



June 26, 2024

BP Products North America Inc.  
2815 Indianapolis Blvd.  
P.O. Box 710  
Whiting, IN 46394-0710  
USA

**SENT VIA ELECTRONIC MAIL  
RETURN RECEIPT REQUESTED**

Indiana Department of Environmental Management  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, IN 46204-2251  
[AirComplianceReports@idem.IN.gov](mailto:AirComplianceReports@idem.IN.gov)

To Whom It May Concern:

Re: 40 CFR 65 Consolidated Federal Air Rule (CAR) Periodic Report  
BP Products North America Inc. – Whiting Business Unit  
Part 70 Operating Permit No. T089-30396-00453

Enclosed is the 40 CFR 65 Consolidated Federal Air Rule (CAR) periodic report required by 40 CFR 65.5(e) for the BP Products North America Inc. Whiting Business Unit (BP Whiting), which was prepared in accordance with 40 CFR 65 Subparts A, D, and G. The report is submitted pursuant to Condition E.2.1.5 under the Indiana Department of Environmental Management (IDEM) Operating Permit No. T089-30396-00453, last modified by Significant Permit Modification (SPM) 089-46607-00453 (issued on November 28, 2023).

The enclosed CAR periodic report covers the six-month period beginning November 1, 2023 through April 30, 2024, and includes the information required by §§ 65.5(a)(4), (e) and (f), 65.6(c), 65.166(a), (b)(2)-(3) and (c), and 65.167(b).

If you have any questions concerning the content of this report, please contact Junling Qiu at 219-370-8290.

Sincerely,

DocuSigned by:  
  
E3545918920E47F...

Llewellyn Reed  
Environmental, Social & Carbon Superintendent

cc: Ramelito Biscocho – [RBiscoch@idem.IN.gov](mailto:RBiscoch@idem.IN.gov)

# **40 CFR 65 Consolidated Federal Air Rule (CAR) Periodic Report**

**Reporting Period: November 1, 2023 – April 30, 2024**

**Prepared for:**

**The Indiana Department of Environmental Management  
100 North Senate Avenue  
Indianapolis, IN 46204-2251**

**and**

**US Environmental Protection Agency  
Region V  
77 West Jackson Blvd.  
Chicago, IL 60604-3507**

**Prepared by:**



**BP Products North America Inc.  
Whiting Refinery  
2815 Indianapolis Blvd.  
PO Box 710  
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## **1. Compliance with CAR Requirements for NSPS Subpart NNN & NSPS Subpart RRR Process Vents Routed to Fuel Gas System**

EPA recognizes the Consolidated Federal Air Rule (CAR) as a pre-approved alternative compliance option for individual referencing subparts of 40 CFR Part 60, 61, or 63. BP Whiting has elected to comply with the applicable provisions of the CAR pursuant to 40 CFR 65 Subparts A, D, and G, in lieu of complying with 40 CFR part 60, Subpart NNN (e.g., NSPS NNN) and Subpart RRR (e.g., NSPS RRR) for the affected process vents that are routed to the BP Whiting refinery fuel gas system for combustion within the refinery's process heaters and boilers.

As allowed by the CAR, BP Whiting will only designate compliance with the CAR for those process vents subject to the requirements of NSPS NNN pursuant to §60.660(d), and NSPS RRR pursuant to §60.700(d).

SPM No. 089-46607-00453 lists the emission units that are subject to CAR. As such, the following BP Whiting process units are currently subject to the referenced regulations:

### 11A and 11C Pipe Stills (11APS and 11CPS)

- T-2 Primary Tower
- T-3C Primary Gas Oil Stripper
- T-3B Light Middle Distillate Stripper
- T-3A Heavy Naphtha Stripper
- E-3A/B/C/D T-2 Crude Tower Overhead Condenser
- D-1 Primary Tower Reflux Drum
- E-1A/E-1B Secondary Overhead Condensers
- D-9 Crude Tower Second Stage Condenser Drum
- T-4 First Vacuum Tower
- E-18AX/BX/CX Condensers
- D-21 Hotwell
- T-5 Second Vacuum Tower
- E-35, 35A, E-36AX/BX/C Condensers
- D-26A Hotwell
- L-51 Wet Gas Knock Out Drum
- D-23 Separator
- D-201 Flash Drum
- T-200 Crude Tower
- D-202 Crude Tower Reflux Drum
- D-203 Crude Tower Second Stage Condenser Drum
- T-201D Primary Gas Oil Stripper
- T-201C Heavy Middle Distillate Stripper
- T-201B Light Middle Distillate Stripper
- T-201A Heavy Virgin Naptha Stripper
- T-300 Vacuum Tower

