Paulsboro Refining Company LLC (55829)

Date: 9/28/2020

New Jersey Department of Environmental Protection
Reason for Application

Permit Being Modified

Permit Class: BOP **Number:** 200005

Description of Modifications: Title V Permit Renewal Application

New Jersey Department of Environmental Protection
Facility Profile (General)

Facility Name (AIMS): Paulsboro Refining Company LLC **Facility ID (AIMS):** 55829

Street Address: 800 BILLINGSPORT RD
PAULSBORO, NJ 08066

Mailing Address: 800 BILLINGSPORT RD
PAULSBORO, NJ 08066

State Plane Coordinates:

X-Coordinate:	281,251
Y-Coordinate:	365,941
Units:	New Jersey State Plane (
Datum:	NAD83
Source Org.:	Other/Unknown
Source Type:	Hard Copy Map

County: Gloucester

Location Description: Industrial

Industry:

Primary SIC:	
Secondary SIC:	
NAICS:	324110

New Jersey Department of Environmental Protection
Facility Profile (General)

Contact Type: Environmental Officer

Organization: Paulsboro Refining Company LLC
Org. Type: Corporation

Name: Thomas Godlewski
NJ EIN: 00360660000

Title: Environmental Manager

Phone: (856) 224-6326 x
Fax: ( ) - x
Other: ( ) - x
Type:
Email: thoman.godlewski@pbfenergy.com

Mailing Address: 800 Billingsport Road
Paulsboro, NJ 08066

Paulsboro Refining Company LLC (55829) Date: 9/28/2020

New Jersey Department of Environmental Protection
Facility Profile (Permitting)

1. Is this facility classified as a small business by the USEPA?	No
2. Is this facility subject to N.J.A.C. 7:27-22?	Yes
3. Are you voluntarily subjecting this facility to the requirements of Subchapter 22?	No
4. Has a copy of this application been sent to the USEPA?	No
5. If not, has the EPA waived the requirement?	No
6. Are you claiming any portion of this application to be confidential?	No
7. Is the facility an existing major facility?	Yes
8. Have you submitted a netting analysis?	No
9. Are emissions of any pollutant above the SOTA threshold?	No
10. Have you submitted a SOTA analysis?	No
11. If you answered "Yes" to Question 9 and "No" to Question 10, explain why a SOTA analysis was not required	
12. Have you provided, or are you planning to provide air contaminant modeling?	No

Paulsboro Refining Company LLC (55829)

Date:9/28/2020

New Jersey Department of Environmental Protection
Insignificant Source Emissions

IS NJID	Source/Group Description	Equipment Type	Location Description	Estimate of Emissions (tpy)								
				VOC (Total)	NOx	CO	SO	TSP	PM-10	Pb	HAPS (Total)	Other (Total)
IS1	Oil Storage Tanks (10)	Storage Vessel	various									
IS2	Chemical Tanks (10)	Storage Vessel	various									
IS3	Caustic Tanks (5)	Storage Vessel	various									
IS4	Cooling Tower Chemical Tanks (12)	Storage Vessel	various									
IS5	Amine Tanks (6)	Storage Vessel	various									
IS6	Furfural 1 Vent	Other Equipment	Furfural 1 Unit									
IS7	Furfural 2 Vent	Other Equipment	Furfural 2 Unit									
IS8	Cooling Towers (12)	Other Equipment	various									
IS9	Laboratory Hood (28)	Other Equipment	various									
IS10	LPG Loading Hose Connection	Other Equipment	LPG area									
IS11	Non-Applicable VOC Loading Racks	Other Equipment	various									
IS13	Process Analyzer Vents	Other Equipment	various									
IS14	Cold Degreasing Machines using Soap/Water	Cleaning Machine (Open Top: Cold)	Maintenance									
Total												

PAULSBORO REFINING COMPANY
2020 TITLE V RENEWAL APPLICATION
ITEMS FOR REVIEW

Number	Emission Unit	Operating Scenario	Reference Number(s)	Description
1	U1	U1 - OS1	Reference #10, #12, #16	These conditions require compliance with emission limits on an hourly basis. Based upon the 2016 Ratzman Memo on Averaging Periods for CEMS these limits should be based upon a 3-hour rolling average period. None of these emission limits are based upon other Federal or State Regulations but are rather just permit limits under N.J.A.C. 7:27-22.16. Please change these limits to 3-hour rolling average limits.
2	U7	U7 - OS3, OS4	Reference #4	These conditions require compliance with emission limits on an hourly basis. Based upon the 2016 Ratzman Memo on Averaging Periods for CEMS these limits should be based upon a 3-hour rolling average period. None of these emission limits are based upon other Federal or State Regulations but are rather just permit limits under N.J.A.C. 7:27-22.16. Please change these limits to 3-hour rolling average limits.
3	U20	U20 - OS1, OS2	Reference #9, #12	These conditions require compliance with emission limits on an hourly basis. Based upon the 2016 Ratzman Memo on Averaging Periods for CEMS these limits should be based upon a 3-hour rolling average period. None of these emission limits are based upon other Federal or State Regulations but are rather just permit limits under N.J.A.C. 7:27-22.16. Please change these limits to 3-hour rolling average limits.
4	U20	U20 - OS3	Reference #12 (lb/hr only), #15	These conditions require compliance with emission limits on an hourly basis. Based upon the 2016 Ratzman Memo on Averaging Periods for CEMS these limits should be based upon a 3-hour rolling average period. None of these emission limits are based upon other Federal or State Regulations but are rather just permit limits under N.J.A.C. 7:27-22.16. Please change these limits to 3-hour rolling average limits.
5	U20	U20-OS1, OS2, OS3, OS4, U780-OS3	Reference #9, #12	These conditions require compliance with emission limits on an hourly basis. Based upon the 2016 Ratzman Memo on Averaging Periods for CEMS these limits should be based upon a 3-hour rolling average period. None of these emission limits are based upon other Federal or State Regulations but are rather just permit limits under N.J.A.C. 7:27-22.16. Please change these limits to 3-hour rolling average limits.
6	U20	OS4	17	This item refers to water / steam injection in the GTG. Originally, the GTG fired a minimum 20% fuel oil to total fuel by design. This required water injection to control NOx. Several years ago, oil firing was eliminated in the GTG because of some mechanical issues related to the oil firing. However, water injection flows could not be modified to account for not firing fuel oil so essentially the GTG is injecting too much water into the machine. The refinery would like to remove this condition from the permit. We will continue to use steam injection to help control NOx emissions. However, we would like to see this condition removed since there is separate condition for NOx emissions. On occassion, the augmentation steam cuts out of the GTG for short periods due to temporary issues with the steam system as designed to protect the turbine from mechanical problems. In those recent cases, we have not exceeded the NOx limit but nevertheless had a deviation because we were not injecting water/steam into the turbine.
7	U21, U22, U25	OS1 - Refers to GR3	GR3 #13	The specific requirement in the permit is. "Monitored continuously by a video camera and board mounted pilot outage alarm. [40 CFR 60.18(f)(2)] and[N.J.A.C. 7:27-22.16(o)]." To monitor that a flame is present at all times when regulated material is directed to a flare for longer than 15 minutes. The refinery monitors for a flame using a camera and a thermocouple. As such, either one could be non-functioning for a period of time while the other device would still be monitoring the flame. The refinery would like the language changed to "monitored continuously by a video camera and/or thermocouple and board mounted pilot alarm.
8	U780	U780-OS1	Reference #5, #9, #10	These conditions require compliance with emission limits on an hourly basis. Based upon the 2016 Ratzman Memo on Averaging Periods for CEMS these limits should be based upon a 3-hour rolling average period. None of these emission limits are based upon other Federal or State Regulations but are rather just permit limits under N.J.A.C. 7:27-22.16. Please change these limits to 3-hour rolling average limits.
9	U901	various	n/a	Remove the following tanks from the Title V permit as they have been demolished. Tank S-38 (OS161, E261, PT243), Tank S-45 (OS162, E262, PT244), Tank S-48 (OS164, E264, PT246), Tank S-51 (OS167, E267, PT249), Tank S-53 (OS169, E269, PT251), Tank S-55 (OS171, E276, PT 258), Tank S-61 (OS176, E276, PT258) and S-66 (OS181, E281, PT263)
10	U903	Various	n/a	Remove the following tanks from the Title V permit as they have been demolished. Tank 3570 (OS8, E235, PT217) and tank 3571 (OS9, E236, PT218)
11	HAPs TAPs	various	various	Include the HAPs/TAPs emissions for the various units based upon the attached table of calculated emissions. These calculations are based upon AP-42 factors and maximum fired duty for the heaters, maximum fuel use and operating time for the diesel engines and maximum rate for the FCCU.
12	Equipment List	n/a	n/a	Remove the following tanks from the equipment inventory as these tanks have been demolished and they were never associated with an emission unit as they were out of service when the initial permit was submitted. Tank 735 (E572), Tank 736 (E573), Tank 1900 (E636), Tank 1901 (E637), Tank 1902 (E638) and Tank 1903 (E639)

PAULSBORO REFINING COMPANY
2020 TITLE V RENEWAL APPLICATION

Emission Unit	Name	Operating Scenario	Reference No.	Pollutant	Limit	Units	Comments
U1	FCC / FGS	OS1	10	SO2	39.3	lb/hr	change to a limit based upon a 3-hr rolling average of 1-hour averages
U1	FCC / FGS	OS1	12	CO	50	ppm	change to a limit based upon a 3-hr rolling average of 1-hour averages
U1	FCC / FGS	OS1	12	CO	34.4	lb/hr	change to a limit based upon a 3-hr rolling average of 1-hour averages
U1	FCC / FGS	OS1	16	NOX	45	ppm	change to a limit based upon a 3-hr rolling average of 1-hour averages
U1	FCC / FGS	OS1	16	NOX	50.9	lb/hr	change to a limit based upon a 3-hr rolling average of 1-hour averages
U7	TGU80	OS3	4	SO2	8	lb/hr	change to a limit based upon a 3-hr rolling average of 1-hour averages
U7	TGU81	OS4	4	SO2	8	lb/hr	change to a limit based upon a 3-hr rolling average of 1-hour averages
U20	Boiler 2A	OS1	9	NOx	0.04	lb/mmbtu	change to a limit based upon a 3-hr rolling average of 1-hour averages
U20	Boiler 2A	OS1	9	NOx	19.4	lb/hr	change to a limit based upon a 3-hr rolling average of 1-hour averages
U20	Boiler 2A	OS1	12	CO	0.039	lb/mmbtu	change to a limit based upon a 3-hr rolling average of 1-hour averages
U20	Boiler 2A	OS1	12	CO	18.9	lb/hr	change to a limit based upon a 3-hr rolling average of 1-hour averages
U20	Boiler 2B	OS2	9	NOx	0.04	lb/mmbtu	change to a limit based upon a 3-hr rolling average of 1-hour averages
U20	Boiler 2B	OS2	9	NOx	19.4	lb/hr	change to a limit based upon a 3-hr rolling average of 1-hour averages
U20	Boiler 2B	OS2	12	CO	0.039	lb/mmbtu	change to a limit based upon a 3-hr rolling average of 1-hour averages
U20	Boiler 2B	OS2	12	CO	18.9	lb/hr	change to a limit based upon a 3-hr rolling average of 1-hour averages
U20	Boiler 2C	OS3	12	NOx	17.1	lb/hr	change to a limit based upon a 3-hr rolling average of 1-hour averages
U20	Boiler 2C	OS3	15	CO	0.039	lb/mmbtu	change to a limit based upon a 3-hr rolling average of 1-hour averages
U20	Boiler 2C	OS3	15	CO	18.9	lb/hr	change to a limit based upon a 3-hr rolling average of 1-hour averages
U20	GTG/HRSG	OS4	9	NOx	98.6	lb/hr	change to a limit based upon a 3-hr rolling average of 1-hour averages
U20	GTG/HRSG	OS4	12	CO	0.064	lb/mmbtu	change to a limit based upon a 3-hr rolling average of 1-hour averages
U20	GTG/HRSG	OS4	12	CO	41.2	lb/hr	change to a limit based upon a 3-hr rolling average of 1-hour averages
U780	CCR Platformer	OS1	5	NOx	7.6	lb/hr	change to a limit based upon a 3-hr rolling average of 1-hour averages
U780	CCR Platformer	OS1	9	CO	13.8	lb/hr	change to a limit based upon a 3-hr rolling average of 1-hour averages
U780	CCR Platformer	OS1	10	CO	0.036	lb/mmbtu	change to a limit based upon a 3-hr rolling average of 1-hour averages

