

**Operated by MPLX LP¹ – Ironhorse Complex Gas Processing Plant
Full Compliance Evaluation (FCE)
On-Site Inspection**

Inspection Date:	March 23, 2023
Inspection Report Date:	May 20, 2023
EPA Representatives:	Colin LeCortz, Environmental Scientist, US EPA Region 8 Michael Stovern, Environmental Scientist, US EPA Region 8 Christine Tokarz, FIFRA Inspector, US EPA Region 8
Tribal Representatives:	Mike Natchees Monaco Weidner Alverna Nelson Mariko Blackbird
Company Representatives:	Joshua Hirschi Megan Horrocks Mike Trogstad
Inspection Report Prepared By:	Colin LeCortz, Environmental Scientist, US EPA Region 8
Inspection Report Reviewed By:	Scott Patefield, Manager, Enforcement and Compliance Assurance Division, Air and Toxics Enforcement Branch
Last Inspection:	August 28, 2019
Operating Status:	Operating
Applicable Requirements:	Title V (Pending) 40 CFR Part 60, Subpart Dc: Standards of Performance for Small Industrial- Commercial- Institutional Steam Generating Units (NSPS Dc) 40 CFR Part 60, Subpart IIII: Standards of Performance for New Stationary Compression Ignition Internal Combustion Engines (NSPS IIII) 40 CFR Part 60, Subpart JJJJ: Standards of Performance for New Stationary Spark Ignition Internal Combustion Engines (NSPS JJJJ) 40 CFR Part 60, Subpart KKKK: Standards of Performance for Stationary Gas Turbines (NSPS KKKK) 40 CFR Part 60, Subpart OOOOa: Standards of Performance for Crude Oil and Natural Gas Facilities for Which Construction, Reconstruction or Modification Commenced After September 18, 2015 (NSPS OOOOa) 40 CFR Part 63, Subpart HH) National Emission Standards for

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¹ Ironhorse Complex Gas Processing Plant is owned by Andeavor Field Services, LLC and operated by MPLX LP according to information provided in the Title V application.

Hazardous Air Pollutants from Oil and Natural Gas Production
Facilities (MACT HH)
40 CFR Part 63, Subpart ZZZZ: National Emissions Standards for
Hazardous Air Pollutants for Stationary Reciprocating Internal
Combustion Engines (MACT ZZZZ)

Permit Number: Pending
Replaces Permit No.: NA

Issue Date: Pending
Effective Date: Pending
Expiration Date: Pending

Facility Information and Emission Unit Identification

Parent Company Name: MPLX LP (MPLX)
Mailing Address: 1801 California Street, Suite 1200, Denver, Colorado 80202
Facility Contact: Joshua Hirschi, Environmental Engineer
(435) 781-7489
Facility Operator & Name: MPLX, LP – Ironhorse Complex Gas Processing Plant (Ironhorse)
Facility Location: Latitude 40.03682, Longitude -109.45248
County, State: Uintah, Utah
Reservation: Uintah and Ouray Indian Reservation
Tribe: Ute Indian Tribe
Responsible Official: Darren Snow, Operations Director
SIC Code: 1311 – Crude Petroleum and Natural Gas
AFS ID: 49-047-01007
Other CAA Permits: There are no CAA permits for this facility.

Enforcement History

There have been no finalized enforcement actions at the time of the inspection.

Inspection Findings/Areas of Concern

EPA inspectors noted leaks or venting from the following areas:

1. Rod packing from the Sundyne Compressor on Ironhorse 2 process train (See video MOV_3186).
2. One (1) leak on the instrument valve on post compression Ironhorse 2 process train (No video).
3. One (1) leak on a water check valve at Ironhorse 1 process train (No video).
4. One (1) leak from a joint underneath insulation at Ironhorse 1 process train (No video).

Each leak had previously been tracked according to Megan Horrocks, who noted that these leaks will be repaired in May or June with the next Ironhorse Gas Plant Complex planned shutdown. First attempts at repair were unsuccessful according to Megan. The rod packing on the Sundyne Compressor is supposed to vent according to information provided by MPLX facility representatives.

Therefore, for the above leaks the EPA has no areas of concerns as these leaks have been properly addressed and must be repaired during the next planned facility shutdown.

Areas of Concern: According to information provided in the Title V application for Ironhorse, heater SC-R-1 has PTE calculated with the potential fuel usage of 106.32 MMscf/yr. This was surpassed in each of the following years: 2018, 2019, 2020, 2022 and already in 2023 according to information provided by

email on April 21, 2023 by MPLX regarding the fuel usage recorded each month. EPA advises MPLX to recalculate the PTE in the Title V application based on updated records.

The June 2, 2020 performance test of C-101 used EPA Method 320 to determine the NO_x emission rates. This is not an approved test method under NSPS KKKK. EPA advises MPLX to use the approved test methods as specified in § 60.4400(a)(1)(i) or (ii).

Per the previous 2019 inspection report of Ironhorse, Tanks T-1 and T-2 have not been categorized as subject to a specific regulation or exemption. EPA advises MPLX to contact Region 8's Air and Radiation Division for an informal or formal applicability determination to ensure that these tanks are controlled according to the proper Clean Air Act requirements for which they may be subject. Visual and IR inspections of the tanks and the control device that emissions are routed to did not find areas of concerns during this 2023 onsite inspection. Therefore, while this is not a current area of concern regarding emissions venting, EPA has concerns that the proper monitoring, recordkeeping and reporting requirements might not be following specific Clean Air Act requirements.

Compliance Assistance

A copy of this report, which highlights EPA's areas of concern, will be provided to MPLX upon finalization. EPA will provide assistance to MPLX where requested based on the findings of this inspection report and the areas of concern.

As part of EPA's compliance assistance, EPA is requesting that MPLX properly categorize tanks T-1 and T-2 according to the federal requirements in the Clean Air Act in which the tanks are subject. EPA advises MPLX to contact the Region 8 Air and Radiation Division to begin formal applicability determination of those storage tanks at Ironhorse.

EPA also is requesting that MPLX correctly account for fuel usage when determining the PTE for heater SC-R-1 as part of a Title V application update, and to ensure proper performance test methods are used for the turbines at Ironhorse according to NSPS KKKK.

