State of Utah

SPENCER J. COX
Governor

DEIDRE HENDERSON
Lieutenant Governor

Department of
Environmental Quality

Kimberly D. Shelley
Executive Director

DIVISION OF AIR QUALITY
Bryce C. Bird
Director

RN101230055

March 24, 2023

Eric Benson
HF Sinclair Wood Cross Refining LLC
1070 W 500 S
Woods Cross, UT 840871442
eric.benson@hfsinclair.com

Dear Eric Benson,

Re: Engineer Review:
Minor Modification to Approval Order DAQE-AN101230053-22 for a Change in Testing Frequency
Project Number: N101230055

The DAQ requests a company representative (Title V Responsible Official for enhanced Approval Order application) review and sign the attached Engineer Review (ER). This ER identifies all applicable elements of the New Source Review permitting program. HF Sinclair Wood Cross Refining LLC should complete this review within **10 business days** of receipt.

HF Sinclair Wood Cross Refining LLC should contact **John Jenks** at (385) 306-6510 if there are questions or concerns with the review of the draft permit conditions. Upon resolution of your concerns, please email jjenks@utah.gov the signed cover letter to John Jenks. Upon receipt of the signed cover letter, the DAQ will prepare an ITA for a 30-day public comment period. At the completion of the comment period, the DAQ will address any comments and will prepare an AO for signature by the DAQ Director.

If HF Sinclair Wood Cross Refining LLC does not respond to this letter within **10 business days,** the project will move forward without source concurrence. If HF Sinclair Wood Cross Refining LLC has concerns that cannot be resolved and the project becomes stagnant, the DAQ Director may issue an Order prohibiting construction.

Approval Signature Jeff Davidson 4/25/2023
(Signature & Date)

☐ By (Title V responsible official) initialing this box and signing this document, this document serves as an enhanced application and the public comment period will serve as the required comment period for Title V purposes.

The Title V responsible official certifies: based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

RN101230055

March 24, 2023

Eric Benson
HF Sinclair Wood Cross Refining LLC
1070 W 500 S
Woods Cross, UT 840871442
eric.benson@hfsinclair.com

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UTAH DIVISION OF AIR QUALITY
ENGINEER REVIEW

SOURCE INFORMATION

Project Number	N101230055
Owner Name	HF Sinclair Wood Cross Refining LLC
Mailing Address	1070 W 500 S Woods Cross, UT, 840871442
Source Name	HF Sinclair - Woods Cross Refinery
Source Location	393 South 800 West Woods Cross, UT 84087-1435
UTM Projection	424,000 m Easting, 4,526,227 m Northing
UTM Datum	NAD27
UTM Zone	UTM Zone 12
SIC Code	2911 (Petroleum Refining)
Source Contact	Eric Benson
Phone Number	(801) 299-6623
Email	eric.benson@hfsinclair.com
Project Engineer	John Jenks, Engineer
Phone Number	(385) 306-6510
Email	jjenks@utah.gov
Notice of Intent (NOI) Submitted	January 26, 2023
Date of Accepted Application	January 26, 2023

SOURCE DESCRIPTION

General Description
The HF Sinclair Woods Cross Refinery is situated on approximately 100 acres of fenced area. The Woods Cross Refinery is a 60,000 barrel per day (bbl) refinery that produces a variety of products including gasoline, natural gas liquids (NGL), propane, butanes, jet fuels, fuel oils, and kerosene products. The refinery receives and distributes products by tanker truck, rail car and pipeline.

NSR Classification:
Minor Modification at Major Source

Source Classification
Located in: Salt Lake City UT $PM_{2.5}$ NAA, Salt Lake County SO_2 NAA,
Davis County
Airs Source Size: A

Applicable Federal Standards
NSPS (Part 60), A: General Provisions
NSPS (Part 60), Db: Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units
NSPS (Part 60), Dc: Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units
NSPS (Part 60), J: Standards of Performance for Petroleum Refineries
NSPS (Part 60), Ja: Standards of Performance for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007
NSPS (Part 60), K: Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978
NSPS (Part 60), Kb: Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984
NSPS (Part 60), UU: Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture
NSPS (Part 60), GGG: Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After January 4, 1983, and on or Before November 7, 2006
NSPS (Part 60), GGGa: Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006
NSPS (Part 60), QQQ: Standards of Performance for VOC Emissions From Petroleum Refinery Wastewater Systems
NSPS (Part 60), IIII: Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
NSPS (Part 60), JJJJ: Standards of Performance for Stationary Spark Ignition Internal Combustion Engines
NESHAP (Part 61), A: General Provisions
NESHAP (Part 61), FF: National Emission Standard for Benzene Waste Operations
MACT (Part 63), A: General Provisions
MACT (Part 63), R: National Emission Standards for Gasoline Distribution Facilities (Bulk

Gasoline Terminals and Pipeline Breakout Stations)
MACT (Part 63), CC: National Emission Standards for Hazardous Air Pollutants From Petroleum Refineries
MACT (Part 63), UUU: National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units
MACT (Part 63), ZZZZ: National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines
MACT (Part 63), GGGGG: National Emission Standards for Hazardous Air Pollutants: Site Remediation
Title V (Part 70) Major Source

Project Proposal
Minor Modification to Approval Order DAQE-AN101230053-22 for a Change in Testing Frequency

Project Description
On January 26, 2023, HF Sinclair Woods Cross Refining LLC (HFSWCR) submitted a request for reducing the frequency of testing on several heaters and boilers listed in condition II.B.6.a of its AO (DAQE-AN101230053-22). As outlined in condition II.B.6.a.1, HFSWCR may request approval to conduct PM_{10} testing less frequently than annually upon demonstration through at least three annual tests that the PM_{10} limits are not being exceeded.

The following changes will occur as a result of this request:
Process heaters 10H2, 19H2, and 33H1, which have not yet been constructed will remain with annual testing requirements.
All other listed process heaters: 8H2, 20H2, 20H3, 24Hl, 25Hl and boilers: #8, #9, #10, and #11 will now be required to test no less frequently than once every three years (triennially).
Condition II.B.6.a.1 will be updated to reflect this change.

EMISSION IMPACT ANALYSIS

As there is no change in emissions associated with this change in testing frequency, none of the requirements of R307-410-4 or R307-410-5 are triggered, No modeling is required. [Last updated March 24, 2023]

SUMMARY OF EMISSIONS

The emissions listed below are an estimate of the total potential emissions from the source. Some rounding of emissions is possible.

Criteria Pollutant	Change (TPY)	Total (TPY)
CO_2 Equivalent	0	780025.15
Carbon Monoxide	0	897.87
Nitrogen Oxides	0	347.10
Particulate Matter - PM_{10}	0	160.40
Particulate Matter - $PM_{2.5}$	0	60.70
Sulfur Dioxide	0	110.30
Volatile Organic Compounds	0	223.63

Hazardous Air Pollutant	Change (lbs/yr)	Total (lbs/yr)
2,2,4-Trimethylpentane (CAS #540841)	0	5464
Acetaldehyde (CAS #75070)	0	13
Acrolein (CAS #107028)	0	3
Arsenic (TSP) (CAS #7440382)	0	33
Benzene (Including Benzene From Gasoline) (CAS #71432)	0	5925
Beryllium (TSP) (CAS #7440417)	0	2
Cadmium (CAS #7440439)	0	17
Chlorine (CAS #7782505)	0	10600
Chromium Compounds (CAS #CMJ500)	0	21
Cobalt (TSP) (CAS #7440484)	0	1
Ethyl Benzene (CAS #100414)	0	638
Formaldehyde (CAS #50000)	0	1460
Generic HAPs (CAS #GHAPS)	0	1462
Hexane (CAS #110543)	0	35398
Lead (CAS #7439921)	0	36
Manganese (TSP) (CAS #7439965)	0	6
Mercury (Organic) (CAS #22967926)	0	92
Naphthalene (CAS #91203)	0	21
Propylene[1-Propene] (CAS #115071)	0	700
Toluene (CAS #108883)	0	5364
Xylenes (Isomers And Mixture) (CAS #1330207)	0	3137
	Change (TPY)	**Total (TPY)**
Total HAPs	0	35.20

Note: Change in emissions indicates the difference between previous AO and proposed modification.