Note per Kenneth Ratzman Revised Guidance on Averaging Period fo Continuous Emission Monitors (CEMS) - Dated July 7, 2016

PAULSBORO REFINING COMPANY
2020 TITLE V RENEWAL APPLICATON
HAPS SUMMARY TABLE

	reporting threshold	21	1	0.01	6	0.04	0.02	0.01	30,000	0.005	4	0.0007	3.5	2000	35	2	0.6	2	1.4	0.6	3.2	2	0.04
						Benzo(a)			Carbon		Dichloro	Dimethylbenz(a)											Dibenz(a,h)
	lbs/yr	Acetaldehyde	Acrolein	Arsenic	Benzene	pyrene	Beryllium	Cadmium	Disulfide	Cobalt	benzene	anthracene	Formaldehyde	Hexane	HCN	Lead	Manganese	Mercury	Naphthalene	Nickel	Phosphorus	POM	anthracene
U1	FCCU	433.25	34.79	2.19	104.62	0.37	0.66	2.84	-------	11.38			515.09		486,000	17.50	28.44	7.43	25.85	218.74		275.61	0.15
U2	NHT		1.91	0.09				0.47		0.036		0.0068	31.88							0.89			
U5	FGDU			0.04				0.23		0.017		0.0033	15.46										
U6	CHD1		6.55	0.29				1.61		0.123		0.0234	109.50	2628.00						3.07			
U7	TGU80																						
U7	TGU81																						
U8	CU7 F1A		3.28	0.15				0.80		0.061		0.0117	54.75							1.53			
U9	CU7 F1		5.38	0.24				1.32		0.101		0.0192	89.85	2156.51						2.52			
U10	CU7 F2		6.67	0.30				1.63		0.125		0.0238	111.43	2674.38						3.12			
U11	CU6		6.78	0.30				1.66		0.127		0.0242	113.36	2720.75						3.17			
U12	Coker A		4.82	0.21				1.18		0.090		0.0172	80.51							2.25			
U12	Coker B		4.82	0.21				1.18		0.090		0.0172	80.51							2.25			
U13	Furf 1 BB1		2.70	0.12				0.66		0.050		0.0096	45.09							1.26			
U13	Furf 1 BB2			0.04				0.24		0.018		0.0034	16.10										
U14	Furf 2		2.66	0.12				0.65		0.050		0.0095	44.44							1.24			
U15	PDA BB1																						
U15	PDA BB2		2.31	0.10				0.57		0.043		0.0082	38.65							1.08			
U16	MLDW		1.90	0.08				0.47		0.036		0.0068	31.76							0.89			
U17	CHD2			0.04				0.24		0.018		0.0034	16.10										
U18	H2 Plant		3.74	0.17				0.92		0.070		0.0133	62.54							1.75			
U20	Boiler 2A		18.66	0.83	8.73		0.05	4.57		0.349	4.99	0.0665	311.75	7482.07			1.58		2.54	8.73			
U20	Boiler 2B		18.66	0.83	8.73		0.05	4.57		0.349	4.99	0.0665	311.75	7482.07			1.58		2.54	8.73			
U20	Boiler 2C		18.66	0.83	8.73		0.05	4.57		0.349	4.99	0.0665	311.75	7482.07			1.58		2.54	8.73			
U20	GTG/HRSG	28.19	27.56	1.23	12.90		0.07	6.75		0.516	7.37	0.0982	460.54	11053.06			2.33		3.75	12.90	4.01		
U21	B3 Flare			0.02				0.09		0.007		0.0014	6.44										
U22	B4 Flare			0.04				0.24		0.018		0.0034	16.10										
U25	B1 Flare							0.01															
U25	B5 Flare							0.01															
U56	SRU Incinerator			0.03				0.19		0.014		0.0027	12.88										
U57	Diesel Engines																						
U780	CCR Platformer		14.65	0.65	6.85		0.04	3.59		0.274		0.0522	244.76	5874.35			1.24		1.99	6.85			
U790	CCR F101		1.93	0.09				0.47		0.036		0.0069	32.21							0.90			
U800	CCR F5		1.04	0.05				0.26		0.019		0.0037	17.39										
U802	MPE																						
U810	CCR F303		2.31	0.10				0.57		0.043		0.0082	38.65							1.08			

		POM	21	1	6	4	3.5	2,000	1.4	3.2	0.01
		0.0007									
		7,12 - Dimethylbenz(a) anthracene	Acetaldehyde	Acrolein	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Naphthalene	Phosphorus	Arsenic
Unit	Fired Duty	1.60E-05	4.59E-03	4.49E-03	2.10E-03	1.20E-03	7.50E-02	1.80E+00	6.10E-04	6.53E-04	2.00E-04
Heater	mmbtu/hr	1.57E-08	4.50E-06	4.40E-06	2.06E-06	1.18E-06	7.35E-05	1.76E-03	5.98E-07	6.40E-07	1.96E-07
NHT Heater	49.5	0.00680	1.951	1.908	0.89	0.510	31.88	765.21	0.259	0.28	0.085
FGDU Heater	24	0.00330	0.946	0.925	0.43	0.247	15.46	371.01	0.126	0.13	0.041
CHD-1 Heater	170	0.02336	6.701	6.552	3.07	1.752	109.50	2628.00	0.891	0.95	0.292
CU7 F-1A Heater	85	0.01168	3.351	3.276	1.53	0.876	54.75	1314.00	0.445	0.48	0.146
CU7 F-1 Heater	139.5	0.01917	5.499	5.377	2.52	1.438	89.85	2156.51	0.731	0.78	0.240
CU7 F-2 Heater	173	0.02377	6.820	6.668	3.12	1.783	111.43	2674.38	0.906	0.97	0.297
CU 6 Heater	176	0.02418	6.938	6.784	3.17	1.814	113.36	2720.75	0.922	0.99	0.302
Coker A - normal	125	0.01718	4.928	4.818	2.25	1.288	80.51	1932.35	0.655	0.70	0.215
Coker B - normal	125	0.01718	4.928	4.818	2.25	1.288	80.51	1932.35	0.655	0.70	0.215
Furf1 BB-1 Heater	70	0.00962	2.759	2.698	1.26	0.721	45.09	1082.12	0.367	0.39	0.120
Furf1 BB-2 Heater	25	0.00344	0.986	0.964	0.45	0.258	16.10	386.47	0.131	0.14	0.043
Furf2 B-101 Heater	69	0.00948	2.720	2.660	1.24	0.711	44.44	1066.66	0.361	0.39	0.119
PDA BB-1 Heater	0	0.00000	0.000	0.000	0.00	0.000	0.00	0.00	0.000	0.00	0.000
PDA BB-2 Heater	60	0.00824	2.365	2.313	1.08	0.618	38.65	927.53	0.314	0.34	0.103
MLDW Heater	49.3	0.00677	1.943	1.900	0.89	0.508	31.76	762.12	0.258	0.28	0.085
CHD-2 Heater	25	0.00344	0.986	0.964	0.45	0.258	16.10	386.47	0.131	0.14	0.043
H2 Plant Heater	97.1	0.01334	3.828	3.743	1.75	1.001	62.54	1501.05	0.509	0.54	0.167
CCR F-1/2/3/4 Heater	380	0.05222	14.980	14.647	6.85	3.916	244.76	5874.35	1.991	2.13	0.653
CCR F-101 Heater	50	0.00687	1.971	1.927	0.90	0.515	32.21	772.94	0.262	0.28	0.086
CCR F-5 Heater	27	0.00371	1.064	1.041	0.49	0.278	17.39	417.39	0.141	0.15	0.046
CCR F-303 Heater	60	0.00824	2.365	2.313	1.08	0.618	38.65	927.53	0.314	0.34	0.103
	Gas										
Boiler 2A	484	0.06651	19.079	18.655	8.73	4.988	311.75	7482.07	2.536	2.71	0.831
Boiler 2B	484	0.06651	19.079	18.655	8.73	4.988	311.75	7482.07	2.536	2.71	0.831
Boiler 2C	484	0.06651	19.079	18.655	8.73	4.988	311.75	7482.07	2.536	2.71	0.831
GTG/HRSG	715	0.09825	28.185	27.559	12.90	7.369	460.54	11053.06	3.746	4.01	1.228
	Oil (mgal)										
Boiler 2A	1700	0.000	1.700	3.740	0.357	0.000	56.10	0.00	18.700	16.15	0.007
Boiler 2B	1700	0.000	1.700	3.740	0.357	0.000	56.10	0.00	18.700	16.15	0.007
Boiler 2C	1700	0.000	1.700	3.740	0.357	0.000	56.10	0.00	18.700	16.15	0.007
		0.570	168.551	171.039	75.853	42.732	2839.069	64098.466	77.822	71.696	7.142

		0.02	0.01	0.005	0.6	0.6
		Beryllium	Cadmium	Cobalt	Manganese	Nickel
Unit	Fired Duty	1.20E-05	1.10E-03	8.40E-05	3.80E-04	2.10E-03
Heater	mmbtu/hr	1.18E-08	1.08E-06	8.24E-08	3.73E-07	2.06E-06
NHT Heater	49.5	0.005	0.468	0.0357	0.162	0.893
FGDU Heater	24	0.002	0.227	0.0173	0.078	0.433
CHD-1 Heater	170	0.018	1.606	0.1226	0.555	3.066
CU7 F-1A Heater	85	0.009	0.803	0.0613	0.277	1.533
CU7 F-1 Heater	139.5	0.014	1.318	0.1006	0.455	2.516
CU7 F-2 Heater	173	0.018	1.634	0.1248	0.565	3.120
CU 6 Heater	176	0.018	1.663	0.1270	0.574	3.174
Coker A - normal	125	0.013	1.181	0.0902	0.408	2.254
Coker B - normal	125	0.013	1.181	0.0902	0.408	2.254
Furf1 BB-1 Heater	70	0.007	0.661	0.0505	0.228	1.262
Furf1 BB-2 Heater	25	0.003	0.236	0.0180	0.082	0.451
Furf2 B-101 Heater	69	0.007	0.652	0.0498	0.225	1.244
PDA BB-1 Heater	0	0.000	0.000	0.0000	0.000	0.000
PDA BB-2 Heater	60	0.006	0.567	0.0433	0.196	1.082
MLDW Heater	49.3	0.005	0.466	0.0356	0.161	0.889
CHD-2 Heater	25	0.003	0.236	0.0180	0.082	0.451
H2 Plant Heater	97.1	0.010	0.917	0.0700	0.317	1.751
CCR F-1/2/3/4 Heater	380	0.039	3.590	0.2741	1.240	6.853
CCR F-101 Heater	50	0.005	0.472	0.0361	0.163	0.902
CCR F-5 Heater	27	0.003	0.255	0.0195	0.088	0.487
CCR F-303 Heater	60	0.006	0.567	0.0433	0.196	1.082
	Gas					
Boiler 2A	484	0.050	4.572	0.3492	1.580	8.729
Boiler 2B	484	0.050	4.572	0.3492	1.580	8.729
Boiler 2C	484	0.050	4.572	0.3492	1.580	8.729
GTG/HRSG	715	0.074	6.755	0.5158	2.333	12.895
	Oil (mgal)					
Boiler 2A	1700	0.005	0.005	10.2000	0.010	0.0051
Boiler 2B	1700	0.005	0.005	10.2000	0.010	0.0051
Boiler 2C	1700	0.005	0.005	10.2000	0.010	0.0051
		0.443	39.187	33.591	13.562	74.797

