

# EMISSION SOURCES - EMISSIONS CAPS AND INDIVIDUAL EMISSION LIMITATIONS

Flexible Permit Numbers 8404 and PSD-TX-1062

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.

Emission Point No. (1)	Facility ID No.	Source Name/EPN Description (2)	Air Contaminant Name (3)	Emission Rates*	
				lb/hr	TPY**
Cooling Towers					
FKARU3	ARU3FE	ARU3 Cooling Tower (4)	VOC	0.01	0.04
			Benzene	0.01	0.01
			Cl <sub>2</sub>	0.01	0.06
FKCRU4	CRU4FE	CRU4 Cooling Tower (4)	VOC	0.04	0.16
			Benzene	0.01	0.01
			Cl <sub>2</sub>	0.06	0.27
FKFCCU1&2	FCCU NO2FE	Alky Cooling Tower (4)	VOC	1.49	6.53
			Benzene	0.01	0.01
			Cl <sub>2</sub>	0.18	0.81
FKFCCU3	FCCU NO3FE	FCCU3 Cooling Tower (4)	VOC	4.41	19.32
			Benzene	0.01	0.01
			Cl <sub>2</sub>	0.54	2.38
FK33PH	FHTU4	No. 33PH East Cooling Tower (4)	VOC	0.09	0.41
			Benzene	0.01	0.01
			Cl <sub>2</sub>	0.04	0.18
FKDCU1	FKDCU1	DCU1 Cooling Tower (4)	VOC	0.06	0.28
			Benzene	0.01	0.01
			Cl <sub>2</sub>	0.11	0.48
FK33PH	FLCDU	No. 33PH West Cooling Tower (4)	VOC	0.02	0.10
			Benzene	0.01	0.01
			Cl <sub>2</sub>	0.04	0.18
FKMPU4	MPU4FE	MPU4 Cooling Tower (4)	VOC	0.07	0.29
			Benzene	0.01	0.01
			Cl <sub>2</sub>	0.11	0.50

## EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

**Cooling Towers**

FKHTU1 and 2	HTU1FE	HTU1 and HTU2	VOC	0.02	0.07
		Cooling Tower (4)	Benzene Cl <sub>2</sub>	0.01 0.02	1.01 0.09
FKHTU1 and 2	HTU2FE	HTU1 and HTU2	VOC	0.02	0.07
		Cooling Tower (4)	Benzene Cl <sub>2</sub>	0.01 0.03	0.01 0.11
FKHTU3	HTU3FE	HTU3 Cooling Tower (4)	VOC	0.01	0.04
			Benzene	0.01	0.01
			Cl <sub>2</sub>	0.02	0.07
FKMPU3	MPU3FE	MPU3 Cooling Tower (4)	VOC	0.07	0.29
			Benzene	0.01	0.01
			Cl <sub>2</sub>	0.11	0.50
FKHTU5	FKHTU5	HTU5 Cooling Tower (4)	VOC	0.28	1.23
FKVPS1	SRU 4 FE	VPS1 Cooling Tower (4)	VOC	0.02	0.08
			Benzene	0.01	0.01
			Cl <sub>2</sub>	0.03	0.14
FKVPS2	VPS2 FE	VPS2 Cooling Tower (4)	VOC	1.09	4.78
			Benzene	0.01	0.01
			Cl <sub>2</sub>	0.13	0.59
FKVPS4	VPS NO4 FE	VPS4 Cooling Tower (4)	VOC	1.05	4.60
			Benzene	0.01	0.01
			Cl <sub>2</sub>	0.13	0.57

**Combustion Sources**

SFCCU3-2	FCCU3REGEN	FCCU3 Regenerator	NO <sub>x</sub>	273.21	598.34
			VOC	20.63	90.35
			SO <sub>2</sub>	570.64	208.28
			CO	415.87	1,821.49
			PM	188.60	826.10
SCRU4-1	Various***	Combined Heater Stack	NO <sub>x</sub>	40.69	178.22
			VOC	3.65	16.02

## EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

			SO <sub>2</sub>	25.26	71.32
			CO	55.85	244.63
			PM	5.05	22.14
SCDHDS1	FCCU3	CDHDS1 Heater	NO <sub>x</sub>	2.30	10.05
			VOC	0.21	0.90
			SO <sub>2</sub>	1.43	4.02
			CO	3.15	13.80
			PM	0.29	1.25
SFCCU3-1	FCCU3CHGHT	FCCU3 Charge Heater	NO <sub>x</sub>	8.50	25.31
			VOC	0.76	2.27
			SO <sub>2</sub>	5.27	10.13
			CO	11.66	34.74
			PM	1.06	3.14
SHCU1-1	HCU1RAC1HT	HCU1 Reactor No. 1 Heater	NO <sub>x</sub>	3.60	15.77
			VOC	0.24	1.06
			SO <sub>2</sub>	1.68	4.73
			CO	3.71	16.23
			PM	0.34	1.47
SHCU1-2	HCU1RAC2HT	HCU1 Reactor No. 2 Heater	NO <sub>x</sub>	4.56	19.97
			VOC	0.31	1.35
			SO <sub>2</sub>	2.12	5.99
			CO	4.69	20.56
			PM	0.42	1.86
<b>Combustion Sources</b>					
SHCU1-3	HCU1PFRBL	HCU1 Preflash Reboiler	NO <sub>x</sub>	6.16	26.98
			VOC	0.42	1.82
			SO <sub>2</sub>	2.87	8.10
			CO	6.34	27.77
			PM	0.57	2.51
SHCU1-4	HCU1FRCRBL	HCU1 Fractionator Reboiler	NO <sub>x</sub>	7.20	31.54
			VOC	0.49	2.13
			SO <sub>2</sub>	3.35	9.47
			CO	7.41	32.46
			PM	0.67	2.94
SHTU1-1	HTU1CHGHTR	HTU1 Charge Heater	NO <sub>x</sub>	2.10	9.20

## EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

			VOC	0.19	0.83
			SO <sub>2</sub>	1.30	3.68
			CO	2.88	12.62
			PM	0.26	1.14
SHTU2-1	HTU2CHGHTR	HTU2 Charge Heater	NO <sub>x</sub>	3.24	14.19
			VOC	0.29	1.28
			SO <sub>2</sub>	2.01	5.68
			CO	4.45	19.48
			PM	0.40	1.76
SHTU2-2	HTU2 RBL	HTU2 Reboiler	NO <sub>x</sub>	2.52	11.04
			VOC	0.23	0.99
			SO <sub>2</sub>	1.56	4.42
			CO	3.46	15.15
			PM	0.31	1.37
SHTU3-1	HTU3CHGHTR	HTU3 Charge Heater	NO <sub>x</sub>	3.61	15.79
			VOC	0.32	1.42
			SO <sub>2</sub>	2.24	6.32
			CO	4.95	21.68
			PM	0.45	1.96
<b>Combustion Sources</b>					
SHTU3-2	HTU3 RBL	HTU3 Rerun Tower Reboiler	NO <sub>x</sub>	3.00	13.14
			VOC	0.27	1.18
			SO <sub>2</sub>	1.86	5.26
			CO	4.12	18.04
			PM	0.37	1.63
SHTU4-1	SHTU4-1	HTU4 Charge Heater No. 1	NO <sub>x</sub>	3.28	9.15
			VOC	0.18	0.49
			SO <sub>2</sub>	1.22	2.20
			CO	2.70	7.54
			PM	0.24	0.68
SHTU4-2	SHTU4-2	HTU4 Charge Heater No. 2	NO <sub>x</sub>	3.28	9.15
			VOC	0.18	0.49
			SO <sub>2</sub>	1.22	2.20
			CO	2.70	7.54
			PM	0.24	0.68

## EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

SHTU4-3	SHTU4-3	HTU4 Reboiler Heater	NO <sub>x</sub>	2.00	6.66
			VOC	0.13	0.45
			SO <sub>2</sub>	0.93	2.00
			CO	2.06	6.85
			PM	0.19	0.62
SHTU4-4	SHTU4-4	HTU4 Recycle Gas Heater	NO <sub>x</sub>	6.47	21.82
			SO <sub>2</sub>	2.87	8.11
			CO	6.35	27.82
			PM	0.57	2.52
SHTU5	SHTU5	HTU5 Heater	NO <sub>x</sub>	2.11	9.22
			VOC	0.33	1.45
			SO <sub>2</sub>	1.52	5.40
			CO	4.47	19.12
			PM	0.46	2.00
Combustion Sources					
SLCDU1-1	LCDU CHTR	LCDU Charge Heater	NO <sub>x</sub>	0.99	4.34
			VOC	0.09	0.39
			SO <sub>2</sub>	0.61	1.74
			CO	1.36	5.95
			PM	0.12	0.54
SLCDU1-2	LCDU CHTR	LCDU Reactor Heater	NO <sub>x</sub>	2.22	9.72
			VOC	0.20	0.87
			SO <sub>2</sub>	1.38	3.89
			CO	3.05	13.35
			PM	0.28	1.21
SMPU3-1	MPU3ROHTR	MPU3 Refined Oil Mix Heater	NO <sub>x</sub>	6.02	22.67
			VOC	0.41	1.53
			SO <sub>2</sub>	2.80	6.80
			CO	6.19	23.34
			PM	0.56	2.11
SMPU3-2	MPU3EXTHTR	MPU3 Extract Heater	NO <sub>x</sub>	13.52	48.71
			VOC	0.91	3.28
			SO <sub>2</sub>	6.30	14.62
			CO	13.92	50.14
			PM	1.26	4.54

## EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

SMPU4	MPU4EXTHTR	MPU4 Secondary Heater Stack	NO <sub>x</sub>	0.72	3.15
			VOC	0.05	0.21
			SO <sub>2</sub>	0.34	0.95
			CO	0.74	3.25
			PM	0.07	0.29
SMPU4	MPU4ROHTR	MPU4 Secondary Heater Stack	NO <sub>x</sub>	4.80	21.02
			VOC	0.32	1.42
			SO <sub>2</sub>	2.24	6.31
			CO	4.94	21.64
			PM	0.45	1.96
Combustion Sources					
SMPU4C	SMPU4C	MPU4 Extract Heater	NO <sub>x</sub>	9.07	39.74
			VOC	0.61	2.68
			SO <sub>2</sub>	4.22	11.93
			CO	9.34	40.90
			PM	0.84	3.70
SCDHydro/ SCHDS2	SCDHydro/ SCHDS2	CDHydro/CDHDS2 Heater	NO <sub>x</sub>	2.70	11.83
			VOC	0.36	1.59
			SO <sub>2</sub>	2.51	7.10
			CO	5.56	24.35
			PM	0.50	2.20
SHCU1-5	SHCU1-5	HCU1 Prefractionator Heater	NO <sub>x</sub>	0.80	3.50
			VOC	0.22	0.94
			SO <sub>2</sub>	1.49	4.21
			CO	3.29	14.43
			PM	0.30	1.31
SDCU1-1	SDCU1-1	Coker Heater No. 1	NO <sub>x</sub>	15.05	65.42
			VOC	1.01	4.41
			SO <sub>2</sub>	7.01	19.64
			CO	15.49	67.34
			PM	1.40	6.09
SDCU1-2	SDCU1-2	Coker Heater No. 2	NO <sub>x</sub>	15.05	65.42
			VOC	1.01	4.41
			SO <sub>2</sub>	7.01	19.64

## EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

			CO	15.49	67.34
			PM	1.40	6.09
STGTU1-2	STGTU1-2	Hot Oil Heater	NO <sub>x</sub>	0.53	1.21
			VOC	0.03	0.07
			SO <sub>2</sub>	0.20	0.29
			CO	0.43	1.00
			PM	0.04	0.09
<b>Combustion Sources</b>					
STGTU2-2	STGTU2-2	Hot Oil Heater	NO <sub>x</sub>	3.12	13.67
			VOC	0.17	0.74
			SO <sub>2</sub>	1.16	3.28
			CO	2.57	11.25
			PM	0.23	1.02
SHTU3-3	SHTU3-3	HTU3 Hydrogen Heater	NO <sub>x</sub>	0.60	2.63
			VOC	0.11	0.47
			SO <sub>2</sub>	0.75	2.10
			CO	1.65	7.21
			PM	0.15	0.65
SVPS2-1	Various***	Combined Heater Stack	NO <sub>x</sub>	11.62	50.90
			VOC	1.57	6.86
			SO <sub>2</sub>	10.82	30.55
			CO	23.92	104.78
			PM	2.16	9.48
SVPS2-2	VPSATM4HT	VPS2 No. 4 Atmospheric Heater	NO <sub>x</sub>	2.40	10.51
			VOC	0.32	1.42
			SO <sub>2</sub>	2.24	6.31
			CO	4.94	21.64
			PM	0.45	1.96
SVPS4-1	VPS4ATM3HT	VPS4 Atmospheric C Heater	NO <sub>x</sub>	8.40	36.79
			VOC	0.75	3.31
			SO <sub>2</sub>	5.22	14.72
			CO	11.53	50.50
			PM	1.04	4.57
SVPS4-4	VPS4HSRBL	VPS4 Naphtha Reboiler	NO <sub>x</sub>	3.48	15.24

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

			VOC	0.31	1.37
			SO <sub>2</sub>	2.16	6.10
			CO	4.78	20.92
			PM	0.43	1.89
<b>Combustion Sources</b>					
SVPS4-7	VPS4ATM1HT	Atmospheric Heater No. 1 (5)	NO <sub>x</sub>	14.28	62.55
			VOC	1.28	5.62
			SO <sub>2</sub>	8.87	25.03
			CO	19.60	85.85
			PM	1.77	7.77
SVPS4-7	VPS4ATM2HT	Atmospheric Heater No. 2 (5)	NO <sub>x</sub>	14.28	62.55
			VOC	1.28	5.62
			SO <sub>2</sub>	8.87	25.03
			CO	19.60	85.85
			PM	1.77	7.77
SVPS4-7	VPS4VAC1HT	Vacuum Heater No. 1 (5)	NO <sub>x</sub>	5.40	23.65
			VOC	0.49	2.13
			SO <sub>2</sub>	3.35	9.47
			CO	7.41	32.46
			PM	0.67	2.94
SVPS4-7	VPS4VAC2HT	Vacuum Heater No. 2 (5)	NO <sub>x</sub>	5.40	23.65
			VOC	0.49	2.13
			SO <sub>2</sub>	3.35	9.47
			CO	7.41	32.46
			PM	0.67	2.94
SVPS4-7	See above	Combined Heater Stack (5)	NO <sub>x</sub>	39.36	172.40
			VOC	3.54	15.50
			SO <sub>2</sub>	24.44	68.99
			CO	54.02	236.62
			PM	4.89	21.41
STGTU1-1	TGTUINCINR	Tail Gas Treating Unit No. 1 Incinerator	NO <sub>x</sub>	6.00	18.22
			VOC	0.40	1.23
			SO <sub>2</sub>	62.22	236.83
			CO	10.89	41.45
			PM	0.56	1.70



**Combustion Sources**

STGTU2-1	STGTU2-1	Tail Gas Treating Unit No. 2 Incinerator	NO <sub>x</sub>	7.50	22.78
			VOC	0.40	1.23
			SO <sub>2</sub>	62.22	236.83
			CO	10.89	41.45
			PM	0.56	1.70

**Loading Operations**

FLR39	LR NO 39FE	Loading Rack No. 39	VOC	0.44	0.34
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**Storage Tanks**

TK 1945	TK 1945	Storage Tank No. 1945	VOC	3.88	3.29
TK 2040	TK 2040	Storage Tank No. 2040	VOC	1.82	1.15
TK 2041	TK 2041	Storage Tank No. 2041	VOC	6.27	4.51
TAL35144	TAL35144	Fresh Caustic	VOC	0.01	0.01

**Vents**

SCRU4-2	CRU4-CCR	Regen Vent Scrubber	NO <sub>x</sub>	0.97	4.25
			SO <sub>2</sub>	0.67	2.96
			PM	0.06	0.26
			HCl	0.06	0.24
			Cl <sub>2</sub>	0.01	0.05
SCRU5-2	CRU5-CCR	Regen Vent Scrubber	NO <sub>x</sub>	1.92	8.41
			SO <sub>2</sub>	1.34	5.85
			PM	0.12	0.51
			HCl	0.11	0.48
			Cl <sub>2</sub>	0.02	0.48

**Fugitives (4)**

FHTU5	FHTU5FE	HTU5 Fugitives	VOC	3.50	15.32
FARU4	FARU4HTU5	HTU5 Amine Recovery Fugitives	VOC	0.13	0.58
FCOKE1	COKE 1 FE	Coke Handling Fugitives	PM	wet	wet

# EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

(See Attachment I for Source Name Emission Point Number Index for emissions authorized in Emission Caps.)