Review of BACT for New/Modified Emission Units

1. **<u>BACT review regarding no BACT review required</u>**
   This project is for a change in testing frequency and does not represent a physical change or a change in the method of operation of any equipment at the refinery. No new equipment will be installed or operated. There will be no change in emissions associated with this project. No BACT review is required. [Last updated March 24, 2023]

SECTION I: GENERAL PROVISIONS

The intent is to issue an air quality AO authorizing the project with the following recommended conditions and that failure to comply with any of the conditions may constitute a violation of the AO. **(New or Modified conditions are indicated as "New" in the Outline Label):**

I.1	All definitions, terms, abbreviations, and references used in this AO conform to those used in the UAC R307 and 40 CFR. Unless noted otherwise, references cited in these AO conditions refer to those rules. [R307-101]
I.2	The limits set forth in this AO shall not be exceeded without prior approval. [R307-401]
I.3	Modifications to the equipment or processes approved by this AO that could affect the emissions covered by this AO must be reviewed and approved. [R307-401-1]
I.4	All records referenced in this AO or in other applicable rules, which are required to be kept by the owner/operator, shall be made available to the Director or Director's representative upon request. Unless otherwise specified in this AO or in other applicable state and federal rules, records shall be kept for a minimum of five (5) years. [R307-401-8]
I.5	At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any equipment approved under this AO, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Director which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. All maintenance performed on equipment authorized by this AO shall be recorded. [R307-401-4]
I.6	The owner/operator shall comply with UAC R307-107. General Requirements: Breakdowns. [R307-107]
I.7	The owner/operator shall comply with UAC R307-150 Series. Emission Inventories. [R307-150]

I.8 NEW	The owner/operator shall submit documentation of the status of construction or modification of the equipment listed in: II.A.19, II.A.31, II.A.45, II.A.46, II.A.54, II.A.110, II.A.111, II.A.112, II.A.113, II.A.114, II.A.115, II.A.116, II.A.159, II.A.168(9). Documentation shall be submitted to the Director by November 17, 2023. This AO may become invalid if construction is not commenced by November 17, 2023, or if construction is discontinued for 18 months or more. To ensure proper credit when notifying the Director, send the documentation to the Director, attn.: NSR Section. [R307-401-18]

SECTION II: PERMITTED EQUIPMENT

The intent is to issue an air quality AO authorizing the project with the following recommended conditions and that failure to comply with any of the conditions may constitute a violation of the AO. **(New or Modified conditions are indicated as "New" in the Outline Label):**

II.A THE APPROVED EQUIPMENT

II.A.1	**HF Sinclair Woods Cross Refinery** Permitted Source
II.A.2	**Unit 4: Fluid Catalytic Cracking Unit (FCCU)** 8,880 bpd annual average capacity
II.A.3	**4H1: FCC Feed Heater** 68.4 MMBtu/hr process furnace, fired on plant gas, restricted to 39.9 MMBtu/hr, equipped with low NO_x burners (LNB)
II.A.4	**4V82 FCC Scrubber** Wet gas scrubber to control Unit 4 FCCU
II.A.5	**Unit 6: Catalytic Reforming Unit (Reformer)**
II.A.6	**6H1** Reformer charge and reheater furnace/waste heat boiler 54.7 MMBtu/hr process furnace, fired on plant gas
II.A.7	**6H2: Prefractionator Reboiler Heater** 12.0 MMBtu/hr process furnace, fired on plant gas
II.A.8	**6H3: Reformer Reheat Furnace** 37.7 MMBtu/hr process furnace, fired on plant gas
II.A.9	**Unit 7: Alkylation Unit**
II.A.10	**7H1: HF Alkylation Regeneration Furnace** 4.4 MMBtu/hr process furnace, fired on plant gas
II.A.11	**7H3: HF Alkylation Depropanizer Reboiler** 33.3 MMBtu/hr process furnace, fired on plant gas

II.A.12	**Unit 8: Crude Unit** 45,000 bpd annual average capacity
II.A.13	**8H2: Crude Furnace #1** 99.0 MMBtu/hr process furnace, fired on plant gas, equipped with ultra-low NO_x burner (ULNB)
II.A.14	**Unit 9: Distillate Hydrosulfurization (DHDS) Unit**
II.A.15	**9H1: DHDS Reactor Charge Heater** 8.1 MMBtu/hr process furnace, fired on plant gas
II.A.16	**9H2: DHDS Stripper Reboiler** 4.1 MMBtu/hr process furnace, fired on plant gas
II.A.17	**Unit 10: Solvent Deasphalting (SDA) Unit**
II.A.18	**10H1: Asphalt Mix Heater** 13.2 MMBtu/hr process furnace, fired on plant gas
II.A.19	**10H2: Hot Oil Furnace** 99 MMBtu/hr process furnace, fired on plant gas, equipped with LNB and selective catalytic reduction (SCR) system
II.A.20	**Unit 11: Straight Run Gas Plant (SRGP)**
II.A.21	**11H1: SRGP Depentanizer Reboiler** 24.2 MMBtu/hr process furnace, fired on plant gas
II.A.22	**Unit 12: Naphtha Hydrodesulphurization (NHDS) Unit**
II.A.23	**12H1: NHDS Reactor Charge Furnace** 50.2 MMBtu/hr process furnace, fired on plant gas, equipped with NGULNB
II.A.24	**Unit 13: Isomerization Unit**
II.A.25	**13H1: Isomerization Reactor Feed Furnace** 6.5 MMBtu/hr process furnace, fired on plant gas
II.A.26	**Unit 16: Amine Treatment Unit**
II.A.27	**Unit 17: Sulfur Recovery (SRU)**
II.A.28	**SRU - Tailgas Incinerator** For SRU under 20 LTPD
II.A.29	**Unit 18: Sour Water Stripping (SWS) Unit**

II.A.30	**Unit 19: DHT Unit** Distillate Hydrodesulfurization Treatment
II.A.31	**19H2 DHT Charge Heater** 40 MMBtu/hr heater with ULNB
II.A.32	**Unit 20: Gas Oil Hydrocracking (GHC) Unit**
II.A.33	**20H2: Fractionator Charge Heater** 47.0 MMBtu/hr process furnace, fired on plant gas, equipped with ULNB
II.A.34	**20H3: Reactor Charge Heater** 39.7 MMBtu/hr furnace, fired on plant gas, equipped with ULNB
II.A.35	**Unit 21: NaHS Sour Gas Treatment Unit** Sized at 50 long tons of sulfur per day
II.A.36	**Unit 22: SWS/AS Unit** Sour Water Stripper/Ammonia Stripping
II.A.37	**Unit 23: Benzene Saturation Unit**
II.A.38	**Unit 24: Crude Unit** 15,000 bpd annual average capacity
II.A.39	**24H1: Crude Unit Furnace** 60.0 MMBtu/hr process furnace, fired on plant gas, equipped with ULNB
II.A.40	**Unit 25: FCCU** 8,500 bpd annual average capacity
II.A.41	**25H1: FCC Feed Heater** 17.7 MMBtu/hr process furnace, fired on plant gas, equipped with ULNB
II.A.42	**25FCC Scrubber** Wet gas scrubber to control FCCU Unit 25 and SRU Unit 17 Equipped with LoTOx control technology
II.A.43	**Unit 26: Poly Gasoline Unit**
II.A.44	**Unit 29: SRU Backup Scrubber**
II.A.45	**Unit 33: Vacuum Unit**
II.A.46	**33H1: Vacuum Furnace Heater** 130.0 MMBtu/hr heater, fired on plant gas, equipped with LNB and SCR
II.A.47	**Unit 45: Asphalt Storage**
II.A.48	**Unit 51: Steam Systems**

II.A.49	**Boiler #4** 35.6 MMBtu/hr boiler, fired on plant gas
II.A.50	**Boiler #5** 70.0 MMBtu/hr boiler, fired on plant gas, equipped with SCR
II.A.51	**Boiler #8** 92.7 MMBtu/hr boiler, fired on plant gas, equipped with LNB and SCR
II.A.52	**Boiler #9** 89.3 MMBtu/hr boiler, fired on plant gas, equipped with SCR
II.A.53	**Boiler #10** 89.3 MMBtu/hr boiler, fired on plant gas, equipped with SCR
II.A.54	**Boiler #11** 150 MMBtu/hr steam boiler, fired on plant gas, equipped with LNB and SCR
II.A.55	**Unit 54: Cooling Towers** All cooling towers implement the Modified El Paso Method utilizing a FID analyzer
II.A.56	**Cooling Tower #4** Built pre 1975
II.A.57	**Cooling Tower #6** Built pre 1975
II.A.58	**Cooling Tower #7** Re-built 2006
II.A.59	**Cooling Tower #8** Built pre 1975
II.A.60	**Cooling Tower #10** 10,700 gallons per minute capacity induced draft multi-cell flow, equipped with high efficiency drift eliminators (permitted 2013)
II.A.61	**Cooling Tower #11** 10,700 gallons per minute capacity induced draft flow, equipped with high efficiency drift eliminators (permitted 2013)
II.A.62	**Unit 56: Wastewater Treatment** Oil/Water Separator Dissolved Gas Floatation Unit Moving Bed Bioreactors
II.A.63	**Unit 66: Flares**

II.A.64	**Unit 66-1: Process Flare South** 17,000 standard cubic feet per hour
II.A.65	**Unit 66-2: Process Flare North**
II.A.66	**Unit 68: Tank Farm**
II.A.67	**68H2: North In-tank Asphalt Heater** 0.8 MMBtu/hr tank heater at Tank 79, fired with natural gas
II.A.68	**68H3: South In-Tank Asphalt Heater** 0.8 MMBtu/hr tank heater at Tank 79, fired with natural gas
II.A.69	**Tank 11: Petroleum Liquids (1932)** 9,868 bbl capacity storage tank with fixed roof
II.A.70	**Tank 12: Petroleum Liquids (1932)** 9,868 bbl capacity storage tank with internal floating roof, primary seal
II.A.71	**Tank 14: Petroleum Liquids (1932)** 2,539 bbl capacity storage tank with fixed roof
II.A.72	**Tank 15: Petroleum Liquids (1932)** 5,181 bbl capacity storage tank with fixed roof
II.A.73	**Tank 19: Petroleum Liquids (1933)** 7,463 bbl capacity storage tank with fixed roof
II.A.74	**Tank 20: Petroleum Liquids (1935)** 7,504 bbl capacity storage tank with fixed roof
II.A.75	**Tank 21: Petroleum Liquids (1935)** 354 bbl capacity storage horizontal storage tank
II.A.76	**Tank 23: Petroleum Liquids (2001)** 14,600 bbl capacity storage tank with fixed roof
II.A.77	**Tank 24: Petroleum Liquids (1936)** 15,016 bbl capacity storage tank with fixed roof
II.A.78	**Tank 28: Petroleum Liquids (1941)** 29,663 bbl capacity storage tank with fixed roof
II.A.79	**Tank 29: Petroleum Liquids (1938)** 336 bbl capacity storage tank with fixed roof
II.A.80	**Tank 31: Petroleum Liquids (1940)** 29,756 bbl capacity storage tank with fixed roof