PAULSBORO REFINING COMPANY LLC
TITLE V PERMIT RENEWAL
HAP EMISSIONS AT MAXIMUM RATES

Max Heater Duties

					POM				
	reporting	threshold	n/a	n/a	0.0007	n/a	n/a	21	1
			2-Methylnaphthalene	3-Methylcholanthrene	7,12 - Dimethylbenz(a) anthracene	Acenaphthene	Acenaphthylene	Acetaldehyde	Acrolein
Unit	Fired Duty	lb/mmscf	2.40E-05	1.80E-06	1.60E-05	1.80E-06	1.80E-06	4.59E-03	4.49E-03
Heater	mmbtu/hr	lb/mmbtu	2.35E-08	1.76E-09	1.57E-08	1.76E-09	1.76E-09	4.50E-06	4.40E-06
NHT Heater	49.5		0.010	0.0008	0.00680	0.001	0.001	1.951	1.908
FGDU Heater	24		0.005	0.0004	0.00330	0.000	0.000	0.946	0.925
CHD-1 Heater	170		0.035	0.0026	0.02336	0.003	0.003	6.701	6.552
CU7 F-1A Heater	85		0.018	0.0013	0.01168	0.001	0.001	3.351	3.276
CU7 F-1 Heater	139.5		0.029	0.0022	0.01917	0.002	0.002	5.499	5.377
CU7 F-2 Heater	173		0.036	0.0027	0.02377	0.003	0.003	6.820	6.668
CU 6 Heater	176		0.036	0.0027	0.02418	0.003	0.003	6.938	6.784
Coker A - normal	125		0.026	0.0019	0.01718	0.002	0.002	4.928	4.818
Coker B - normal	125		0.026	0.0019	0.01718	0.002	0.002	4.928	4.818
Furf1 BB-1 Heater	70		0.014	0.0011	0.00962	0.001	0.001	2.759	2.698
Furf1 BB-2 Heater	25		0.005	0.0004	0.00344	0.000	0.000	0.986	0.964
Furf2 B-101 Heater	69		0.014	0.0011	0.00948	0.001	0.001	2.720	2.660
PDA BB-1 Heater	0		0.000	0.0000	0.00000	0.000	0.000	0.000	0.000
PDA BB-2 Heater	60		0.012	0.0009	0.00824	0.001	0.001	2.365	2.313
MLDW Heater	49.3		0.010	0.0008	0.00677	0.001	0.001	1.943	1.900
CHD-2 Heater	25		0.005	0.0004	0.00344	0.000	0.000	0.986	0.964
H2 Plant Heater	97.1		0.020	0.0015	0.01334	0.002	0.002	3.828	3.743
CCR F-1/2/3/4 Heater	380		0.078	0.0059	0.05222	0.006	0.006	14.980	14.647
CCR F-101 Heater	50		0.010	0.0008	0.00687	0.001	0.001	1.971	1.927
CCR F-5 Heater	27		0.006	0.0004	0.00371	0.000	0.000	1.064	1.041
CCR F-303 Heater	60		0.012	0.0009	0.00824	0.001	0.001	2.365	2.313
	Gas								
Boiler 2A	484		0.100	0.0075	0.06651	0.007	0.007	19.079	18.655
Boiler 2B	484		0.100	0.0075	0.06651	0.007	0.007	19.079	18.655
Boiler 2C	484		0.100	0.0075	0.06651	0.007	0.007	19.079	18.655
GTG/HRSG	715		0.147	0.0111	0.09825	0.011	0.011	28.185	27.559
	Oil	lb/Mgal	1.10E-05	0.00E+00	0.00E+00	2.10E-05	2.50E-07	1.00E-03	2.20E-03
Boiler 2A	1700		0.019	0.000	0.000	0.036	0.000	1.700	3.740
Boiler 2B	1700		0.019	0.000	0.000	0.036	0.000	1.700	3.740
Boiler 2C	1700		0.019	0.000	0.000	0.036	0.000	1.700	3.740
			0.911	0.064	0.570	0.171	0.065	168.551	171.039

		2-Methylnaphthalene	3-Methylcholanthrene	7,12 - Dimethylbenz(a) anthracene	Acenaphthene	Acenaphthylene	acetaldehyde	acrolein
	* average fired duty for the ye							
Total	Combustion	0.911	0.0641	0.56976	0.171	0.065	168.551	171.039
	FCC Emissions	0.000	0.0000	0.00000	0.116	4.100	433.254	34.795
	Diesel Engines	0.000	0.0000	0.00000	0.241	0.482	1.284	0.407
	Total	0.911	0.0641	0.56976	0.527640	4.646673	603.090	206.240

	Reporting Threshold						
NJ HAP Triggers		n/a	n/a	0.0007	n/a	n/a	21	1
NJ SOTA Triggers		n/a	n/a	20	n/a	n/a	10,000	80
Old HAP Triggers		n/a	n/a		n/a	n/a	1,800	8

				POM				
B1 Flare	1.55	0.0003	0.0000	0.0002	0.0000	0.0000	0.0612	0.0598
B3 flare	10.00	0.0021	0.0002	0.0014	0.0002	0.0002	0.3942	0.3854
B4 Flare	25.00	0.0052	0.0004	0.0034	0.0004	0.0004	0.9855	0.9636
B5 Flare	1.55	0.0003	0.0000	0.0002	0.0000	0.0000	0.0612	0.0598
SRU Incinerator	20	0.0041	0.0003	0.0027	0.0003	0.0003	0.7884	0.7709

PAULSBORO REFINING COMPANY LLC
TITLE V PERMIT RENEWAL
HAP EMISSIONS AT MAXIMUM RATES

Max Heater Duties

	reporting	threshold	n/a	0.4	6	POM 0.04	POM 0.4	n/a	n/a	2
			Anthracene	Benz(a)anthracene	Benzene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene
Unit	Fired Duty	lb/mmscf	2.40E-06	1.80E-06	2.10E-03	1.20E-06	1.80E-06	1.20E-06	1.80E-06	1.80E-06
Heater	mmbtu/hr	lb/mmbtu	2.35E-09	1.76E-09	2.06E-06	1.18E-09	1.76E-09	1.18E-09	1.76E-09	1.76E-09
NHT Heater	49.5		0.001	0.001	0.89	0.001	0.001	0.001	0.001	0.001
FGDU Heater	24		0.000	0.000	0.43	0.000	0.000	0.000	0.000	0.000
CHD-1 Heater	170		0.004	0.003	3.07	0.002	0.003	0.002	0.003	0.003
CU7 F-1A Heater	85		0.002	0.001	1.53	0.001	0.001	0.001	0.001	0.001
CU7 F-1 Heater	139.5		0.003	0.002	2.52	0.001	0.002	0.001	0.002	0.002
CU7 F-2 Heater	173		0.004	0.003	3.12	0.002	0.003	0.002	0.003	0.003
CU 6 Heater	176		0.004	0.003	3.17	0.002	0.003	0.002	0.003	0.003
Coker A - normal	125		0.003	0.002	2.25	0.001	0.002	0.001	0.002	0.002
Coker B - normal	125		0.003	0.002	2.25	0.001	0.002	0.001	0.002	0.002
Furf1 BB-1 Heater	70		0.001	0.001	1.26	0.001	0.001	0.001	0.001	0.001
Furf1 BB-2 Heater	25		0.001	0.000	0.45	0.000	0.000	0.000	0.000	0.000
Furf2 B-101 Heater	69		0.001	0.001	1.24	0.001	0.001	0.001	0.001	0.001
PDA BB-1 Heater	0		0.000	0.000	0.00	0.000	0.000	0.000	0.000	0.000
PDA BB-2 Heater	60		0.001	0.001	1.08	0.001	0.001	0.001	0.001	0.001
MLDW Heater	49.3		0.001	0.001	0.89	0.001	0.001	0.001	0.001	0.001
CHD-2 Heater	25		0.001	0.000	0.45	0.000	0.000	0.000	0.000	0.000
H2 Plant Heater	97.1		0.002	0.002	1.75	0.001	0.002	0.001	0.002	0.002
CCR F-1/2/3/4 Heater	380		0.008	0.006	6.85	0.004	0.006	0.004	0.006	0.006
CCR F-101 Heater	50		0.001	0.001	0.90	0.001	0.001	0.001	0.001	0.001
CCR F-5 Heater	27		0.001	0.000	0.49	0.000	0.000	0.000	0.000	0.000
CCR F-303 Heater	60		0.001	0.001	1.08	0.001	0.001	0.001	0.001	0.001
	Gas									
Boiler 2A	484		0.010	0.007	8.73	0.005	0.007	0.005	0.007	0.007
Boiler 2B	484		0.010	0.007	8.73	0.005	0.007	0.005	0.007	0.007
Boiler 2C	484		0.010	0.007	8.73	0.005	0.007	0.005	0.007	0.007
GTG/HRSG	715		0.015	0.011	12.90	0.007	0.011	0.007	0.011	0.011
	Oil	lb/Mgal	1.20E-06	4.00E-06	2.10E-04	2.10E-07	1.50E-06	2.30E-06	1.30E-06	2.40E-06
Boiler 2A	1700		0.002	0.007	0.357	0.000	0.003	0.004	0.002	0.004
Boiler 2B	1700		0.002	0.007	0.357	0.000	0.003	0.004	0.002	0.004
Boiler 2C	1700		0.002	0.007	0.357	0.000	0.003	0.004	0.002	0.004
			0.092	0.084	75.853	0.044	0.072	0.054	0.071	0.076

	* average fired duty for the ye	Anthracene	Benzo(a) anthracene	Benzene	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo(g,h,i) perylene	Benzo(k) fluoranthene	Chrysene
Total	Combustion	0.092	0.084	75.85	0.044	0.072	0.054	0.071	0.076
	FCC Emissions	0.351	0.020	104.62	0.373	0.126	0.163	0.095	0.121
	Diesel Engines	0.064	0.033	37.99	0.013	0.059	0.029	0.011	0.080
	Total	0.507	0.137	218.46	0.430	0.257	0.25	0.18	0.28

	Reporting Threshold	n/a	0.4	6	0.04	0.4	n/a	n/a	2
NJ HAP Triggers									
NJ SOTA Triggers		n/a	20	4,000	20	20	n/a	n/a	20
Old HAP Triggers		n/a	2	400	2	2	n/a	n/a	2
			POM		POM	POM			POM
B1 Flare	1.55	0.0000	0.0000	0.0280	0.0000	0.0000	0.0000	0.0000	0.0000
B3 flare	10.00	0.0002	0.0002	0.1804	0.0001	0.0002	0.0001	0.0002	0.0002
B4 Flare	25.00	0.0005	0.0004	0.4509	0.0003	0.0004	0.0003	0.0004	0.0004
B5 Flare	1.55	0.0000	0.0000	0.0280	0.0000	0.0000	0.0000	0.0000	0.0000
SRU Incinerator	20	0.0004	0.0003	0.3607	0.0002	0.0003	0.0002	0.0003	0.0003