Description of Operations²

Ironhorse Process Trains:

The Ironhorse Complex consists of three associated facilities (Stagecoach, Ironhorse 1 and Ironhorse 2 process trains), all belong to the same industrial grouping, co-located on the same surface site and under common control; therefore, they are considered one stationary source for the purposes of the Title V Operating Permit Program at 40 CFR part 71 (Part 71). The following process describes the operation of each process train in detail. Specific details about emissions units are included in Table 2 below.

Stagecoach Process Train

The inlet hydrocarbon fluids stream enters the Stagecoach process train and is routed through a three-phase slug catcher. Condensate and produced water are routed from the slug catcher to a liquids separator where ethylene glycol (EG) is injected into the natural gas stream to aid in preventing the formation of hydrates. Produced water, rich-EG (EG containing water) and entrained hydrocarbons are transferred from the cold separator to a flash tank. The lighter-end hydrocarbons vaporize during the transfer process and are routed to a flare (Emissions Unit IH-C in Table 2 below). The produced water and rich-EG are routed to an EG reboiler, where

² The description of operations provided here is a modified excerpt from the process description provided by MPLX in its Title V application.

the water is driven off. The re-generated EG is injected again into the inlet natural gas stream for aiding in preventing the formation of hydrates. The produced water is then sent to a produced water storage tank (Emissions Unit T-2 in Table 2 below). The condensate is routed to a stabilizer and, once stabilized, is routed to a condensate storage tank (Emissions Units T-1 in Table 2 below). The natural gas stream is routed from the slug catcher to an inlet filter separator (Emissions Unit SC-S-1 in Table 2 below).

Natural gas liquids (NGLs) are removed from the natural gas stream by lowering the temperature of the inlet natural gas stream via a propane refrigeration system. The propane system is close-looped, and the refrigerant is circulated throughout the system via propane compressors (Emissions Units SC-PK-1100A and SC-PK-1100B in Table 2 below). The chilled natural gas stream and NGLs pass through a three-phase cold separator. The natural gas exits the separator, is compressed and then exits Ironhorse via a sales pipeline.

The NGLs are routed from the three-phase cold separator to a NGL stabilizer for removal of the lighter hydrocarbon components; NGLs are then routed to pressurized storage tanks. NGLs leave Ironhorse by either tanker truck or liquids pipeline. Both condensate and produced water are also removed from the Stagecoach process train via tanker truck. The pressure of the natural gas captured during the stabilization process is increased using a compressor (Emissions Unit SC-PK-2100 in Table 2 below) and either discharged into the sales line or recirculated back through the Stagecoach process train.

Ironhorse 1 and 2 Process Trains

The inlet hydrocarbon fluids stream enters the Ironhorse 1 and 2 process trains and is routed through a two-phase slug catcher. Condensate and produced water are routed from the slug catcher to the liquids separator at the Stagecoach process train. The water is sent to the produced water storage tanks at the Stagecoach process train and the condensate is routed to the stabilizer at the Stagecoach process train and, once stabilized, to the condensate tank at the Stagecoach process train.

The natural gas stream is routed from the slug catcher to an inlet filter separator/coalescer system and then routed to an adsorbent treater for the removal of impurities, including mercury and hydrogen sulfide, if present. The natural gas stream is then routed to a molecular sieve dehydration system.

The temperature of the gas stream is dropped significantly through expansion in the sieve dehydration system. The discharge from the expander feeds a demethanizer tower, and the work created by the expansion of the natural gas stream powers a booster compressor, which raises the pressure of the natural gas to that of the suction pressure of two natural gas compressors. Each natural gas compressor is driven by two Solar Taurus 70 turbine (Emissions Units IH1-TURBINE-1, IH1-TURBINE-2, IH2-TURBINE-1, IH2-TURBINE-2 in Table 2 below). The pressure of the natural gas is increased to above sales line pressure.

NGLs recovered by the demethanizer tower are routed to a liquids pipeline but may also be stored in the pressurized storage tanks at the Stagecoach process train.

A closed-loop hot oil system (Emissions Units SC-R-1, IH1-H and IH2-H in Table 2 below) supplies heat to multiple process vessels to aid in preventing freezing. Likewise, the system is also used to increase the temperature of the natural gas stream throughout the process to facilitate the recovery of NGLs at Stagecoach and Ironhorse 1 and 2.

Liquids from Ironhorse 1 and 2 closed drain system are routed to either the knockout drum of the flare system or the closed drain system of the Stagecoach process train. The vapors from the knockout drum are controlled by the flare (IH-C in Table 2 below), and the liquids are routed to the Stagecoach process train slop oil tank. In case of a catastrophic event, the process relief valves for the vessels are routed to the flare system.

NGLs consist of a mixture of methane, ethane, propane, butanes and pentanes and are stored in four pressurized tanks (Emissions Units T-3 through T-6 in Table 2 below). Propane is the predominant constituent of this mixture, accounting for roughly 25 mol percent (%) of the NGL, followed by butane at 16 mol %, and ethane at 13 mol %. The stabilized condensate, which is collected in an atmospheric storage tank (Emissions Unit T-1 in Table 2 below), is composed mostly of n-hexane, heptanes and octanes (80 mol %).

General Inspection Observations and Commentary

EPA representatives Colin LeCortz, Michael Stovern and Christine Tokarz and Ute Tribe Air Program representatives Mike Natchees, Monaco Weidner, Alverna Nelson, Mariko Blackbird met with MPLX representatives Megan Horrocks, Mike Trostad, and Joshua Hirshi at the Ironhorse Complex Gas Plant (Ironhorse) facility operated by MPLX. A brief opening meeting to discuss the operations at Ironhorse was completed and MPLX was aware that EPA inspectors would be using forward looking infrared (FLIR) camera, but that the camera operator would remain at a safe distance from all potential sources of ignition at the site; therefore, no hot work permit was required. During the opening meeting, Colin LeCortz informed Joshua Hirschi of the types of questions he would include in follow-up emails regarding the operations at Ironhorse.