II.A.81	**Tank 35: Petroleum Liquids (2001)** 105,000 bbl capacity storage tank with fixed roof
II.A.82	**Tank 37: Petroleum Liquids** 3,217 bbl capacity storage tank with fixed roof (under re-construction)
II.A.83	**Tank 42A: Petroleum Liquids (1995)** 20 bbl capacity vertical storage tank
II.A.84	**Tank 47: Petroleum Liquids (1947)** 30,129 bbl capacity storage tank with fixed roof
II.A.85	**Tank 48: Petroleum Liquid (1948)** 29,782 bbl capacity storage tank with fixed roof
II.A.86	**Tank 50: Petroleum Liquids (1948)** 700 bbl capacity horizontal storage tank
II.A.87	**Tank 51: Petroleum Liquids (1948)** 580 bbl capacity horizontal storage tank
II.A.88	**Tank 52: Petroleum Liquids (1948)** 1,008 bbl capacity storage tank with fixed roof
II.A.89	**Tank 53: Petroleum Liquids (1948)** 1,008 bbl capacity storage tank with fixed roof
II.A.90	**Tank 54: Petroleum Liquids (1948)** 1,008 bbl capacity storage tank with fixed roof
II.A.91	**Tank 55: Petroleum Liquids (1948)** 1,008 bbl capacity storage tank with fixed roof
II.A.92	**Tank 56: Petroleum Liquids (1948)** 1,008 bbl capacity storage tank with fixed roof
II.A.93	**Tank 57: Petroleum Liquids (1948)** 1,008 bbl capacity storage tank with fixed roof
II.A.94	**Tank 58: Petroleum Liquids (1949)** 15,229 bbl capacity storage tank with fixed roof
II.A.95	**Tank 59: Petroleum Liquids (1948)** 30,019 bbl capacity storage tank with fixed roof
II.A.96	**Tank 61: Petroleum Liquids (1948)** 1,008 bbl capacity storage tank with fixed roof

II.A.97	**Tank 63: Petroleum Liquids (1949)** 30,135 bbl capacity storage tank with fixed roof
II.A.98	**Tank 65: Petroleum Liquids (1950)** 1,011 bbl capacity storage tank with fixed roof
II.A.99	**Tank 70: Heavy Crude (1956)** 80,306 bbl capacity storage tank with fixed roof
II.A.100	**Tank 71: Heavy Crude (1969)** 67,155 bbl capacity storage tank with internal floating roof, primary and secondary seals
II.A.101	**Tank 72: Heavy Crude (1971)** 106,811 bbl liquids storage tank with internal floating roof, primary and secondary seals
II.A.102	**Tank 73: Petroleum Liquids (1975)** 1,077 bbl storage tank with fixed roof
II.A.103	**Tank 74: Petroleum Liquids (1975)** 2,039 bbl storage tank with fixed roof
II.A.104	**Tank 75: Petroleum Liquids (1975)** 2,039 bbl storage tank with fixed roof
II.A.105	**Tank 76: Petroleum Liquids (1975)** 2,039 bbl storage tank with fixed roof
II.A.106	**Tank 77: Petroleum Liquids (1983)** 5,141 bbl storage tank with fixed roof
II.A.107	**Tank 78: Petroleum Liquids (1952)** 5,141 bbl storage tank with fixed roof
II.A.108	**Tank 79: Petroleum Liquids (2006)** 10,000 bbl capacity storage tank with fixed roof
II.A.109	**Tank 86: Petroleum Liquids** 109,660 bbl capacity storage tank with fixed cone roof
II.A.110	**Tank 87: Petroleum Liquids** 109,660 bbl capacity storage tank with fixed cone roof
II.A.111	**Tank 89: Petroleum Liquids** 26,730 bbl capacity storage tank with fixed cone roof
II.A.112	**Tank 90: Petroleum Liquids** 100,000 bbl capacity storage tank with an external floating roof, and primary and secondary seals

II.A.113	**Tank 91: Petroleum Liquids** 109,660 bbl capacity storage tank with fixed roof
II.A.114	**Tank 92: Petroleum Liquids** 109,660 bbl capacity storage tank with an external floating roof and primary and secondary seals
II.A.115	**Tank 93: Petroleum Liquids** 109,660 bbl capacity storage tank with an external floating roof and primary and secondary seals
II.A.116	**Tank 94: Petroleum Liquids** 109,660 bbl capacity storage tank with an external floating roof and primary and secondary seals
II.A.117	**Tank 99: Petroleum Liquids (2016)** 66,000 bbl capacity storage tank with fixed cone roof
II.A.118	**Tank 100: Petroleum Liquids (1952)** 53,372 bbl capacity storage tank with external floating roof, primary and secondary seals
II.A.119	**Tank 101: Petroleum Liquids (1952)** 53,564 bbl capacity storage tank with external floating roof, primary and secondary seals
II.A.120	**Tank 102: Petroleum Liquids (1952)** 52,990 bbl capacity storage tank with external floating roof, primary and secondary seals
II.A.121	**Tank 103: Petroleum Liquids (1952)** 24,686 bbl capacity storage tank with fixed roof
II.A.122	**Tank 104: Petroleum Liquids (1952)** 24,435 bbl capacity storage tank with external floating roof, primary and secondary seals
II.A.123	**Tank 105: Petroleum Liquids (1952)** 24,501 bbl capacity storage tank with external floating roof, primary and secondary seals
II.A.124	**Tank 106: Petroleum Liquids (1952)** 24,524 bbl capacity storage tank with an internal floating roof, primary and secondary seals
II.A.125	**Tank 107: Petroleum Liquids (1952)** 24,501 bbl capacity storage tank with external floating roof, primary and secondary seals
II.A.126	**Tank 108: Petroleum Liquids (1952)** 24,450 bbl capacity storage tank with external floating roof, primary and secondary seals
II.A.127	**Tank 109: Petroleum Liquids (1952)** 24,490 bbl capacity storage tank with external floating roof, primary and secondary seals

II.A.128	**Tank 117: Petroleum Liquids (1944)** 506 bbl capacity storage tank with no roof
II.A.129	**Tank 118: Petroleum Liquids (2019)** 657 bbl capacity storage tank with fixed roof
II.A.130	**Tank 121: Petroleum Liquids (1954)** 100,129 bbl capacity storage tank with external floating roof, primary and secondary seals
II.A.131	**Tank 122: Petroleum Liquids (1954)** 400 bbl capacity horizontal storage tank
II.A.132	**Tank 123: Petroleum Liquids (1954)** 400 bbl capacity horizontal storage tank
II.A.133	**Tank 126: Petroleum Liquids (1955)** 64,675 bbl capacity storage tank with external floating roof, primary and secondary seals
II.A.134	**Tank 127: Petroleum Liquids (1957)** 30,497 bbl capacity storage tank with fixed roof
II.A.135	**Tank 128: Petroleum Liquids (1958)** 10,100 bbl capacity storage tank with external floating roof, primary and secondary seals
II.A.136	**Tank 129: Petroleum Liquids (1958)** 69,600 bbl capacity storage tank with external floating roof, primary and secondary seals
II.A.137	**Tank 131: Petroleum Liquids (1958)** 65,159 bbl capacity storage tank with internal floating roof, primary and secondary seals
II.A.138	**Tank 132: Petroleum Liquids (1960)** 24,455 bbl capacity storage tank with external floating roof, primary and secondary seals
II.A.139	**Tank 133: Petroleum Liquids (1949)** 1,582 bbl capacity horizontal storage tank
II.A.140	**Tank 134: Petroleum Liquids (1949)** 1,582 bbl capacity horizontal storage tank
II.A.141	**Tank 135: Petroleum Liquids (1962)** 44,154 bbl capacity storage tank with external floating roof, primary and secondary seals
II.A.142	**Tank 136: Petroleum Liquids (1962)** 806 bbl capacity horizontal storage tank
II.A.143	**Tank 138: Petroleum Liquids (1963)** 44,247 bbl capacity storage tank with internal floating roof and primary seal

II.A.144	**Tank 139: Petroleum Liquids (1965)** 14,957 bbl capacity storage tank with fixed roof
II.A.145	**Tank 140: Petroleum Liquids (1965)** 14,857 bbl capacity storage tank with fixed roof
II.A.146	**Tank 141: Petroleum Liquids (1965)** 1,618 bbl capacity horizontal storage tank
II.A.147	**Tank 143: Petroleum Liquids (1968)** 4,008 bbl capacity storage pit with fixed roof
II.A.148	**Tank 145: Petroleum Liquids (1974)** 3,985 bbl capacity storage tank with external floating roof, primary and secondary seals
II.A.149	**Tank 146: Petroleum Liquids (1974)** 3,985 bbl capacity storage tank with external floating roof, primary and secondary seals
II.A.150	**Tank 147: Petroleum Liquids (1948)** 714 bbl capacity horizontal storage tank
II.A.151	**Tank 148: Petroleum Liquids (1948)** 714 bbl capacity horizontal storage tank
II.A.152	**Tank 149: Petroleum Liquids (1948)** 714 bbl capacity horizontal storage tank
II.A.153	**Tank 150: Petroleum Liquids (1948)** 714 bbl capacity horizontal storage tank
II.A.154	**Tank 151: Petroleum Liquids (1948)** 714 bbl capacity horizontal storage tank
II.A.155	**Tank 152: Petroleum Liquids (1948)** 714 bbl capacity horizontal storage tank
II.A.156	**Tank 153: Petroleum Liquids (1948)** 714 bbl capacity horizontal storage tank
II.A.157	**Tank 159: Petroleum liquids (1987)** 4,999 bbl capacity spherical storage tank
II.A.158	**Tank 169: Petroleum Liquids (2020)** 750 bbl capacity storage tank with vapor control

