Emission Sources - Maximum Allowable Emission Rates

Permit Number 20686

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) |
| CTCOOLT04 | Cooling Tower No. 3 | VOC | 0.08 | 0.35 |
| | | PM | 0.02 | 0.09 |
| | | $PM_{10}$ | 0.02 | 0.09 |
| | | $PM_{2.5}$ | 0.02 | 0.09 |
| CTCOOLT05 | Cooling Tower No. 6 | VOC | 0.08 | 0.35 |
| | | PM | 0.02 | 0.09 |
| | | $PM_{10}$ | 0.02 | 0.09 |
| | | $PM_{2.5}$ | 0.02 | 0.09 |
| EEFIREWA02 | P-175 Engine | VOC | 1.20 | 0.06 |
| | | $NO_x$ | 1.20 | 0.06 |
| | | CO | 1.00 | 0.05 |
| | | $SO_2$ | <0.01 | <0.01 |
| | | PM | 0.06 | <0.01 |
| | | $PM_{10}$ | 0.06 | <0.01 |
| | | $PM_{2.5}$ | 0.06 | <0.01 |

Emission Sources - Maximum Allowable Emission Rates

| | | | | |
|---|---|---|---|---|
| EEFIREWB02 | P-2 Engine | VOC | 0.57 | 0.24 |
| | | NOx | 7.13 | 3.03 |
| | | CO | 1.54 | 0.65 |
| | | $SO_2$ | 0.47 | 0.20 |
| | | PM | 0.51 | 0.22 |
| | | $PM_{10}$ | 0.51 | 0.22 |
| | | $PM_{2.5}$ | 0.51 | 0.22 |
| VEVCH601 | H-601 Vapor Combustor (6) | VOC | 0.13 | - |
| | | $NO_x$ | 1.14 | - |
| | | CO | 2.28 | - |
| | | PM | 0.06 | - |
| | | $PM_{10}$ | 0.06 | - |
| | | $PM_{2.5}$ | 0.06 | - |
| | | $SO_2$ | 0.06 | - |
| | | $NH_3$ | <0.01 | - |
| VEVCH602 | H-602 Vapor Combustor (6) | VOC | 0.21 | - |
| | | $NO_x$ | 1.77 | - |
| | | CO | 3.54 | - |
| | | PM | 0.10 | - |
| | | $PM_{10}$ | 0.10 | - |
| | | $PM_{2.5}$ | 0.10 | - |
| | | $SO_2$ | 0.08 | - |
| | | $NH_3$ | <0.01 | - |

Emission Sources - Maximum Allowable Emission Rates

| | | | | |
|---|---|---|---|---|
| VEVCH601 / VEVCH602 | H-601 Vapor Combustor / H-602 Vapor Combustor | VOC | - | 0.51 |
| | | $NO_x$ | - | 4.44 |
| | | CO | - | 8.89 |
| | | PM | - | 0.24 |
| | | $PM_{10}$ | - | 0.24 |
| | | $PM_{2.5}$ | - | 0.24 |
| | | $SO_2$ | - | 0.16 |
| | | $NH_3$ | - | <0.01 |
| HE1DU02 | Heater H-2 | VOC | 0.04 | 0.16 |
| | | $NO_x$ | 0.66 | 2.90 |
| | | CO | 0.55 | 2.39 |
| | | $SO_2$ | 0.03 | 0.12 |
| | | PM | 0.05 | 0.22 |
| | | $PM_{10}$ | 0.05 | 0.22 |
| | | $PM_{2.5}$ | 0.05 | 0.22 |
| HE2BOIL02 | Boiler No. 2 | VOC | 0.42 | 1.84 |
| | | $NO_x$ | 4.69 | 20.54 |
| | | CO | 5.86 | 25.67 |
| | | $SO_2$ | 0.33 | 1.45 |
| | | PM | 0.59 | 2.58 |
| | | $PM_{10}$ | 0.59 | 2.58 |
| | | $PM_{2.5}$ | 0.59 | 2.58 |
| HEC21DU02 | Heater H-21 | VOC | 0.08 | 0.34 |
| | | $NO_x$ | 1.41 | 6.25 |
| | | CO | 1.18 | 5.15 |
| | | $SO_2$ | 0.06 | 0.26 |