MPLX representatives noted that the Stagecoach process train was not operating but Ironhorse 1 and Ironhorse 2 process trains were operating with a combined inlet gas throughput of 212 MMscf/d, equating to NGL Y-grade produced of 6000 bbl/d. While the Stagecoach process train was not operating, the tanks T-1 and T-2 receives liquids/slop from Ironhorse 1 and Ironhorse 2. The overhead gasses at Stagecoach are routed back to Ironhorse 1 and Ironhorse 2 for processing. The approximate maximum process train capacity of inlet gas, when each facility is operating, are as follows:

Stagecoach: 200 MMscf/d

Ironhorse 1: 165 MMscf/d

Ironhorse 2: 165 MMscf/d

MPLX provided information regarding the operations at Stagecoach in an email on April 21, 2023. MPLX noted that the following equipment has been locked out/tagged out at Stagecoach since April 4, 2019: PK-1100A, PK-1100B, propane cooler, propane accumulator and economizers, ethylene glycol pumps, gas chiller, propane reclaimers, cold separator, NGL feed, NGL stabilizer, NGL stabilizer reboiler, gas-to-gas exchanger, ethylene glycol skid, condensate cooler and the water tanks.

Ironhorse receives natural gas through a common header to all process trains at 900 psig, and natural gas that is routed from the facility also leaves at 900 psig. At the time of inspection, NGL's were routed to Western Gas pipeline which then enter the Enterprise pipeline which routes to Texas.

A facility walkthrough occurred after the opening meeting. All turbines, besides C202, were operating at the time of inspection. Mr. LeCortz verified serial numbers of all engines which matched the serial numbers in the Title V application.

Mr. LeCortz also verified each engine onsite. SC-PK-1100A and SC-PK-1100B were not operating because they operate the refrigeration process at Stagecoach which was not running at the time of the inspection. The overhead compressor SC-PK-2100 was operating intermittently for the condensate batch system (operating similarly to a vapor recovery unit). All serial numbers were verified and match Table 4 of this inspection report. The emergency power generators G-1, G-2 and G-3 were not operating at the time of the inspection. Serial numbers matched for G-1 and G-2 however the serial number did not appear to match G-3. The engine, G-3, was noted to be a Caterpillar 3516 which is not different than the engine in Table 4, therefore there are no concerns.

The flare, SC-C-2, was operating at the time of inspection. No emissions appeared via FLIR to be bypassing the combustion zone according to Michael Stovern, FLIR operator. MPLX representatives showed EPA inspectors

the newly installed sample ports on the flare that will be used for a complete Method 2 traverse points. These new ports will be used in conjunction for a flare test to ensure compliance with 40 CFR 60.18. The 60.18 test will occur in the future but no specific date of test was provided at the time of the inspection.

EPA inspectors noted leaks or venting from the following areas:

1. Rod packing from the Sundyne Compressor on Ironhorse 2 process train (See video MOV_3186).
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4. One (1) leak from a joint underneath insulation at Ironhorse 1 process train (No video).

Each leak had previously been tracked according to Megan Horrocks, who noted that these leaks will be repaired in May or June with the next Ironhorse Gas Plant Complex planned shutdown. First attempts at repair were unsuccessful according to Megan. The rod packing on the Sundyne Compressor is supposed to vent according to information provided by MPLX facility representatives.

EPA and Ute Tribe representative met with MPLX representatives for a closing conference. A confidential business information (CBI) warning was presented to MPLX representatives, and no CBI was claimed. During the on-site conference, Mr. LeCortz discussed the leaks discovered by Mr. Stovern onsite, and that Mr. LeCortz will be requesting information via email about certain operating parameters. EPA and tribal staff departed the facility at 10:39 AM. An email to request relevant compliance-related information and records was sent to Joshua Hirschi on March 23, 2023. Mr. Hirschi provided the requested information to EPA via email on April 21, 2023 and April 25, 2023.

Potential to Emit (PTE)

Pursuant to 40 CFR 52.21, potential to emit (PTE) is defined as the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation, or the effect it would have on emissions, is federally enforceable. Independently enforceable applicable requirements are considered enforceable to the extent that the source is in compliance with the standard. In addition, beneficial reductions in non-targeted pollutants resulting from compliance with an independently enforceable applicable requirement may be counted towards PTE provided the emission reduction of the non-targeted pollutant is enforceable as a practical matter and compliance is being met. See the 1995 guidance memo signed by John Seitz, Director of the Office of Air Quality Planning and Standards titled, “Options for Limiting Potential to Emit of a Stationary Source under section 112 and Title V of the Clean Air Act (CAA).”

MPLX reported the controlled emissions unit-specific PTE in their Part 71 permit application. The PTE in Table 1 are based on the applicable legally and practicably enforceable requirements.

**Table 1: Potential to Emit in Tons Per Year (tpy)
MPLX Ironhorse Complex Gas Processing Plant**

Table 1 – Potential-to-Emit With Legally and Practicably Enforceable Controls

Regulated Air Pollutants (tpy)								
Emission Unit ID	NOx* (tons/yr)	CO* (tons/yr)	VOC* (tons/yr)	PM*/PM10 (tons/yr)	SO ₂ * (tons/yr)	Hexane (tons/yr)	Total HAPs* (tons/yr)	CO ₂ e* (tons/yr)
SC-PK-1100A	10.11	36.11	9.39	0.00	0.03	5.61E-03	3.57	5912.5
SC-PK-1100B	28.89	57.78	14.45	0.00	0.03	5.61E-03	1.30	5912.5
SC-PK-2100	10.14	11.94	2.98	0.11	0.01	0.00	1.00	1265.8
G-1	3.35	0.15	0.02	0.01	0.00	0.00	0.00	299.8
G-2	4.08	0.11	0.01	0.01	0.00	0.00	0.00	416.60
G-3	8.73	0.47	0.18	0.05	0.01	0.00	0.01	778.40
SC-R-1	5.63	4.73	0.31	0.43	0.03	1.01E-01	0.11	6712.00
IH1-H	10.37	8.71	0.57	0.79	0.06	1.83E-01	0.19	12373.7
IH2-H	19.04	16.00	1.05	1.45	0.11	3.37E-01	0.35	22723.60
IH1-TURBINE-1	12.57	12.57	7.33	1.53	0.02	0.0	0.23	27177.7
IH1-TURBINE-2	12.57	12.57	7.33	1.53	0.02	0.0	0.23	27177.7
IH2-TURBINE-1	12.57	12.57	7.33	1.53	0.02	0.0	0.23	27181.5
IH2-TURBINE-2	12.57	12.57	7.33	1.53	0.02	0.0	0.23	27181.5
SC-S-1	0.00	0.00	6.98	0.00	0.00	9.52E-02	2.28	469.00
T-1	0.00	0.00	1.62	0.00	0.00	1.31E-01	0.19	0.00
T-2	0.00	0.00	29.18	0.00	0.00	1.58	1.80	126.20
T-3 to T-6	0.00	0.00	1.49	0.00	0.00	0.00	0.00	3.70
SC-C-1	0.10	0.08	0.00	0.01	0.00	1.62E-03	0.00	113.90
SC-C-2	0.17	0.09	0.00	0.01	0.00	1.35E-03	0.00	94.50
IH-C	0.07	0.06	0.00	0.01	0.00	1.35E-03	0.00	91.10
SC-EL	0.00	0.00	8.19	0.00	0.00	0.41	1.31	117.10
IH1-EL	0.00	0.00	5.21	0.00	0.00	0.24	0.75	204.90
IH2-EL	0.00	0.00	4.32	0.00	0.00	0.20	0.63	116.00
SC-VE	0.00	0.00	2.24	0.00	0.00	0.00	0.01	29.10
IH1-VE	0.00	0.00	22.10	0.00	0.00	0.50	0.72	4282.80
IH2-VE	0.00	0.00	28.35	0.00	0.00	0.59	0.77	4228.90
LO	0.00	0.00	0.94	0.00	0.00	0.00	0.00	0.00
Total	150.9	187.3	150.70	9.00	0.40	5.00	16.0	174,987