II.A.159	**Tank 170: Petroleum Liquids** 66,000 bbl capacity storage tank with fixed cone roof
II.A.160	**Tank 171: Petroleum Liquids (2017)** 1,600 bbl capacity horizontal storage tank
II.A.161	**Tank 172: Petroleum Liquids (2017)** 1,600 bbl capacity horizontal storage tank
II.A.162	**Tank 323: Petroleum Liquids (1992)** 14,686 bbl capacity storage tank with internal floating roof, primary seal
II.A.163	**Tank 324: Petroleum Liquids (1947)** 714 bbl capacity horizontal storage tank
II.A.164	**East Tank Farm (ETF) Portable Diesel Generator** 135 kW diesel fired generator
II.A.165	**Unit 87: Loading/Unloading** Sixteen (16) crude/gas oil/NGL truck unloading bays One (1) NaHS truck loading spot Two (2) NaHS/caustic rail car loading/unloading spots Three (3) caustic truck unloading spot Two (2) sulfur truck loading arms One (1) fuel oil truck loading spot One (1) fuel oil truck unloading spot Four (4) fuel oil/asphalt rail car loading/unloading spots Four (4) oil/diesel/caustic rail car loading/unloading and ethanol rail car unloading spots
II.A.166	**Unit 87: Loading/Unloading (continued)** Four (4) NGL rail car loading/unloading spots Five (5) NGL/Olefin rail car loading/unloading spots One (1) asphalt truck loading spot One (1) diesel truck unloading spot One (1) light cycle oil truck unloading spot Two (2) propane truck loading spot One (1) kerosene truck loading spot One (1) gasoline truck unloading spot Fourteen (14) fuel oil or asphalt loading spots Twenty-four (24) lube oil loading spots Two (2) bio diesel rail unloading spots
II.A.167	**Ethanol Unloading** Three (3) dedicated ethanol unloading areas which include: One (1) 250 gpm truck unloading pump One (1) 400 gpm LOD charge pump One (1) 250 gpm LOD charge pump Four (4) unloading arms

II.A.168	**Emergency Equipment (Diesel)** 1. Diesel powered water well No. 3 (224 hp) 2. Caterpillar diesel fire pump No. 1 (393 hp) 3. Caterpillar diesel fire pump No. 2 (393 hp) 4. Detroit diesel fire pump (180 hp) 5. Three (3) diesel powered plant air backup compressors (220 hp each) 6. Diesel powered standby generator, Boiler House (470 hp) 7. Diesel powered standby generator, Central Control Room (380 hp) 8. Diesel powered standby generator (540 hp) 9. Diesel powered plant air backup compressor (580 hp)
II.A.169	**Emergency Equipment (Natural Gas)** Two (2) natural gas fired standby generators, Administration Bldg (170 kw each)

SECTION II: SPECIAL PROVISIONS

The intent is to issue an air quality AO authorizing the project with the following recommended conditions and that failure to comply with any of the conditions may constitute a violation of the AO. **(New or Modified conditions are indicated as "New" in the Outline Label):**

II.B REQUIREMENTS AND LIMITATIONS

II.B.1	**Conditions on Permitted Source**
II.B.1.a	For all stack testing performed at this source: 1. The applicant shall provide a pre-test protocol at least 30 days prior to the test. A pretest conference between the owner/operator, the tester, and the Director shall be held at least 30 days prior to the test if directed by the Director. The emission point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1. 2. Occupational Safety and Health Administration (OSHA)-approved access shall be provided to the test location. 3. The production rate during all compliance testing shall be no less than 90% of the maximum production rate achieved in the previous three (3) years. If the desired production rate is not achieved at the time of the test, the maximum production rate shall be 110% of the tested achieved rate, but not more than the maximum allowable production rate. This new allowable maximum production rate shall remain in effect until successfully tested at a higher rate. The owner/operator shall request a higher production rate when necessary. Testing at no less than 90% of the higher rate shall be conducted. A new maximum production rate (110% of the new rate) will then be allowed if the test is successful. This process may be repeated until the maximum allowable production rate is achieved. 4. As applicable and unless otherwise specified in this AO, the following test methods shall be used, although other EPA-approved test methods acceptable to the Director can be substituted and approved through the pre-test protocol: Volumetric flow rate - 40 CFR 60, Appendix A, Method 2

	SO_2 emissions - 40 CFR 60, Appendix A, Method 6C NO_x emissions - 40 CFR 60, Appendix A, Method 7E PM_{10} and $PM_{2.5}$ emissions - 40 CFR 51, Appendix M, Methods 5, 5B, 5F, 201a, 202, and CTM-039 CO emissions - 40 CFR 60, Appendix A, Method 10 VOC emissions - 40 CFR 60, Appendix A, Method 25a 5. To determine mass emission rates (lbs/hr, etc.), the pollutant concentration, as determined by the appropriate methods above, shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Director to give the results in the specified units of the emission limitation. [R307-165, R307-401-8, SIP Section IX.H.1.e, SIP Section IX.H.11.e]
II.B.1.b	For all continuous monitoring devices, the following shall apply: 1. Except for system breakdown, repairs, calibration checks, and zero and span adjustments required under paragraph (d) 40 CFR 60.13, the owner/operator of an affected source shall continuously operate all required continuous monitoring systems and shall meet minimum frequency of operation requirements as outlined in R307-170 and 40 CFR 60.13. Flow measurement shall be in accordance with the requirements of 40 CFR 52, Appendix E; 40 CFR 60 Appendix B; or 40 CFR 75, Appendix A. 2. The monitoring system shall comply with all applicable sections of R307-170; 40 CFR 60.13; and 40 CFR 60, Appendix B - Performance Specifications. [SIP Section IX.H.1.f.i]
II.B.1.c	Visible emissions shall not exceed the following opacity limits: All baghouses: 10% opacity FCC Units/FCC Wet Gas Scrubbers: 20% opacity All other scrubbers: 15% opacity Flares: 20% opacity All other combustion sources: 10% opacity All fugitive emission points: 20% opacity. [R307-401-8(1)(a)]
II.B.1.c.1	Opacity observations of emissions from stationary sources shall be conducted in accordance with 40 CFR 60, Appendix A, Method 9. [SIP Section IX.H.11.f.ii]
II.B.1.d	Compliance with any annual limitations shall be determined on a rolling 12-month total except where specifically exempted or otherwise provided for. No later than 20 days after the end of each month, a new 12-month total shall be calculated using data from the previous 12 months. [R307-401]
II.B.1.e	The in-plant access road shall be paved, and shall be periodically swept, or sprayed clean as dry conditions warrant or as determined necessary by the Director. [R307-309-12]
II.B.1.e.1	Records of cleaning paved roads shall be kept.

	Records of inclement weather that prevented sweeping/cleaning of in-plant access roads shall also be kept. These records shall include the relevant dates and conditions that prevented sweeping/cleaning, including temperature and precipitation records. [R307-309-12]
II.B.1.f	The vehicle speed on in-plant roads shall not exceed 15 miles per hour. The vehicle speed limit on in-plant roads shall be posted and large enough to be read by the drivers. [R307-401-8]
II.B.1.g	The owner/operator shall either 1) install and operate a flare gas recovery system designed to limit hydrocarbon flaring produced from each affected flare during normal operations to levels below the values listed in 40 CFR 60.103a(c), or 2) limit flaring during normal operations to 500,000 scfd for each affected flare. Flare gas recovery is not required for dedicated SRU flare and header systems, or HF flare and header systems. [SIP Section IX.H.1.g.v.B]
II.B.1.h	The owner/operator shall: A. comply with the requirements of 40 CFR 60.590a to 60.593a as soon as practicable. B. For units complying with the Sustainable Skip Period, previous process unit monitoring results may be used to determine the initial skip period interval provided that each valve has been monitored using the 500 ppm leak definition. [SIP Section IX.H.11.g.iv]
II.B.2	**Source-Wide PM_{10} Requirements**
II.B.2.a	PM_{10} emissions from all sources shall not exceed 0.416 tons per day (tpd). [SIP Section IX.H.2.f.i]
II.B.2.a.1	The owner/operator shall demonstrate compliance with the source-wide PM_{10} Cap each day as follows: A. Total 24-hour PM_{10} emissions for the emission points shall be calculated by adding the daily results of the PM_{10} emissions equations listed below for natural gas, plant gas, and fuel oil combustion. These emissions shall be added to the emissions from the cooling towers and wet scrubbers to arrive at a combined daily PM_{10} emission total. B. For purposes of this subsection a "day" is defined as a period of 24-hours commencing at midnight and ending at the following midnight. C. Daily natural gas and plant gas consumption shall be determined through the use of flow meters on all gas-fueled combustion equipment. D. Daily fuel oil consumption shall be monitored by means of leveling gauges on all tanks that supply fuel oil to combustion sources. E. The equations used to determine emissions for the boilers and furnaces shall be as follows: Emissions (tons/day) = Emission Factor (lb/MMscf) * Natural/Plant Gas Consumption (MMscf/day)/(2,000 lb/ton) Emissions (tons/day) = Emission Factor (lb/kgal) * Fuel Oil Consumption (kgal/day)/(2,000 lb/ton) F. Results shall be tabulated for each day, and records shall be kept which include all meter

