

# Emission Sources - Maximum Allowable Emission Rates

Permit Number 117323 & PSDTX1392

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)
COMP-15	Compressor 15, Cat G3612 LE or equivalent – Ramsey IV Plant	VOC	0.71	3.12
		NO <sub>x</sub>	3.91	17.12
		CO	0.65	2.84
		PM	0.24	1.03
		PM <sub>10</sub>	0.24	1.03
		PM <sub>2.5</sub>	0.24	1.03
		SO <sub>2</sub>	0.01	0.02
		HCHO	0.16	0.69
COMP-16	Compressor 16, Cat G3612 LE or equivalent – Ramsey IV Plant	VOC	0.71	3.12
		NO <sub>x</sub>	3.91	17.12
		CO	0.65	2.84
		PM	0.24	1.03
		PM <sub>10</sub>	0.24	1.03
		PM <sub>2.5</sub>	0.24	1.03
		SO <sub>2</sub>	0.01	0.02
		HCHO	0.16	0.69
COMP-17	Compressor 17, Cat G3612 LE or equivalent – Ramsey IV Plant	VOC	0.71	3.12
		NO <sub>x</sub>	3.91	17.12
		CO	0.65	2.84
		PM	0.24	1.03
		PM <sub>10</sub>	0.24	1.03
		PM <sub>2.5</sub>	0.24	1.03
		SO <sub>2</sub>	0.01	0.02
		HCHO	0.16	0.69

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COMP-18	Compressor 18, Cat G3612 LE or equivalent – Ramsey IV Plant	VOC	0.71	3.12
		NO <sub>x</sub>	3.91	17.12
		CO	0.65	2.84
		PM	0.24	1.03
		PM <sub>10</sub>	0.24	1.03
		PM <sub>2.5</sub>	0.24	1.03
		SO <sub>2</sub>	0.01	0.02
		HCHO	0.16	0.69
COMP-19	Compressor 19, Cat G3612 LE or equivalent – Ramsey IV Plant	VOC	0.71	3.12
		NO <sub>x</sub>	3.91	17.12
		CO	0.65	2.84
		PM	0.24	1.03
		PM <sub>10</sub>	0.24	1.03
		PM <sub>2.5</sub>	0.24	1.03
		SO <sub>2</sub>	0.01	0.02
		HCHO	0.16	0.69
COMP-20	Compressor 20, Cat G3612 LE or equivalent – Ramsey V Plant	VOC	0.71	3.12
		NO <sub>x</sub>	3.91	17.12
		CO	0.65	2.84
		PM	0.24	1.03
		PM <sub>10</sub>	0.24	1.03
		PM <sub>2.5</sub>	0.24	1.03
		SO <sub>2</sub>	0.01	0.02
		HCHO	0.16	0.69
COMP-21	Compressor 21, Cat G3612 LE or equivalent – Ramsey V Plant	VOC	0.71	3.12
		NO <sub>x</sub>	3.91	17.12
		CO	0.65	2.84
		PM	0.24	1.03
		PM <sub>10</sub>	0.24	1.03
		PM <sub>2.5</sub>	0.24	1.03
		SO <sub>2</sub>	0.01	0.02
		HCHO	0.16	0.69
COMP-22	Compressor 22, Cat G3612 LE or equivalent – Ramsey	VOC	0.71	3.12
		NO <sub>x</sub>	3.91	17.12

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	V Plant	CO	0.65	2.84
		PM	0.24	1.03
		PM <sub>10</sub>	0.24	1.03
		PM <sub>2.5</sub>	0.24	1.03
		SO <sub>2</sub>	0.01	0.02
		HCHO	0.16	0.69
COMP-23	Compressor 23, Cat G3612 LE or equivalent – Ramsey V Plant	VOC	0.71	3.12
		NO <sub>x</sub>	3.91	17.12
		CO	0.65	2.84
		PM	0.24	1.03
		PM <sub>10</sub>	0.24	1.03
		PM <sub>2.5</sub>	0.24	1.03
		SO <sub>2</sub>	0.01	0.02
		HCHO	0.16	0.69
COMP-24	Compressor 24, Cat G3612 LE or equivalent – Ramsey V Plant	VOC	0.71	3.12
		NO <sub>x</sub>	3.91	17.12
		CO	0.65	2.84
		PM	0.24	1.03
		PM <sub>10</sub>	0.24	1.03
		PM <sub>2.5</sub>	0.24	1.03
		SO <sub>2</sub>	0.01	0.02
		HCHO	0.16	0.69
COMP-25	Compressor 25, Cat G3612 LE or equivalent – Ramsey VI Plant	VOC	0.71	3.12
		NO <sub>x</sub>	3.91	17.12
		CO	0.65	2.84
		PM	0.24	1.03
		PM <sub>10</sub>	0.24	1.03
		PM <sub>2.5</sub>	0.24	1.03
		SO <sub>2</sub>	0.01	0.02
		HCHO	0.16	0.69
COMP-26	Compressor 26, Cat G3612 LE or equivalent – Ramsey VI Plant	VOC	0.71	3.12
		NO <sub>x</sub>	3.91	17.12
		CO	0.65	2.84
		PM	0.24	1.03

