

# Emission Sources, Emission Caps, and Individual Emission Limitations

Flexible Permit Numbers 6308 and PSDTX137M2

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) |
| Routine Operating Emission Caps  |                 |                          |                |         |
| Fired Units  |                 | NO <sub>x</sub>          | 419.50         | 881.02  |
|  |                 | CO                       | 286.83         | 476.03  |
|  |                 | SO <sub>2</sub>          | 255.18         | 156.07  |
| Fired Units, Cooling Towers (7)  |                 | PM                       | 48.55          | 183.11  |
| Fired Units, Cooling Towers, Tanks, Fugitives (5), Wastewater, Miscellaneous |                 | VOC                      | 370.57         | 467.04  |
| Cooling Towers (7)   |                 | Cl <sub>2</sub>          | 0.01           | 0.01    |
| <u>Selected Tanks Emission Caps (8)</u>                                      |                 |                          |                |         |
| Tanks E11TKS21, E11TKS23, E11TKR17, and E11TKR18                             |                 | Toluene                  | 1.34           | 3.01    |
| Tanks E11TKS32, E11TKR9, and E11TKS21  |                 | Xylene                   | 6.55           | 7.48    |
| Tanks E12TK145 and E12TK146  |                 | Benzene                  | 0.60           | 0.54    |
| <u>Maintenance, Startup, and Shutdown (MSS) Emission Caps (6)</u>            |                 |                          |                |         |
| Planned MSS  |                 | NO <sub>x</sub>          | 404.52         | 15.63   |
|  |                 | CO                       | 390.2          | 19.35   |
|  |                 | SO <sub>2</sub>          | 1395.86        | 30.81   |
|  |                 | PM                       | 17.43          | 0.83    |
|  |                 | PM <sub>10</sub>         | 13.90          | 0.32    |
|  |                 | PM <sub>2.5</sub>        | 13.90          | 0.32    |
|  |                 | VOC                      | 1269.60        | 25.63   |
|  |                 | H <sub>2</sub> S         | 6.06           | 0.28    |
|  |                 | HCl                      | 0.58           | 0.03    |

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Individual Emission Rate Limits

|                   |   |                  |       |        |
|-------------------|---|------------------|-------|--------|
| FL-97/FL-28/FL-27 | Main, West, and East Flares                           | VOC              | 38.19 | 99.19  |
|                   |   | NO <sub>x</sub>  | 4.06  | 11.50  |
|                   |   | CO               | 20.92 | 59.22  |
|                   |   | SO <sub>2</sub>  | 7.30  | 31.27  |
|                   |   | H <sub>2</sub> S | 0.08  | 0.33   |
| C-108             | BTX Cooling Tower                                     | PM               | 0.17  | 0.74   |
|                   |   | Cl <sub>2</sub>  | 0.01  | 0.01   |
| C-109             | Crude II Cooling Tower                                | PM               | 0.24  | 1.05   |
|                   |   | Cl <sub>2</sub>  | 0.01  | 0.01   |
| C-110             | Hydrobon Cooling Tower                                | PM               | 0.29  | 1.26   |
|                   |   | Cl <sub>2</sub>  | 0.01  | 0.01   |
| E29H417           | SRU No. 1 Heater                                      | VOC              | 0.02  | 0.09   |
|                   |   | NO <sub>x</sub>  | 0.58  | 2.53   |
|                   |   | CO               | 0.31  | 1.36   |
|                   |   | PM               | 0.03  | 0.12   |
|                   |   | SO <sub>2</sub>  | 0.12  | 0.32   |
| F-SRU1            | SRU No. 1 Fugitives (5)                               | VOC              | 0.11  | 0.47   |
|                   |   | CO               | 0.03  | 0.15   |
|                   |   | H <sub>2</sub> S | 0.07  | 0.31   |
| FL-87             | SRU No. 1 Flare                                       | VOC              | 0.02  | 0.04   |
|                   |   | NO <sub>x</sub>  | 0.09  | 0.20   |
|                   |   | CO               | 0.77  | 1.69   |
|                   |   | SO <sub>2</sub>  | 0.02  | 0.03   |
| S-84, S-85        | SRU No. 1 and No. 2 Tail Gas Incinerator Stacks (TGI) | VOC              | 0.13  | 0.56   |
|                   |   | NO <sub>x</sub>  | 2.34  | 10.30  |
|                   |   | CO               | 14.40 | 62.90  |
|                   |   | PM               | 0.18  | 0.78   |
|                   |   | SO <sub>2</sub>  | 39.04 | 171.01 |
|                   |   | H <sub>2</sub> S | 0.42  | 1.82   |

