Emission Sources - Maximum Allowable Emission Rates

Flexible Permit Numbers 1176 and PSDTX782

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) |
| ST-456 | Tank F-1115 | VOC | 0.42 | 2.34 |
| PX1STFLARE | PX1 Flare | CO | 18.10 | 72.51 |
| | | $NO_x$ | 3.55 | 14.20 |
| | | $SO_2$ | 0.03 | 0.11 |
| | | $H_2S$ | 0.01 | 0.01 |
| | | VOC | 8.96 | 35.86 |
| | | Benzene | 5.00 | 20.02 |
| CT-451 | PX-2 Cooling Tower | PM | 0.07 | 0.30 |
| | | $PM_{10}$ | 0.07 | 0.30 |
| | | $PM_{2.5}$ | 0.03 | 0.13 |
| CT-351 | PX1, PX-3, MX2, PCU, Utilities Cooling Tower | PM | 1.46 | 6.39 |
| | | $PM_{10}$ | 1.46 | 6.39 |
| | | $PM_{2.5}$ | 0.61 | 2.67 |
| Emission Cap - Normal Operation | | CO | 70.32 | 294.96 |
| | | $NO_x$ | 35.60 | 143.86 |
| | | PM | 6.23 | 27.27 |
| | | $PM_{10}$ | 6.23 | 27.27 |
| | | $PM_{2.5}$ | 6.23 | 27.27 |
| | | $SO_2$ | 0.51 | 2.23 |
| | | VOC | 205.45 | 83.28 |
| | | Benzene | 14.34 | 2.34 |
| | | Styrene | 19.70 | 30.88 |

Emission Sources - Maximum Allowable Emission Rates

| | | | | |
|---|---|---|---|---|
| Emission Cap - Planned MSS Activities (Controlled) | to flare & temporary thermal oxidizer | CO | 415.75 | 9.54 |
| | | $NO_x$ | 74.27 | 1.87 |
| | | $SO_2$ | 0.22 | 0.01 |
| | | VOC | 740.44 | 5.47 |
| | | Benzene | 162.56 | 2.47 |
| | | Styrene | 0.69 | 0.01 |
| Emission Cap - Planned MSS Activities (Uncontrolled) | | VOC | 105.99 | 14.08 |
| | | Benzene | 1.46 | 0.14 |
| | | Styrene | 0.38 | 0.01 |
| Emission Cap – Fugitives (5)(6) | | VOC | 27.22 | 119.29 |
| | | Benzene | 0.19 | 0.82 |
| | | Styrene | 0.15 | 0.68 |

Date: April 22, 2020

**Flexible Permit Numbers 1176 and PSDTX782**

MAERT Attachment
EPNs Included within Caps

This table identifies the emission points and sources that emit air contaminants and the species they may emit. The total emissions from these facilities shall not exceed the non-MSS emission caps provided on the previous pages.

