

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit Numbers 46396 and PSD-TX-1073

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. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

AIR CONTAMINANTS DATA

| Emission * | Source | Air Contaminant | | Emission Rates | |
|---------------|-------------------|-----------------|-----------------|----------------|-------|
| Point No. (1) | Name (2) | Name (3) | | lb/hr | |
| | TPY** | | | | |
| 06VDU2CHTR | VDU-2 Heater | | NO _x | 3.30 | 13.01 |
| | | CO | 3.89 | 15.32 | |
| | | SO ₂ | 2.83 | 3.49 | |
| | | PM | 0.74 | 2.34 | |
| | | VOC | | 0.52 | 2.28 |
| 30CKRHTR1 | CU - Heater 1 | | NO _x | 2.25 | 8.87 |
| | | CO | 7.95 | 31.33 | |
| | | SO ₂ | 6.44 | 7.14 | |
| | | PM | 1.68 | 4.79 | |
| | | VOC | | 1.19 | 4.67 |
| 30CKRHTR2 | CU - Heater 2 | | NO _x | 2.25 | 8.87 |
| | | CO | 7.95 | 31.33 | |
| | | SO ₂ | 6.44 | 7.14 | |
| | | PM | 1.68 | 4.79 | |
| | | VOC | | 1.19 | 4.67 |
| 43DHT3CHTR | DHT-3 Charge (18) | | NO _x | 1.65 | 6.50 |
| | | CO | 1.94 | 7.66 | |
| | | SO ₂ | 1.42 | 1.75 | |
| | | PM | 0.37 | 1.17 | |
| | | VOC | 0.26 | 1.14 | |
| 43DHT3SRBL | DHT-3 Reboiler | | NO _x | 2.55 | 10.05 |
| | | CO | 3.00 | 11.83 | |
| | | SO ₂ | 2.19 | 2.70 | |
| | | PM | 0.57 | 1.81 | |

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| Emission * Point No. (1) | Source Name (2) TPY** | Air Contaminant Name (3) | <u>Emission Rates</u> lb/hr | |
|--------------------------------|-------------------------------------|-----------------------------|--------------------------------|--------|
| | | VOC | 0.40 | 1.77 |
| 61BLR3STCK | Boiler No. 3 | NO _x | 3.55 | 13.99 |
| | | CO | 12.54 | 49.43 |
| | | SO ₂ | 10.16 | 11.26 |
| | | PM | 2.65 | 7.56 |
| | | VOC | 1.87 | 7.37 |
| 25SRUINCIN | SRU Complex Tail Gas Incinerator | NO _x | 3.20 | 11.21 |
| | | CO | 37.40 | 43.69 |
| | | SO ₂ | 61.49 | 179.23 |
| | | PM | 0.30 | 1.04 |
| | | VOC | 0.22 | 0.76 |
| | | H ₂ S | 0.03 | 0.10 |
| 22TANK0441 | Tank 441 | VOC | 0.25 | 3.36 |
| 22TANK0516 | Tank 516 | VOC | 0.03 | 0.36 |
| 22TANK0522 | Tank 522 (7) (8) | VOC | 0.03 | 0.06 |
| 22TANK0526 | Tank 526 | VOC | 0.17 | 0.67 |
| 22TANK0537 | Tank 537 | VOC | 0.05 | 0.02 |
| 22TANK0545 | Tank 545 | VOC | 0.03 | 0.66 |
| 22TANK0586 | Tank 586 (8) | VOC | 0.03 | 0.26 |
| 22TANK0587 | Tank 587 (7) | VOC | 4.25 | 6.49 |
| 22TANK0588 | Tank 588 | VOC | 0.09 | 0.18 |
| 22TANK0591 | Tank 591 | VOC | 0.11 | 0.37 |