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- D-300A Hotwell
- E-305 Pre Condenser
- E-305A/B/C Condensers
- K-300A/B Vent Gas Compressors
- D-301 Separator
- T-400 Brine Stripper Tower

12 Pipestill (12PS)

- T-101 Primary Fractionator
- T-4 Primary Gasoil Stripper
- T-103B Middle Distillate Stripper
- T-103C Middle Distillate Stripper
- E120 A/B/C/D Primary Fractionator Overhead Condensers
- D-112 Primary Reflux Drum
- E137 Light Virgin Naphtha Condenser
- D-111 Wet Gas Knock Out Drum
- D-116 Fuel Gas Knockout Drum
- D-3C Relief Collection Drum - operating scenario #1 PH/B
- D-3C Relief Collection Drum - operating scenario #2 Flare
- P-125A/B/C 1st Stage Vacuum Tower Overhead Ejectors - release to relief valve manifold and flare
- P-125A/B/C 1st Stage Vacuum Tower Overhead Ejectors - release to T-102 prior to being routed to fuel gas
- P-125A/B/C 1st Stage Vacuum Tower Overhead Ejectors - routed to ejectors P-126A/B prior to routing to fuel gas system
- E-130 A/B/C 1st Stage Intercondensers - routed to ejectors P-126A/B prior to routing to fuel gas system
- E-130A/B/C 1st Stage Intercondenser - venting may occur during start-up via the 4 inch block valves which are open only during start-up
- P-126 A/B 2nd Stage Vacuum Tower Overhead Ejectors
- E-131 2nd Stage Intercondenser
- P-127 A/B 3rd Stage Vacuum Tower Overhead Ejectors
- E-132 3rd Stage Intercondenser
- D-107 Hotwell
- T-102 Vacuum Tower
- D-117 Liquid Ring Compressor Discharge Separator - processed as vent gas at VRU-300 prior to being routed to fuel gas and
- D-117 Liquid Ring Compressor Discharge Separator - processed as recirculation gas at the K101A/B/C compressors prior to being routed to fuel gas.

Gas Oil Hydrotreater (GOHT)

- D-911 Hot Feed Surge Drum
- D-903 Hot High Pressure Separator Drum
- D-905 Cold High Pressure Separator Drum

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- D-933 Sour Water Flash Drum
- C-902 High Pressure Amine Absorber
- D-906 Recycle Gas Knockout Drum
- D-910 H2 Make-up Knockout Drum - operating scenario #1 Process Heaters/Boilers
- D-910 H2 Make-up Knockout Drum - operating scenario #2 Flare
- D-912A Suction Snubber Drum
- D-913A Discharge Snubber Drum
- D-904 Hot Medium Pressure Separator Drum
- D-916 Cold Medium Pressure Separator Drum
- C-906 Medium Pressure Amine Absorber Drum
- D-917 Wash Water Surge Drum
- C-901 Stripper
- D-908 Stripper Reflux Drum
- J-912 Coalescer Drum
- C-903 LP Amine Absorber Scrubber
- D-914 Flare Knockout Drum - operating scenario #1 Process Heaters/Boilers
- D-914 Flare Knockout Drum - operating scenario #2 Flare
- J-941-D1 Seal Knockout Drum
- D-901A Guard Reactor A
- D-902A Diesel HydroTreater Reactor A
- D-901B Guard Reactor B
- D-902B Diesel HydroTreater Reactor B

COKER2

- T-201 Coker2 Fractionator
- D-220 Fractionator Water Wash Coalescer
- D-202 Kerosene Stripper
- E-212 A/B/C/D/E/F Fractionator Overhead Condensers
- E-212 G/H/I/J/K/L Fractionator Overhead Condensers
- D-214 Fractionator Overhead Drum
- D-211 Coker2 Blowdown Drum
- D-212 Blowdown Settling Drum
- D-213 Water Seal Drum - operating scenario #1 Process Heaters /Boilers
- D-213 Water Seal Drum - operating scenario #2 Flare
- D-241 Oily Water Separator – operating scenario #1 Process Heaters/Boilers
- D-241 Oily Water Separator – operating scenario #2 Flare

