Emission Sources - Maximum Allowable Emission Rates

Permit Number 6580 and PSDTX151M2

This table lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities, sources, and related activities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

Air Contaminants Data

| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates | |
|---|---|---|---|---|
| | | | lbs/hour | TPY (4) |
| SF-1 | Secondary Filter | $PM_{10}$ | 2.40 | 10.50 |
| SF-2 | Secondary Filter | $PM_{10}$ | 1.50 | 6.60 |
| SF-3 | Secondary Filter | $PM_{10}$ | 1.40 | 6.10 |
| DF-1A | Dryer Filter Unit No. 1 | $PM_{10}$ | 0.10 | 0.20 |
| DF-1B | Dryer Filter Unit No. 1 | $PM_{10}$ | 0.10 | 0.20 |
| DF-2 | Dryer Filter Units Nos. 2 & 3 | $PM_{10}$ | 0.20 | 0.80 |
| 7A | Dryer Stack Units Nos. 1 & 2 (8) | $NO_x$ | 41.60 | 182.30 |
| | | CO | 739.00 | 3237.00 |
| | | $PM_{10}$ | 25.00 | 109.50 |
| | | $PM_{2.5}$ | 25.00 | 109.50 |
| | | $SO_x$ | 815.20 | 3175.10 |
| | | $H_2S$ | 3.60 | 14.00 |
| | | $C_2H_2$ | 8.50 | 37.20 |
| | | COS | 1.40 | 5.40 |
| | | $CS_2$ | 5.00 | 19.40 |
| 12A | Dryer Stack Units No. 3 (8) | $NO_x$ | 20.00 | 87.60 |
| | | CO | 420.00 | 1840.00 |
| | | $PM_{10}$ | 11.80 | 51.90 |
| | | $PM_{2.5}$ | 11.80 | 51.90 |
| | | $SO_x$ | 333.40 | 1297.90 |
| | | $H_2S$ | 1.50 | 5.70 |
| | | $C_2H_2$ | 4.00 | 17.50 |
| | | COS | 0.60 | 2.20 |
| | | $CS_2$ | 2.00 | 7.90 |

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| | | | | |
|---|---|---|---|---|
| - | | | | |
| | | CO | 501.00 | - |
| | | PM | 17.76 | - |
| | | $PM_{10}$ | 14.57 | - |
| | | $PM_{2.5}$ | 13.82 | - |
| | | $SO_x$ | 2201.60 | - |
| | | $H_2SO_4$ | 12.70 | - |
| | | $H_2S$ | 8.70 | - |
| | | $C_2H_2$ | 21.60 | - |
| | | COS | 0.70 | - |
| | | $CS_2$ | 4.60 | - |
| | | $NH_3$ | 2.39 | - |
| RVS | Cap for the 13 Reactor Vents (9) | $NO_x$ | 2.50 | - |
| | | CO | 2.10 | - |
| | | VOC | 0.14 | - |
| | | $PM_{10}$ | 0.192 | - |
| | | $PM_{2.5}$ | 0.192 | - |
| | | $SO_x$ | 0.02 | - |

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| | | | | |
|---|---|---|---|---|
| 175.70 | | | | |
| | | CO | - | 2194.40 |
| | | PM | - | 74.42 |
| | | $PM_{10}$ | - | 60.43 |
| | | $PM_{2.5}$ | - | 57.14 |
| | | $SO_x$ | - | 8571.70 |
| | | $H_2SO_4$ | - | 52.21 |
| | | $H_2S$ | - | 34.00 |
| | | $C_2H_2$ | - | 94.60 |
| | | COS | - | 2.80 |
| | | $CS_2$ | - | 17.90 |
| | | $NH_3$ | - | 9.29 |
| BHU1RRN | Unit 1 Rerun Bag Filter | $PM_{10}$ | 0.26 | 1.12 |
| | | $PM_{2.5}$ | 0.26 | 1.12 |
| BHU2SHIP | Unit 2 Rerun Bag Filter | $PM_{10}$ | 0.18 | 0.81 |
| | | $PM_{2.5}$ | 0.18 | 0.81 |
| BHVACBAG | Vacuum Bag Filter | $PM_{10}$ | 0.03 | 0.15 |
| | | $PM_{2.5}$ | 0.03 | 0.15 |
| SCR FUG | SCR Fugitives (6) | $NH_3$ | 0.19 | 0.84 |
| TG FUG | Tail Gas Fugitive | CO | 8.85 | 35.23 |
| | | $SO_x$ | <0.01 | <0.01 |
| | | $H_2S$ | 0.06 | 0.26 |
| | | HCN | 0.02 | 0.07 |
| | | $CS_2$ | 0.02 | 0.07 |
| | | COS | 0.01 | 0.04 |