Emission Sources - Maximum Allowable Emission Rates

| | | | | |
|---|---|---|---|---|
| | | PM | 0.11 | 0.47 |
| | | $PM_{10}$ | 0.11 | 0.47 |
| | | $PM_{2.5}$ | 0.11 | 0.47 |
| HEC25DU02 | Heater H-25 | VOC | 0.07 | 0.29 |
| | | $NO_x$ | 1.24 | 5.45 |
| | | CO | 1.02 | 4.49 |
| | | $SO_2$ | 0.05 | 0.23 |
| | | PM | 0.09 | 0.41 |
| | | $PM_{10}$ | 0.09 | 0.41 |
| | | $PM_{2.5}$ | 0.09 | 0.41 |
| HEC27DU02 | Heater H-27 | VOC | 0.08 | 0.36 |
| | | $NO_x$ | 1.52 | 6.70 |
| | | CO | 1.26 | 5.52 |
| | | $SO_2$ | 0.06 | 0.28 |
| | | PM | 0.11 | 0.50 |
| | | $PM_{10}$ | 0.11 | 0.50 |
| | | $PM_{2.5}$ | 0.11 | 0.50 |
| HEC33DU02 | Heater H-8 | VOC | 0.08 | 0.34 |
| | | $NO_x$ | 1.41 | 6.25 |
| | | CO | 1.18 | 5.15 |
| | | $SO_2$ | 0.06 | 0.26 |
| | | PM | 0.11 | 0.47 |
| | | $PM_{10}$ | 0.11 | 0.47 |
| | | $PM_{2.5}$ | 0.11 | 0.47 |

Emission Sources - Maximum Allowable Emission Rates

| | | | | |
|---|---|---|---|---|
| HEC35DU02 | Heater H-347001 | VOC | 0.18 | 0.77 |
| | | $NO_x$ | 1.94 | 8.58 |
| | | CO | 2.69 | 11.77 |
| | | $SO_2$ | 0.14 | 0.60 |
| | | PM | 0.24 | 1.07 |
| | | $PM_{10}$ | 0.24 | 1.07 |
| | | $PM_{2.5}$ | 0.24 | 1.07 |
| HECRUDU02 | Heater H-7 | VOC | 0.08 | 0.37 |
| | | $NO_x$ | 1.56 | 6.84 |
| | | CO | 1.29 | 5.63 |
| | | $SO_2$ | 0.07 | 0.29 |
| | | PM | 0.12 | 0.51 |
| | | $PM_{10}$ | 0.12 | 0.51 |
| | | $PM_{2.5}$ | 0.12 | 0.51 |
| HECUIIP02 | Heater H-33501 | VOC | 0.03 | 0.14 |
| | | $NO_x$ | 0.30 | 1.32 |
| | | CO | 0.50 | 2.17 |
| | | $SO_2$ | 0.03 | 0.11 |
| | | PM | 0.04 | 0.20 |
| | | $PM_{10}$ | 0.04 | 0.20 |
| | | $PM_{2.5}$ | 0.04 | 0.20 |
| HECUIIP03 | Heater H-33502 | VOC | 0.01 | 0.04 |
| | | $NO_x$ | 0.08 | 0.34 |
| | | CO | 0.13 | 0.55 |
| | | $SO_2$ | 0.01 | 0.03 |
| | | PM | 0.01 | 0.05 |