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		PM <sub>10</sub>	0.24	1.03
		PM <sub>2.5</sub>	0.24	1.03
		SO <sub>2</sub>	0.01	0.02
		HCHO	0.16	0.69
COMP-27	Compressor 27, Cat G3612 LE or equivalent – Ramsey VI Plant	VOC	0.71	3.12
		NO <sub>x</sub>	3.91	17.12
		CO	0.65	2.84
		PM	0.24	1.03
		PM <sub>10</sub>	0.24	1.03
		PM <sub>2.5</sub>	0.24	1.03
		SO <sub>2</sub>	0.01	0.02
		HCHO	0.16	0.69
COMP-28	Compressor 28, Cat G3612 LE or equivalent – Ramsey VI Plant	VOC	0.71	3.12
		NO <sub>x</sub>	3.91	17.12
		CO	0.65	2.84
		PM	0.24	1.03
		PM <sub>10</sub>	0.24	1.03
		PM <sub>2.5</sub>	0.24	1.03
		SO <sub>2</sub>	0.01	0.02
		HCHO	0.16	0.69
COMP-29	Compressor 29, Cat G3612 LE or equivalent – Ramsey VI Plant	VOC	0.71	3.12
		NO <sub>x</sub>	3.91	17.12
		CO	0.65	2.84
		PM	0.24	1.03
		PM <sub>10</sub>	0.24	1.03
		PM <sub>2.5</sub>	0.24	1.03
		SO <sub>2</sub>	0.01	0.02
		HCHO	0.16	0.69
BD3	Engine Blowdowns-Ramsey IV	VOC	2.84 (6)	0.13 (7)
BD4	Engine Blowdowns-Ramsey V	VOC	2.84 (6)	0.13 (7)
BD5	Engine Blowdowns-Ramsey VI	VOC	2.84 (6)	0.13 (7)
H-8	Regenerator Heater, 36MMBtu/hr -	VOC	0.185	0.81

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		NO <sub>x</sub>	1.671	7.32
		CO	1.26	5.52
		PM	0.25	1.11
		PM <sub>10</sub>	0.25	1.11
		PM <sub>2.5</sub>	0.25	1.11
		SO <sub>2</sub>	0.02	0.09
		Total HAP	0.07	0.29
H-9	Hot Oil Heater, 60 MMBtu/hr – Ramsey Plant IV	VOC	0.31	1.34
		NO <sub>x</sub>	2.79	12.20
		CO	2.10	9.20
		PM	0.42	1.85
		PM <sub>10</sub>	0.42	1.85
		SO <sub>2</sub>	0.03	0.15
		Total HAP	0.07	0.29
H-10	Regenerator Heater, 36 MMBtu/hr – Ramsey Plant V	VOC	0.19	0.81
		NO <sub>x</sub>	1.67	7.32
		CO	1.26	5.52
		PM	0.25	1.11
		PM <sub>10</sub>	0.25	1.11
		PM <sub>2.5</sub>	0.25	1.11
		SO <sub>2</sub>	0.02	0.09
		Total HAP	0.07	0.29
H-11	Hot Oil Heater, 60 MMBtu/hr – Ramsey Plant VI	VOC	0.31	1.34
		NO <sub>x</sub>	2.79	12.20
		CO	2.10	9.20
		PM	0.42	1.85
		PM <sub>10</sub>	0.42	1.85
		PM <sub>2.5</sub>	0.42	1.85
		SO <sub>2</sub>	0.03	0.15

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		Total HAP	0.07	0.29
H-12	Regenerator Heater, 36 MMBtu/hr – Ramsey Plant VI	VOC	0.19	0.81
		NO <sub>x</sub>	1.67	7.32
		CO	1.26	5.52
		PM	0.25	1.11
		PM <sub>10</sub>	0.25	1.11
		PM <sub>2.5</sub>	0.25	1.11
		SO <sub>2</sub>	0.02	0.09
		Total HAP	0.07	0.29
RTO-4 & RTO-4MSS	Regenerative Thermal Oxidizer, 8MMBtu/hr – Ramsey Plant IV	VOC	0.20	0.89
		NO <sub>x</sub>	0.83	3.62
		CO	4.46	19.54
		PM	0.06	0.25
		PM <sub>10</sub>	0.06	0.25
		PM <sub>2.5</sub>	0.06	0.25
		SO <sub>2</sub>	14.29	62.61
		H <sub>2</sub> S	0.08	0.34
		Total HAP	0.01	0.04
RTO-5 & RTO-5MSS	Regenerative Thermal Oxidizer, 8MMBtu/hr – Ramsey Plant VI	VOC	0.20	0.89
		NO <sub>x</sub>	0.83	3.62
		CO	4.46	19.54
		PM	0.06	0.25
		PM <sub>10</sub>	0.06	0.25
		PM <sub>2.5</sub>	0.06	0.25
		SO <sub>2</sub>	14.29	62.61
		H <sub>2</sub> S	0.08	0.34
		Total HAP	0.01	0.04
F-2R	Flare (8)	NO <sub>x</sub>	23.96	3.45
		CO	47.85	6.89

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		VOC	0.32	0.05
		SO <sub>2</sub>	14.10	2.03
		H <sub>2</sub> S	0.15	0.01
		Total HAP	0.01	0.01
FUG4	Fugitive Emissions (5) Ramsey Plant IV	VOC	0.86	3.79
FUG5	Fugitive Emissions (5) Ramsey Plant V	VOC	0.86	3.79
FUG6	Fugitive Emissions (5) Ramsey Plant VI	VOC	0.86	3.79

- (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
- PM<sub>10</sub> - total particulate matter equal to or less than 10 microns in diameter, including PM<sub>2.5</sub>, as represented
- PM<sub>2.5</sub> - 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
- H<sub>2</sub>S - hydrogen sulfide
- HCHO - formaldehyde
- (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) Hourly blowdown emissions are based on maximum blowdowns when there is total plant shutdown during which all engines blowdown at the same time.
- (7) Annual blowdown emissions are based on an average of 2 events/engine/month and estimated duration of blowdown of 0.25 hrs.
- (8) During RTO down time emissions from Amine Still Vents shall be routed to Emergency Flare. The allowable downtimes for the RTOs are described in Special Condition No. 23.

Date: July 10, 2015