*NO_x = nitrogen oxide; CO = carbon monoxide; VOC = volatile organic compound; PM = particulate matter; SO₂ = sulfur dioxide; HAP = hazardous air pollutant; CO₂e = equivalent CO₂.

Federally Enforceable Requirements and Compliance Status

Inspector notes discussing compliance status will follow each relevant permit requirement in **bold blue** font.

A. Facility Emission Points

Table 2 - Emission Units and Emission Generator Activities

Emissions Unit ID	Description	Control Equipment
SC-PK-1100A	Overhead Propane Compressor engine, spark ignition (SI), 4SLB,* natural gas-fired, 1775 hp* Caterpillar G3606LE, Serial No. 4ZS00763 Serial Number confirmed while onsite Installed: 8/6/07 Manufactured: 2/2007	Oxidation Catalyst
SC-PK-1100B	Overhead Propane Compressor engine, SI, natural gas-fired, 4SLB, 1775 hp Caterpillar G3606LE, serial No. 4ZS00879 Serial Number confirmed while onsite Installed: 11/13/07 Manufactured: 10/2007	Oxidation Catalyst
SC-PK-2100	NGL Compressor engine, SI, natural gas-fired, 4SRB*, 325 hp Caterpillar G3406TA, Serial No. 4FD02885 Serial Number confirmed while onsite Installed: 7/28/07 Manufactured: 4/2006 Reconstructed: 3/2/2020	Oxidation Catalyst
G-1	Emergency Power Generator engine, Compression Ignition (CI), natural gas-fired Caterpillar C27 937 kVA, Serial No. MJE00545 Serial Number confirmed while onsite Installed: 11/2/07 Manufactured: 6/2007	None
G-2	Emergency Power Generator engine, CI, natural gas-fired Caterpillar C32 1250 kVA, serial No. SYC04111 Serial Number confirmed while onsite Installed: 12/22/10 Manufactured: 10/2008	None
G-3	Emergency Power Generator engine, CI, natural gas-fired Caterpillar 3516C 2500 kVA, serial No. G5J00455 Serial Number appears to differ during onsite inspection. Installed: 9/1/12 Manufactured: 1/2012	None
SC-R-1	Hot Oil Heater, 13.10 MMBtu/hr,* Serial No. Unknown Installed: 2008	None
IH1-H	Hot Oil Heater, 24.15 MMBtu/hr, Serial No. Unknown Installed: 1/1/11	None
IH2-H	Hot Oil Heater, 44.35 MM Btu/hr, Serial No. 4VB-1-GV-32-4HE-20-40 Installed: 2012	None
IH1-TURBINE-1	Compression Turbine, 10,240 hp Solar Taurus 70, Serial No. 0587B Installed: 1/1/11	None
IH1-TURBINE-2	Compression Turbine, 10,240 hp Solar Taurus 70, Serial No. 0586B Installed: 1/1/11	None
IH2-TURBINE-1	Compression Turbine, 10,240 hp Solar Taurus 70, Serial No. 0743B Installed: 2012	None
IH2-TURBINE-2	Compression Turbine, 10,240 hp Solar Taurus 70, Serial No. 0744B Installed: 2012	None
SC-S-1	EG Reboiler and Flash Separator Vents	None
T-1	84,000 gallon Condensate Tank, T-3040, Serial No. Unknown Installed: 2008	None

T-2	21,000 gallon Slop Water/Condensate Tank, T-4200, Serial No. Unknown Installed: 2008	None
T-3 T-4 T-5 T-6	300 gallon Storage Tanks	None
SC-C-1	High Pressure Flare	None (IEU)
SC-C-2	Low Pressure Flare	None (IEU)
IH-C	Flare	None (IEU)
SC, IH1, IH2-EL	Fugitive emissions - Equipment Leaks	None
SC, IH1, IH2-VE	SC vented emissions - engine startups, blowdowns, pigging	None
LO	Facility Loadouts	None (IEU)

Note: Emission Units (EU) with ID beginning with "SC" are part of the Stagecoach Gas Plant; EU with ID beginning with "IH1 " are part of the Ironhorse 1 Gas Plant; EU with ID beginning with "IH2" are part of the Ironhorse 2 Gas Plant.