PAULSBORO REFINING COMPANY LLC
TITLE V PERMIT RENEWAL
HAP EMISSIONS AT MAXIMUM RATES

Max Heater Duties			POM						
	reporting	threshold	0.04	4	19	n/a	n/a	3.5	2,000
			Dibenzo(a,h)anthracene	Dichlorobenzene	e-benzene	Fluoranthene	Fluorene	Formaldehyde	Hexane
Unit	Fired Duty	lb/mmscf	1.20E-06	1.20E-03	2.24E-03	3.00E-06	2.80E-06	7.50E-02	1.80E+00
Heater	mmbtu/hr	lb/mmbtu	1.18E-09	1.18E-06	2.20E-06	2.94E-09	2.75E-09	7.35E-05	1.76E-03
NHT Heater	49.5		0.001	0.510	0.95	0.001	0.001	31.88	765.21
FGDU Heater	24		0.000	0.247	0.46	0.001	0.001	15.46	371.01
CHD-1 Heater	170		0.002	1.752	3.28	0.004	0.004	109.50	2628.00
CU7 F-1A Heater	85		0.001	0.876	1.64	0.002	0.002	54.75	1314.00
CU7 F-1 Heater	139.5		0.001	1.438	2.69	0.004	0.003	89.85	2156.51
CU7 F-2 Heater	173		0.002	1.783	3.33	0.004	0.004	111.43	2674.38
CU 6 Heater	176		0.002	1.814	3.39	0.005	0.004	113.36	2720.75
Coker A - normal	125		0.001	1.288	2.41	0.003	0.003	80.51	1932.35
Coker B - normal	125		0.001	1.288	2.41	0.003	0.003	80.51	1932.35
Furf1 BB-1 Heater	70		0.001	0.721	1.35	0.002	0.002	45.09	1082.12
Furf1 BB-2 Heater	25		0.000	0.258	0.48	0.001	0.001	16.10	386.47
Furf2 B-101 Heater	69		0.001	0.711	1.33	0.002	0.002	44.44	1066.66
PDA BB-1 Heater	0		0.000	0.000	0.00	0.000	0.000	0.00	0.00
PDA BB-2 Heater	60		0.001	0.618	1.16	0.002	0.001	38.65	927.53
MLDW Heater	49.3		0.001	0.508	0.95	0.001	0.001	31.76	762.12
CHD-2 Heater	25		0.000	0.258	0.48	0.001	0.001	16.10	386.47
H2 Plant Heater	97.1		0.001	1.001	1.87	0.003	0.002	62.54	1501.05
CCR F-1/2/3/4 Heater	380		0.004	3.916	7.32	0.010	0.009	244.76	5874.35
CCR F-101 Heater	50		0.001	0.515	0.96	0.001	0.001	32.21	772.94
CCR F-5 Heater	27		0.000	0.278	0.52	0.001	0.001	17.39	417.39
CCR F-303 Heater	60		0.001	0.618	1.16	0.002	0.001	38.65	927.53
	Gas								
Boiler 2A	484		0.005	4.988	9.33	0.012	0.012	311.75	7482.07
Boiler 2B	484		0.005	4.988	9.33	0.012	0.012	311.75	7482.07
Boiler 2C	484		0.005	4.988	9.33	0.012	0.012	311.75	7482.07
GTG/HRSG	715		0.007	7.369	13.78	0.018	0.017	460.54	11053.06
	Oil	lb/Mgal	1.70E-06	0.00E+00	6.40E-05	4.80E-06	4.50E-06	3.30E-02	0.00E+00
Boiler 2A	1700		0.003	0.000	0.109	0.008	0.008	56.100	0.000
Boiler 2B	1700		0.003	0.000	0.109	0.008	0.008	56.100	0.000
Boiler 2C	1700		0.003	0.000	0.109	0.008	0.008	56.100	0.000
			0.051	42.732	80.236	0.131	0.123	2839.069	64098.466

	* average fired duty for the ye	Dibenz(a,h)anthracene	Dichlorobenzene	e-benzene	Fluoranthene	Fluorene	formaldehyde	hexane
Total	Combustion	0.051	42.732	80.24	0.131	0.123	2839.07	64098.47
	FCC Emissions	0.147	0.000	8.410	0.825	1.261	515.088	0.00
	Diesel Engines	0.019	0.000	0.000	0.209	0.696	4.121	0.00
	Total	0.22	42.73	88.65	1.165	2.080	3358.28	64098.47

	Reporting Threshold	0.04	**4**	19	n/a	n/a	3.5	2000
NJ HAP Triggers								
NJ SOTA Triggers		20	6000	10,000	n/a	n/a	4,000	10000
Old HAP Triggers		2		2,000	n/a	n/a	400	

		POM						
B1 Flare	1.55	0.0000	0.0160	0.0299	0.0000	0.0000	1.0000	23.9998
B3 flare	10.00	0.0001	0.1031	0.1927	0.0003	0.0002	6.4412	154.5882
B4 Flare	25.00	0.0003	0.2576	0.4818	0.0006	0.0006	16.1029	386.4706
B5 Flare	1.55	0.0000	0.0160	0.0299	0.0000	0.0000	1.0000	23.9998
SRU Incinerator	20	0.0002	0.2061	0.3854	0.0005	0.0005	12.8824	309.1765

PAULSBORO REFINING COMPANY LLC
TITLE V PERMIT RENEWAL
HAP EMISSIONS AT MAXIMUM RATES

Max Heater Duties			POM						
	reporting	threshold	0.4	1.4	n/a	2,000	3.2	n/a	2,000
			Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanathrene	Phenol	Phosphorus	Pyrene	Toluene
Unit	Fired Duty	lb/mmscf	1.80E-06	6.10E-04	1.70E-05	5.71E-03	6.53E-04	5.00E-06	3.40E-03
Heater	mmbtu/hr	lb/mmbtu	1.76E-09	5.98E-07	1.67E-08	5.60E-06	6.40E-07	4.90E-09	3.33E-06
NHT Heater	49.5		0.001	0.259	0.007	2.43	0.28	0.002	1.45
FGDU Heater	24		0.000	0.126	0.004	1.18	0.13	0.001	0.70
CHD-1 Heater	170		0.003	0.891	0.025	8.34	0.95	0.007	4.96
CU7 F-1A Heater	85		0.001	0.445	0.012	4.17	0.48	0.004	2.48
CU7 F-1 Heater	139.5		0.002	0.731	0.020	6.84	0.78	0.006	4.07
CU7 F-2 Heater	173		0.003	0.906	0.025	8.49	0.97	0.007	5.05
CU 6 Heater	176		0.003	0.922	0.026	8.63	0.99	0.008	5.14
Coker A - normal	125		0.002	0.655	0.018	6.13	0.70	0.005	3.65
Coker B - normal	125		0.002	0.655	0.018	6.13	0.70	0.005	3.65
Furf1 BB-1 Heater	70		0.001	0.367	0.010	3.43	0.39	0.003	2.04
Furf1 BB-2 Heater	25		0.000	0.131	0.004	1.23	0.14	0.001	0.73
Furf2 B-101 Heater	69		0.001	0.361	0.010	3.38	0.39	0.003	2.01
PDA BB-1 Heater	0		0.000	0.000	0.000	0.00	0.00	0.000	0.00
PDA BB-2 Heater	60		0.001	0.314	0.009	2.94	0.34	0.003	1.75
MLDW Heater	49.3		0.001	0.258	0.007	2.42	0.28	0.002	1.44
CHD-2 Heater	25		0.000	0.131	0.004	1.23	0.14	0.001	0.73
H2 Plant Heater	97.1		0.002	0.509	0.014	4.76	0.54	0.004	2.84
CCR F-1/2/3/4 Heater	380		0.006	1.991	0.055	18.64	2.13	0.016	11.10
CCR F-101 Heater	50		0.001	0.262	0.007	2.45	0.28	0.002	1.46
CCR F-5 Heater	27		0.000	0.141	0.004	1.32	0.15	0.001	0.79
CCR F-303 Heater	60		0.001	0.314	0.009	2.94	0.34	0.003	1.75
	Gas								
Boiler 2A	484		0.007	2.536	0.071	23.74	2.71	0.021	14.13
Boiler 2B	484		0.007	2.536	0.071	23.74	2.71	0.021	14.13
Boiler 2C	484		0.007	2.536	0.071	23.74	2.71	0.021	14.13
GTG/HRSG	715		0.011	3.746	0.104	35.08	4.01	0.031	20.88
	Oil	lb/Mgal	2.10E-06	1.10E-02	1.10E-05	0.00E+00	9.50E-03	4.30E-06	6.20E-03
Boiler 2A	1700		0.004	18.700	0.019	0.000	16.150	0.007	10.540
Boiler 2B	1700		0.004	18.700	0.019	0.000	16.150	0.007	10.540
Boiler 2C	1700		0.004	18.700	0.019	0.000	16.150	0.007	10.540
			0.075	77.822	0.661	203.406	71.696	0.200	152.695

	* average fired duty for the ye	Indeno(123-cd) pyrene	Naphthalene	Phenanthrene	Phenol	Phosphorus	Pyrene	Toluene
Total	Combustion	0.075	77.822	0.661	203.41	71.70	0.200	152.69
	FCC Emissions	0.158	25.847	0.730	26.59	0.00	0.116	49.46
	Diesel Engines	0.021	6.957	2.141	0.00	0.00	0.193	13.91
	Total	0.254	110.626	3.532	230.00	71.70	0.508	216.07

	Reporting Threshold							
NJ HAP Triggers		0.4	1.4	n/a	2000	3.2	n/a	2,000
NJ SOTA Triggers		20	10,000	n/a	200	200	n/a	10,000
Old HAP Triggers		2	2,000	n/a			n/a	2,000

		POM						
B1 Flare	1.55	0.0000	0.0081	0.0002	0.0762	0.0087	0.0001	0.0453
B3 flare	10.00	0.0002	0.0524	0.0015	0.4906	0.0561	0.0004	0.2920
B4 Flare	25.00	0.0004	0.1310	0.0037	1.2264	0.1402	0.0011	0.7300
B5 Flare	1.55	0.0000	0.0081	0.0002	0.0762	0.0087	0.0001	0.0453
SRU Incinerator	20	0.0003	0.1048	0.0029	0.9811	0.1121	0.0009	0.5840

PAULSBORO REFINING COMPANY LLC
TITLE V PERMIT RENEWAL
HAP EMISSIONS AT MAXIMUM RATES

Max Heater Duties

	reporting	threshold	2,000	0.01	0.02	0.01	1,000	0.005	0.6	2
			Xylene	Arsenic	Beryllium	Cadmium	Chromium	Cobalt	Manganese	Mercury
Unit	Fired Duty	lb/mmscf	1.84E-02	2.00E-04	1.20E-05	1.10E-03	1.40E-03	8.40E-05	3.80E-04	2.60E-04
Heater	mmbtu/hr	lb/mmbtu	1.80E-05	1.96E-07	1.18E-08	1.08E-06	1.37E-06	8.24E-08	3.73E-07	2.55E-07
NHT Heater	49.5		7.81	0.085	0.005	0.468	0.60	0.0357	0.162	0.111
FGDU Heater	24		3.78	0.041	0.002	0.227	0.29	0.0173	0.078	0.054
CHD-1 Heater	170		26.81	0.292	0.018	1.606	2.04	0.1226	0.555	0.380
CU7 F-1A Heater	85		13.40	0.146	0.009	0.803	1.02	0.0613	0.277	0.190
CU7 F-1 Heater	139.5		22.00	0.240	0.014	1.318	1.68	0.1006	0.455	0.311
CU7 F-2 Heater	173		27.28	0.297	0.018	1.634	2.08	0.1248	0.565	0.386
CU 6 Heater	176		27.75	0.302	0.018	1.663	2.12	0.1270	0.574	0.393
Coker A - normal	125		19.71	0.215	0.013	1.181	1.50	0.0902	0.408	0.279
Coker B - normal	125		19.71	0.215	0.013	1.181	1.50	0.0902	0.408	0.279
Furf1 BB-1 Heater	70		11.04	0.120	0.007	0.661	0.84	0.0505	0.228	0.156
Furf1 BB-2 Heater	25		3.94	0.043	0.003	0.236	0.30	0.0180	0.082	0.056
Furf2 B-101 Heater	69		10.88	0.119	0.007	0.652	0.83	0.0498	0.225	0.154
PDA BB-1 Heater	0		0.00	0.000	0.000	0.000	0.00	0.0000	0.000	0.000
PDA BB-2 Heater	60		9.46	0.103	0.006	0.567	0.72	0.0433	0.196	0.134
MLDW Heater	49.3		7.77	0.085	0.005	0.466	0.59	0.0356	0.161	0.110
CHD-2 Heater	25		3.94	0.043	0.003	0.236	0.30	0.0180	0.082	0.056
H2 Plant Heater	97.1		15.31	0.167	0.010	0.917	1.17	0.0700	0.317	0.217
CCR F-1/2/3/4 Heater	380		59.92	0.653	0.039	3.590	4.57	0.2741	1.240	0.849
CCR F-101 Heater	50		7.88	0.086	0.005	0.472	0.60	0.0361	0.163	0.112
CCR F-5 Heater	27		4.26	0.046	0.003	0.255	0.32	0.0195	0.088	0.060
CCR F-303 Heater	60		9.46	0.103	0.006	0.567	0.72	0.0433	0.196	0.134
	Gas									
Boiler 2A	484		76.32	0.831	0.050	4.572	5.82	0.3492	1.580	1.081
Boiler 2B	484		76.32	0.831	0.050	4.572	5.82	0.3492	1.580	1.081
Boiler 2C	484		76.32	0.831	0.050	4.572	5.82	0.3492	1.580	1.081
GTG/HRSG	715		112.74	1.228	0.074	6.755	8.60	0.5158	2.333	1.597
	Oil	lb/Mgal	1.10E-02	4.00E-06	3.00E-06	3.00E-06	3.00E-06	6.00E-03	6.00E-06	3.00E-06
Boiler 2A	1700		18.700	0.007	0.005	0.005	0.005	10.200	0.010	0.005
Boiler 2B	1700		18.700	0.007	0.005	0.005	0.005	10.200	0.010	0.005
Boiler 2C	1700		18.700	0.007	0.005	0.005	0.005	10.200	0.010	0.005
			709.904	7.142	0.443	39.187	49.870	33.591	13.562	9.274