	<u>Emissions Caps</u>	
	<u>lb/hr</u>	<u>TPY</u>
<u>NO<sub>x</sub> CAPS:</u>		
Initial (after Permit 8404 renewal/ pre-CEP start-up)	36.34	159.18
Final (after CEP start-up)	281.96	861.68
<u>VOC CAPS:</u>		
Initial	314.34	840.44
Final	376.29	763.42
<u>SO<sub>2</sub> CAPS:</u>		
Initial	0.08	0.40
Final	554.53	1858.48
<u>CO CAPS:</u>		
Initial	36.36	159.25
Final	392.68	1719.96
<u>PM CAPS:</u>		
Initial	0.48	2.07
Final	114.62	481.02
<u>BENZENE CAPS:</u>		
Initial	0.49	1.55
Final	0.40	1.11
<u>H<sub>2</sub>SO<sub>4</sub> CAPS:</u>		
Initial	0.64	0.03
Final	9.27	22.22
<u>H<sub>2</sub>S CAPS:</u>		
Initial	1.05	4.59
Final	1.37	6.00
<u>NH<sub>3</sub> CAPS:</u>		
Initial	0.01	0.01
Final	23.18	101.52

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Cl<sub>2</sub> CAPS:

Initial	0.0	0.0
Final	1.06	4.66

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

	<u>MSS Emissions Caps</u>	
	<u>lb/hr</u>	<u>TPY</u>
<b><u>Initial:</u></b>		
CO	200.63	1.28
NO <sub>x</sub>	63.59	0.20
VOC	3072.13	15.13
SO <sub>2</sub>	316.56	3.80
H <sub>2</sub> S	65.26	0.78
Benzene	4.94	0.01
<b><u>Final:</u></b>		
CO	2463.27	24.03
NO <sub>x</sub>	904.96	8.68
VOC	4573.35	26.45
SO <sub>2</sub>	574.05	6.79
PM	52.92	0.53
H <sub>2</sub> S	105.70	1.27
H <sub>2</sub> SO <sub>4</sub>	8.63	0.09
Benzene	4.93	0.02
NH <sub>3</sub>	19.99	0.20

- (1) Emission point identification – either specific equipment designation or emission point number (EPN).
- (2) Specific point source name. For fugitive sources use area name or fugitive source name.
- (3) SO<sub>2</sub> - sulfur dioxide  
VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1  
NO<sub>x</sub> - total oxides of nitrogen  
CO - carbon monoxide  
PM - particulate matter, suspended in the atmosphere, including PM<sub>10</sub>.  
H<sub>2</sub>SO<sub>4</sub> - sulfuric acid  
HCl - hydrogen chloride  
Cl<sub>2</sub> - chlorine  
NH<sub>3</sub> - ammonia
- (4) Emission rate is an estimate and compliance is demonstrated by meeting the requirements of the applicable special conditions and permit application representations.
- (5) Individual stacks are only used during startup. The combined heater stack is used during normal operations.

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

- \* Emission rates are based on operating 8,760 hr/year.
- \*\* Compliance with annual emission limits is based on a rolling 12-month period.
- \*\*\* Facility identification numbers (FINS) included in EPN SCRU4-1 are CRU4DPREB, CRU4INTHT1, CRU4INTHT2, CRU4NHTCHT, CRU4PLATHT, and CRU4SRBL.
- \*\*\* FINS included in EPN SVPS2-1 are VPS2ATM1HT, VPS2ATM2HT, VPS2ATM3HT, VPS2VAC1HT, and VPS2VAC2HT.

Dated August 22, 2008

# ATTACHMENT I - EMISSION CAPS

## CONTAMINANTS, EMISSION POINT NUMBERS, AND SOURCE NAMES

Flexible Permit Numbers 8404 and PSD-TX-1062

This table lists the emission point numbers, source names, and contaminants emitted from all emission sources covered by this permit that are included in an emissions cap. I: initial cap, represents emissions sources that will be operational upon permit renewal and prior to startup of the CEP; F: final cap, represents emissions sources that will be operational after CEP start-up.

