

Environmental Reportable Events Summary



February 15, 2024 – March 15, 2024

Emissions violations are determined following review by the Colorado Department of Public Health & Environment (CDPHE); emissions exceedances do not necessarily constitute violations.

Event Date: February 25, 2024	
Event Title: Plant 1 – Main Plant Flare Temporary Net Heating Value Decrease	
Impacted Media (air, water, or soil): Air	
Operating Unit: Plant 1 – Main Plant Flare	
Event Summary:	
<p>On February 25, 2024 at approximately 7:15 a.m., the net heating value in the combustion zone of the Plant 1 Main Plant Flare dropped below 270 Btu/scf for one 15-minute period.</p> <p>The cause of the event is being investigated.</p> <p>The relevant permit terms or conditions for this event include:</p>	
Permit Term or Condition	Maximum Reported Value
Title V Operating Permit 96OPAD120, Section II, Conditions 29.10 and 53.91: Maintain the net heating value in the combustion zone (NHV _{cz}) of the Plant 1 Main Plant Flare above 270 Btu/scf.	2/25/2024 7:15 a.m. – 7:30 a.m. (0.25 hours) Net Heating Value: <270 Btu/scf
<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. In addition, the refinery’s fenceline monitoring system (required by Colorado House Bill 21-1189) did not detect any increased levels of monitored compounds.</p>	

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Event Date: February 25 – 26, 2024	
Event Title: Plant 1 – Tail Gas Incinerator (H-25) SO ₂ Increase due to Sulfur Recovery Unit Malfunction	
Impacted Media (air, water, or soil): Air	
Operating Unit: Plant 1 – Tail Gas Incinerator (H-25)	
Event Summary:	
<p>On February 25, 2024, at approximately 8:00 p.m., a valve in the No. 1 Sulfur Recovery Unit (SRU) closed due to a malfunction. The malfunction resulted in increased sulfur dioxide (SO₂) concentrations in the Plant 1 Tail Gas Incinerator (H-25). Operations personnel responded immediately but were unable to maintain the SO₂ emissions below the 15.68 lbs/hr limit. SO₂ emissions briefly rose above the 15.68 lb/hr limit for one hour at approximately 8:00 p.m. on February 25, 2024 (maximum value of 19.11 lbs/hr) and for one hour at approximately 5:00 a.m. on February 26, 2024 (maximum value of 33.00 lbs/hr).</p> <p>The cause of the event is being investigated.</p> <p>The relevant permit terms or conditions for this event include:</p>	
Permit Term or Condition	Maximum Reported Value
Title V Operating Permit 96OPAD120, Section II, Condition 20.1 – SO ₂ from the tail gas incinerator (H-25) shall not exceed 15.68 lbs/hr.	2/25/2024 8:00 p.m. – 9:00 p.m. (1 hour) 2/26/2024 5:00 a.m. – 6:00 a.m. (1 hour) Maximum SO ₂ : 33 lbs/hr
<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. In addition, the refinery’s fence line monitoring system (required by Colorado House Bill 21-1189) did not detect any increased levels of monitored compounds.</p>	

Event Date: March 5, 2024	
Event Title: Plant 1 – Main Plant Flare H ₂ S Emissions During Planned Shutdown	
Impacted Media (air, water, or soil): Air	
Operating Unit: Plant 1 – Main Plant Flare	
Event Summary:	
<p>On March 5, 2024, beginning at approximately 3:00 p.m., the hydrogen sulfide (H₂S) concentration in the Plant 1 Main Flare increased as a result of a planned shutdown of the No. 2 Reformer, the No. 3 Crude Unit, and the No. 4 Hydrodesulfurization Unit, for maintenance. The H₂S was combusted in the flare where it oxidizes into Sulfur Dioxide (SO₂).</p> <p>The relevant permit terms or conditions for this event include:</p>	

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Permit Term or Condition	Maximum Reported Value
Title V Operating Permit 96OPAD120, Section II, Condition 29.9: Plant 1 flare gas shall not exceed 162 ppmv H ₂ S averaged over a 3-hour period.	3/5/2024 3:00 p.m. – 8:00 p.m. (5 hours) Maximum H ₂ S: 308 ppmv

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. In addition, the refinery’s fence line monitoring system (required by Colorado House Bill 21-1189) did not detect any increased levels of monitored compounds.

Event Date: March 8 – 10, 2024				
Event Title: Plant 1 – Main Plant Flare H ₂ S Emissions During Hydrogen Unit Startup				
Impacted Media (air, water, or soil): Air				
Operating Unit: Plant 1 – Main Plant Flare				
Event Summary:				
On March 8, 2024, at approximately 7:00 p.m., the Hydrogen Sulfide (H ₂ S) concentration in the Plant 1 Main Flare increased as a result of the startup of the Hydrogen Unit. The H ₂ S was combusted in the flare where it oxidizes into Sulfur Dioxide (SO ₂).				
The relevant permit terms or conditions for this event include:				
<table border="1"> <thead> <tr> <th>Permit Term or Condition</th> <th>Maximum Reported Value</th> </tr> </thead> <tbody> <tr> <td>Title V Operating Permit 96OPAD120, Condition 29.9: Plant 1 flare gas shall not exceed 162 ppmv H₂S averaged over a 3-hour period.</td> <td>3/8/2024 7:00 p.m. – 3/10/2024 3:00 p.m. (44 hours) Maximum H₂S: 319 ppmv</td> </tr> </tbody> </table>	Permit Term or Condition	Maximum Reported Value	Title V Operating Permit 96OPAD120, Condition 29.9: Plant 1 flare gas shall not exceed 162 ppmv H ₂ S averaged over a 3-hour period.	3/8/2024 7:00 p.m. – 3/10/2024 3:00 p.m. (44 hours) Maximum H ₂ S: 319 ppmv
Permit Term or Condition	Maximum Reported Value			
Title V Operating Permit 96OPAD120, Condition 29.9: Plant 1 flare gas shall not exceed 162 ppmv H ₂ S averaged over a 3-hour period.	3/8/2024 7:00 p.m. – 3/10/2024 3:00 p.m. (44 hours) Maximum H ₂ S: 319 ppmv			
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. In addition, the refinery’s fence line monitoring system (required by Colorado House Bill 21-1189) did not detect any increased levels of monitored compounds.				

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