|        |                     |                  |      |      |
|--------|---------------------|------------------|------|------|
| F-SRU2 | SRU No. 2 Fugitives | VOC              | 0.11 | 0.47 |
|        |                     | CO               | 0.03 | 0.15 |
|        |                     | H <sub>2</sub> S | 0.07 | 0.29 |

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|            |                                |                  |      |      |
|------------|--------------------------------|------------------|------|------|
| FL-88      | SRU No. 2 Acid Gas Flare       | VOC              | 0.02 | 0.04 |
|            |                                | NO <sub>x</sub>  | 0.09 | 0.20 |
|            |                                | CO               | 0.77 | 1.69 |
|            |                                | SO <sub>2</sub>  | 0.02 | 0.03 |
| PROPFRZTST | Propane Freeze Test            | VOC              | 5.10 | 3.72 |
| E13P45     | Firewater Diesel Engine E13P45 | VOC              | 0.12 | 0.05 |
|            |                                | NO <sub>x</sub>  | 6.22 | 2.73 |
|            |                                | CO               | 1.08 | 0.47 |
|            |                                | PM <sub>10</sub> | 0.44 | 0.19 |
|            |                                | SO <sub>2</sub>  | 0.96 | 0.42 |
| E13P46     | Firewater Diesel Engine E13P46 | VOC              | 0.12 | 0.05 |
|            |                                | NO <sub>x</sub>  | 6.22 | 2.73 |
|            |                                | CO               | 1.08 | 0.47 |
|            |                                | PM <sub>10</sub> | 0.44 | 0.19 |
|            |                                | SO <sub>2</sub>  | 0.96 | 0.42 |
| E13P47     | Firewater Diesel Engine E13P47 | VOC              | 0.12 | 0.05 |
|            |                                | NO <sub>x</sub>  | 6.22 | 2.73 |
|            |                                | CO               | 1.08 | 0.47 |
|            |                                | PM <sub>10</sub> | 0.44 | 0.19 |
|            |                                | SO <sub>2</sub>  | 0.96 | 0.42 |
| E13TK39    | Diesel Tank for E13P45         | VOC              | 0.01 | 0.03 |
| E13TK40    | Diesel Tank for E13P46         | VOC              | 0.01 | 0.03 |
| E13TK41    | Diesel Tank for E13P47         | VOC              | 0.01 | 0.03 |
| E11TK323   | E11TK323                       | H <sub>2</sub> S | 0.02 | 0.08 |
| E11TKS7    | E11TKS7                        | H <sub>2</sub> S | 0.03 | 0.12 |
| E11TKS8    | E11TKS8                        | H <sub>2</sub> S | 0.02 | 0.10 |
| E11TKS30   | E11TKS30                       | H <sub>2</sub> S | 0.01 | 0.06 |

(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<sub>x</sub> - total oxides of nitrogen

SO<sub>2</sub> - sulfur dioxide

PM - total particulate matter, suspended in the atmosphere, including PM<sub>10</sub> and PM<sub>2.5</sub>, as represented

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|                  |   |
|------------------|---|
| PM <sub>10</sub> | - total particulate matter equal to or less than 10 microns in diameter, including PM <sub>2.5</sub> , as represented |
| CO               | - carbon monoxide   |
| Cl <sub>2</sub>  | - chlorine  |
| H <sub>2</sub> S | - hydrogen sulfide  |
| HCl              | - hydrogen chloride   |

- (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) MSS activities and emission points are identified in Attachment C.
- (7) Only the FCCU and sulfolane cooling towers are included in the PM and Cl<sub>2</sub> emission caps.

Date: August 13, 2018