FIN	EPN	EPN Description	Emission Cap Contaminants Emitted									
			NO <sub>x</sub>	VOC	SO <sub>2</sub>	CO	PM	Benzen e	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> S	NH <sub>3</sub>	Cl <sub>2</sub>
GTG41-LOV	SPS-LOV 1	Power Station No. 4 Lube Oil Vent 1					F					
GTG41	SPS4-1	Power Station No. 4 Cogen Unit 1	F	F	F	F	F		F		F	
GTG42-LOV	SPS-LOV 2	Power Station No. 4 Lube Oil Vent 2					F					
GTG42	SPS4-2	Power Station No. 4 Cogen Unit 2	F	F	F	F	F		F		F	
GTG43-LOV	SPS-LOV 3	Power Station No. 4 Lube Oil Vent 3					F					
GTG43	SPS4-3	Power Station No. 4 Cogen Unit 3	F	F	F	F	F		F		F	
COKE 2 FE	FCOKE2	New DCU coke handling					F					
COKE X FE	FCOKEX	New Coke stockpile surge pad					F					
CRU5 FE	FKCRU5 FE	New CRU Cooling Tower		F				F				F
DCU2 FE	FKDCU2 FE	NEW DCU 2 Cooling Tower		F				F				F
PS 4 FE	FKPS 4	New Power Station Cooling		F				F				F

ATTACHMENT I - EMISSION CAPS  
CONTAMINANTS, EMISSION POINT NUMBERS, AND SOURCE NAMES

	FE	Tower										
VPS 5 FE	FKVPS 5 FE	New VPS Cooling Tower		F				F				F
ALKY 4 EE	EFCCU1 &2	Alky Emergency Flare	I, F	F	I, F	F						
ARU NO1 FS	EARU1&2	ARU 1 Flare	I, F	I, F	I, F	I, F						
ARU NO2 FS	EARU1&2	ARU 2 Flare	I, F	I, F	I, F	I, F						
CRU NO4 FS	ECRU4	CRU No. 4 Emergency Flare	I, F	I, F	I, F	I, F						
EDCU1	EDCU1	Delayed Coking Unit Flare	I, F	I, F	I, F	I, F						
EHTU4	EHTU	HTU4 Flare	I, F	I, F	I, F	I, F						
FCCU NO3FS	EFCCU3	FCCU3 Flare	I, F	I, F	I, F	I, F						
HCU NO1FS	EHCUC	HCU Flare	I, F	I, F	I, F	I, F						
VPS NO4 FS	EVPS4	VPS No. 4 Flare	I, F	I, F	I, F	I, F						
VPS NO2 FS	EVPS4	VPS No. 4 Flare Stack	I, F	F	I, F	F						
EHTU1	EHCUC	HCU Flare	I, F	F	I, F	F						
EHTU2	EHCUC	HCU Flare	I, F	F	I, F	F						

ATTACHMENT I - EMISSION CAPS  
CONTAMINANTS, EMISSION POINT NUMBERS, AND SOURCE NAMES

EHTU3	EHCUCU	HCU Flare	I, F	F	I, F	F						
LCDU	ECRU4	CRU No. 4 Flare	I, F	F	I, F	F						
SBU2	EDCU1	DCU Flare	I, F	F	I, F	F						
CRU NO5 FS	ECRU5	CRU No. 4 Flare	I, F	F	I, F	F						
EDCU2	EDCU2	DCU No. 2 Flare Stack	F	F	F	F						
EHTU6	EHTU6	HTU6 Flare Stack	F	F	F	F						
HCU NO2FS	EHCUCU2	HCU No. 2 Flare Stack	F	F	F	F						
VPS NO5 FS	EVPS5	VPS No. 5 Flare Stack	F	F	F	F						
ALKY 4 FE	FALKY4	Fugitives		I, F				I, F				
ARU 1 FE	FARU1	No.1 Amine Regeneration Unit Process Fugitives		I, F				I, F		I, F		
ARU 2 FE	FARU2	No.2 Amine Regeneration Unit Process Fugitives		I, F				I, F		I, F		
ARU 3 FE	FARU3	No.3 Amine Regeneration		I, F				I, F		I, F		



ATTACHMENT I - EMISSION CAPS  
CONTAMINANTS, EMISSION POINT NUMBERS, AND SOURCE NAMES

		Unit Process Fugitives										
ARU 3 FE	FSWS1	Sour Water Stripper Fugitives		I, F						I, F	I, F	
ARU 4 FE	FARU4	No.4 Amine Regeneration Unit Process Fugitives		I, F				I, F		I, F		
BSW FE	FBSW	BS and W Fugitives		I, F				I, F				
CDHDS1	FCDHDS1	CDHDS1 Fugitive Emissions		I, F				I, F				
CDHDS2	FCDHDS2	CDHydro/CDHDS2 Fugitive Emissions		I, F				I, F				
CRU 4 FE	FCRU4	Fugitives		I, F				I, F				
FCCU NO3FE	FFCCU3	FCCU3 Fugitive Emissions		I, F				I, F				
FDCU1	FDCU1	DCU 1 Process Fugitives		I, F				I, F				
FGR-1	FGR-1	Flare Gas Recovery		I, F				I, F				
FGR-2	FGR-2	Flare Gas Recovery		I, F				I, F				
FHTU4	FHTU4	HTU No.4 Fugitives		I, F				I, F				
FMPU4	FMPU4	MPU4 Fugitive Emissions		I, F				I, F				
HCU NO1 FE	FHCU1	Fugitive Emissions		I, F				I, F				

ATTACHMENT I - EMISSION CAPS  
CONTAMINANTS, EMISSION POINT NUMBERS, AND SOURCE NAMES

HTU1FE	FHTU1	Fugitives		I, F				I, F				
HTU2FE	FHTU2	Fugitives		I, F				I, F				
HTU3FE	FHTU3	Fugitives		I, F				I, F				
LCDU FE	FLCDU	LCDU Fugitives		I, F				I, F				
LOTA FE	FLOTA	LOTA Fugitives		I								
LR NO 4 FE	FU-Rack4	No.4 Loading Rack Emissions		I, F				I, F				
MPU3FE	FMPU3	MPU3 Fugitive Emissions		I, F				I, F				
NSGP FE	FNSGP	NSGP Fugitives		I, F				I, F				
NSSEP FE	FNSSEP	FE North API Separator		I				I				
PH 27 FE	FPH27	PH27 Fugitives		I, F				I, F				
PH 57 FE	FPH57	PH57 Fugitives		I, F				I, F				