		Xylene	Arsenic	Beryllium	Cadmium	Chromium Total	Cobalt	Manganese	Mercury
	* average fired duty for the ye								
Total	Combustion	709.904352	7.142	0.443	39.187	49.87	33.59	13.56	9.27
	FCC Emissions	110.376	2.187	0.656	2.844	54.69	11.37	28.44	7.43
	Diesel Engines	10.168	0.524	0.161	0.310	321.08	1.77	2.14	0.00
	Total	830.45	9.854	1.259	42.341	425.64	46.73	44.14	16.70

	Reporting Threshold	2,000	0.01	0.02	0.01	1000	0.005	0.6	2
NJ HAP Triggers		10,000	10	16	20	10,000	200	1,600	20
NJ SOTA Triggers		2,000	1	2	2	1,000	20	160	2
Old HAP Triggers									

B1 Flare	1.55	0.2448	0.0027	0.0002	0.0147	0.0187	0.0011	0.0051	0.0035
B3 flare	10.00	1.5768	0.0172	0.0010	0.0945	0.1202	0.0072	0.0326	0.0223
B4 Flare	25.00	3.9420	0.0429	0.0026	0.2362	0.3006	0.0180	0.0816	0.0558
B5 Flare	1.55	0.2448	0.0027	0.0002	0.0147	0.0187	0.0011	0.0051	0.0035
SRU Incinerator	20	3.1536	0.0344	0.0021	0.1889	0.2405	0.0144	0.0653	0.0447

PAULSBORO REFINING COMPANY LLC
TITLE V PERMIT RENEWAL
HAP EMISSIONS AT MAXIMUM RATES

Max Heater Duties

	reporting	threshold	0.6	925
			Nickel	Selenium
Unit	Fired Duty	lb/mmscf	2.10E-03	2.40E-05
Heater	mmbtu/hr	lb/mmbtu	2.06E-06	2.35E-08
NHT Heater	49.5		0.893	0.010
FGDU Heater	24		0.433	0.005
CHD-1 Heater	170		3.066	0.035
CU7 F-1A Heater	85		1.533	0.018
CU7 F-1 Heater	139.5		2.516	0.029
CU7 F-2 Heater	173		3.120	0.036
CU 6 Heater	176		3.174	0.036
Coker A - normal	125		2.254	0.026
Coker B - normal	125		2.254	0.026
Furf1 BB-1 Heater	70		1.262	0.014
Furf1 BB-2 Heater	25		0.451	0.005
Furf2 B-101 Heater	69		1.244	0.014
PDA BB-1 Heater	0		0.000	0.000
PDA BB-2 Heater	60		1.082	0.012
MLDW Heater	49.3		0.889	0.010
CHD-2 Heater	25		0.451	0.005
H2 Plant Heater	97.1		1.751	0.020
CCR F-1/2/3/4 Heater	380		6.853	0.078
CCR F-101 Heater	50		0.902	0.010
CCR F-5 Heater	27		0.487	0.006
CCR F-303 Heater	60		1.082	0.012
	Gas			
Boiler 2A	484		8.729	0.100
Boiler 2B	484		8.729	0.100
Boiler 2C	484		8.729	0.100
GTG/HRSG	715		12.895	0.147

					Dioxins	Furans
	Oil	lb/Mgal	3.00E-06	1.50E-05	3.10E-09	8.20E-10
Boiler 2A	1700		0.005	0.026	0.000	0.000
Boiler 2B	1700		0.005	0.026	0.000	0.000
Boiler 2C	1700		0.005	0.026	0.000	0.000
			74.797	0.931	0.000	0.000

	* average fired duty for the ye	Nickel	Selenium	1,3 Butadiene	HCl	Carbon Disulfide	Cyanide	Antimony	Methylene Chloride
Total	Combustion	74.80	0.93	0.00	0.00	0.00	0.00	0.00	0.00
	FCC Emissions	218.74	5.47	1.051	749.32	19.447	248,237	14.22	231.26
	Diesel Engines	123.08	0.80	2.087	0.00	0.00	0.00	0.00	0.00
	Total	416.62	7.20	3.14	749.32	19.45	248237.27	14.22	231.26
	Reporting								
NJ HAP Triggers	**Threshold**	0.6	925	14	2000	n/a	35	1000	2000
NJ SOTA Triggers		2000	200	140	10,000	2000	10,000	10,000	10,000
Old HAP Triggers			20						

B1 Flare	1.55	0.0280	0.0003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
B3 flare	10.00	0.1804	0.0021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
B4 Flare	25.00	0.4509	0.0052	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
B5 Flare	1.55	0.0280	0.0003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
SRU Incinerator	20	0.3607	0.0041	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Update 9/17/20

	reporting threshold			n/a	n/a	21
		AllowableOperating Hours	Engine Design Duty	Acenaphthene	Acenaphthylene	acetaldehyde CH_3CHO
Oil Factors (lb/mmbtu) - engine size		Hours	mmbtu/hr	4.5E-06	9.0E-06	2.4E-05
OS1	RW Intake #89	2500	1.25	0.014	0.028	0.075
OS2	1185 Tank	0	3.82	0.000	0.000	0.000
OS3	G201	100	1.46	0.001	0.001	0.004
OS4	G202	100	1.46	0.001	0.001	0.004
OS5	G203	100	1.46	0.001	0.001	0.004
OS6	G205	100	1.17	0.001	0.001	0.003
OS7	Pumpkin	2500	1.21	0.014	0.027	0.073
OS8	Coker Sludge	2000	0.19	0.002	0.003	0.009
	North Pond #1	250	0.64	0.001	0.001	0.004
	North Pond #2	250	0.64	0.001	0.001	0.004
OS9	Kinney Pumphouse	1500	0.19	0.001	0.003	0.007
OS10	OM Sludge Pump	2500	0.51	0.006	0.011	0.031
OS11	API Slop	2500	0.29	0.003	0.007	0.018
OS12	API Pyramid	8760	0.38	0.015	0.030	0.080
OS13	API Pyramind	8760	0.38	0.015	0.030	0.080
OS14	Coker Clarifer Bottoms	2500	0.19	0.002	0.004	0.011
OS15	Coker Hydrobins	2500	0.19	0.002	0.004	0.011
OS16	Coker Sludge	2500	0.19	0.002	0.004	0.011
OS17	Utilities Instrument Air	2500	1.43	0.016	0.032	0.086
OS18	Firehouse	100	0.70	0.000	0.001	0.002
OS19	Firehouse	100	0.70	0.000	0.001	0.002
OS20	FCC Sootblower	8760	1.43	0.056	0.113	0.301
OS21	Utilities Instrument Air	4500	1.43	0.029	0.058	0.154
OS22	Utilities Instrument Air	4500	1.43	0.029	0.058	0.154
OS23	Utilities Instrument Air	4500	1.43	0.029	0.058	0.154
OS24	Cooling Tower #3 Diesel	100	1.53	0.001	0.001	0.004
OS25	Kenny Atlantic Diesel	2000	0.18	0.002	0.003	0.009
	Totals (lbs)			0.24	0.48	1.28

note: diesel fuel is 19,200 btu/lb
diesel fuel is 7.1 lb/gal
factors used were the ones for O_2 < 13% per stack test data - NJDEP used >13% for air compressor die

Update 9/17/20

						POM	POM
	reporting threshold	1	n/a	6	0.4	0.04	0.4
		acrolein C_3H_4O	Anthracene	Benzene	Benzo(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene
Oil Factors (lb/mmbtu) - engine size		7.6E-06	1.20E-06	7.1E-04	6.1E-07	2.5E-07	1.1E-06
OS1	RW Intake #89	0.024	0.004	2.219	0.002	0.001	0.003
OS2	1185 Tank	0.000	0.000	0.000	0.000	0.000	0.000
OS3	G201	0.001	0.000	0.104	0.000	0.000	0.000
OS4	G202	0.001	0.000	0.104	0.000	0.000	0.000
OS5	G203	0.001	0.000	0.104	0.000	0.000	0.000
OS6	G205	0.001	0.000	0.083	0.000	0.000	0.000
OS7	Pumpkin	0.023	0.004	2.147	0.002	0.001	0.003
OS8	Coker Sludge	0.003	0.000	0.271	0.000	0.000	0.000
	North Pond #1	0.001	0.000	0.113	0.000	0.000	0.000
	North Pond #2	0.001	0.000	0.113	0.000	0.000	0.000
OS9	Kinney Pumphouse	0.002	0.000	0.203	0.000	0.000	0.000
OS10	OM Sludge Pump	0.010	0.002	0.904	0.001	0.000	0.001
OS11	API Slop	0.006	0.001	0.520	0.000	0.000	0.001
OS12	API Pyramid	0.025	0.004	2.376	0.002	0.001	0.004
OS13	API Pyramind	0.025	0.004	2.376	0.002	0.001	0.004
OS14	Coker Clarifer Bottoms	0.004	0.001	0.339	0.000	0.000	0.001
OS15	Coker Hydrobins	0.004	0.001	0.339	0.000	0.000	0.001
OS16	Coker Sludge	0.004	0.001	0.339	0.000	0.000	0.001
OS17	Utilities Instrument Air	0.027	0.004	2.531	0.002	0.001	0.004
OS18	Firehouse	0.001	0.000	0.050	0.000	0.000	0.000
OS19	Firehouse	0.001	0.000	0.050	0.000	0.000	0.000
OS20	FCC Sootblower	0.095	0.015	8.894	0.008	0.003	0.014
OS21	Utilities Instrument Air	0.049	0.008	4.569	0.004	0.002	0.007
OS22	Utilities Instrument Air	0.049	0.008	4.569	0.004	0.002	0.007
OS23	Utilities Instrument Air	0.049	0.008	4.569	0.004	0.002	0.007
OS24	Cooling Tower #3 Diesel	0.001	0.000	0.108	0.000	0.000	0.000
OS25	Kenny Atlantic Diesel	0.003	0.000	0.257	0.000	0.000	0.000
	Totals (lbs)	0.41	0.06	37.99	0.03	0.01	0.06

note: diesel fuel is 19,200 btu/lb
diesel fuel is 7.1 lb/gal
factors used were the one:sels

Update 9/17/20

FACTORS FROM EMIS

						POM	
	reporting threshold	n/a	n/a	1.5	2	0.04	19
		Benzo(g,h,i) perylene	Benzo(k) fluoranthene	1.3 Butadiene	Chrysene	Dibenz(a,h) anthracene	e-benzene
Oil Factors (lb/mmbtu) - engine size		5.4E-07	2.1E-07	3.9E-05	1.5E-06	3.5E-07	0.0E+00
OS1	RW Intake #89	0.002	0.001	0.122	0.005	0.001	0.000
OS2	1185 Tank	0.000	0.000	0.000	0.000	0.000	0.000
OS3	G201	0.000	0.000	0.006	0.000	0.000	0.000
OS4	G202	0.000	0.000	0.006	0.000	0.000	0.000
OS5	G203	0.000	0.000	0.006	0.000	0.000	0.000
OS6	G205	0.000	0.000	0.005	0.000	0.000	0.000
OS7	Pumpkin	0.002	0.001	0.118	0.005	0.001	0.000
OS8	Coker Sludge	0.000	0.000	0.015	0.001	0.000	0.000
	North Pond #1	0.000	0.000	0.006	0.000	0.000	0.000
	North Pond #2	0.000	0.000	0.006	0.000	0.000	0.000
OS9	Kinney Pumphouse	0.000	0.000	0.011	0.000	0.000	0.000
OS10	OM Sludge Pump	0.001	0.000	0.050	0.002	0.000	0.000
OS11	API Slop	0.000	0.000	0.029	0.001	0.000	0.000
OS12	API Pyramid	0.002	0.001	0.131	0.005	0.001	0.000
OS13	API Pyramind	0.002	0.001	0.131	0.005	0.001	0.000
OS14	Coker Clarifer Bottoms	0.000	0.000	0.019	0.001	0.000	0.000
OS15	Coker Hydrobins	0.000	0.000	0.019	0.001	0.000	0.000
OS16	Coker Sludge	0.000	0.000	0.019	0.001	0.000	0.000
OS17	Utilities Instrument Air	0.002	0.001	0.139	0.005	0.001	0.000
OS18	Firehouse	0.000	0.000	0.003	0.000	0.000	0.000
OS19	Firehouse	0.000	0.000	0.003	0.000	0.000	0.000
OS20	FCC Sootblower	0.007	0.003	0.489	0.019	0.004	0.000
OS21	Utilities Instrument Air	0.003	0.001	0.251	0.010	0.002	0.000
OS22	Utilities Instrument Air	0.003	0.001	0.251	0.010	0.002	0.000
OS23	Utilities Instrument Air	0.003	0.001	0.251	0.010	0.002	0.000
OS24	Cooling Tower #3 Diesel	0.000	0.000	0.006	0.000	0.000	0.000
OS25	Kenny Atlantic Diesel	0.000	0.000	0.014	0.001	0.000	0.000
	Totals (lbs)	0.03	0.01	2.09	0.08	0.02	0.00

note: diesel fuel is 19,200 btu/lb
diesel fuel is 7.1 lb/gal
factors used were the one