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| Emission * Point No. (1) | Source Name (2) TPY** | Air Contaminant Name (3) | <u>Emission Rates</u> lb/hr | |
|--------------------------------|-----------------------------|-----------------------------|--------------------------------|------|
| 22TANK0597 | Tank 597 | VOC | 3.44 | 3.85 |
| 22TANK0598 | Tank 598 | VOC | 3.44 | 3.85 |
| 22TANK0599 | Tank 599 | VOC | 0.09 | 0.24 |
| 22TANK902 | Tank 902 (7) | VOC | 0.21 | 6.36 |
| 22TANK0918 | Tank 918 | VOC | 2.92 | 5.69 |
| 22TANK0919 | Tank 919 | VOC | 2.06 | 3.48 |
| 22TANK0920 | Tank 920 | VOC | 2.05 | 3.70 |
| 22TANK0938 | Tank 938 | VOC | 2.05 | 3.51 |
| 22TANK0939 | Tank 939 | VOC | 1.95 | 3.27 |
| 22TANKDCP3 | Tank DCP3 | VOC | 0.62 | 2.73 |
| 39SWTANK | Tank DCP SW | VOC | 0.01 | 0.01 |
| 22TANK0948 | Tank 948 (8) | VOC | 0.03 | 0.89 |
| 22TANK0452 | Tank 452 (8) | VOC | 11.14 | (10) |
| 22TANK0453 | Tank 453 (8) | VOC | 11.13 | (10) |
| 22TANK0454 | Tank 454 (8) | VOC | 11.14 | (10) |
| 22TANK0455 | Tank 455 (8) | VOC | 11.13 | (10) |
| 22TANK0475 | Tank 475 (8) | VOC | 13.19 | (10) |

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| Emission * Point No. (1) | Source Name (2) TPY** | Air Contaminant Name (3) | <u>Emission Rates</u> lb/hr | |
|--------------------------------|-----------------------------|-----------------------------|--------------------------------|-------|
| 22TANK0476 | Tank 476 (8) | VOC | 13.18 | (10) |
| 22TANK0477 | Tank 477 (8) | VOC | 11.66 | (10) |
| 22TANK0478 | Tank 478 (8) | VOC | 11.66 | (10) |
| 22TANK0479 | Tank 479 (8) | VOC | 11.66 | (10) |
| 22TANK0480 | Tank 480 (8) | VOC | 9.76 | (10) |
| 22TANK0481 | Tank 481 (8) | VOC | 9.87 | (10) |
| 22TANK0482 | Tank 482 (10) | VOC | 9.13 | 8.91 |
| 22CRUDECAP | Crude Cap | VOC | | 39.42 |
| 22TANK0532 | Tank 532 | VOC | 6.66 | (11) |
| 22TANK0541 | Tank 541 | VOC | 1.97 | (11) |
| 22TANK0542 | Tank 542 | VOC | 2.28 | (11) |
| 22TANK0935 | Tank 935 | VOC | 2.06 | (11) |
| 22TANKDCP1 | Tank DCP1 | VOC | 1.23 | (11) |
| 22GASCAP | Gasoline Cap | VOC | | 27.70 |
| 22TANK0525 | Tank 525 | VOC | 0.42 | (12) |
| 22TANK0543 | Tank 543 | VOC | 0.17 | (12) |
| 22TANK0909 | Tank 909 | VOC | 0.17 | (12) |

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| Emission * Point No. (1) | Source Name (2) TPY** | Air Contaminant Name (3) | <u>Emission Rates</u> lb/hr | |
|--------------------------------|-----------------------------|-----------------------------|--------------------------------|-------|
| 22TANK910 | Tank 910 | VOC | 0.42 | (12) |
| 22JETCAP | Jet Cap | VOC | | 0.72 |
| 22TANK0524 | Tank 524 | VOC | 2.95 | (13) |
| 22TANK0917 | Tank 917 | VOC | 2.92 | (13) |
| 22TANK0918 | Tank 918 | VOC | 1.19 | (13) |
| 22TANK0921 | Tank 921 (9) | VOC | 0.16 | (13) |
| 22TANK0922 | Tank 922 (9) | VOC | 0.16 | (13) |
| 22TANK934 | Tank 934 | VOC | 2.15 | (13) |
| 22TANKDCP2 | Tank DCP2 | VOC | 0.12 | (13) |
| 22DIESELCAP | Diesel Cap (16) | VOC | | 19.76 |
| 22DIESELCAP | Diesel Cap (16) | VOC | | 20.02 |
| 22TANK0558 | Tank 558 (7) (8) | VOC | 7.20 | (14) |
| 22TANK0559 | Tank 559 (7) (8) | VOC | 7.20 | (14) |
| 22TANK0560 | Tank 560 (7) (8) | VOC | 7.20 | (14) |
| 22TANK0561 | Tank 561 (7) (8) | VOC | 7.20 | (14) |
| 22GASOILCAP | Gas Oil Cap | VOC | | 2.45 |
| 22TANK0589 | Tank 589 (7) | VOC | 0.42 | (15) |