ATTACHMENT I - EMISSION CAPS  
CONTAMINANTS, EMISSION POINT NUMBERS, AND SOURCE NAMES

SCTLA FE	FSCTLA	SCLTA Fugitives		I, F				I, F				
SRU 2 FE	FSRU2	SRU No.2 Fugitives			I, F					I, F		
SRU 3 FE	FSRU3	SRU No.3 Fugitives			I, F					I, F		
SRU 4 FE	FSRU4	SRU No.4 Fugitives			I, F					I, F		
TGTU 1 FE	FTGTU1	Tail Gas Treating Unit 1 Fugitives			I, F	I, F				I, F		
TGTU 2 FE	FTGTU2	Tail Gas Treating Unit 2 Fugitives			I, F	F				I, F		
VPS 2 FE	FVPS2	VPS2 Fugitive Emissions		I, F				I, F				
VPS NO4 FE	FVPS4	VPS4 Fugitives		I, F				I, F				
WAGS FE	FWAGS	WAGS Fugitives		I, F				I, F				
WSGP FE	FWSGP	WSGP Fugitives		I, F				I, F				
ARU 5 FE	FARU5	New ARU No. 5 Fugitive Emissions		F				F		F		
ARU 5 FE	FSWS2	Sour Water Stripper 2 Fugitives		F						F	F	
ARU 6 FE	FARU6	New ARU No. 6 Fugitive		F				F		F		

ATTACHMENT I - EMISSION CAPS  
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		Emissions										
ARU 7 FE	FARU7	New ARU No. 7 Fugitive Emissions		F				F		F		
ARU 6 FE	FSWS3	Sour Water Stripper 3 Fugitives		F						F	F	
NTC FE	FNTC	Naphtha Treating Complex Fugitive Emissions		F				F				
FDCU2	FDCU2	New DCU No. 2B Fugitive Emissions		F				F				
HCU NO2 FE	FHCU2	New HCU No. 2 Fugitive Emissions		F				F				
HTU 6 FE	FHTU6	New HTU 6 Fugitive Emissions		F				F				
PS 4 FE	FPS4	Power Station No. 4 Fugitive Emissions		F				F				
SRU 5 FE	FSRU5	New SRU No. 5 Fugitive Emissions			F					F		
SRU 6 FE	FSRU6	New SRU No. 6 Fugitive Emissions			F					F		
SRU 7 FE	FSRU7	New SRU No. 7 Fugitive Emissions			F					F		
VPS NO5 FE	FVPS5	New VPS No. 5 Fugitive Emissions		F				F				
TGTU 5 FE	FTGTU5	Tail Gas Treating Unit No. 5 Incinerator			F	F				F		
TGTU 6 FE	FTGTU6	Tail Gas Treating Unit No. 6 Incinerator			F	F				F		
TGTU 7	FTGTU7	Tail Gas Treating Unit No. 7			F	F				F		

ATTACHMENT I - EMISSION CAPS  
CONTAMINANTS, EMISSION POINT NUMBERS, AND SOURCE NAMES

FE		Incinerator										
FGR-3	FGR-3	Flare Gas Recovery		F				F				
FGR-4	FGR-4	Flare Gas Recovery		F				F				
ASTU 2 FE	FASTU2	ASTU No. 2 Fugitive Emissions		I, F				I, F				
CRU5INT HT1	SCRU5-2	No. 5 CRU Platformer No.1 Intermediate HTR	F	F	F	F	F					
CRU5INT HT2	SCRU5-2	No. 5 CRU Platformer No.2 Intermediate HTR	F	F	F	F	F					
CRU5NH T CHT	SCRU5-1	No. 5 CRU Naphtha Hydrotreater CHG HTR	F	F	F	F	F					
CRU5PLA THT	SCRU5-2	No. 5 CRU Platformer Heater	F	F	F	F	F					
HCU2RA C 1H1	SHCU2-1	HCU No. 2 Reactor No.1 Heater 1	F	F	F	F	F					
HCU2RA C 1H2	SHCU2-2	HCU No. 2 Reactor No.1 Heater 2	F	F	F	F	F					
HCU2RA C 2H1	SHCU2-3	HCU No. 2 Reactor No. 2 Heater 1	F	F	F	F	F					
HCU2RA C	SHCU2-4	HCU No. 2 Reactor No. 2 Heater 2	F	F	F	F	F					