	readings (in the appropriate units), and the calculated emissions. [SIP Section IX.H.2.f.i.C]
II.B.2.a.2	The emission factors derived from the most current performance test shall be applied to the relevant quantities of fuel combusted. Unless adjusted by performance testing, the default emission factors to be used are as follows: A. Natural gas or Plant gas: Combustion equipment not listed in condition II.B.6.a: 7.65 lb PM_{10}/MMscf Combustion equipment listed in condition II.B.6.a: 0.52 lb PM_{10}/MMscf B. Fuel oil: The filterable PM_{10} emission factor for fuel oil combustion shall be determined based on the sulfur content of the oil as follows: PM_{10} (lb/1000 gal) = (10 * wt. % S) + 3.22 The condensable PM_{10} emission factor for fuel oil combustion shall be determined from the latest edition of AP-42. C. Cooling Towers: The PM_{10} emission factor shall be determined from the latest edition of AP-42. D. FCC Wet Scrubbers: The PM_{10} emission factors shall be based on the most recent stack test and verified by parametric monitoring. [R307-401-8(1)(a), SIP Section IX.H.2.f.i.A]
II.B.2.a.3	The default emission factors listed in condition II.B.2.a.2 above apply until such time as stack testing is conducted. A. Initial stack testing on all equipment listed in condition II.B.6.a that has been constructed as of the date of this permit shall be conducted no later than January 1, 2021, and at least once every three (3) years from the date of the last stack test. B. For such equipment which has not been installed as of January 1, 2021, initial stack testing shall follow the schedule as described in 40 CFR 60.8, and at least once every three (3) years from the date of the last stack test. C. Stack testing on all existing units listed in condition II.B.6.a shall also be performed at least once every three years from the date of the last stack test. Stack testing on all equipment listed in condition II.B.2.a.2 shall be performed as outlined in conditions II.B.1.a and as follows: The emission factor for PM_{10} shall be determined through use of CTM-039, or other EPA-approved testing method, as acceptable to the Director. Both the condensable and filterable fractions shall be included. The PM_{10} emission factor from each affected heater and boiler shall be based on the most recent PM_{10} stack test at the affected heater or boiler and its daily fuel consumption (MMBtu/day, HHV). For each day of operation prior to the initial stack test of a newly installed boiler or process heater, the BACT emission factor of 0.0070 lb/MMBtu

	shall be used. D. For combustion equipment not listed in condition II.B.6.a, initial stack testing is not required. [40 CFR 60.8, R307-165, SIP Section IX.H.2.f.i.B]
II.B.3	**Source-wide $PM_{2.5}$ Requirements**
II.B.3.a	$PM_{2.5}$ emissions (filterable + condensable) from all combustion sources shall not exceed 47.6 tons per rolling 12-month period and 0.134 tons per day (tpd). [SIP Section IX.H.12.g.i]
II.B.3.a.1	The owner/operator shall demonstrate compliance with the source-wide $PM_{2.5}$ Cap each day as follows: A. Total 24-hour $PM_{2.5}$ emissions for the emission points shall be calculated by adding the daily results of the $PM_{2.5}$ emissions equations listed below for natural gas, plant gas, and fuel oil combustion. These emissions shall be added to the emissions from the wet scrubbers to arrive at a combined daily $PM_{2.5}$ emission total. B. For purposes of this subsection a "day" is defined as a period of 24-hours commencing at midnight and ending at the following midnight. C. Daily natural gas and plant gas consumption shall be determined through the use of flow meters on all gas-fueled combustion equipment. D. Daily fuel oil consumption shall be monitored by means of leveling gauges on all tanks that supply fuel oil to combustion sources. E. The equations used to determine emissions for the boilers and furnaces shall be as follows: Emissions (tons/day) = Emission Factor (lb/MMscf) * Natural/Plant Gas Consumption (MMscf/day)/(2,000 lb/ton) Emissions (tons/day) = Emission Factor (lb/kgal) * Fuel Oil Consumption (kgal/day)/(2,000 lb/ton) F. Results shall be tabulated for each day, and records shall be kept which include all meter readings (in the appropriate units), and the calculated emissions. [SIP Section IX.H.12.g.i.C]
II.B.3.a.2	The emission factors derived from the most current performance test shall be applied to the relevant quantities of fuel combusted. Unless adjusted by performance testing, the default emission factors to be used are as follows: A. Natural gas or Plant gas: Combustion equipment not listed in condition II.B.6.a: 7.65 lb $PM_{2.5}$/MMscf Combustion equipment listed in condition II.B.6.a: 0.52 lb $PM_{2.5}$/MMscf B. Fuel oil: The filterable $PM_{2.5}$ emission factor for fuel oil combustion shall be determined based on the sulfur content of the oil as follows: $PM_{2.5}$ (lb/1000 gal) = (10 * wt. % S) + 3

	The condensable $PM_{2.5}$ emission factor for fuel oil combustion shall be determined from the latest edition of AP-42. C. FCC Wet Scrubbers: The $PM_{2.5}$ emission factors shall be based on the most recent stack test and verified by parametric monitoring. [R307-401-8(1)(a), SIP Section IX.H.12.g.i.A]
II.B.3.a.3	The default emission factors listed in condition II.B.3.a.2 above apply until such time as stack testing is conducted. A. Initial stack testing on all equipment listed in condition II.B.6.a that has been constructed as of the date of this permit shall be conducted no later than January 1, 2021, and at least once every three (3) years from the date of the last stack test. B. For such equipment which has not been installed as of January 1, 2021, initial stack testing shall follow the schedule as described in 40 CFR 60.8, and at least once every three (3) years from the date of the last stack test. C. Stack testing on all existing units listed in condition II.B.6.a shall also be performed at least once every three years from the date of the last stack test. Stack testing on all equipment listed in condition II.B.3.a.2 shall be performed as outlined in conditions II.B.1.a and as follows: The emission factor for $PM_{2.5}$ shall be determined through use of CTM-039, or other EPA-approved testing method, as acceptable to the Director. Both the condensable and filterable fractions shall be included. The $PM_{2.5}$ emission factor from each affected heater and boiler shall be based on the most recent $PM_{2.5}$ stack test at the affected heater or boiler and its daily fuel consumption (MMBtu/day, HHV). For each day of operation prior to the initial stack test of a newly installed boiler or process heater, the default emission factor of 0.52 lb/MMscf shall be used. D. For combustion equipment not listed in condition II.B.6.a, initial stack testing is not required. [40 CFR 60.8, R307-165, SIP Section IX.H.12.g.i.B]
II.B.4	**Source-wide NO_x Requirements**
II.B.4.a	NO_x emissions into the atmosphere from all emission points shall not exceed 347.1 tons per rolling 12-month period and 2.09 tons per day (tpd). [SIP Section IX.H.12.g.ii]
II.B.4.a.1	The owner/operator shall demonstrate compliance with the source-wide NO_x Cap each day as follows: A. Total daily NO_x emissions for emission points shall be calculated by adding the results of the NO_x equations for plant gas, fuel oil, and natural gas combustion listed below. B. For purposes of this subsection a "day" is defined as a period of 24-hours commencing at midnight and ending at the following midnight. C. Daily natural gas and plant gas consumption shall be determined through the use of flow meters.

	D. Daily fuel oil consumption shall be monitored by means of leveling gauges on all tanks that supply combustion sources. E. The equations used to determine emissions for the boilers and furnaces shall be as follows: Emissions (tons/day) = Emission Factor (lb/MMscf) * Natural Gas Consumption (MMscf/day)/(2,000 lb/ton) Emissions (tons/day) = Emission Factor (lb/MMscf) * Plant Gas Consumption (MMscf/day)/(2,000 lb/ton) Emissions (tons/day) = Emission Factor (lb/MMBTU) * Burner Heat Rating (BTU/hr)* 24 hours per day /(2,000 lb/ton) Emissions (tons/day) = Emission Factor (lb/kgal) * Fuel Oil Consumption (kgal/day)/(2,000 lb/ton) F. Results shall be tabulated for each day; and records shall be kept which include the meter readings (in the appropriate units), emission factors, and the calculated emissions. [SIP Section IX.H.12.g.ii.C]
II.B.4.a.2	Unless adjusted by performance testing, the default emission factors to be used are as follows: A. Natural gas/refinery fuel gas combustion using: Low NO_x burners (LNB): 41 lbs/MMscf Ultra-Low NO_x (ULNB) burners: 0.04 lbs/MMbtu Next Generation Ultra Low NO_x burners (NGULNB): 0.10 lbs/MMbtu Boiler #5: 0.02 lbs/MMbtu All other boilers with selective catalytic reduction (SCR): 0.02 lbs/MMbtu All other combustion burners: 100 lb/MMscf Where: "Natural gas/refinery fuel gas" shall represent any combustion of natural gas, refinery fuel gas, or combination of the two in the associated burner. B. All fuel oil combustion: 120 lbs/Kgal. [SIP Section IX.H.12.g.ii.A]
II.B.4.a.3	The default emission factors listed above apply until such time as stack testing is conducted as outlined in II.B.1.a or by NSPS. [SIP Section IX.H.12.g.ii.B]
II.B.5	**Source-wide SO_2 Requirements**
II.B.5.a	Emissions of SO_2 from all emission points (excluding routine SRU turnaround maintenance emissions) shall not exceed 110.3 tons per rolling 12- month period and 0.31 tons per day (tpd). [SIP Section IX.H.12.g.iii]
II.B.5.a.1	The owner/operator shall demonstrate compliance with the source-wide SO_2 Cap each day as