**MMBtu/hr = million British thermal units per hour; hp = horsepower; bbl = barrel; 4SLB = 4 Stroke Lean-Burn, 4SRB = 4 Stroke Rich-Burn.*

Table 3: Requirements for Emission Units

Equipment	Applicable Requirements	Limitations	Monitoring	
			Method	Interval
SC-PK-1100A (1) 1775 hp Caterpillar 3606LE @ Stagecoach	None	None	None	None
SC-PK-1100B (1) 1775 hp Caterpillar 3606LE @ Stagecoach	NSPS JJJJ	NO _x = 2.0 g/hp-hr CO = 4.0 g/hp-hr VOC = 1.0 g/hp-hr	Performance test	8,760 hrs of op or 3 yrs, whichever is first
SC-PK-2100 (1) 325 hp Caterpillar G3406TA @ Stagecoach	NSPS JJJJ	NO _x = 3.0 g/hp-hr CO = 4.0 g/hp-hr VOC = 1.0 g/hp-hr	Performance test	Initial Performance Test at startup (See 60.4243(i)(2))
IH1-TURBINE 1 IH1-TURBINE 2 (2) 10,240 hp Solar Taurus 70 @Ironhorse	NSPS KKKK	NO _x = 25 ppm @ 15 percent O ₂ Fuel content = 0.06 lb SO ₂ /MMBtu	Performance test, fuel test	Annually for both
IH2-TURBINE 1 IH2-TURBINE 2 (2) 6576 hp Solar Taurus 70 @Ironhorse 2	NSPS KKKK	NO _x = 25 ppm @ 15 percent O ₂ Fuel content = 0.06 lb SO ₂ /MMBtu	Performance test, fuel test	Annually for both
G-1 (1) 1141 hp Caterpillar C27 937 kVA	NSPS IIII	NA	None (Engines are operating as certified)	None

G-2 (1) 1502 Caterpillar C32 1250 kVA	NSPS IIII	NA	None (Engines are operating as certified)	None
G-3 (1) 2937 hp Caterpillar 3516C 2500 kVA	NSPS IIII	NA	None (Engines are operating as certified)	None
SC-R-1 (1) Hot oil heater 13.0 MMBtu/hr @Stagecoach	NSPS Dc	None if only use natural gas	None	None
IH1-H (1) Hot oil heater 20.65 MMBtu/hr @Ironhorse	NSPS Dc	None if only use natural gas	None	None
IH2-H (1) Hot oil heater 44.35 MMBtu/hr @Ironhorse2	NSPS Dc	None if only use natural gas	None	None
T-1 condensate (84K gal) T-2 slop (21K gal) T-3-T-6 water (12.6k gal) (6) Storage tanks	None (none constructed since 2011 at SC/IH-1), and none at IH-2. No Kb applicability due to size thresholds.	None	None	None
Fugitive emission sources	SC: NSPS OOOOa since 2/2019 IH-1: NSPS KKK IH-2: NSPS OOOOa	LDAR Program	Method 21	Valves: Quarterly Pumps: Monthly

OBSERVATION: Mr. LeCortz confirmed each emissions unit for matching make, model, and serial number information from the nameplates matched the information listed in Table 4 and Table 5 above from MPLX's Title V application, unless otherwise noted.

NSPS Dc

§ 60.40c Applicability and delegation of authority

OBSERVATION: Hot oil heaters SC-R-1, IH1-H and IH2-H are each steam generating units for which construction, modification, or reconstruction was commenced after June 9, 1989 and that have a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/h)) or less, but greater than or equal to 2.9 MW (10 MMBtu/h). Therefore, as specified in § 60.40c(a), these hot oil heaters are subject to NSPS Dc.

Each hot oil heater, SC-R-1, IH1-H and IH2-H, are fueled by onsite natural gas, therefore no emissions limits of NSPS Dc exist and they are only subject to reporting and recordkeeping requirements of the regulation. Other requirements may exist if MPLX switches fuel sources for SC-R-1, IH1-H and IH2-H.

§ 60.48c Reporting and recordkeeping requirements

OBSERVATION: Pursuant to § 60.48c(a), MPLX shall submit notification of the date of construction or reconstruction and actual startup. This requirement has been satisfied when the facility began operating.

Pursuant to § 60.48c(g)(2), MPLX fuels the heaters with only natural gas and therefore is not subject to an emissions standard. MPLX records and maintains records of the amount of natural gas combusted for each heater during calendar month. These records were provided in an email from MPLX on April 21, 2023 for each heater from January, 2019 through March, 2023. The maximum monthly fuel usage, and the month that occurred are as follows:

SC-R-1: 354.69 MMscf (September, 2020)

IH1-H: 16.05 MMscf (May, 2019)

IH2-H: 25.27 MMscf (December, 2021)

Areas of Concern: According to information provided in the Title V application for Ironhorse, heater SC-R-1 has PTE calculated with the potential fuel usage of 106.32 MMscf/yr. This was surpassed in each of the following years: 2018, 2019, 2020, 2022 and already in 2023 according to information provided by email on April 21, 2023 by MPLX regarding the fuel usage recorded each month. EPA advises MPLX to recalculate the PTE for heater SC-R-1 in the Title V application based on updated records.

NSPS IIII

§ 60.4200 Applicability

OBSERVATION: MPLX is the owner and operator of three stationary compression ignition (CI) internal combustion engines (ICE), identified as emission units G-1, G-2 and G-3 in Table 4 above. The CI ICE commenced construction after July 11, 2005 and were manufactured after April 1, 2006, and are subject to this subpart pursuant to § 60.5200(a)(2)(i).

§ 60.4205 What emission standards must I meet for emergency engines if I am an owner or operator of a stationary CI internal combustion engine?

OBSERVATION: G-1 was installed: 11/2/07 and manufactured: 6/2007, with a displacement of 27.03L (2.25 L/cyl), G-2 was installed: 12/22/10 and manufactured: 10/2008, with a displacement of 32.10L (2.675 L/cyl), and G-3 was installed 9/1/2012 and manufactured 1/2012, with a displacement of 78.08L (4.88 L/cyl). Therefore, G-1, G-2 and G-3 must comply with § 60.4205(b).

§ 60.4207 What fuel requirements must I meet if I am an owner or operator of a stationary CI internal combustion engine subject to this subpart?

OBSERVATION: According to § 60.4207(b), beginning October 1, 2010, owners and operators of stationary CI ICE subject to this subpart with a displacement of less than 30 liters per cylinder that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 1090.305 for nonroad diesel fuel.

§ 60.4209 What are the monitoring requirements if I am an owner or operator of a stationary CI internal combustion engine?

OBSERVATION: Pursuant to § 60.4209(a), MPLX shall operate a non-resettable hour meter on engines G-1, G-2 and G-3.

The following runtimes were recorded in 2022:

G-1: 25.6

G-2: 28.2

G-3: 53.2

§ 60.4211 What are my compliance requirements if I am an owner or operator of a stationary CI internal combustion engine?