ATTACHMENT I - EMISSION CAPS  
CONTAMINANTS, EMISSION POINT NUMBERS, AND SOURCE NAMES

2H2												
HTU6CH G H1	SHTU6-1	HTU No. 6 Charge Heater 1	F	F	F	F	F					
HTU6CH G H2	SHTU6-2	HTU No. 6 Fractionator Reboiler	F	F	F	F	F					
HCU2HT U H1	SHCU2-6	HCU No. 2 HTU Charge Heater 1	F	F	F	F	F					
HCU2HT U H2	SHCU2-7	HCU No. 2 HTU Charge Heater 2	F	F	F	F	F					
HCU2HT U H3	SHCU2-8	HCU No. 2 HTU Frac Reboiler	F	F	F	F	F					
SCHCU2- 5	SHCU2-5	HCU No. 2 Fractionator Heater	F	F	F	F	F					
SDCU2-1	SDCU2-1	Coker Heater No. 1	F	F	F	F	F					
SDCU2-2	SDCU2-2	Coker Heater No. 2	F	F	F	F	F					
SDCU2-3	SDCU2-3	Coker Heater No. 3	F	F	F	F	F					
VPS5ATM 1HT	SVPS5-1	VPS No. 5, No. 1 Atmospheric Heater	F	F	F	F	F					
VPS5ATM 2HT	SVPS5-2	VPS No. 5, No. 2 Atmospheric Heater	F	F	F	F	F					
VPS5VAC	SVPS5-3	VPS No. 5, No. 1 Vacuum	F	F	F	F	F					

ATTACHMENT I - EMISSION CAPS  
CONTAMINANTS, EMISSION POINT NUMBERS, AND SOURCE NAMES

1HT		Heater										
VPS5VAC 2HT	SVPS5-4	VPS No. 5, No. 2 Vacuum Heater	F	F	F	F	F					
CRU5STR PBL	SCRU5-3	No. 5 CRU Stripper Reboiler	F	F	F	F	F					
CRU5SPL TBL	SCRU5-4	No. 5 CRU Splitter Reboiler	F	F	F	F	F					
CRU5STA BBL	SCRU5-5	No. 5 CRU Stabilizer Reboiler	F	F	F	F	F					
CRU5DB U TBL	SCRU5-6	No. 5 CRU CCR Debutanizer Reboiler	F	F	F	F	F					
BOILER 46	SPS4-4	Power Boiler 46	F	F	F	F	F					
BOILER 47	SPS4-5	Power Boiler 47	F	F	F	F	F					
BOILER 48	SPS4-6	Power Boiler 48	F	F	F	F	F					
STGTU5- 1	STGTU5- 1	SRU5/TGTU5 Incinerator	F	F	F	F	F					
STGTU6- 1	STGTU6- 1	SRU6/TGTU6 Incinerator	F	F	F	F	F					

ATTACHMENT I - EMISSION CAPS  
CONTAMINANTS, EMISSION POINT NUMBERS, AND SOURCE NAMES

STGTU7-1	STGTU7-1	SRU7/TGTU7 Incinerator	F	F	F	F	F					
TAL35140	TAL35140	Fresh Sulfuric Acid Tank							I, F			
TAL35141	TAL35141	Fresh Sulfuric Acid Tank							I, F			
TAL35144	TAL35144	Fresh Caustic		I, F								
TK 1247	TML01247	Storage Tank No. 1247		I, F				I, F				
TK 1248	TML01248	Tank 1248		I, F				I, F				
TK 1250	TML01250	Tank 1250		I, F				I, F				
TK 1251	TML01251	Tank 1251		I, F				I, F				
TK 1252	TML01252	Tank 1252		I, F				I, F				
TK 1254	TML01254	Tank 1254		I, F				I, F				
TK 12824	TFT12824	Tank 12824		I, F				I, F				



ATTACHMENT I - EMISSION CAPS  
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TK 1475	TST01475	Tank 1475		I, F								
TK 1490	TML01490	Storage Tank No. 1490		I, F				I, F				
TK 1510	TST01510	Tank 1510		I, F				I, F				
TK 1511	TST01511	Storage Tank No. 1511		I, F				I, F				
TK 1524	TML01524	Storage Tank No. 1524		I, F								
TK 1525	TML01525	Tank 1525		I, F				I, F				
TK 1526	TML01526	Storage Tank No. 1526		I, F								
TK 1530	TST01530	Storage Tank No. 1530		I, F								
TK 1535	TST01535	Storage Tank No. 1535		I				I				
TK 1553	TST01553	Storage Tank No. 1553		I, F				I, F				
TK 1600	TST01600	Storage Tank No. 1600		I, F								

ATTACHMENT I - EMISSION CAPS  
CONTAMINANTS, EMISSION POINT NUMBERS, AND SOURCE NAMES

TK 1601	TST01601	Tank 1601		I, F				I, F				
TK 1617	TST01617	Tank 1617		I, F								
TK 1663	TML0166 3	Tank 1663		I, F				I, F				
TK 1671	TST01671	Storage Tank No. 1671		I, F				I, F				
TK 1679	TST01679	Tank 1679		I, F								
TK 1681	TST01681	Storage Tank No. 1681		I, F								
TK 1691	TST01691	Tank 1691		I, F								
TK 1697	TP301697	Storage Tank No. 1697		I, F								
TK 1698	TML0169 8	Tank 1698		I, F				I, F				
TK 1699	TML0169 9	Tank 1699		I, F				I, F				
TK 1712	TST01712	Storage Tank No. 1712		I, F								

ATTACHMENT I - EMISSION CAPS  
CONTAMINANTS, EMISSION POINT NUMBERS, AND SOURCE NAMES

TK 1718	TST01718	Storage Tank No. 1718		I, F								
TK 1719	TST01719	Storage Tank No. 1719		I, F								
TK 1728	TST01728	Tank 1728		I, F								
TK 1740	TBS01740	Storage Tank No. 1740		I								
TK 1741	TBS01741	Tank 1741		I								
TK 1748	TAR01748	Amine Tank		I, F								
TK 1767	TML01767	Storage Tank No. 1767		I, F				I, F				
TK 1768	TML01768	Tank 1768		I, F				I, F				
TK 1775	TST01775	Storage Tank No.1775		I, F				I, F				
TK 1787	TST01787	Storage Tank No. 1787		I, F								
TK 1803	TK 1803	Storage Tank No. 1803		I								