Emission Sources - Maximum Allowable Emission Rates

| | | | | |
|---|---|---|---|---|
| | | $PM_{10}$ | 0.01 | 0.05 |
| | | $PM_{2.5}$ | 0.01 | 0.05 |
| HEOXRU13 | Heater H-349001 | VOC | 0.17 | 0.75 |
| | | $NO_x$ | 2.14 | 9.36 |
| | | CO | 4.89 | 21.41 |
| | | $SO_2$ | 0.25 | 1.09 |
| | | PM | 0.44 | 1.94 |
| | | $PM_{10}$ | 0.44 | 1.94 |
| | | $PM_{2.5}$ | 0.44 | 1.94 |
| SEBAYOU02 | Scrubber S-1002 | VOC | 0.04 | <0.01 |
| SEBAYOU03 | Scrubber S-1000 | VOC | 0.02 | <0.01 |
| SEC21DU07 | Scrubber S-141 | VOC | 0.02 | 0.07 |
| SEC25DU03 | Scrubber S-25 | VOC | 0.06 | 0.04 |
| SECAS1607 | Scrubber S-86 | VOC | 0.03 | 0.01 |
| SECAS33B10 | Scrubber S-78 | VOC | 0.05 | 0.08 |
| SECAS33D08 | Scrubber S-82 | VOC (7) | 0.07 | 0.01 |
| | MSS Railcar Cleaning | VOC (8)(9) | - | 0.02 |
| SECAS33E07 | Scrubber S-5 | VOC | 0.03 | 0.01 |
| SECAS9702 | Scrubber S-260 | VOC (7) | 0.05 | <0.01 |
| | MSS Railcar Cleaning | VOC (8)(9) | - | 0.02 |
| SECLUPS02 | Scrubber S-18 | VOC | 0.02 | 0.03 |
| SECRAS602 | Scrubber S-83 | VOC | 0.01 | 0.01 |
| SEIEXU03 | Scrubber S-332-001 | VOC | 0.02 | <0.01 |
| SET27504 | Scrubber S-275 | VOC | 0.05 | 0.03 |
| VEBARGE03 | Tank T-1014 | VOC | 0.05 | 0.01 |
| VEFIREWA03 | Tank T-1012 | VOC | 0.01 | 0.01 |

Emission Sources - Maximum Allowable Emission Rates

| | | | | |
|---|---|---|---|---|
| VEFIREWB03 | Tank T-1013 | VOC | 0.06 | 0.01 |
| VEGAST02 | Tank T-1010 | VOC | 0.14 | 0.01 |
| VEGAST03 | Tank T-1011 | VOC | 24.01 | 0.25 |
| VECAS33E05 | Tank T-54 | KOH | 0.01 | 0.01 |
| VECSNPS02 | Tank T-211017 | NaOH | 0.01 | 0.01 |
| VECSNPS03 | Tank T-211028 | NaOH | 0.01 | 0.01 |
| VECSNPS04 | Tank T-211029 | NaOH | 0.01 | 0.01 |
| FUGAST01 | Gas Storage Fugitives (5) | VOC | 0.06 | 0.27 |
| FUA01 | T-250, T-22/23, and T-31A/B Area Fugitives (5) | VOC | 0.03 | 0.14 |
| FUA02 | No. 1 Distillation Unit Fugitives (5) | VOC | 0.05 | 0.24 |
| FUA03 | C35/C37 Distillation Unit Fugitives (5) | VOC | 0.07 | 0.32 |
| FUA04 | T-17, T-19, and T-36 Area Fugitives (5) | VOC | 0.06 | 0.26 |
| FUA05 | Crude Unit Fugitives (5) | VOC | 0.06 | 0.25 |
| FUA06 | Crude Acid Storage Fugitives (5) | VOC | 0.01 | 0.06 |
| FUA08 | Vacuum Flash Feed Storage Fugitives (5) | VOC | ,0.01 | 0.01 |
| FUA09 | C-33 Distillation Unit Fugitives (5) | VOC | 0.04 | 0.16 |
| FUA10 | Clean-Up Unit Fugitives (5) | VOC | 0.03 | 0.12 |
| FUA11 | Vac Flash Unit Fugitives (5) | VOC | 0.03 | 0.15 |
| FUA12 | Full Range Acid Storage Fugitives (5) | VOC | 0.01 | 0.02 |
| FUA13 | C-21 Distillation Unit Fugitives (5) | VOC | 0.05 | 0.20 |
| FUA14 | Cooling Tower Fugitives (5) | VOC | 0.01 | 0.02 |
| FUA19 | Acid Storage Fugitives (5) | VOC | 0.02 | 0.08 |
| FUA22A | Firewater House A | VOC | 0.01 | 0.01 |