OBSERVATION: Pursuant to § 60.4211(a) and § 60.4211(c), MPLX operates the emergency generator ICE G-1, G-2 and G-3 in a certified manner according to the manufacture specifications. Additionally, MPLX appears to operate their certified emergency engines as specified in § 60.4211(f)(1-3) with regards to hour-use per year.

§ 60.4212 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of less than 30 liters per cylinder?

OBSERVATION: None required. Engines appear to be operated in a certified manner according to the certificate of conformity and manufacture maintenance programs.

§ 60.4213 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of greater than or equal to 30 liters per cylinder?

OBSERVATION: None required. Engines appear to be operated in a certified manner according to the certificate of conformity and manufacture maintenance programs.

§ 60.4214 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary CI internal combustion engine?

OBSERVATION: MPLX records the time of operation of the engine and the reason the engine was in operation during that time pursuant to § 60.4214(b).

NSPS JJJJ

§ 60.4230 Applicability

OBSERVATION: MPLX is the owner and operator of two stationary spark ignition (SI) ICE, identified as emission units SC-PK-1100B and SC-PK-2100 in Table 4 above. SC-PK-1100B is a non-emergency 4SRB SI ICE with greater than 1,350 hp that was manufactured after July 1, 2007, and was constructed after June 12, 2006. Therefore, Emission Unit SC-PK-1100B is subject to NSPS JJJJ pursuant to § 60.4230(a)(4)(i).

SC-PK-2100 is a 4SRB which commenced construction after June 12, 2006 and was reconstructed after June 12, 2006. Therefore, Emission Unit SC-PK-2100 is subject to NSPS JJJJ pursuant to § 60.4230(a)(5).

SI ICE identified as emissions unit SC-PK-1100A commenced construction after June 12, 2006 but was manufactured prior to July 1, 2007, therefore is not subject to NSPS JJJJ.

§ 60.4233 What emission standards must I meet if I am an owner or operator of a stationary SI internal combustion engine?

OBSERVATION: Pursuant to § 60.4233(e), MPLX must comply with the emission standards in Table 1 of NSPS JJJJ for SC-PK-1100B. Table 1 of NSPS JJJJ specifies that non-emergency SI natural gas engines with greater than 500 hp manufactured after July 1, 2007 but before July 1, 2010 must meet the following emission standards:

1. 2.0 gram per horsepower-hour (g/hp-hr) for NO_x;
2. 4.0 g/hp-hr for CO; and
3. 1.0 g/hp-hr for VOC.

SC-PK-1100B has not operated since the previous onsite inspection in 2019 and therefore has not received a performance test. The engine shall meet these emissions standards and receive a performance test upon startup.

OBSERVATION: Pursuant to § 60.4233(f)(4)(i), MPLX must comply with the emission standards shown below for SC-PK-2100 because SC-PK-2100 was reconstructed after June 12, 2006 where the date of manufacture was prior to July 1, 2008 and SC-PK-2100 is a non-emergency engines with a maximum engine power less than 500 hp.

1. 3.0 gram per horsepower-hour (g/hp-hr) for NO_x;
2. 4.0 g/hp-hr for CO; and
3. 1.0 g/hp-hr for VOC.

Pursuant to § 60.4243(i)(2), MPLX conducted a performance test within 60 days after the engine commenced operation after the modification or reconstruction. This one-time performance test was conducted on June 2, 2020. The following emissions were measured:

NO_x: 0.76 g/hp-hr

CO: 1.59 g/hp-hr

VOC: 0.001 g/hp-hr

Therefore, the performance test conducted on SC-PK-2100 shows compliance with the emission limits of NSPS JJJJ.

§ 60.4243 What are my compliance requirements if I am an owner or operator of a stationary SI internal combustion engine?

OBSERVATION: Pursuant to § 60.4243(b)(2)(ii), MPLX operates SC-PK-1100B as a non-certified engine greater than 500 hp, which is subject to emission standards of Table 1 of NSPS JJJJ and § 60.4233(e). Therefore, MPLX must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance.

SC-PK-1100B has not operated since the previous onsite inspection in 2019 and therefore has not received a performance test. The engine shall meet these emissions standards and receive a performance test upon startup.

OBSERVATION: Pursuant to § 60.4243(c), MPLX operates SC-PK-2100 as a non-certified engine between 25 and 500 hp, subject to emission standards of § 60.4233(f). Therefore, MPLX must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance.

Pursuant to § 60.4243(i)(2), MPLX conducted a performance test within 60 days after the engine commenced operation after the modification or reconstruction. This one time performance test was conducted on June 2, 2020. The following emissions were measured:

NO_x: 0.76 g/hp-hr

CO: 1.59 g/hp-hr

VOC: 0.001 g/hp-hr

Therefore, the performance test conducted on SC-PK-2100 shows compliance with the emission limits of NSPS JJJJ. Additionally, MPLX provided the maintenance and records of conducted maintenance on April 25, 2023. MPLX indicated that maintenance will be scheduled to be conducted at regularly scheduled intervals of 720 hours and 2,000 hours for specific services, when operating.

§ 60.4244 What test methods and other procedures must I use if I am an owner or operator of a stationary SI internal combustion engine?

OBSERVATION: MPLX must conduct performance tests according to the procedures of § 60.4244(a)-(f). Mr. LeCortz reviewed the performance test reports which shows that they were all conducted as three separate test runs within 10 percent of 100 percent highest achievable load and lasted at least one hour per run for engine SC-PK-2100. The performance test used EPA Method 320 as permitted in NSPS JJJJ.

§ 60.4245 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary SI internal combustion engine?

OBSERVATION: MPLX submits notifications of startups, initial and subsequent performance tests at the proper time for engines SC-PK-1100B and SC-PK-2100. Annual and semiannual reports are submitted according to Part 71 which satisfies most of the requirements required in § 60.4245.

NSPS KKKK

§ 60.4305 Applicability

OBSERVATION: MPLX is the owner and operator of four stationary combustion turbine with a heat input at peak load equal to or greater than 10.7 gigajoules (10 MMBtu) per hour, based on the higher heating value of the fuel, which commenced construction, modification, or reconstruction after February 18, 2005; emission units IH1-TURBINE-1, IH1-TURBINE-1, IH2-TURBINE-1 and IH2-TURBINE-2. Therefore, pursuant to § 60.4245(a) these four turbines operating at Ironhorse are subject to NSPS KKKK.

