 1 incinerator in the sulfur recovery unit. This stream caused two permit exceedances related to the combustion of this stream.</p> <p>This event began 09/25 at 3:30 p.m. and was complete on 09/25 at 9:00 p.m.</p> <p>The specific permit exceedances for this event were:</p> <ul style="list-style-type: none"><li>• &gt;15.68 lb/hr of SO<sub>2</sub> for a 1-hour average<ul style="list-style-type: none"><li>○ Reported at <b>33.38 lb/hr</b> of SO<sub>2</sub> for a 1-hour average</li></ul></li><li>• &gt;250 ppm SO<sub>2</sub> at 0% O<sub>2</sub> for a 12-hour average<ul style="list-style-type: none"><li>○ Reported at <b>303 ppm</b> SO<sub>2</sub> at 0% O<sub>2</sub> for a 12-hour average</li></ul></li><li>• The total release of SO<sub>2</sub> for this event was calculated as roughly <b>390 lbs</b></li></ul> <p>To resolve this situation, operations and maintenance personnel pulled the filters from the motor and replaced them with fresh filters. The compressor was restarted, and the unit was brought back into stable operation.</p> <p>The Commerce City North Denver Air Monitoring network did not detect any levels above the acute health reference guidelines during this event.</p>
<b>Event Date:</b> 10/08/2021
<b>Event Title:</b> Plant 1 Hydrogen Unit Burner Trip
<b>Impacted Media</b> (air, water, or soil): Air
<b>Event Summary:</b> <p>After routine maintenance was completed on valves in the Plant 1 Hydrogen unit and operators began putting the equipment back on-line, a faulty valve position caused the system pressure to spike, which resulted in the hydrogen unit heaters tripping. This briefly caused a bypass of the flare gas recovery skid resulting in an exceedance of H<sub>2</sub>S in the flare gas stream. At the flare tip, H<sub>2</sub>S is combusted, which results in the generation of SO<sub>2</sub> and water vapor.</p> <p>This event began 10/08 at 3:00 p.m. and was complete on 10/08 at 9:00 p.m.</p> <p>The specific permit exceedance for this event was:</p> <ul style="list-style-type: none"><li>• H<sub>2</sub>S in P1 Flare Gas for a 3-hour average<ul style="list-style-type: none"><li>○ Reported at <b>300 ppm</b> of H<sub>2</sub>S for a 3-hour average</li></ul></li></ul> <p>To resolve this situation, operations and maintenance reset the valve positions and brought the unit back into stable operation.</p> <p>The Commerce City North Denver Air Monitoring network 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.*