Vapor Recovery Unit 100 (VRU 100)

- E-101A Absorber
- E-104 Sponge Oil Absorber
- F-106 Fuel Gas KO Drum
- E-102 Lean Oil Still
- F-102 Lean Oil Still Reflux Drum

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- F-105 Wet Gas KO Drum
- E-103 Depropanizer
- F-103 Depropanizer Reflux Drum
- E-105A Depropanizer
- F-117 Depropanizer Overhead Accumulator
- F-101 Absorber Feed Drum
- E-106 Dethanizer

VRU 200

- E-201A Absorber
- E-204 Sponge Oil Absorber
- V-2A H<sub>2</sub>S Contactor
- V-2 H<sub>2</sub>S Contactor
- E-202 Lean Oil Still
- F-202 Lean Oil Still Reflux Drum
- F-205 Wet Gas KO Drum
- E-203 Depropanizer
- F-203 Depropanizer Reflux Drum
- V-2B H<sub>2</sub>S Contactor
- V-7 Amine Knock Out Drum
- E-205 Depropanizer
- F-217 Depropanizer Overhead Accumulator
- F-201 Absorber Feed Drum

VRU 300

- D-306 Intermediate Virgin Naptha Feed Drum
- T-303 Debutanizer
- D-305 Debutanizer Reflux Drum
- T-301 Depropanizer
- T-391 Sat Extractor
- D-391 Sat Feed Caustic Settler
- D-345 Absorber Feed Drum
- D-303 Light Virgin Naptha Feed Drum
- T-302 Debutanizer
- D-302 Splitter/Debutanizer Overhead Condenser
- T-301 Depropanizer
- D-301 Depropanizer Overhead Accumulator
- T-358 Propane H<sub>2</sub>S Absorber
- D-358A Knock Out Drum
- D-358 Coker Naphtha Feed Drum
- D-357 Compressor Knock Out Drum
- D-354 Compressor Intercooler Knock Out Drum
- D-351 Absorber Feed Drum

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- T-352 Dehexanizer
- D-352 Dehexanizer Overhead Accumulator
- T-353 Depropanizer
- D-353 Depropanizer Overhead Condenser
- T-370 Debutanizer
- D-370 Debutanizer Overhead Accumulator
- T-390 Butane Butylene Extraction Tower
- D-392 Butane Butylene Knock Out Drum
- T-380 Catalytic RAN Debutanizer
- D-380 Debutanizer Overhead Accumulator
- T-351A Sponge Oil Absorber
- D-350 T-351A Knock Out Drum
- T-351B Primary Absorber
- T-351C Stripper
- T-356 Cracked Fuel Gas H<sub>2</sub>S Absorber
- D-330 Water Knock Out Drum
- T-340A Absorber
- T-340 Absorber
- T-357 Saturated Fuel Gas H<sub>2</sub>S Absorber
- D-358A Knock Out Drum
- D-312 Caustic Wash Drum
- D-313A Circ. Water Wash Drum
- D-314 Feed Surge Drum
- D-315 Coalescer
- T-304 Deethanizer
- D-304A Deethanizer Reflux Drum

VRU 400

- E-409 A/B/C/D Compressor Interstage Condensers
- D-401 Compressor Interstage Drum
- E-401 A/B/C/D Absorber Stripper Feed Condenser
- D-402 Absorber Stripper Feed Drum
- T-401 Absorber
- T-403 Sponge Adsorber
- D-408 Drum
- T-405 Coker Product Gas Amine Scrubber
- T-404 Debutanizer
- E-408A/B Debutanizer Overhead Condensers
- D-405 Debutanizer Overhead Drum
- T-406 C<sub>3</sub>/C<sub>4</sub> Amine Contactor
- D-406 C<sub>3</sub>/C<sub>4</sub> Amine Settler
- D-407 Rich Amine Flash Drum
- D-407A Rich Amine Flashed Gas Knock Out Drum



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- T-407 Splitter
- D-409 C3/C4 Splitter Overhead Drum
- D-431 Feed Surge Drum
- D-432 Cold High Pressure Separator
- T-408 Naphtha Splitter
- T-441 Extractor Plus
- D-442 COS Solvent Settler
- D-444 Disulfide Separator
- TK-443 Vent Tank
- R-431 Di-Olefin Reactor
- R-432A Silica Reactor
- R-432B Silica Reactor
- T-442 Oxidizer