| Emission Point No. (1) | Source Name (2) | CO | $NO_x$ | PM $PM_{10}$ $PM_{2.5}$ | $SO_2$ | VOC | Benzene | Styrene |
|---|---|---|---|---|---|---|---|---|
| HF-201 | PX-1 ISOM Heater H-101 | x | x | x | x | x | | |
| HF-203 | PX-1 Reboilers H-103/104 | x | x | x | x | x | | |
| HF-451 | PX-2 ISOM Heater H-1101 | x | x | x | x | x | | |
| HF-453 | PX-2 H-Reboilers 1103/1104 | x | x | x | x | x | | |
| HF-204 | PX-1 LAF/TDP Furnace H-501 | x | x | x | x | x | | |
| HF-601 | MX-2 Heater H-102 | x | x | x | x | x | | |
| HF-602 | MX-2 Heater H-201 | x | x | x | x | x | | |
| FL-201 | PX-1 Flare (1) | x | x | | x | x | x | |
| FL-401<br>FL-351 | PX-2 Flare and POLYB Flare | x | x | | x | x | x | |
| CT-451 | PX-2 Cooling Tower | | | x | | x | | |
| CT-351 | PX-1, PX-3, MX2, PCU, Utilities Cooling Tower | | | x | | x | | |
| FS-201 | PX-1 Separator | | | | | x | | |
| S-451 | PX-2 Separator | | | | | x | | |
| SP-50<br>SP-51<br>SP-52 | Loading – Recovery Docks 50, 51, and 52 | | | | | x | | x |
| SP-54 | HAB Truck Loading 54 | | | | | x | x | |
| SP-201 | PX-1 Truck Loading | | | | | x | x | |
| FU-201 | PX-1 Fugitives (5) | | | | | x | x | |
| FU-451 | PX-2 Fugitives (5) | | | | | x | x | |
| FU-551 | PX-3 Fugitives (5) | | | | | x | x | |
| FU-152 | Dock Fugitives (5) | | | | | x | | x |
| ST-201 | PX-1 Tank TF-111 | | | | | x | x | |
| ST-202 | PX-1 Tank TF-112 | | | | | x | x | |
| ST-203 | PX-1 Tank TF-113 | | | | | x | x | |
| ST-204 | PX-1 Tank TF-114 | | | | | x | x | |
| ST-205 | PX-1 Tank TF-115 | | | | | x | x | |
| ST-206 | PX-1 Tank TF-117 | | | | | x | x | |
| ST-207 | PX-1 Tank TF-118 | | | | | x | x | |
| ST-208 | PX-1 Tank TF-120 | | | | | x | x | |
| ST-209 | PX-1 Tank TF-121 | | | | | x | x | |
| ST-210 | PX-1 Tank TF-116 | | | | | x | x | |
| ST-451 | PX-2 Tank TF-1117 | | | | | x | x | |
| ST-452 | PX-2 Tank TF-1111 | | | | | x | x | |
| ST-453 | PX-2 Tank TF-1112 | | | | | x | x | |
| ST-454 | PX-2 Tank TF-1113 | | | | | x | x | |
| ST-455 | PX-2 Tank TF-1114 | | | | | x | x | |

MAERT Attachment
EPNs Included Within Caps

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| ST-457 | PX-2 Tank TF-1118 | | | | | x | x | |
| ST-2113 | PX-3 Tank TF-2113 | | | | | x | x | |
| ST-2118 | PX-3 Tank TF-2118 | | | | | x | x | |
| ST-151 | Dock Tank TK-201 | | | | | x | x | |
| ST-152 | Dock Tank TK-202 | | | | | x | | x |
| ST-153 | Dock Tank TK-203 | | | | | x | x | |
| ST-154 | Dock Tank TK-204 | | | | | x | x | |
| ST-155 | Dock Tank TK-205 | | | | | x | x | |
| ST-156 | Dock Tank TK-206 | | | | | x | x | x |
| ST-157 | Dock Tank TK-207 | | | | | x | x | |
| ST-159 | Dock Tank TK-208 | | | | | x | x | |
| ST-161 | Dock Tank TK-401 | | | | | x | x | |
| ST-162 | Dock Tank TK-402 | | | | | x | x | |
| FL-601 | Flare M-302 | x | x | | x | x | x | x |
| TEMPTO | Temporary Thermal Oxidizer | x | x | | x | x | x | x |
| MSSATM<br>MSSFUG | TAR / Equip Maint<br>Frac / Temp Tanks<br>Vacuum Trucks (5) | | | | | x | | |

(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) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
$NO_x$ - total oxides of nitrogen
$SO_2$ - sulfur dioxide
PM - total particulate matter, suspended in the atmosphere, including $PM_{10}$ and $PM_{2.5}$, as represented
$PM_{10}$ - total particulate matter equal to or less than 10 microns in diameter, including $PM_{2.5}$, as represented
$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter
CO - carbon monoxide
(4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.
(5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
(6) Emissions associated with the permanent shutdown of 1,972 piping components located in Paraxylene Unit No. 1 were relied upon for the issuance of Emissions Reduction Credits (EBT Project No. 410298) and may not be increased. The permit holder shall identify the shutdown components via piping and instrumentation diagram (P&ID) and/or a written or electronic database or electronic file.

Date: April 22, 2020