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| | | | | |
|---|---|---|---|---|
| 1.73 | | | | |
| | | $PM_{10}$ | 0.02 | 0.06 |
| | | $PM_{2.5}$ | <0.01 | <0.01 |

Emission Sources - Maximum Allowable Emission Rates

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| | | | | |
|---|---|---|---|---|
| Flare-1 | Flare 1 (5) (7) | $NO_x$ | 8.30 | 3.30 |
| | | CO | 103.30 | 40.90 |
| | | $PM_{10}$ | 1.90 | 0.70 |
| | | $SO_2$ | 595.00 | 236.00 |
| | | $H_2S$ | 1.50 | 0.60 |
| | | $C_2H_2$ | 5.70 | 2.30 |
| | | COS | 0.51 | 0.20 |
| | | $CS_2$ | 1.50 | 0.60 |

$NO_x$

Emission Sources - Maximum Allowable Emission Rates

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| | | | | |
|---|---|---|---|---|
| 2.70 | | | | |
| | | CO | 78.30 | 31.00 |
| | | $PM_{10}$ | 1.40 | 0.60 |
| | | $SO_2$ | 477.00 | 189.00 |
| | | $H_2S$ | 1.20 | 0.50 |
| | | $C_2H_2$ | 4.10 | 1.60 |
| | | COS | 0.50 | 0.20 |
| | | $CS_2$ | 1.20 | 0.50 |
| Flare-3 | Flare 3 (5) (7) | $NO_x$ | 5.60 | 2.20 |
| | | CO | 69.30 | 27.40 |
| | | $PM_{10}$ | 1.20 | 0.50 |
| | | $SO_2$ | 449.00 | 178.00 |
| | | $H_2S$ | 1.20 | 0.50 |
| | | $C_2H_2$ | 2.70 | 1.10 |
| | | COS | 0.40 | 0.20 |
| | | $CS_2$ | 1.20 | 0.50 |

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| | | | | |
|---|---|---|---|---|
| 8.2 | | | | |
| | | CO | 250.9 | 99.3 |
| | | $PM_{10}$ | 4.5 | 1.8 |
| | | $SO_2$ | 1521.0 | 603.0 |
| | | $H_2S$ | 3.9 | 1.6 |
| | | $C_2H_2$ | 12.5 | 5.0 |
| | | COS | 1.41 | 0.6 |
| | | $CS_2$ | 3.9 | 1.6 |
| MSSILE | Inherently Low Emission Activities | VOC | 3.40 | 1.83 |
| | | PM | 0.05 | 0.03 |
| | | $PM_{10}$ | 0.03 | 0.02 |
| | | $PM_{2.5}$ | 0.03 | 0.02 |

(1) Emission point identification - either specific equipment designation or emission point number from plot plan.
(2) Specific point source name. For fugitive sources, use area name or fugitive source name.
(3) $NO_x$ - total oxides of nitrogen
CO - carbon monoxide
VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1 Speciated VOCs $C_2H_2$, COS, and $CS_2$ stand in representation of total allowable VOCs.
PM - total particulate matter, suspended in the atmosphere, including $PM_{10}$ and $PM_{2.5}$,
$PM_{10}$ - total particulate matter equal to or less than 10 microns in diameter, including $PM_{2.5}$
$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter
$SO_x$ - oxides of sulfur, measured as sulfur dioxide
$H_2SO_4$ - sulfuric acid
$H_2S$ - hydrogen sulfide
$C_2H_2$ - acetylene (ethyne)
COS - carbonyl sulfide
$CS_2$ - carbon disulfide
$NH_3$ - ammonia
HCN - hydrogen cyanide
MSS - maintenance, startup, and shutdown
(4) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period.
(5) Only the MSS emissions due to the boiler or steam turbine (or associated equipment and ductwork) which is less than or equal to these flare maximum allowable emission rates are authorized. MSS emissions from the flares due to the failure of a process, process equipment, or pollution control equipment to operate in a normal or usual manner are not authorized by this permit. **(8/11)**
(6) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
(7) Flare 4 is not authorized to operate before Flares 1, 2, and 3 are decommissioned, following commissioning of Flare 4. Upon commencement of operation of Flare 4, Flares 1, 2, and 3 will not be authorized to operate. **(12/22)**
(8) Emissions from the combustion of pipeline quality sweet natural gas during startup and shutdown are authorized from the dryer stacks (EPNs 7A and 12A). **(12/22)**

(9) Emissions from the combustion of pipeline quality sweet natural gas during startup and shutdown are authorized from the reactors (EPN RVS) and the incinerator stack (EPN 13A) **(12/22)**

# Emission Sources - Maximum Allowable Emission Rates

Date: December 20, 2022