	follows: A. Total daily SO_2 emissions shall be calculated by adding daily results of the SO_2 emissions equations listed below for natural gas, plant gas, and fuel oil combustion. B. For purposes of this subsection a "day" is defined as a period of 24-hours commencing at midnight and ending at the following midnight. C. The equations used to determine emissions are: Emissions (tons/day) = Emission Factor (lb/MMscf) * Natural Gas Consumption (MMscf/day)/(2,000 lb/ton) Emissions (tons/day) = Emission Factor (lb/MMscf) * Plant Gas Consumption (MMscf/day)/(2,000 lb/ton) Emissions (tons/day) = Emission Factor (lb/kgal) * Fuel Oil Consumption (kgal/24 hrs)/(2,000 lb/ton) D. For purposes of these equations, fuel consumption shall be measured as outlined below: Daily natural gas and plant gas consumption shall be determined through the use of flow meters. Daily fuel oil consumption shall be monitored by means of leveling gauges on all tanks that supply combustion sources. E. Results shall be tabulated for each day, and records shall be kept which include CEM readings for H_2S (averaged for each one-hour period), all meter readings (in the appropriate units), fuel oil parameters (density and wt% sulfur for each day any fuel oil is burned), and the calculated emissions. [SIP Section IX.H.12.g.iii.B]
II.B.5.a.2	The emission factors listed below shall be applied to the relevant quantities of fuel combusted: A. Natural gas - 0.60 lb SO_2/MMscf B. Plant gas - The emission factor to be used in conjunction with plant gas combustion shall be determined through the use of a CEM which will measure the H_2S content of the fuel gas. The CEM shall operate as outlined in condition II.B.1.b. C. Fuel oil - The emission factor to be used in conjunction with fuel oil combustion shall be calculated based on: the weight percent of sulfur, as determined by ASTM Method D-4294-89 or EPA-approved equivalent the density of the fuel oil and the following equation: EF (lb of SO_2/kgal) = (density lb/gal) * (1000 gal/kgal) * (wt. %S)/100 * (64 g SO_2/32 g S)

	The weight percent sulfur and the fuel oil density shall be recorded for each day any fuel oil is combusted. [SIP Section IX.H.12.g.iii.A]
II.B.6	**Conditions on Specific Heaters and Boilers**
II.B.6.a	The emissions of PM_{10} from process heaters 8H2, 10H2, 19H2, 20H2, 20H3, 24H1, 25H1, and 33H1, and boilers #8, #9, #10, and #11 shall not exceed: 1. 9.9 tons per year, combined total, based on a daily rolling 365-day sum. 2. 0.0070 lb/MMbtu each. [R307-401-8(1)(a), R307-403-2]
II.B.6.a.1 NEW	To demonstrate compliance with the PM_{10} BACT limits, as expressed in II.B.6.a #2 above, the owner/operator shall conduct stack testing to verify the PM_{10} emissions. This stack testing shall be conducted as follows: A. Process heaters: 10H2, 19H2 and 33H1 - testing at least once annually. Upon demonstration through at least three (3) annual tests that the PM_{10} limits are not being exceeded, the owner/operator may request approval to conduct stack testing less frequently than annually. B. Process heaters: 8H2, 20H2, 20H3, 24Hl, 25Hl, and boilers #8, #9, #10, and #11 - testing at least once every three years (triennially). C. Emissions of PM_{10} shall be determined through use of CTM-039, or other EPA-approved testing method, as acceptable to the Director. The condensable particle emissions shall be used for compliance demonstration and for inventory purposes. D. To demonstrate compliance with the PM_{10} emissions cap of 9.9 tons per year, the owner/operator shall calculate and record on a daily basis the daily and 365-day rolling sum PM_{10} emissions for each affected process heater and boiler individually and for the combined total of twelve affected units. The daily PM_{10} emissions from each affected heater and boiler shall be based on the emission factor (lb/MMBtu, HHV) from the most recent PM_{10} stack test at the affected heater or boiler and its daily fuel consumption (MMBtu/day, HHV). For each day of operation prior to the initial stack test of a newly installed boiler or process heater, the BACT emission factor of 0.0070 lb/MMBtu (HHV) shall be used. [R307-165]
II.B.6.b	The emissions of NO_x shall not exceed: 1. from process heater 12H1: 0.10 lb/MMBtu each. 2. from process heaters 10H2, 33H1, and boilers #8, #9, #10, #11: 0.02 lb/MMBtu each. 3. from boiler #5: 0.02 lb/MMBtu. 4. from process heaters 8H2, 19H2, 20H3, 24H1, and 25H1: 0.04 lb/MMBtu each. [R307-401-8(1)(a)]
II.B.6.b.1	To demonstrate compliance, the owner/operator shall conduct stack testing to verify the NO_x emissions. This stack testing shall be conducted at least once every three years. [R307-165]
II.B.6.c	The CO emissions shall not exceed:

	1. from process heaters 19H2, 20H3, 24H1, 25H1, and 33H1: 0.040 lb/MMbtu each. 2. from Boiler #11: 0.037 lb/MMBtu each. [R307-401-8(1)(a)]
II.B.6.c.1	To determine compliance the owner/operator shall conduct stack testing to verify the CO emissions. This stack testing shall be conducted at least once every three (3) years. [R307-165]
II.B.6.d	The VOC emissions shall not exceed: 1. from Boiler #11: 0.004 lb/MMBtu each. 2. from process heaters 19H2, 20H3, 24H1, 25H1, and 33H1: 0.0054 lb/MMbtu each. [R307-401-8(1)(a)]
II.B.6.d.1	To demonstrate compliance the owner/operator shall conduct stack testing to verify the VOC emissions. This stack testing shall be conducted at least once every three (3) years. [R307-165]
II.B.7	**Conditions on Green House Gases**
II.B.7.a	Total plant wide emissions (excluding emissions covered under 40 CFR 98 Subpart MM - Suppliers of Petroleum Products) of GHG shall not exceed 1,003,300 short tons of CO_2e per rolling 12-month period. GHG emissions shall include combined emissions of CO_2, CH4 and N_2O. Compliance with the rolling 12-month period shall be determined as follows: The owner/operator shall multiply the actual rolling 12-month heat input for all fuel gas combustion units by the appropriate emissions factor and global warming potential listed below to calculate emissions of each GHG. The sum of all GHG emissions from all fuel gas combustion units shall be used to evaluate compliance with the CO_2e limit. Actual heat input values of natural gas shall be determined by natural gas purchasing records. Actual heat input values of plant gas shall be determined through refinery testing and multiplied by monthly flow rates. GHG Emission Factor Global Warming Potential CO_2 53.02 kg/MMBtu 1 CH4 0.001 kg/MMBtu 25 N_2O 0.0001 kg/MMBtu 298 Compliance with each limitation shall be determined on a rolling 12-month total. No later than 20 days after the end of each month, a new 12-month total shall be calculated using data from the previous 12 months. The owner/operator shall conduct stack testing to verify the CO_2 emissions from the fuel gas combustion equipment with heat input greater than or equal to 99.0 MMBtu/hr are no greater than the CO_2e emission factors listed above. This stack testing shall be conducted at least once every three (3) years from the date of this AO. CO_2 emissions shall be determined using the procedures outlined in 40 CFR 60 Appendix A, Method 3, 3A, or other EPA-approved test method, as acceptable to the Director. Calculation, fuel purchase records, and stack test results verifying the CO_2e emission factors shall be recorded and maintained. [R307-401-8]

II.B.8	**Conditions on the Fluid Catalytic Cracking Units (Unit 4 & 25)**
II.B.8.a	1. The emissions of filterable PM_{10} from the FCC Unit 4 wet gas scrubber (4V82 FCC Scrubber) and FCC Unit 25 wet gas scrubber (25 FCC Scrubber) shall not exceed 0.50 lb/1000 lb coke burned. Emissions of filterable PM_{10} shall be determined through stack testing to be performed at least once every three (3) years. Stack testing shall be performed through use of 40 CFR 60, Appendix M, Method 5, 5B or 5F, or other EPA-approved testing method, as acceptable to the Director. All particulate captured shall be considered PM_{10}. 2. The emissions of total PM_{10} (filterable plus condensable) from the FCC Unit 25 wet gas scrubber (25 FCC Scrubber) shall not exceed 0.60 lb/1000 lb coke burned. Emissions of total PM_{10} shall be determined through stack testing to be performed at least once annually. Upon demonstration through at least three (3) annual tests that the PM_{10} limits are not being exceeded, the owner/operator may request approval to conduct stack testing less frequently than annually. Stack testing shall be performed through use of 40 CFR 60, Appendix M, Method 5 and 202, or other EPA-approved testing method, as acceptable to the Director. All particulate captured shall be considered PM_{10}. [Consent Decree 1:08-cv-00041, R307-401-8(1)(a), SIP Section IX.H.1.g.i.B]
II.B.8.b	NO_x emissions for FCC Unit 4 shall not exceed the following concentrations: 22.5 ppmvd at 0% O_2 per 365-day rolling average; and 40 ppmvd at 0% O_2 per 7-day rolling average NO_x emissions for FCC Unit 25 shall not exceed the following concentrations: 40 ppmvd at 0% O_2 per 365-day rolling average; and 80 ppmvd at 0% O_2 per 7-day rolling average SO_2 emissions for the FCC Units shall not exceed the following concentrations: 25 ppmvd at 0% O_2 per 365-day rolling average; and 50 ppmvd at 0% O_2 per 7-day rolling average. [40 CFR 60 Subpart Ja, R307-401, SIP Section IX.H.1.g.i.A.I]
II.B.8.b.1	Emissions of NO_x and SO_2 from the FCC Units shall be determined through use of a CEM. The monitoring system shall perform as outlined in condition II.B.1.b. [R307-170, SIP Section IX.H.1.g.i.A.II]
II.B.8.c	CO emissions from the FCC Units shall not exceed 500 ppm by volume (dry basis) one-hour average at 0% oxygen. [40 CFR 60 Subpart J]
II.B.8.c.1	The owner/operator shall install, calibrate, maintain, and operate a CEMs to measure the effluent FCC Units CO emissions. The CEMs shall comply with all applicable sections of R307-170 and 40 CFR 60, Appendix B, Specifications. [R307-170]
II.B.8.d	The owner/operator shall utilize monitors to measure volumetric flow rates from the wet gas scrubber stacks. The flow measurement shall be in accordance with the requirements of 40