Alkylation Unit (Alky)

- R-1 Reactor
- R-2 Reactor
- R-3 Reactor
- R-4 Reactor
- R-5 Reactor
- D-45A Fiber Film Contactor/D-45 Effluent Knockout Drum
- D-47 Effluent Caustic Wash Drum
- D-46 Effluent Water Wash Drum
- D-4 & D-5 Effluent Knock Out Drums
- T-1 Deisobutanizer
- E-12G/12H/12I/12J T-1 Overhead Condensers
- D-1 T-1 Reflux Drum
- D-11A/B Isobutane Recycle Coalescers
- T-2 Debutanizer
- E-14A/B T-2 Overhead Condensers
- D-2 T-2 Reflux Drum
- D-12 Saturated Butane Feed Drum
- T-6 C4/C5 Splitter
- E-38A/B Splitter Condenser
- D-80 Splitter Reflux Drum
- T-5 Debutanizer
- E-36 T-5 Overhead Condenser
- D-78 T-5 Reflux Drum
- D-71 R-1 Vapor Cyclone Separator
- D-72 R-2 Vapor Cyclone Separator
- D-73 R-3 Vapor Cyclone Separator
- D-74 R-4 Vapor Cyclone Separator
- D-77 R-5 Vapor Cyclone Separator

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- D-6 Compressor Knock Out Drum
- K-1 Compressor
- Refrigerant Condensers E-4A/4B/4C/4D
- D-7 Refrigerant Receiver
- D-6A Compressor Knock Out Drum
- K-1A Refrigerant Compressor
- Refrigerant Condensers E-4E/4F
- D-7A Refrigerant Receiver
- T-3 Depropanizer
- E-8 T-3 Overhead Condenser
- D-3 T-3 Reflux Drum
- T-4 Depropanizer
- E-22 T-4 Overhead Condenser
- D-14 T-4 Reflux Drum
- D-29 LPG Knock Out Drum
- D-30 LPG/Caustic Treater
- D-31 LPG/Caustic Knock Out Drum

Propylene Concentration Unit (PCU)

- D-550 Propylene Concentration Unit Feed Knockout Drum
- T-115 Caustic Scrubber
- D-115 Feed Surge Drum
- D-125 T-114 Feed Coalescer
- T-114 Deethanizer
- T-101 Propylene Splitter
- D-102 Compressor Knockout Drum
- E-107 T-101 Reboiler
- D-118 PGP Selexorb Treater
- D-121 PGP Selexorb Treater
- D-120 PGP Puraspec Treater

Isomerization Unit (ISOM)

- Naptha Splitter Unit C- 250 Distillation Column
- D-38 and D-39 Feed Coalescers
- C-5 Surge Drum
- D-1 & D-2 Hydrogen Treating Reactors
- C-2 Stripper
- D-10 H2S Stripper Reflux Drum
- D-25 Sulfur Guard
- D-3 Isomerization Reactor
- D-4 Isomerization Reactor
- D-5 Isomerization Reactor
- D-6 Isomerization Reactor

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- D-8 Isomerization Reactor
- D-49 Reactor Effluent Separator
- K-1 Recycle Gas Compressor
- D-50 High Pressure Separator
- D-60 Absorber Feed Mix Drum
- D-56/57/58/59 Adsorbers
- D-61 Adsorber Effluent Surge Drum
- D-11 Stabilizer Feed Drum
- C-1 Stabilizer
- D-21 Stabilizer Reflux Drum
- C-3 Stabilizer
- D-12 Stabilizer Reflux Drum
- D-23 Stabilizer Overhead Product Drum
- D-18 Flare Liquid Separator

Aromatics Recovery Unit (ARU)

- C-300 Ultraformer Splitter
- D-300 Ultraformer Splitter Reflux Drum
- C-301 Xylene Fractionator
- D-301 Xylene Fractionator Reflux Drum
- C-200 Stabilized Heavy Naptha Splitter
- D-200 Stabilized Heavy Naptha Splitter Reflux Drum
- C-201 Stabilized Heavy Naptha Heartcut Tower
- D-201 Stabilized Heavy Naptha Heartcut Tower Reflux Drum

Blending Oil Unit (BOU)