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AIR CONTAMINANTS DATA

| Emission * Point No. (1) | Source Name (2) TPY** | Air Contaminant Name (3) | <u>Emission Rates</u> lb/hr | |
|--------------------------------|--------------------------------|-----------------------------|--------------------------------|-------|
| 22TANK0925 | Tank 925 (7) | VOC | 0.34 | (15) |
| 22CBOCAP | Carbon Black Oil Cap | VOC | | 0.29 |
| 30CKRTRKLD | Coke Handling | PM | 0.21 | 0.86 |
| 30DCPCT1 | DCP Cooling Tower | PM | 0.32 | 1.42 |
| | | VOC | 0.60 | 2.65 |
| 22OSFTKFUG | Piping Fugitives (4) | VOC | 1.28 | 5.58 |
| 45DOCKSFLR | Marine Terminal Dock Flare 1 | | VOC | 5.82 |
| | 3.15 | NO _x | 10.08 | 4.74 |
| | | SO ₂ | 0.01 | 0.01 |
| | | CO | 15.42 | 12.53 |
| 45DOCKFLR2 (5) | Marine Terminal Dock Flare 2 | | VOC | 5.82 |
| | | NO _x | 19.51 | 4.56 |
| | | CO | 29.84 | 12.03 |
| | | SO ₂ | 0.16 | 0.01 |
| 45DOCK1LDG | Dock 1 Loading Losses | VOC | 29.69 | 6.56 |
| 45DOCK3LDG | Dock 3 Loading Losses | VOC | 29.69 | (6) |
| 45DOCK1FUG | Dock 1 Equipment Fugitives (4) | | VOC | 1.57 |
| | | 6.87 | | |
| 45DOCK3FUG | Dock 3 Equipment Fugitives (4) | | VOC | 1.57 |
| | | 6.87 | | |

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| Emission * Point No. (1) | Source Name (2) TPY** | Air Contaminant Name (3) | <u>Emission Rates</u> lb/hr | |
|--------------------------------|-----------------------------|-----------------------------|--------------------------------|-------|
| 06VDU2FUGS | VDU-2 Fugitives (4) | VOC | 1.50 | 6.57 |
| | | H ₂ S | 0.06 | 0.27 |
| 30CKRFUGS | CU Fugitives (4) | VOC | 3.60 | 15.77 |
| 43DHT3FUGS | DHT-3 Fugitives (4) | VOC | 1.64 | 7.16 |
| | | H ₂ S | 0.05 | 0.21 |
| | | NH ₃ | 0.01 | 0.01 |
| 42FGTFUGS | ARU-2 Fugitives (4) | VOC | 0.60 | 2.61 |
| | | H ₂ S | 0.04 | 0.17 |
| 39SWS3FUGS | SWS-3 Fugitives (4) | VOC | 0.02 | 0.07 |
| | | H ₂ S | 0.02 | 0.11 |
| | | NH ₃ | 0.02 | 0.08 |
| 34SRU4FUGS | SRU/TGU Fugitives (4) | VOC | 0.17 | 0.74 |
| | | H ₂ S | 0.22 | 0.96 |
| | | NH ₃ | 0.12 | 0.52 |
| 61BLR3FUGS | Boiler 3 Fugitives (4) | VOC | 0.07 | 0.29 |
| 22TKDCPFUGS | DCP Fugitives (4) | VOC | 0.05 | 0.20 |
| 22TK926FLR | Tank 926 Flare | VOC | 0.06 | 0.24 |
| | | NO _x | 0.38 | 1.66 |
| | | CO | 0.69 | 2.74 |
| 50BZTNKFLR | Benzene Tank Flare | VOC | 0.07 | 0.72 |
| | | NO _x | 0.58 | 5.22 |
| | | CO | 0.56 | 7.32 |
| 30CKRFLARE | DCP Flare | NO _x | 0.01 | 0.01 |