	CFR 52, Appendix E; 40 CFR 60 Appendix B; or 40 CFR 75, Appendix A. [SIP Section IX.H.12.g.i.A]
II.B.9	**Conditions on the 4H1 FCC Feed Heater**
II.B.9.a	The owner/operator shall limit operation of the 4H1 FCC Feed Heater to no more than 39.9 MMBtu/hr maximum firing rate. [Consent Decree]
II.B.10	**Conditions on the Amine Unit**
II.B.10.a	The owner/operator shall reduce the H_2S content of the refinery plant gas to 60 ppm or less as described in 40 CFR 60.102a. Compliance shall be based on a rolling average of 365 days. The owner/operator shall comply with the fuel gas monitoring requirements of 40 CFR 60.107a and the related recordkeeping and reporting requirements of 40 CR 60.108a. As used herein, refinery "plant gas" shall have the meaning of "fuel gas" as defined in 40 CFR 60.101a, and may be used interchangeably. [SIP Section IX.H.1.g.ii.A]
II.B.11	**Conditions on the Unit 17 SRU/Tail gas incinerator**
II.B.11.a	SRU off gas shall at all times be routed to the 4V82 FCC Scrubber or 25 FCC Scrubber (wet gas scrubbers) prior to being vented to the atmosphere. [R307-401-8(1)(a)]
II.B.11.a.1	SRU off gas shall be routed to the tail gas incinerator for venting directly to the atmosphere only during emergency operations or during plant shutdown when both wet gas scrubbers 4V82 FCC Scrubber and 25 FCC Scrubber are off line. [R307-401-8(1)(a)]
II.B.11.b	During periods of SRU downtime, all plant fuel gas will be treated through the SRU Backup Scrubber. [R307-401-8(1)(a), SIP Section IX.H.12]
II.B.12	**Conditions on Cooling Towers**
II.B.12.a	The owner/operator shall perform monthly monitoring of Cooling Towers 4, 6, 7, 8, 10, and 11 to comply with the requirements of 40 CFR 63.654 for heat exchange systems in VOC service. The owner or operator may elect to use another EPA-approved method other than the Modified El Paso Method if approved by the Director. The following applies in lieu of 40 CFR 63.654(b): A heat exchange system is exempt from the requirements in paragraphs 63.654(c) through (g), if it meets any one of the criteria in the following paragraphs (1) through (2) of this section. 1. All heat exchangers that are in VOC service within the heat exchange system that either: a. Operate with the minimum pressure on the cooling water side at least 35 kilopascals greater than the maximum pressure on the process side; or b. Employ an intervening cooling fluid, containing less than 10 percent by weight of VOCs, between the process and the cooling water. This intervening fluid must serve to isolate the cooling water from the process fluid and must not be sent through a cooling tower or discharged. For purposes of this section, discharge does not include emptying for maintenance purposes. 2. The heat exchange system cools process fluids that contain less than 10 percent by weight VOCs (i.e., the heat exchange system does not contain any heat exchangers that are in VOC

	service). [40 CFR 63 Subpart CC, R307-401-8(1)(a)]
II.B.13	**Conditions on Portable Diesel Engines and Emergency Equipment**
II.B.13.a	The ETF portable diesel generator shall not be operated more than 1,100 hours per rolling 12-month period without prior approval in accordance with R307-401. [R307-401-8(1)(a)]
II.B.13.b	The owner/operator shall not operate each emergency engine on site for more than 100 hours per calendar year during non-emergency situations. There is no time limit on the use of the engines during emergencies. The operation of these engines shall be as outlined in 40 CFR 63 Subpart ZZZZ. [40 CFR 60 Subpart ZZZZ, R307-401-8]
II.B.13.b.1	To determine the duration of operation, the owner/operator shall install a non-resettable hour meter for each emergency engine and the ETF portable diesel generator. [R307-401-8]
II.B.13.b.2	To determine compliance with a rolling 12-month total, the owner/operator shall calculate a new 12-month total by the 20th day of each month using data from the previous 12 months. Records documenting the operation of each emergency engine shall be kept in a log and shall include the following: a. The date the emergency engine was used b. The duration of operation in hours c. The reason for the emergency engine usage [R307-401-8, 40 CFR 63 Subpart ZZZZ]
II.B.13.c	Small (<100 HP) portable fuel oil-powered equipment is exempt from the requirements of this AO and related emissions are not to be used for purposes of determining compliance. [R307-401-8(1)(a)]
II.B.14	**Conditions on Fuels**
II.B.14.a	Except for use in emergency and portable equipment, fuel oil shall not be burned in any existing combustion device at the refinery except during periods of natural gas curtailment. The owner/operator shall only use diesel fuel (e.g. fuel oil #1, #2, or diesel fuel oil additives) as a fuel source for the diesel fuel-fired emergency generators and ETF portable diesel generator. [R307-401-8(1)(a)]
II.B.14.a.1	The owner/operator shall only combust diesel fuel that meets the definition of ultra-low sulfur diesel (ULSD) as found in 40 CFR 80.520(a). [R307-401-8(1)(a)]
II.B.14.a.2	To demonstrate compliance with the fuel oil requirements, the owner/operator shall keep and maintain fuel purchase invoices. The fuel purchase invoices shall indicate that the diesel fuel meets the ULSD requirements, or the owner/operator shall obtain certification of sulfur content from the fuel supplier. [R307-401-8(1)(a)]
II.B.14.b	Torch oil may be burned in the FCCU (Units 4 and 25) regenerators to assist in starting, restarting, maintaining hot standby, or maintaining regenerator heat balance. [R307-401-8(1)(a)]

PERMIT HISTORY

When issued, the approval order shall supersede (if a modification) or will be based on the following documents:

Is Derived From	Source Submitted NOI dated January 26, 2023
Supersedes	DAQE-AN101230053-22 dated September 1, 2022

REVIEWER COMMENTS

1. **Comment regarding Project Scope:**
As outlined in condition II.B.6.a.1, HFSWCR may request approval to conduct PM_{10} testing less frequently than annually upon demonstration through at least three annual tests that the PM_{10} limits are not being exceeded. These tests have been concluded on all but process heaters 10H2, 19H2, and 33H1, which have not yet been constructed will remain with annual testing requirements. The results of these tests have been included with the NOI (see HFSWCR NOI, Jan 26, 2023).
All other listed process heaters: 8H2, 20H2, 20H3, 24Hl, 25Hl and boilers: #8, #9, #10, and #11 will now be required to test no less frequently than once every three years (triennially).

Condition II.B.6.a.1 will be updated to reflect this change. [Last updated March 24, 2023]

2. **Comment regarding Changes in AO conditions:**
Condition I.8 will be updated to reflect the date of issuance of the previous AO. This is to prevent a continuously forward moving period of 18-months merely by reissuing the AO prior to expiration of the 18-month timeframe.

Condition II.B.6.a.1 will be updated as follows:

To demonstrate compliance with the PM_{10} BACT limits, as expressed in II.B.6.a #2 above, the owner/operator shall conduct stack testing to verify the PM_{10} emissions. This stack testing shall be conducted as follows:

A. Process heaters: 10H2, 19H2 and 33H1 - testing at least once annually. Upon demonstration through at least three (3) annual tests that the PM_{10} limits are not being exceeded, the owner/operator may request approval to conduct stack testing less frequently than annually.

B. Process heaters: 8H2, 20H2, 20H3, 24Hl, 25Hl, and boilers #8, #9, #10, and #11 - testing at least once every three years (triennially).

C. Emissions of PM_{10} shall be determined through use of CTM-039, or other EPA-approved testing method, as acceptable to the Director. The condensable particle emissions shall be used for compliance demonstration and for inventory purposes.
D. To demonstrate compliance with the PM_{10} emissions cap of 9.9 tons per year, the owner/operator shall calculate and record on a daily basis the daily and 365-day rolling sum PM_{10} emissions for each affected process heater and boiler individually and for the combined total of twelve affected units. The daily PM_{10} emissions from each affected heater and boiler shall be based on the emission factor (lb/MMBtu, HHV) from the most recent PM_{10} stack test at the affected heater or boiler and its daily fuel consumption (MMBtu/day, HHV). For each day of operation prior to the initial stack test of a newly installed boiler or process heater, the BACT emission factor of 0.0070 lb/MMBtu (HHV) shall be used.