Update 9/17/20

SION ESTIMATION PROTOCOL FOR PETROLEUM REFINERIES - M

					POM	1.4
	reporting threshold	n/a	n/a	3.5	0.4	
		Fluoranthene	Fluorene	formaldehyde HCOH	Indeno(123-cd) pyrene	Naphthalene
Oil Factors (lb/mmbtu) - engine size		3.9E-06	1.3E-05	7.7E-05	4.0E-07	1.3E-04
OS1	RW Intake #89	0.012	0.041	0.241	0.001	0.406
OS2	1185 Tank	0.000	0.000	0.000	0.000	0.000
OS3	G201	0.001	0.002	0.011	0.000	0.019
OS4	G202	0.001	0.002	0.011	0.000	0.019
OS5	G203	0.001	0.002	0.011	0.000	0.019
OS6	G205	0.000	0.002	0.009	0.000	0.015
OS7	Pumpkin	0.012	0.039	0.233	0.001	0.393
OS8	Coker Sludge	0.001	0.005	0.029	0.000	0.050
	North Pond #1	0.001	0.002	0.012	0.000	0.021
	North Pond #2	0.001	0.002	0.012	0.000	0.021
OS9	Kinney Pumphouse	0.001	0.004	0.022	0.000	0.037
OS10	OM Sludge Pump	0.005	0.017	0.098	0.001	0.166
OS11	API Slop	0.003	0.010	0.056	0.000	0.095
OS12	API Pyramid	0.013	0.044	0.258	0.001	0.435
OS13	API Pyramind	0.013	0.044	0.258	0.001	0.435
OS14	Coker Clarifer Bottoms	0.002	0.006	0.037	0.000	0.062
OS15	Coker Hydrobins	0.002	0.006	0.037	0.000	0.062
OS16	Coker Sludge	0.002	0.006	0.037	0.000	0.062
OS17	Utilities Instrument Air	0.014	0.046	0.275	0.001	0.463
OS18	Firehouse	0.000	0.001	0.005	0.000	0.009
OS19	Firehouse	0.000	0.001	0.005	0.000	0.009
OS20	FCC Sootblower	0.049	0.163	0.965	0.005	1.628
OS21	Utilities Instrument Air	0.025	0.084	0.495	0.003	0.837
OS22	Utilities Instrument Air	0.025	0.084	0.495	0.003	0.837
OS23	Utilities Instrument Air	0.025	0.084	0.495	0.003	0.837
OS24	Cooling Tower #3 Diesel	0.001	0.002	0.012	0.000	0.020
OS25	Kenny Atlantic Diesel	0.001	0.005	0.028	0.000	0.047
	Totals (lbs)	0.21	0.70	4.12	0.02	6.96

note: diesel fuel is 19,200 btu/lb
diesel fuel is 7.1 lb/gal
factors used were the one

Update 9/17/20

IAY 2011 VERSION 2.1.1 - FINAL ICR VERSION

		n/a	2000	n/a	n/a	2000
	reporting threshold					
		Phenanthrene	Phenol	Propylene	Pyrene	Toluene
Oil Factors (lb/mmbtu) - engine size		4.0E-05	0.0E+00	2.7E-03	3.6E-06	2.6E-04
OS1	RW Intake #89	0.125	0.000	8.438	0.011	0.813
OS2	1185 Tank	0.000	0.000	0.000	0.000	0.000
OS3	G201	0.006	0.000	0.395	0.001	0.038
OS4	G202	0.006	0.000	0.395	0.001	0.038
OS5	G203	0.006	0.000	0.395	0.001	0.038
OS6	G205	0.005	0.000	0.316	0.000	0.030
OS7	Pumpkin	0.121	0.000	8.165	0.011	0.786
OS8	Coker Sludge	0.015	0.000	1.031	0.001	0.099
	North Pond #1	0.006	0.000	0.430	0.001	0.041
	North Pond #2	0.006	0.000	0.430	0.001	0.041
OS9	Kinney Pumphouse	0.011	0.000	0.774	0.001	0.074
OS10	OM Sludge Pump	0.051	0.000	3.438	0.005	0.331
OS11	API Slop	0.029	0.000	1.977	0.003	0.190
OS12	API Pyramid	0.134	0.000	9.035	0.012	0.870
OS13	API Pyramind	0.134	0.000	9.035	0.012	0.870
OS14	Coker Clarifer Bottoms	0.019	0.000	1.289	0.002	0.124
OS15	Coker Hydrobins	0.019	0.000	1.289	0.002	0.124
OS16	Coker Sludge	0.019	0.000	1.289	0.002	0.124
OS17	Utilities Instrument Air	0.143	0.000	9.627	0.013	0.927
OS18	Firehouse	0.003	0.000	0.189	0.000	0.018
OS19	Firehouse	0.003	0.000	0.189	0.000	0.018
OS20	FCC Sootblower	0.501	0.000	33.822	0.045	3.257
OS21	Utilities Instrument Air	0.257	0.000	17.375	0.023	1.673
OS22	Utilities Instrument Air	0.257	0.000	17.375	0.023	1.673
OS23	Utilities Instrument Air	0.257	0.000	17.375	0.023	1.673
OS24	Cooling Tower #3 Diesel	0.006	0.000	0.413	0.001	0.040
OS25	Kenny Atlantic Diesel	0.014	0.000	0.976	0.001	0.094
	Totals (lbs)	2.14	0.00	144.49	0.19	13.91

note: diesel fuel is 19,200 btu/lb
diesel fuel is 7.1 lb/gal
factors used were the one

Update 9/17/20

		2000		0.01	0.02	0.01	
	reporting threshold						
		Xylene		Arsenic	Beryllium	Cadmium	Chromium hexavalent
Oil Factors (lb/mmbtu) - engine size		1.9E-04		9.8E-06	3.0E-06	5.8E-06	7.8E-06
OS1	RW Intake #89	0.594		0.031	0.009	0.018	0.024
OS2	1185 Tank	0.000		0.000	0.000	0.000	0.000
OS3	G201	0.028		0.001	0.000	0.001	0.001
OS4	G202	0.028		0.001	0.000	0.001	0.001
OS5	G203	0.028		0.001	0.000	0.001	0.001
OS6	G205	0.022		0.001	0.000	0.001	0.001
OS7	Pumpkin	0.575		0.030	0.009	0.018	0.024
OS8	Coker Sludge	0.073		0.004	0.001	0.002	0.003
	North Pond #1	0.030		0.002	0.000	0.001	0.001
	North Pond #2	0.030		0.002	0.000	0.001	0.001
OS9	Kinney Pumphouse	0.054		0.003	0.001	0.002	0.002
OS10	OM Sludge Pump	0.242		0.012	0.004	0.007	0.010
OS11	API Slop	0.139		0.007	0.002	0.004	0.006
OS12	API Pyramid	0.636		0.033	0.010	0.019	0.026
OS13	API Pyramind	0.636		0.033	0.010	0.019	0.026
OS14	Coker Clarifer Bottoms	0.091		0.005	0.001	0.003	0.004
OS15	Coker Hydrobins	0.091		0.005	0.001	0.003	0.004
OS16	Coker Sludge	0.091		0.005	0.001	0.003	0.004
OS17	Utilities Instrument Air	0.677		0.035	0.011	0.021	0.028
OS18	Firehouse	0.013		0.001	0.000	0.000	0.001
OS19	Firehouse	0.013		0.001	0.000	0.000	0.001
OS20	FCC Sootblower	2.380		0.123	0.038	0.073	0.098
OS21	Utilities Instrument Air	1.223		0.063	0.019	0.037	0.050
OS22	Utilities Instrument Air	1.223		0.063	0.019	0.037	0.050
OS23	Utilities Instrument Air	1.223		0.063	0.019	0.037	0.050
OS24	Cooling Tower #3 Diesel	0.029		0.001	0.000	0.001	0.001
OS25	Kenny Atlantic Diesel	0.069		0.004	0.001	0.002	0.003
	Totals (lbs)	10.17		0.52	0.16	0.31	0.42

note: diesel fuel is 19,200 btu/lb
diesel fuel is 7.1 lb/gal
factors used were the one

Update 9/17/20

		1,000	0.005	0.6	2	0.6	925
	reporting threshold						
		Chromium Total	Cobalt	Manganese	Mercury	Nickel	Selenium
Oil Factors (lb/mmbtu) - engine size		3.3E-05	6.0E-03	4.0E-05	7.0E-08	2.3E-03	1.5E-05
OS1	RW Intake #89	0.103	18.750	0.125	0.000	7.188	0.047
OS2	1185 Tank	0.000	0.000	0.000	0.000	0.000	0.000
OS3	G201	0.005	0.879	0.006	0.000	0.337	0.002
OS4	G202	0.005	0.879	0.006	0.000	0.337	0.002
OS5	G203	0.005	0.879	0.006	0.000	0.337	0.002
OS6	G205	0.004	0.703	0.005	0.000	0.269	0.002
OS7	Pumpkin	0.100	18.145	0.121	0.000	6.956	0.045
OS8	Coker Sludge	0.013	2.292	0.015	0.000	0.879	0.006
	North Pond #1	0.005	0.955	0.006	0.000	0.366	0.002
	North Pond #2	0.005	0.955	0.006	0.000	0.366	0.002
OS9	Kinney Pumphouse	0.009	1.719	0.011	0.000	0.659	0.004
OS10	OM Sludge Pump	0.042	7.640	0.051	0.000	2.929	0.019
OS11	API Slop	0.024	4.393	0.029	0.000	1.684	0.011
OS12	API Pyramid	0.110	20.078	0.134	0.000	7.697	0.050
OS13	API Pyramind	0.110	20.078	0.134	0.000	7.697	0.050
OS14	Coker Clarifer Bottoms	0.016	2.865	0.019	0.000	1.098	0.007
OS15	Coker Hydrobins	0.016	2.865	0.019	0.000	1.098	0.007
OS16	Coker Sludge	0.016	2.865	0.019	0.000	1.098	0.007
OS17	Utilities Instrument Air	0.118	21.392	0.143	0.000	8.200	0.053
OS18	Firehouse	0.002	0.420	0.003	0.000	0.161	0.001
OS19	Firehouse	0.002	0.420	0.003	0.000	0.161	0.001
OS20	FCC Sootblower	0.413	75.161	0.501	0.001	28.812	0.188
OS21	Utilities Instrument Air	0.212	38.610	0.257	0.000	14.801	0.097
OS22	Utilities Instrument Air	0.212	38.610	0.257	0.000	14.801	0.097
OS23	Utilities Instrument Air	0.212	38.610	0.257	0.000	14.801	0.097
OS24	Cooling Tower #3 Diesel	0.005	0.917	0.006	0.000	0.351	0.002
OS25	Kenny Atlantic Diesel	0.012	2.170	0.014	0.000	0.832	0.005
	Totals (lbs)	1.77	321.08	2.14	0.00	123.08	0.80

note: diesel fuel is 19,200 btu/lb
diesel fuel is 7.1 lb/gal
factors used were the one