- C-401 Feed Stripper
- D-401 Ultrafiner Reactor
- D-402 High Pressure Separator
- D-406 High Pressure Amine Contactor Feed Drum
- C-404 High Pressure Amine Contactor
- D-407 Amine Knock Out Drum
- D-403 Low Pressure Separator
- C-402 Product Stripper
- D-425 Water Coalescer
- J-425A and B Salt Dryers
- D-404 Product Stripper Overhead Accumulator
- C-403 Low Pressure Amine Contactor
- D-405 Amine Knock Out Drum

4-UltraFormer (4UF)

- D-53 C-6 Feed Surge Drum
- C-6 Naphtha Splitter

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- D-26 Splitter Reflux Drum
- J-4 Cat & Coker Naphtha Centrifix
- D-23 Ultrafiner Feed Charge Drum
- D-1 Ultrafiner Reactor
- D-24 Ultrafiner High Pressure Separator
- C-1A Feed Absorber/C-1B Pre-Absorber
- C-8A Amine Contactor/C-8B Water Wash
- D-30 Amine Knock Out Drum
- C-5 Light Ends Stripper
- D-22 Light Ends Stripper Reflux Drum
- D-10 Prefractionator Reflux Drum
- D-3 Reactor
- D-4 Reactor
- D-5 Reactor
- D-6 Reactor
- D-7 Reactor
- D-11 Ultraformer High Pressure Separator
- C-3 Debutanizer
- D-12 Debutanizer Reflux Drum
- C-4 Depropanizer
- D-25 Depropanizer Reflux Drum
- K-1 Recycle Gas Compressor
- D-52 Chloride Guard Drum
- D-51 Chloride Guard Drum Desulfurizer
- C-7 Rerun Tower
- D-27 Rerun Reflux Drum
- D-8 Swing Reactor

Hydrogen Unit (HU)

- D-509 Purge Gas Drum

Cat Feed Hydrotreater Unit (CFHU)

- J-801 Cetrifix
- J-823A/B/C/D/E Backwash Filters
- Gas Oil Surge Drum D-811
- D-801A Cat Feed Unit Reactor
- D-802A Cat Feed Unit Reactor
- D-801B Cat Feed Unit Reactor
- D-802B Cat Feed Unit Reactor
- D-803 High Pressure Separator
- G-808 Power Recovery Turbine (G-801A Auxiliary Driver)
- D-804 Lower Pressure Separator
- C-801A Product Stripper

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- J-805 High Pressure Separator
- E-807 Reactor Effluent Vapor Air Condenser
- E-808A/B Reactor Effluent Water Condenser
- D-805A High Pressure Vapor/Liquid Separator Drum

Catalytic Reforming Unit (CRU)

- J-101 Centrifugal Separator
- C-101 Absorber
- D-103 Reactor
- D-104 Reactor
- D-105 Reactor
- D-114 Reactor
- D-106 HP Separator Drum
- C-103 Stripper
- D-107 Stripper Reflux Drum Pot
- C-102 H<sub>2</sub>S Scrubber
- D-117 Fuel Gas Knock Out Drum

Fluid Catalytic Unit 500 (FCU 500)

- D-1 Disengager (Reactor)
- D-3 Disengager (Reactor) Stripper
- E-1A Fractionator
- E-2 Light Catalytic Cycle Oil (LCCO) Stripper
- F-4 Gasoline Accumulator (Reflux) Drum
- F-5 and F-6 Wet Gas Knockout Drums
- F-5G Wet Gas Knockout Drum
- F-17 Low Pressure Bleed Gas Knockout Drum
- F-38 Flare Seal Drum

Fluid Catalytic Unit 600 (FCU 600)

- D-1 Reactor
- D-3 Reactor Stripper
- E-1 Fractionator
- E-2 LCCO Stripper
- F-4 Fractionator Reflux Drum
- F-5 Wet Gas Knockout Drum
- F-16 High Pressured Bleed Gas Knockout Drum
- F-17 Low Pressure Fuel Gas Knockout Drum
- F-30 Compressor Knockout Drum
- F-31 Knockout Drum Level Pot
- F-38 Flare Seal Drum

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Naphtha Hydrotreater (NHT)

- C-701 Amine Absorber
- C-702 Stabilizer
- C-703 Stabilizer Off-Gas Amine Absorber
- D-701 SHU Reactor
- D-702 HDS Reactor

Pursuant to §65.62(a) and (b)(1), BP Whiting is designating all process vents listed above to be Group 1 process vents without performing the required total resource effectiveness (TRE) index value, flow rate, and concentration evaluations. Therefore, BP Whiting is not required to provide data for the Group 1 TRE index value, flow rate, and concentration evaluations within the CAR Initial Compliance Status Report for the vents listed above.