No other changes in AO conditions are necessary for this project.
[Last updated March 24, 2023]

ACRONYMS

The following lists commonly used acronyms and associated translations as they apply to this document:

40 CFR	Title 40 of the Code of Federal Regulations
AO	Approval Order
BACT	Best Available Control Technology
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CDS	Classification Data System (used by EPA to classify sources by size/type)
CEM	Continuous emissions monitor
CEMS	Continuous emissions monitoring system
CFR	Code of Federal Regulations
CMS	Continuous monitoring system
CO	Carbon monoxide
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent - 40 CFR Part 98, Subpart A, Table A-1
COM	Continuous opacity monitor
DAQ/UDAQ	Division of Air Quality
DAQE	This is a document tracking code for internal UDAQ use
EPA	Environmental Protection Agency
FDCP	Fugitive dust control plan
GHG	Greenhouse Gas(es) - 40 CFR 52.21 (b)(49)(i)
GWP	Global Warming Potential - 40 CFR Part 86.1818-12(a)
HAP or HAPs	Hazardous air pollutant(s)
ITA	Intent to Approve
LB/HR	Pounds per hour
LB/YR	Pounds per year
MACT	Maximum Achievable Control Technology
MMBTU	Million British Thermal Units
NAA	Nonattainment Area
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standards for Hazardous Air Pollutants
NOI	Notice of Intent
NO_x	Oxides of nitrogen
NSPS	New Source Performance Standard
NSR	New Source Review
PM_{10}	Particulate matter less than 10 microns in size
$PM_{2.5}$	Particulate matter less than 2.5 microns in size
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
R307	Rules Series 307
R307-401	Rules Series 307 - Section 401
SO_2	Sulfur dioxide
Title IV	Title IV of the Clean Air Act
Title V	Title V of the Clean Air Act
TPY	Tons per year
UAC	Utah Administrative Code
VOC	Volatile organic compounds

HF Sinclair

January 26, 2023

Mr. Bryce Bird, Director
Division of Air Quality
Utah Dept. of Environmental Quality
195 North 1950 West
Salt Lake City, Utah 84116

Certified Mail: 7019 1120 0000 0070 7784

RE: **Request for Reduced Testing – Specific Heaters and Boilers**
HF Sinclair Woods Cross Refining LLC, Davis County

Dear Mr. Bird:

In accordance with II.B.6.a.1(A) of Approval Order DAQE-AN101230053-22 (AO), HF Sinclair Woods Cross Refining LLC (HFSWCR) has demonstrated through at least three (3) annual tests that the PM_{10} limits are not being exceeded. Therefore, HFSWCR is requesting Utah Division of Air Quality's (UDAQ) approval to conduct PM_{10} testing less frequently than annually on the specific heaters and boilers: 8H2, 10H2*, 19H2*, 20H2, 20H3, 24H1, 25H1, and 33H1*, and boilers #8, #9, #10, and #11 as listed in section II.B.6.a of the AO.

*Note: 10H2 – Hot Oil Furnace (99 MMBtu/hr) has not yet been constructed, and is excluded from this request. 19H2 – DHT Charge Heater (40 MMBtu/hr) has not yet been constructed and is permitted to replace 19H1 (Approval Order DAQE-AN101230052-20, October 8, 2020). Existing 19H1 – DHT Reactor Charge Heater (18.1 MMBtu/hr) is still in service and is tested according to the requirements of II.B.6.a and II.B.6.a.1, per AO DAQE-AN101230053-22. 33H1 – Vacuum Furnace Heater (130 MMBtu/hr) has not yet been constructed.

The results of the last three, consecutive annual tests, 2020, 2021, and 2022, for each specific heater and boiler are listed in the table below.

	PM_{10} - lb/MMBtu			Limit
				< 0.0070
Source	2022	2021	2020	Y / N
8H2	0.0006	0.0021	0.00051	Y
10H2	-	-	-	-
19H2	0.0011	0.0014	0.0016	Y
20H2	0.0011	0.0016	0.00023	Y
20H3	0.00075	0.0013	0.00045	Y
24H1	0.00037	0.0028	0.00071	Y
25H1	0.0018	0.0026	0.00120	Y
33H1	-	-	-	-

Boiler #8	0.00062	0.0038	0.0016	Y
Boiler #9	0.0026	0.0041	0.0015	Y
Boiler #10	0.0016	0.0018	0.0022	Y
Boiler #11	0.0011	0.0018	0.0014	Y

HFSWCR is requesting approval to conduct PM_{10} testing on a triennial basis (once every three years).

Sincerely,

F. Travis Smith
Environmental Specialist

c: E. Benson (r) File 2.4.4
S. Cooper
J. Barton
J. Orr

HF Sinclair

May 12, 2022

CERTIFIED MAIL: 7019 1120 0000 0071 0111

Mr. Bryce Bird, Director
Attn.: NSR Section
Division of Air Quality
Utah Dept. of Environmental Quality
195 North 1950 West
Salt Lake City, Utah 84116-4820

RE: **18-Month Update on Approval Order DAQE-AN101230052-20**
First Permit Extension Request

Director:

HollyFrontier Woods Cross Refining, LLC (HFWCR) is requesting a first permit extension for the commencement of construction/installation of equipment that was permitted under the subject Approval Order (AO). This extension request follows the 18-Month on Approval Order DAQE-AN101230052-20 update notification that was sent on April 8, 2022.

The merging of HollyFrontier and Sinclair into HF Sinclair and vacillating market conditions complicated by supply issues have resulted in a delay of financial and material resources. These conditions have hindered commencement of construction within the initial 18-month deadline for the equipment identified in our April 8th update.

If you have any questions or need additional information, please call me at (801) 299-6625 or email at ftravis.smith@hollyfrontier.com.

Sincerely,

F. Travis Smith
Environmental Specialist

c: E. Benson (r) File 2.5.1
J. Danielson
B. Harris
T. Astrope

HF Sinclair

UTAH DEPARTMENT OF
ENVIRONMENTAL QUALITY

APR 13 2022

DIVISION OF AIR QUALITY

April 8, 2022

Mr. Bryce Bird, Director
Attn.: NSR Section
Division of Air Quality
Utah Dept. of Environmental Quality
195 North 1950 West
Salt Lake City, Utah 84116-4820

CERTIFIED MAIL: 7019 1120 0000 0079 9932

RE: **18-Month Update on Approval Order DAQE-AN101230052-20**
Modification of Approval Order, DAQE-AN101230041-13, to Reflect Intended Operations, Address Equipment Changes, and Adjust Emission Limits

Director:

HollyFrontier Woods Cross Refining, LLC (HFWCR) is providing the status of construction/installation of equipment that was permitted under the subject Approval Order (AO). This letter complies with General Provision I.8 of that AO, which requires that a status notification be provided to the Director if construction/installation has not been completed within 18 months of the date of the AO. The AO is dated October 8, 2020. The following provides a progress report on the aspects of permitted changes.

II.A.19: 10H2 Hot Oil Furnace (99 MMBtu/hr) – Construction of the new hot oil furnace has not yet begun.

II.A.31: 19H2 DHT Charge Heater (40 MMBtu/hr) – Construction of 19H2 has not yet begun. 19H2 is permitted to replace 19H1. Existing 19H1 DHT Reactor Charge Heater (18.1 MMBtu/hr) is still in service.

II.A.44: Unit 33 Vacuum Unit – Construction of the new vacuum unit has not yet begun.

II.A.45: 33H1: Vacuum Furnace Heater (130 MMBtu/hr) – Construction of the new vacuum furnace heater has not yet begun.

II.A.53: Boiler #11 – Construction of Boiler #11 (150 MMBtu/hr) has not yet begun. Boiler #11 (89.3 MMBtu/hr) is currently in service.

II.A.60: Cooling Tower #11 – Cooling Tower #11 is now 10,700 gallons per minute capacity induced draft single-cell flow, equipped with high efficiency drift eliminators, as described in HFWCR's administrative change summary submitted to UDAQ on April 1, 2022.

II.A.113: Tank 87 Petroleum Liquids (109,660 bbl, fixed cone) – Construction of Tank 87 has not yet begun.

II.A.114: Tank 88: Petroleum Liquids (26,730 bbl, fixed cone) – Tank 169: Petroleum Liquids replaced Tank 88 as described in HFWCR's administrative change summary submitted to UDAQ on April 1, 2022.

II.A.115: Tank 89: Petroleum Liquids (26,730 bbl, fixed cone) – Construction of Tank 89 has not yet begun.

II.A.116: Tank 90: Petroleum Liquids (13,600 bbl, fixed cone) – Construction of Tank 90 has not yet begun.

II.A.117: Tank 91: Petroleum Liquids (13,600 bbl, fixed cone) – Construction of Tank 91 has not yet begun.

II.A.118: Tank 92: Petroleum Liquids (13,600 bbl, fixed cone) – Construction of Tank 92 has not yet begun.

II.A.119: Tank 93: Petroleum Liquids (13,600 bbl, fixed cone) – Construction of Tank 93 has not yet begun.

II.A.120: Tank 94: Petroleum Liquids (13,600 bbl, fixed cone) – Construction of Tank 94 has not yet begun.

II.A.168: Tank: 170 Petroleum Liquids (66,000 bbl, fixed cone) – Construction of Tank 170 has not yet begun.

II.A.192(9): Diesel-powered plant air backup compressor (580 hp) – Installation of this compressor has not been completed.

If you have any questions or need additional information, please call me at (801) 299-6625 or email at ftravis.smith@hollyfrontier.com.

Sincerely,

F. Travis Smith
Environmental Specialist

c: E. Benson (r) File 2.5.1
J. Danielson
B. Harris
T. Astrope