Update 9/17/20

reporting threshold

		PAHs (total)
Oil Factors (lb/mmbtu) - engine size		1.7E-04
OS1	RW Intake #89	0.531
OS2	1185 Tank	0.000
OS3	G201	0.025
OS4	G202	0.025
OS5	G203	0.025
OS6	G205	0.020
OS7	Pumpkin	0.514
OS8	Coker Sludge	0.065
	North Pond #1	0.027
	North Pond #2	0.027
OS9	Kinney Pumphouse	0.049
OS10	OM Sludge Pump	0.216
OS11	API Slop	0.124
OS12	API Pyramid	0.569
OS13	API Pyramind	0.569
OS14	Coker Clarifer Bottoms	0.081
OS15	Coker Hydrobins	0.081
OS16	Coker Sludge	0.081
OS17	Utilities Instrument Air	0.606
OS18	Firehouse	0.012
OS19	Firehouse	0.012
OS20	FCC Sootblower	2.130
OS21	Utilities Instrument Air	1.094
OS22	Utilities Instrument Air	1.094
OS23	Utilities Instrument Air	1.094
OS24	Cooling Tower #3 Diesel	0.026
OS25	Kenny Atlantic Diesel	0.061
	Totals (lbs)	9.10

note: diesel fuel is 19,200 btu/lb
diesel fuel is 7.1 lb/gal
factors used were the one

FCCU TRI Emission Estimates

completed 1/16/20

Species	Weighted Average Median Value (lb/1000 lb coke burn)	FCC Regenerator TRI Estimated Emissions (lbs/yr)		FCC Coke Burn for Environmental (1000 lbs of Coke Burn)
1,3-Butadiene	**2.00E-06**	1.05	1.5	525,600.00
Acetaldehyde	**8.24E-04**	433.25	21	**FCC Rate Spreadsheet**
Acrolein	**6.62E-05**	34.79	1	
Ammonia(2)	**9.95E-03**	5,231.61	n/a	
Anthracene	**6.68E-07**	0.35	n/a	
Antimony	**0.065 * Ni emissions**	14.22	1000	
Arsenic	**0.010 * Ni emissions**	2.19	0.01	
Barium	**0.00E+00**	0.00	n/a	
Benzene	**Stack test data**	104.62	6	**ICR = 1.1E-3 = 459.6 lbs**
Benzo(a)anthracene	**3.80E-08**	0.02	0.4	
Benzo(a)fluoranthene	**2.40E-07**	0.13	0.4	
Benzo(a)pyrene	**7.10E-07**	0.37	0.04	
Benzo(g,h,i)perylene	**3.10E-07**	0.16	n/a	
Benzo(k)fluoranthene	**1.80E-07**	0.09	n/a	
Beryllium	**0.003 * Ni emissions**	0.66	0.02	
Bromomethane	**1.37E-04**	72.01	n/a	
Cadmium	**0.013 * Ni emissions**	2.84	0.01	
Carbon Disulfide	**3.70E-05**	19.45	2000	
Chromium	**0.25 * Ni emissions**	54.69	1000	
Cobalt	**0.052 * Ni emissions**	11.375	0.005	
Copper	**Stack test data**	3.46	n/a	**not on ICR**
Ethylbenzene	**1.60E-05**	8.41	19	
Fluroanthene	**1.57E-06**	0.82	n/a	**ICR about the same**
Formaldehyde	**9.80E-04**	515.09	4	**used low value due to full comb**
Hydrochloric Acid (3)	**0.09**	749.32	900	**ICR about the same**
Hydrogen Cyanide	**Compliance Sheet**	248,237	35	**ICR = 0.049 = 20,472 lbs**
Indeno(1,2,3-cd)pyrene	**3.00E-07**	0.16	0.4	
Lead	**0.08* Ni emissions**	17.50	2	
Manganese	**0.13* Ni emissions**	28.44	0.6	
Mercury	**1.41E-05**	7.43	2	**ICR about the same**
Naphthalene	**4.92E-05**	25.85	1.4	**ICR about the same**
Nickel	**Stack test data**	218.74	0.6	
PAH (total)	**5.24E-04**	275.61	2	
Phenanthrene	**1.39E-06**	0.73	n/a	
Phenol	**5.06E-05**	26.59	2000	
Selenium	**0.025 * Ni emissions**	5.47	925	
Sulfuric Acid Mist	**Stack test data**	64,585.62	n/a	
Toluene	**9.41E-05**	49.46	2000	
Trichlorofluoromethane	**1.57E-04**	82.52	n/a	**ICR about the same**
Vanadium	**Stack test data**	4.61	n/a	**ICR = 1.32xNi = 26.9 lbs**
Xylene (total)	**2.10E-04**	110.38	2000	
Furans	**3.2e-11 + 6.3e-11**	0.0000	0.00012	
Dioxins	**5.60E-11**	0.0000	0.00012	
Acetone	**1.60E-04**	84.10	n/a	**added in 2018 - ICR list**
Methylene Chloride	**4.40E-04**	231.26	2000	**added in 2018 - ICR list**
Acenaphthene	**2.20E-07**	0.12	n/a	**added in 2018 - ICR list**
Acenaphthylene	**7.80E-06**	4.10	n/a	**added in 2018 - ICR list**
Benzo(e)pyrene	**3.30E-08**	0.02	n/a	**added in 2018 - ICR list**
Chrysene	**2.30E-07**	0.12	2	**added in 2018 - ICR list**
Dibenz(a,h)anthracene	**2.80E-07**	0.147	0.04	**added in 2018 - ICR list**
Fluorene	**2.40E-06**	1.26	n/a	**added in 2018 - ICR list**
2-Methylnaphthalene	**1.80E-06**	0.95	n/a	**added in 2018 - ICR list**
Pyrene	**2.20E-07**	0.12	n/a	**added in 2018 - ICR list**

(1) This value is 1/2 the detection limit
(2) See Valero site-specific data in preference over these ammonia factors
(3) Val Air Emission Factor

(4) Calculated from Stack Test

based on 2019 emissions		thresholds	6	2000	19	2000	n/a	n/a	1.4	2000
		2019	0.557%	0.800%	0.430%	0.171%	0.014%	1.095%	0.300%	0.056%
Tank No.	Service	Emissons	Benzene	Toluene	E-Benzene	Xylene	1,2,4 TMB	Cyclohexane	Naphthalene	Cumene
		(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)
640	BRU Water	1599	8.91	12.79	6.87	2.73	0.22	17.51	4.80	0.89
641	BRU Water	1600	8.91	12.80	6.88	2.74	0.22	17.52	4.80	0.89
692	Slop Gasoline	3416	19.03	27.33	14.69	5.84	0.48	37.40	10.25	1.90
693	out of service	4763	26.53	38.10	20.48	8.14	0.67	52.15	14.29	2.65
724	hvy reformate / Alkylate	519	2.89	4.15	2.23	0.89	0.07	5.68	1.56	0.29
725	Alkylate	3135	17.46	25.08	13.48	5.36	0.44	34.33	9.41	1.75
802	Naphtha	747	4.16	5.98	3.21	1.28	0.10	8.18	2.24	0.42
1023	Alkylate	4797	26.72	38.37	20.63	8.20	0.67	52.52	14.39	2.67
1027	o/s	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1055	o/s	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1063	Finished Gasoline	8134	45.31	65.07	34.98	13.91	1.14	89.07	24.40	4.53
1064	Finished Gasoline	1560	8.69	12.48	6.71	2.67	0.22	17.08	4.68	0.87
1065	Finished Gasoline	8516	47.44	68.13	36.62	14.56	1.19	93.25	25.55	4.74
1066	Finished Gasoline	8350	46.51	66.80	35.91	14.28	1.17	91.43	25.05	4.65
1115	Heavy Cat Naphtha	575	3.20	4.60	2.47	0.98	0.08	6.30	1.72	0.32
1116	Light Cat Naphtha	14072	78.38	112.58	60.51	24.06	1.97	154.09	42.22	7.84
1319	spent caustic	419	2.34	3.35	1.80	0.72	0.06	4.59	1.26	0.23
1320	RO API Slop	3041	16.94	24.33	13.08	5.20	0.43	33.30	9.12	1.69
2173	Finished Gasoline	3724	20.74	29.79	16.01	6.37	0.52	40.78	11.17	2.07
2869	Finished Gasoline	4207	23.44	33.66	18.09	7.19	0.59	46.07	12.62	2.34
2940	Heavy Cat Naphtha / o/s	1146	6.38	9.17	4.93	1.96	0.16	12.55	3.44	0.64
2941	Finished Gasoline /HCN	5590	31.14	44.72	24.04	9.56	0.78	61.21	16.77	3.11
3018	Heavy Reformate	382	2.13	3.06	1.64	0.65	0.05	4.19	1.15	0.21
3174	Finished Gasoline	4057	22.60	32.46	17.44	6.94	0.57	44.42	12.17	2.26
3577	Sour Water	1243	6.92	9.94	5.34	2.12	0.17	13.61	3.73	0.69
3592	BRU Water	1148	6.40	9.19	4.94	1.96	0.16	12.57	3.44	0.64
S-74	Crude	1974	7.58	15.79	8.49	3.38	0.28	21.62	5.92	1.10
S-75	Crude	1886	7.24	15.09	8.11	3.23	0.26	20.65	5.66	1.05
S-76	Crude	2170	8.33	17.36	9.33	3.71	0.30	23.76	6.51	1.21
S-77	Crude	3142	12.07	25.14	13.51	5.37	0.44	34.41	9.43	1.75
S-78	Crude	2603	10.00	20.82	11.19	4.45	0.36	28.50	7.81	1.45
S-79	Crude	3648	14.01	29.18	15.69	6.24	0.51	39.95	10.94	2.03
S-80	Naphtha	2151	11.98	17.21	9.25	3.68	0.30	23.55	6.45	1.20
S-81	Naphtha	2094	11.66	16.75	9.00	3.58	0.29	22.93	6.28	1.17
S-82	Pre-Trtd Naphtha	1324	7.37	10.59	5.69	2.26	0.19	14.50	3.97	0.74
4193	Water / HC	678	3.77	5.42	2.91	1.16	0.09	7.42	2.03	0.38
	Total	108,411	577.16	867.29	466.17	185.38	15.18	1187.10	325.23	60.38
	tons	54.21								

Attachment to the RADIUS Operating Permit Renewal Application

THIS SECTION APPLIES ONLY TO FACILITIES SUBJECT TO EPA's ACID RAIN PROGRAM
(40 CFR 72)

Acid Rain Program

To learn more about Acid Rain Program, check EPA's website: http://www.epa.gov/airmarkets/arp/.

Check one of the following boxes:

☒ There have been no changes affecting my facility's Acid Rain Permit and a renewal application is provided with the operating permit renewal application.

☐ There have been changes affecting my facility's Acid Rain Permit and a revised/updated application is provided with the operating permit renewal application.

Title V Permit Renewal Application
CAM Assessment

Emission Unit No. 1 – FCC Unit
Regulation: Title V, State
Control Device: Belco EDV® Wet Scrubbing System

Pollutant: SO_2
Potential to Emit: 172 tons/year
Emission Limit: 39.3 lb/hr or 25ppm
Control Efficiency: 99.26%
Compliance Method: CEMs

Pollutant: SO_3
Potential to Emit: 51.6 tons/year
Emission Limit: 11.8 lb/hr as H_2SO_4
Control Efficiency: 84.96%
Compliance Method: Periodic Stack Emission Testing

Pollutant: Total Suspended Particulate
Potential to Emit: 131.4 tons/year
Emission Limit: 30 lb/hr
Control Efficiency: 98.48%
Compliance Method: EPA Approved Alternative Monitoring Plan which monitors process conditions

Emission Unit No. 2– NHT Heater
The NHT Heater is not equipped with any control devices, so it does not meet all three of the applicability criteria necessary to be subject to the CAM rule.

Emission Unit No. 3 – Solvent Degreasers
The solvent degreasers are not equipped with any control devices, so it does not meet all three of the applicability criteria necessary to be subject to the CAM rule.

Emission Unit No. 5 – FGDU Heater
The FGDU Heater is not equipped with any control devices, so it does not meet all three of the applicability criteria necessary to be subject to the CAM rule.