Emission Sources - Maximum Allowable Emission Rates

| | | | | |
|---|---|---|---|---|
| | Fugitives (5) | | | |
| FUA22B | Firewater House B Fugitives (5) | VOC | 0.01 | 0.01 |
| FUA24 | Truck Loading and Unloading Fugitives (5) | VOC | 0.02 | 0.07 |
| FUA25 | T-171 to T-174 Storage Tank Fugitives (5) | VOC | 0.03 | 0.13 |
| FUA28 | Water Recycle Fugitives (5) | VOC | 0.01 | 0.03 |
| FUA29 | 160 Series Tank Area Fugitives (5) | VOC | 0.03 | 0.11 |
| FUA30 | Pipe Rack Fugitives (5) | VOC | 0.01 | 0.02 |
| FUA33 | Finished Acid Storage and Handling Fugitives (5) | VOC | 0.07 | 0.29 |
| FUA35 | Barge Facilities Fugitives (5) | VOC | <0.01 | 0.01 |
| FUA36 | Drumming Facilities Fugitives (5) | VOC | 0.01 | 0.05 |
| FUA37 | Finished Acid Storage and Loadling Fugitives (5) | VOC | 0.06 | 0.26 |
| FUA45 | Residue Handling Fugitives (5) | VOC | 0.02 | 0.07 |
| FUA50 | Wastewater Compliance and Trench Project Fugitives (5) | VOC | 0.07 | 0.31 |
| FUA52 | C-25 Distillation Unit Fugitives (5) | VOC | 0.03 | 0.15 |
| FUA54 | OXR Unit Fugitives (5) | VOC | 0.06 | 0.28 |
| FUA74 | T-150 series Tank Fugitives (5) | VOC | 0.02 | 0.07 |
| FUA75 | Disposal Well Fugitives (5) | VOC | 0.01 | 0.01 |
| FUA77 | T-225, T-226, and T-40 Storage Fugitives (5) | VOC | 0.02 | 0.08 |
| FUA79 | C-27 and C-29 Distillation Unit Fugitives (5) | VOC | 0.03 | 0.14 |

Emission Sources - Maximum Allowable Emission Rates

| | | | | |
|---|---|---|---|---|
| FUA80 | T-600, T-601, and T-780 Storage Tank Area Fugitives (5) | VOC | 0.01 | 0.03 |
| FUA86 | Tanks T-911 through T-915 Area Fugitives (5) | VOC | 0.01 | 0.02 |
| FUA94 | MP85 Dryer Fugitives (5) | VOC | 0.01 | 0.05 |
| FUA96 | Bayou Area Tank Farm Fugitves (5) | VOC | 0.02 | 0.06 |
| FUA97 | Meta-Para Storage Unit Fugitives (5) | VOC | 0.01 | 0.02 |
| FUA98 | T-961 Area Fugitives (5) | VOC | 0.02 | 0.08 |
| FUA335 | CUII Unit Fugitives (5) | VOC | 0.06 | 0.25 |
| | Total Site Emissions | Each HAP | - | 3.72 |
| | | Sum of all HAP | - | 5.30 |
| **Maintenance, Startup, and Shutdown** | | | | |
| COMBMSS | MSS Emissions controlled by Vapor Combustors | VOC | 28.38 | 0.68 |
| | | NOx | 2.93 | 0.01 |
| | | CO | 5.85 | 0.02 |
| CASMSS | MSS Emissions controlled by Carbon Adsorption | VOC | 9.69 | 2.42 |
| SCRUBMSS | MSS Emissions controlled by Scrubber | VOC | 13.17 | 0.36 |
| UNCONMSS | Uncontrolled MSS emissions | VOC | 2.07 | 0.24 |
| ATTACHA | Inherently low emitting MSS activities | VOC | 4.25 | 0.09 |
| | | PM | 0.02 | 0.01 |
| | | $PM_{10}$ | 0.01 | 0.01 |
| | | $PM_{2.5}$ | 0.01 | 0.01 |
| MSSSUMP | Sump Emissions | VOC | 0.02 | 0.01 |
| MSS CAP | MSS Emissions Cap | VOC | - | 3.49 |

(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.

Emission Sources - Maximum Allowable Emission Rates

(3)
| | |
|---|---|
| VOC | - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1 |
| NOx | - 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 |
| HAP | - hazardous air pollutant as listed in § 112(b) of the Federal Clean Air Act or Title 40 Code of Federal Regulations Part 63, Subpart C |
| $NH_3$ | - Ammonia |
| NaOH | - sodium hydroxide |
| KOH | - potassium hydroxide |
| $H_2SO_4$ | - sulfuric acid |

(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) The Total Annual Emissions for EPN's VEVCH601 and VEVCH602 shall not to exceed the limits represented by this annual emissions cap.

(7) Hourly emissions represent the combined emission rate from production and MSS.

(8) Annual MSS emissions are in addition to those authorized for normal production.

(9) Annual emissions represent the combined emission rate for MSS activities.

Date: December 29, 2020