ATTACHMENT I - EMISSION CAPS  
CONTAMINANTS, EMISSION POINT NUMBERS, AND SOURCE NAMES

TK 1804	TK 1804	Storage Tank No. 1804		I								
TK 1820	TVA01820	Coker Feedstock Tank		I, F								
TK 1821	TVA01821	Coker Feedstock Tank		I, F								
TK 1825	TDC01825	Refinery Sludges Tank		I, F								
TK 1850	TST01850	Tank 1850		I, F								
TK 1873	TBS01873	Storage Tank No. 1873		I								
TK 1884	TST01884	Tank 1884		I, F								
TK 1885	TST01885	Tank 1885		I, F				I, F				
TK 1886	TST01886	Storage Tank No. 1886		I				I				
TK 1887	TWT01887	Storage Tank No. 1887		I, F								
TK 1893	TST01893	Tank 1893		I, F								

ATTACHMENT I - EMISSION CAPS  
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TK 1894	TST01894	Storage Tank No. 1894		F								
TK 1895	TST01895	Tank 1895		I, F				I, F				
TK 1898	TAR01898	Storage Tank No. 1898		I, F								
TK 1899	TAR01899	Storage Tank No. 1899		I, F								
TK 1900	TST01900	Storage Tank No. 1900		I								
TK 1904	TML01904	Tank 1904		I, F				I, F				
TK 1913	TST01913	Tank 1913		I, F				I, F				
TK 1918	TK 1918	Tank 1918		I								
TK 19194	TST19194	Tank 19194		I, F				I, F				
TK 1920	TST01920	Tank 1920		I, F				I, F				
TK 19272	TML19272	Storage Tank No. 19272		I, F				I, F				

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TK 1930	TK 1930	Amine Surge Tank		F								
TK 21657	TST21657	Tank 21657		I, F								
TK 21774	TST21774	Storage Tank No. 21774		I, F								
TK 21775	TST21775	Storage Tank No. 21775		I, F								
TK 32451	TBP32451	Storage Tank No. 32451		F								
TK 8323	TBS08323	Storage Tank No. 8323		I								
TK 8874	TP108874	Storage Tank No. 8874		F								
TK 2076	TK 2076	Storage TK 2076		F								
TK 2073	TK 2073	Storage TK 2073		F				F				
TK 2074	TK 2074	Storage TK 2074		F				F				
TK 2072	TK 2072	Storage TK 2072		F								

ATTACHMENT I - EMISSION CAPS  
CONTAMINANTS, EMISSION POINT NUMBERS, AND SOURCE NAMES

TK 1940	TK 1940	Storage TK 1940		F								
TK 1939	TK 1939	Storage TK 1939		F								
TK 1938	TK 1938	Storage TK 1938		F								
TK 2092	TK 2092	Storage TK 2092		F								
TK 2093	TK 2093	Storage TK 2093		F								
TK 2094	TK 2094	Storage TK 2094		F								
TK 2091	TK 2091	Storage TK 2091		F								
TK 2090	TK 2090	Storage TK 2090		F								
TK 2089	TK 2089	Storage TK 2089		F								
TK 2088	TK 2088	Storage TK 2088		F								
TK 2087	TK 2087	Storage TK 2087		F								

ATTACHMENT I - EMISSION CAPS  
CONTAMINANTS, EMISSION POINT NUMBERS, AND SOURCE NAMES

TK 2086	TK 2086	Storage TK 2086		F								
TK 2095	TK 2095	Storage TK 2095		F								
TK 2085	TK 2085	Storage TK 2085		F				F				
TK 2097	TK 2097	Storage TK 2097		F				F				
TK 2096	TK 2096	Storage TK 2096		F				F				
TK 2069	TK 2069	Storage TK 2069		F				F				
TK 2082	TK 2082	Storage TK 2082		F								
TK 2080	TK 2080	Storage TK 2080		F								
TK 2079	TK 2079	Storage TK 2079		F								
TK 2083	TK 2083	Storage TK 2083		F								
TK 2081	TK 2081	Storage TK 2081		F								



ATTACHMENT I - EMISSION CAPS  
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TK 1937	TK 1937	Storage TK 1937		F								
TK 1936	TK 1936	Storage TK 1936		F								
TK 1935	TK 1935	Storage TK 1935		F								
TK 2070	TK 2070	Storage TK 2070		F				F				
TK 2067	TK 2067	Storage TK 2067		F				F				
TK 2068	TK 2068	Storage TK 2068		F				F				
TK 2077	TK 2077	Storage TK 2077		F								
TK 2075	TK 2075	Storage TK 2075		F								
TK 2078	TK 2078	Storage TK 2078		F								
TK 2110	TK 2110	DCU quench water tank		F								
TK 2111	TK 2111	Refinery waste tank		F								
CHCU127 50A	CHCU	HCU1 Compressor 2750A	I	I	I	I	I					

ATTACHMENT I - EMISSION CAPS  
CONTAMINANTS, EMISSION POINT NUMBERS, AND SOURCE NAMES

CHCU127 50B	CHCU	HCU1 Compressor 2750B										
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Attachment I approved