§ 60.4320 What emission limits must I meet for nitrogen oxides (NO_x)?

OBSERVATION: Pursuant to § 60.4320(a) MPLX must operate each turbine, IH1-TURBINE-1, IH1-TURBINE-1, IH2-TURBINE-1 and IH2-TURBINE-2 according to Table 1 of NSPS KKKK, which each have a combustion turbine heat input at peak load of 74.45 MMBtu/hr according to factory specifications. MPLX noted that the engines operate at less than 50 MMBtu/hr because of site specific conditions based on elevation however MPLX complies with the requirements of new turbines firing natural gas with a combustion turbine heat input at peak load (HHV) > 50 MMBtu/h and ≤ 850 MMBtu/h per Table 1 of NSPS KKKK. Each turbine commenced construction after February 18, 2005 (new), and are subject to the requirements of new turbines firing natural gas which corresponds to a NO_x emission limit of 25 ppm NO_x @ 15 percent O₂ in Table 1 of NSPS KKKK.

Mr. LeCortz reviewed previous performance tests to verify that the turbines operating at Ironhorse met the emission standard, shown in Table 4 below.

§ 60.4330 What emission limits must I meet for sulfur dioxide?

OBSERVATION: MPLX has elected to comply with the requirements of § 60.4330(a)(2), which is to not burn in the subject stationary combustion turbine any fuel which contains total potential sulfur emissions in excess of 26 ng SO₂/J (0.060 lb SO₂/MMBtu) heat input.

Mr. LeCortz reviewed fuel samples since 9/26/2019 through the date of inspection and confirmed that no fuels were burned with potential sulfur emissions in excess of 0.060 lb SO₂/MMBtu of heat input using ASTM D-4810 or ASTM D-5504 as required in § 60.4415, shown below in Table 5.

§ 60.4340 How do I demonstrate continuous compliance for NO_x if I do not use water or steam injection?

OBSERVATION: MPLX has elected to comply with the requirements of § 60.4340(a) by performing annual performance tests or every 2 years if the results of the performance test results are less than or equal to 75 percent of the NO_x emission limit for the turbine.

Mr. LeCortz reviewed previous performance tests to verify that the turbines operating at Ironhorse met the emission standard, shown in Table 4 below.

Table 4: NSPS KKKK Performance Test Results

Emission Unit ID	Test Date(s)	NO _x Emission limit ppm @15% O ₂	NO _x Average Emission ppmvd @15% O ₂	Percent Load
C-102	5/28/2019	25	6.17	99
C-201	8/14/2019	25	4.0	99.7
C-202	8/14/2019	25	7.2	99.7
C-101	6/2/2020	25	2.0	99
C-102	7/13/2021	25	4.28	100
C-201	7/13/2021	25	4.26	100
C-101	5/18/2022	25	3.22	110.9
C-202	5/18/2022	25	6.55	125

§ 60.4370 How often must I determine the sulfur content of the fuel?

OBSERVATION: MPLX utilizes a custom schedule of § 60.4370(c) for 12-month intervals because each sample since the 2019 inspection of Ironhorse has continued to show a total sulfur content less than half of the applicable limit of 0.060 lb SO₂/MMBtu.

The results of the sulfur content tests were reviewed by Mr. LeCortz shown in Table 5 below. The sulfur content tests were determined using the methods required by using ASTM D-4810 and ASTM D-5504 as required in § 60.4415.

Table 5: Sulfur Content Analysis

Sample Date(s)	Test Results- Rounded (lb SO ₂ /MMBtu)	Sulfur Standard (lb SO ₂ /MMBtu)	Test Results < 50% Standard?
8/27/2019	0	0.06	YES
8/27/2019	0	0.06	YES
8/27/2019	0	0.06	YES
8/27/2019	0	0.06	YES
8/26/2020	0	0.06	YES
8/25/2021	0	0.06	YES
8/24/2022	0	0.06	YES

§ 60.4375 What reports must I submit?

OBSERVATION: MPLX has satisfied the requirements for reporting both in Title V annual and semiannual reports, NSPS KKKK reports, and additional documentation of performance tests for both sulfur content of fuels and NO_x emission standards from the turbines, IH1-TURBINE-1, IH1-TURBINE-1, IH2-TURBINE-1, and IH2-TURBINE-2 located at Ironhorse.

§ 60.4415 How do I conduct the initial and subsequent performance tests for sulfur?

The sulfur content tests were determined using the methods required by using ASTM D-4810 and ASTM D-5504, and manual sampling GPA-2166 as required in § 60.4415.

§ 60.4400 How do I conduct the initial and subsequent performance tests, regarding NO_x?

Area of Concern: The June 2, 2020 performance test of C-101 used EPA Method 320 to determine the NO_x emission rates. This is not an approved test method under NSPS KKKK. EPA advises MPLX to use the approved test methods as specified in § 60.4400(a)(1)(i) or (ii). All other performance tests appeared to correctly use Method 7E as required in NSPS KKKK.

NSPS OOOOa

§ 60.5365a Applicability

OBSERVATION: According to information provided by MPLX, the three process trains, Ironhorse 1, Ironhorse 2, and Stagecoach voluntarily accepted NSPS OOOOa applicability.

§ 60.5400a What equipment leak VOC standards apply to affected facilities at an onshore natural gas processing plant?

OBSERVATION: MPLX provided each report since 2019 for CEDRI submittals, delay of repair notices, and equipment information. All leaks that are on delay of repair had appropriate justifications.

EPA inspectors noted leaks or venting from the following areas:

1. Rod packing from the Sundyne Compressor on Ironhorse 2 process train (See video MOV_3186).
2. One (1) leak on the instrument valve on post compression Ironhorse 2 process train (No video).
3. One (1) leak on a water check valve at Ironhorse 1 process train (No video).
4. One (1) leak from a joint underneath insulation at Ironhorse 1 process train (No video).

Each leak had previously been tracked according to Megan Horrocks, who noted that these leaks will be repaired in May or June with the next Ironhorse Gas Plant Complex planned shutdown. First attempts at repair were unsuccessful according to Megan. The rod packing on the Sundyne Compressor is supposed to vent according to information provided by MPLX facility representatives.