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| | | |
|------------------|------|------|
| CO | 0.01 | 0.04 |
| SO ₂ | 0.01 | 0.05 |
| VOC | 0.04 | 0.14 |
| H ₂ S | 0.01 | 0.01 |

MAINTENANCE, START-UP, AND SHUTDOWN (MSS)

| | | | |
|------------|---------------------------------------|---------|---------|
| MSS_TA | Process Unit Turnarounds (17) 1.98 | VOC | 147.57 |
| | CO | 269.92 | 4.60 |
| | NO _x | 38.05 | 0.65 |
| | SO ₂ | 6890.41 | 44.86 |
| | H ₂ S | 129.21 | 0.54 |
| MSS_ATM | Process Unit Turnarounds (17) 0.18 | VOC | 14.81 |
| | H ₂ S | 5.10 | 0.06 |
| MSSILE | Process Equipment MSS to ATM 4.21 | VOC | 30.33 |
| 43DHT3CMSS | DHT-3 Heater MSS (18) | CO | 3.50 -- |

(1) Emission point identification - either specific equipment designation or emission point number from a plot plan.

(2) Specific point source names. For fugitive sources, use an 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

CO - carbon monoxide

SO₂ - sulfur dioxide

PM - particulate matter, suspended in the atmosphere, including PM₁₀

PM₁₀ - particulate matter equal to or less than 10 microns in diameter. Where PM is

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not listed, it shall be assumed that no PM greater than 10 microns is emitted.

H₂S - hydrogen sulfide

NH₃ - ammonia

- (4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate.
- (5) Annual emission rates shown with 45DOCKSFLR are the summed emission cap for 45DOCKSFLR and 45DOCKFLR2.
- (6) Annual emission rates shown with 45DOCK1LDG are the summed emission cap for 45DOCK1LDG and 45DOCK3LDG.
- (7) Emission rate listed is not in effect until start-up of the Deep Conversion Project and the source is removed from Permit Number 18936 via permit alteration.
- (8) Emission rate listed is not in effect until start-up of the Deep Conversion Project and the source is removed from Permit Number 49743 via permit alteration.
- (9) Emission rate listed is not in effect until start-up of the Deep Conversion Project and the source is removed from Permit Number 56409 via permit alteration.
- (10) Annual VOC emission rate is included in the Crude Cap (EPN 22CRUDECAP). Upon start-up of the Deep Conversion Project, the annual emission rate listed for Tank 482 (EPN 22TANK0482) may be removed as it is part of the overall Crude Cap.
- (11) Annual VOC emission rate is included in the Gasoline Cap (EPN 22GASCAP)
- (12) Annual VOC emission rate is included in the Jet Cap (EPN 22JETCAP)
- (13) Annual VOC emission rate is included in the Diesel Cap (EPN 22DIESELCAP)
- (14) Annual VOC emission rate is included in the Gas Oil Cap (EPN 22GASOILCAP)
- (15) Annual VOC emission rate is included in the Carbon Black Oil Cap (EPN 22CRUDECAP)
- (16) Annual VOC emissions from tanks included in the Diesel Cap (22DIESELCAP) may not exceed 19.76 tons per year (tpy) until Tank 921 (EPN 22TANK0921) and Tank 922 (EPN 22TANK0922) are removed from Permit Number 56409. Upon completion of this act, annual VOC emissions from tanks in the Diesel Cap may not exceed 20.02 tpy.
- (17) Emissions subject to these limits are identified in Special Condition No. 46 and Attachments B and C.
- (18) Hourly CO emissions from the DHT-3 Charge Heater during periods of MSS (EPN 43DHT3CMSS) are only authorized per Special Condition No. 49. Annual MSS emissions are covered by the annual emission limit for normal operations (EPN 43DHTCHTR).

* Emission rates are based on and the facilities are limited by the following maximum operating schedule:

_____Hrs/day ____Days/week ____Weeks/year or 8,760 Hrs/year

** Compliance with annual emission limits is based on a rolling 12-month average.

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Dated April 3, 2008