The above Group 1 process vents are routed to the refinery fuel gas system, where the vent stream is introduced into the flame zone of the operating process heaters and boilers that comply with the control requirements of the CAR per §65.149(a)(2). These process heaters and boilers in which all vent streams are introduced with the primary fuel, or are used as the primary fuel, are exempt from the monitoring requirements pursuant to §65.149(c). BP Whiting uses process heaters and boilers to comply with the 98 weight-percent emission reduction or 20 parts per million by volume outlet concentration requirements as specified in §65.63(a)(2). Performance testing of the process heaters and boilers is therefore not required pursuant to §65.149(b)(2)(ii). The process heaters and boilers used to comply with the provisions of the CAR are operated at all times when emissions are vented to them. Therefore, BP is not subject to any periodic reporting requirements pursuant to §65.166(f) for continuous records and monitoring system data handling.

This periodic report contains the following information, as applicable, required by §65.5(a)(4), (e) and (f), §65.6(c), §65.166(a), (b)(2)-(3) and (c), and §65.167(b):

- Affected source total operating time within the reporting period
- Monitoring requirements for bypass lines and process vents/control devices
- Startup, shutdown, and malfunction reporting and
- All periods when all pilot flames were absent or the flare flame was absent.

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## 2. Affected Sources Total Source Operating Time for Current Reporting Period

Pursuant to §65.166(a), the total source operating times, within the current reporting period, for the corresponding Group 1 process vents are as summarized below.

Affected Source	Total Source Operating Time Current Reporting Period - Hrs
11A	4030
11C	4043
12PS	3510
GOHT	3871
Coker 2	4088
VRU 100	3506
VRU 200	3717
VRU 300	3510
VRU 400	4088
ALKY	3680
PCU	4368
ISOM	3365
ARU	4038
BOU	3921
4UF	3712
HU	0*
CFHU	3603
CRU	4368
FCU 500	3506
FCU 600	3717
NHT	3989

\* HU did not operate during reporting period.

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### **3. Monitoring Requirements for Bypass Lines and Process Vents/Control Devices**

A bypass line exists at 4UF that has the ability to route subject process vents around required control devices. Pursuant to §65.143(a)(3)(i), BP employs an electronic valve position monitor to determine whether there is any flow in the bypass line. The system records the valve position at least once every fifteen minutes. As required by §65.166(b)(2), BP Whiting is reporting all periods when the vent stream is diverted from the control device to the aforementioned bypass line. From November 2023 to April 2024 there were no periods when hydrocarbon was diverted through the bypass line.

### **4. Startup, Shutdown, and Malfunction Reporting Requirements**

The Startup, Shutdown, Malfunction Plans (“SSMPs”) for BP Whiting include forms that are used to document Startup, Shutdown, and Malfunction (“SSM”) events associated with Group 1 Process Vents, Fuel Gas Systems, Process Heaters, and Boilers. For the current reporting period, actions taken by BP Whiting during SSM events related to the CAR affected sources were consistent with the applicable SSMPs. There were no deviations from the SSMPs. The completed SSM forms are maintained on file at BP Whiting.

On February 1, 2024, the Refinery experienced a widespread power outage caused by a failure of a 138kV Surge Arrestor. Due to the unexpected loss of power, the refinery immediately enacted emergency procedures to safely shut down all units. At the same time, actions were taken immediately to restore power and stabilize the refinery. Any deviations regarding excess emissions stated in 40 CFR § 65.6 (c) during power outage were included in the Title V reporting and have been submitted to IDEM.

### **5. Flare Reporting Requirements**

As required by §65.166(c), BP Whiting is reporting all periods when all pilot flames were absent or the flare flame was absent. During the reporting period, there were periods that main flames for the following flares were absent during the power outage on February 1, 2024:

- 4UF flare: 14:25-14:45 and 14:52 - 16:14 on February 1, 2024
- FCU flare: 13:15 – 17:56 on February 1, 2024
- South flare: 14:06 – 14:54 and 16:18 - 16:28 on February 1, 2024
- VRU flare: 13:17 to 15:47 on February 1, 2024

Any deviations from flaring requirements stated in 40 CFR § 65.147 were included in the Title V reporting and have been submitted to IDEM.