Therefore, for the above leaks the EPA has no areas of concerns as these leaks have been properly addressed and must be repaired during the next planned facility shutdown. MPLX appears to take similar actions on other leaks that are on delay of repair.

§ 60.5420a-60.5422a: Notification, reporting and recordkeeping requirements

OBSERVATION: MPLX properly reports EPA via CEDRI with timely submittals. Records requested were submitted by MPLX on April 21, 2023.

MACT HH

According to information provided by MPLX, the ethylene glycol dehydration unit SC-S-1 is not subject to MACT HH because it is an area source of emissions. As specified in § 63.760(b)(2), only triethylene glycol dehydration units have MACT HH requirements.

OBSERVATION: Prior to the inspection, MPLX provided the GlyCalc summary for the Stagecoach ethylene glycol dehydration unit. The uncontrolled HAP emissions from the Regenerator and Flash Tank Off Gas were 1.8249 tpy and 0.4585 tpy, respectively. Therefore, there are no additional requirements for the dehydration unit SC-S-1.

MACT ZZZZ

OBSERVATION: Ironhorse is an area source of HAP, and engines G-1, G-2, G-3, SC-PK-1100A, SC-PK-1100B and SC-PK-2100 are subject to MACT ZZZZ per § 63.6585(c). According to § 63.6590(c), engines complying with the requirements of NSPS IIII or NSPS JJJJ have no further requirements under MACT ZZZZ.

SC-PK-1100A is not subject to NSPS JJJJ. It is considered a new RICE according to MACT ZZZZ because of the construction date and must meet the requirements of § 63.6590(c) by meeting the requirements of NSPS JJJJ; however, it was manufactured prior to January 1, 2008 and therefore, is not subject to any requirements of NSPS JJJJ. There are no requirements for this engine.

Part 68 Risk Management Plan

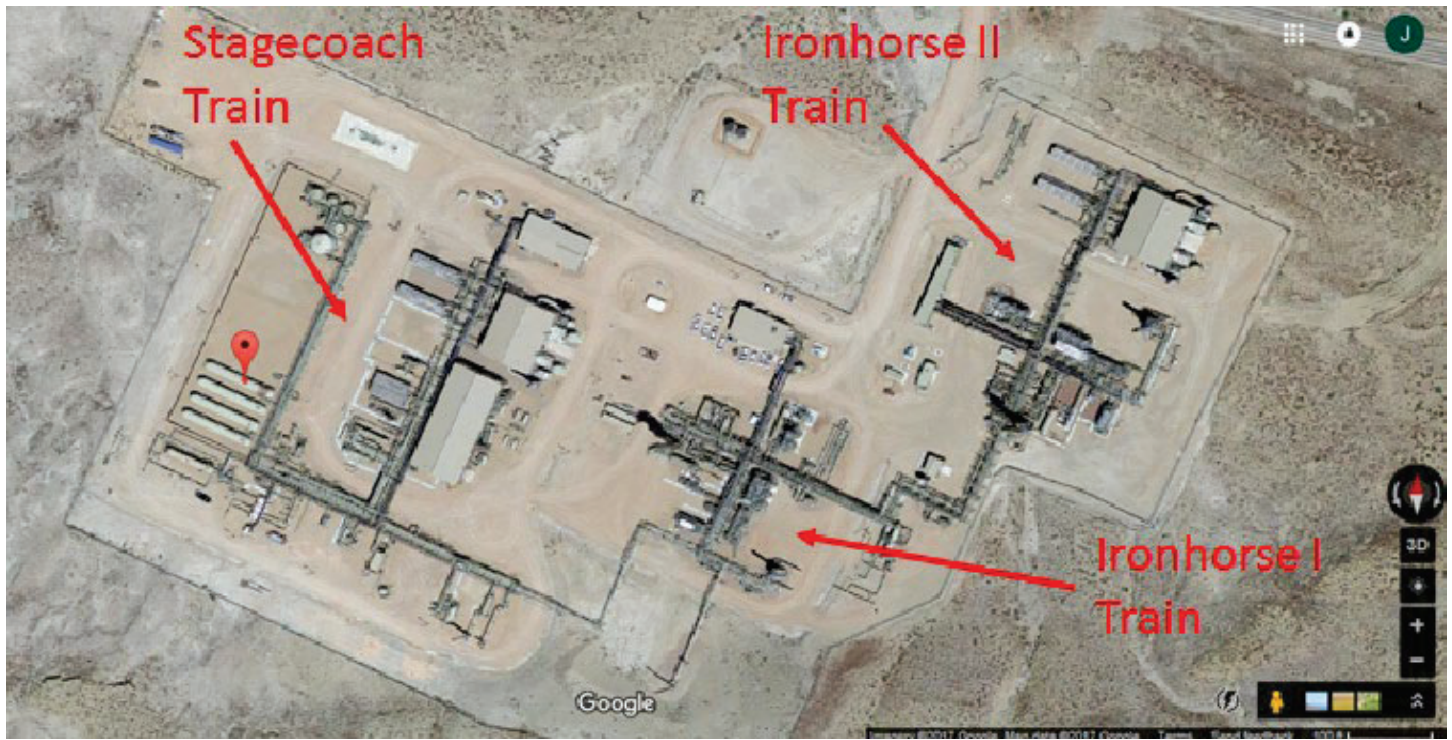
OBSERVATION: MPLX provided a copy of the Risk Management Plan in an email on April 21, 2023. According to the Risk Management Plan, there have been no onsite or offsite accidents involving regulated substances that resulted onsite injuries, or significant property damage within the previous five years. Initial and three year refresher training is provided for Ironhorse Complex workers.

Annual Actual Emissions and Title V Fee Payments

OBSERVATION: The following annual emissions reports and annual fees have been submitted as required for the Ironhorse Complex.

Fee Year	NO_x	VOC	SO₂	PM₁₀	HAP Total	Fee Paid
2019	65.7	58.7	0.2	6.3	1.2	\$7,226.86
2020	64.1	60.7	0.2	6.3	4.6	\$7,168.98
2021	66.1	62.3	0.2	6.4	4.2	\$7,591.05
2022	79.1	74.2	0.2	7.9	4.3	\$9,774.38

APPENDIX A: Site Overview



APPENDIX B: Photo Log

File Name	Description	Photographer
MOV_3186	Compressor rod packing emission	M. Stovern