Emission Unit No. 6 – CHD B-401 Heater
The CHD B-401 Heater is not equipped with any control devices, so it does not meet all three of the applicability criteria necessary to be subject to the CAM rule.

Emission Unit No. 7 – SRU Complex
Regulation: Title V, State
Control Device: Tail Gas Units (2)

Pollutant: TRS
Potential to Emit: 15 tons/year
Emission Limit: 8 lb/hr or 250 ppm SO_2 per Tail Gas Unit
Control Efficiency: 90-97%
Compliance Method: CEMs – Monitors SO_2

Emission Unit No. 8 – Crude Unit 7 F-1A Atmospheric Heater
The Crude Unit 7 F-1A Atmospheric Heater is not equipped with any control devices, so it does not meet all three of the applicability criteria necessary to be subject to the CAM rule.

Emission Unit No. 9 – Crude Unit 7 F-1 Atmospheric Heater
The Crude Unit 7 F-1 Atmospheric Heater is not equipped with any control devices, so it does not meet all three of the applicability criteria necessary to be subject to the CAM rule.

Emission Unit No. 10 – Crude Unit 7 F-2 Vacuum Heater
The Crude Unit 7 F-2 Vacuum Heater is not equipped with any control devices, so it does not meet all three of the applicability criteria necessary to be subject to the CAM rule.

Emission Unit No. 11 – Crude Unit 6 Heater
The Crude Unit 6 Heater is not equipped with any control devices, so it does not meet all three of the applicability criteria necessary to be subject to the CAM rule.

Emission Unit No. 12 – Coker Unit (A&B) Heaters
The Coker Unit (A&B) Heaters are not equipped with any control devices, so they do not meet all three of the applicability criteria necessary to be subject to the CAM rule.

Emission Unit No. 13 – Furfural #1 (BB-1 & BB-2) Heaters
The Furfural #1 (BB-1 & BB-2) Heaters are not equipped with any control devices, so they do not meet all three of the applicability criteria necessary to be subject to the CAM rule.

Emission Unit No. 14 – Furfural 2B101 Heater
The Furfural 2B101 Heater is not equipped with any control devices, so it does not meet all three of the applicability criteria necessary to be subject to the CAM rule.

Emission Unit No. 15 – Propane Deasphalting Unit (BB-1 & BB-2) Heaters
The Propane Deasphalting Unit (BB-1 & BB-2) Heaters are not equipped with any control devices, so they do not meet all three of the applicability criteria necessary to be subject to the CAM rule.

Emission Unit No. 16 – MLDW Heater
The MLDW Heater is not equipped with any control devices, so it does not meet all three of the applicability criteria necessary to be subject to the CAM rule.

Emission Unit No. 17 – CHD-2 Heater
The CHD-2 Heater is not equipped with any control devices, so it does not meet all three of the applicability criteria necessary to be subject to the CAM rule.

Emission Unit No. 18 – Hydrogen Plant Heater
The Hydrogen Plant Heater is not equipped with any control devices, so it does not meet all three of the applicability criteria necessary to be subject to the CAM rule.

Emission Unit 20 – Utility Plant

Boiler 2A, Boiler 2B and Boiler 2C
The Utility Plant Boilers (2A, 2B and 2C) are not equipped with any control devices, so they do not meet all three of the applicability criteria necessary to be subject to the CAM rule

GTG / HRSG

Regulation:	Title V, State
Control Device:	Water Injection
Pollutant:	NO_x
Potential to Emit:	429 tons/year (includes emissions from Boilers)
Emission Limit:	98.6 lb/hr
Compliance Method:	The Title V permit specifies a continuous compliance determination method (NO_x, CO, SO_2 & O_2 CEMs) for the Utility Plant, which is equipped with a control device (water/steam injection) for NO_x emission control. Therefore, pursuant to 40 CFR 64.2(a) and (b), the emission limitation for the affected pollutant is exempt, and the Utility Plant does not meet the applicability criteria necessary to be subject to the CAM rule.

Emission unit No. 21 – South Plant Flare – Existing
The South Plant Flare - Existing is not equipped with any control devices, so it does not meet all three of the applicability criteria necessary to be subject to the CAM rule.

Emission Unit No. 22 – South Plant Flare – New
The South Plant Flare - New is not equipped with any control devices, so it does not meet all three of the applicability criteria necessary to be subject to the CAM rule.

Emission Unit No. 25 – North Plant Flares – Primary and Backup
The North Plant Flares – Primary and Backup are not equipped with any control devices, so they do not meet all three of the applicability criteria necessary to be subject to the CAM rule.

Emission Unit No. 26 – Marine Loading Vapor Recovery System w/Thermal Oxidizer
The Marine Loading Vapor Recovery System w/Thermal Oxidizer is not equipped with any control devices, so it does not meet all three of the applicability criteria necessary to be subject to the CAM rule. This unit is a stand-alone unit designed to be a thermal oxidizer. CO and O_2 are monitored by CEMs.

Emission Unit No. 49 – Coker Hydrobins
The Coker Hydrobins are not equipped with any control devices, so they do not meet all three of the applicability criteria necessary to be subject to the CAM rule.

Emission Unit No. 52 - FCC Catalyst Loading/Unloading and Removal System
The FCC Catalyst Loading/Unloading and Removal System does not meet the pre-controlled device emissions standards, so it does not meet all three of the applicability criteria necessary to be subject to the CAM rule.

Emission Unit No. 53 – Wastewater Treatment Plant
This Unit is regulated by NSPS Subpart QQQ. Therefore, pursuant to 40 CFR 64.2(a) and (b), the emission limitation for the affected pollutant is exempt, and the Wastewater Treatment Plant does not meet the applicability criteria necessary to be subject to the CAM rule.

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Emission Unit No. 56 – SRU Thermal Oxidizer
The SRU Thermal Oxidizer is not equipped with any control devices, so it does not meet all three of the applicability criteria necessary to be subject to the CAM rule. This unit is a stand-alone unit designed to be a thermal oxidizer.

Emission Unit No. 57 – Internal Combustion Engines
The Internal Combustion Engines are not equipped with any control devices, so they do not meet all three of the applicability criteria necessary to be subject to the CAM rule.

Emission Unit No. 59 – Bioremediation Treatment Facility
The Bioremediation Treatment Facility is not equipped with any control devices, so it does not meet all three of the applicability criteria necessary to be subject to the CAM rule.

Emission Unit No. 65 – Petroleum Coke Material Handling Operations
The Petroleum Coke Material Handling Operations is not equipped with any control devices, so it does not meet all three of the applicability criteria necessary to be subject to the CAM rule.

Emission Unit No. 66 – CCR Chlorsorb
The Chlorsorb Unit is regulated by the NSPS Subpart UUU. In addition, the Title V permit specifies a continuous compliance determination method for the Chlorsorb Unit. Therefore, pursuant to 40 CFR 64.2(a) and (b), the emission limitation for the affected pollutant is exempt, and the Chlorsorb Unit does not meet the applicability criteria necessary to be subject to the CAM rule.

Emission Unit No. 67 – Storm Water Retention System
The Storm Water Retention System is not equipped with any control devices, so it does not meet all three of the applicability criteria necessary to be subject to the CAM rule.

Emission Unit No. 780 – CCR Heater
The CCR Heater is not equipped with any control devices, so it does not meet all three of the applicability criteria necessary to be subject to the CAM rule.

Emission Unit No. 790 – CCR Reboiler F101
The CCR Reboiler F101 is not equipped with any control devices, so it does not meet all three of the applicability criteria necessary to be subject to the CAM rule.

Emission Unit No. 800 – CCR Reboiler F5
The CCR Reboiler F5 is not equipped with any control devices, so it does not meet all three of the applicability criteria necessary to be subject to the CAM rule.

Emission Unit No. 802 – Multi-Phase Extraction Unit
The Multi-Phase Extraction Unit is not equipped with any control devices, so it does not meet all three of the applicability criteria necessary to be subject to the CAM rule.

Emission Unit No. 810 – CCR Reboiler F303
The CCR Reboiler F303 is not equipped with any control devices, so it does not meet all three of the applicability criteria necessary to be subject to the CAM rule.

Emission Unit No. 850 – Fugitive Landfill Emissions (ten vents)
The Fugitive Landfill Emissions (ten vents) are not equipped with any control devices, so they do not meet all three of the applicability criteria necessary to be subject to the CAM rule.

Emission Unit No. 900 through 902
These units are material storage vessels and therefore do not require a CAM review. The storage tanks are not equipped with any control devices, so they do not meet all three of the applicability criteria necessary to be subject to the CAM rule.

Finally, the Paulsboro Refining Company refinery has requirements within the Title V Operating Permit to comply with the following NSPS or NESHAP regulations:

- 40 CFR 60 Subpart D
- 40 CFR 60 Subpart Da
- 40 CFR 60 Subpart Db
- 40 CFR 60 Subpart J
- 40 CFR 60 Subpart K
- 40 CFR 60 Subpart Ka
- 40 CFR 60 Subpart Kb
- 40 CFR 60 Subpart GG
- 40 CFR 60 Subpart VV
- 40 CFR 61 Subpart M
- 40 CFR 63 Subpart G
- 40 CFR 63 Subpart CC
- 40 CFR 63 Subpart UUU
- 40 CFR 63 Subpart DDDDD
- 40 CFR 63 Subpart GGGGG
- 40 CFR 82 Subpart F

TABLE 1
FCCU Scrubber

Air Contaminant	Major Threshold Level (TPY)	Pre-Scrubber Emission Rate (TPY)	CAM Applicable?
Carbon Monoxide	100	151	No per 64.2(a)(2) & 64.2(b)(vi)
PM_{10}	100	1,064	Yes per 64.2(a)
TSP	100	1,064	Yes per 64.2(a)
Sulfur Dioxide	100	15,330	No per 64.2(b)(vi)
Oxides of Nitrogen	25	223	No per 64.2(a)(2) & 64.2(b)(vi)
VOC	25	43	No per 64.2(a)(2)
Lead	10	No emission limit	No per 64.2(a)(1)
Any HAP	10	22 - HCN	No per 64.2(a)(2)
All HAPS	25	2.8 - benzene 2.5 - nickel	No per 64.2(a)(3)
Any other Contaminant	100	10 - Vanadium 1 - Copper	No per 64.2(a)(3)
Sulfuric Acid Mist	7	52	Yes per 64.2(a)

Air Contaminant	Process Indicators & Ranges [64.4(a)]	Justification 64.4(b)	Data Recorded 64.49(c)	Performance Test Date 64.4(d)	Implementation Plan if required 64.4(e)
PM_{10}	Pressure drop ≥10 in H_2O Pump pressure ≥41 psig PM ≤1lb/1,000 lb coke burned	Vendor data & US EPA approved AMP	Pressure drop Pump pressure Coke burn	04/06/05 & 05/18/05	None
TSP	Pressure drop ≥10 in H_2O Pump pressure ≥41 psig PM ≤1lb/1,000 lb coke burned	Vendor data & US EPA approved AMP	Pressure drop Pump pressure Coke burn	04/06/05 & 05/18/05	None
Sulfuric Acid Mist	Pressure drop ≥10 in H_2O Pump pressure ≥41 psig pH ≥1 and ≤9	Vendor data & US EPA approved AMP	Pressure drop Pump pressure pH	04/06/05 & 05/18/05	None

TABLE 2
SRU Tail Gas Units

Air Contaminant	Major Threshold Level (TPY)	Pre-Tail Gas Unit Emission Rate (TPY)	CAM Applicable?
Carbon Monoxide	100	<100	No per 64.2(a)(2 & 3)
PM_{10}	100	< 100	No per 64.2(a)
TSP	100	< 100	No per 64.2(a)
Sulfur Dioxide	100	1,424	No per 64.2(b)(vi)
Oxides of Nitrogen	25	< 25	No per 64.2(a)
VOC	25	10	No per 64.2(a)(2 & 3)
Lead	10	< 10	No per 64.2(a)
Any HAP	10	1,520 for H_2S & TRS	No per 64.2(b)(vi)
All HAPS	25	1,520 for H_2S & TRS	No per 64.2(b)(vi)
Any other Contaminant	100	< 100	No per 64.2(a)
Sulfuric Acid Mist	7	< 7	No per 64.2(a)

TABLE 3
MVRU

Air Contaminant	Major Threshold Level (TPY)	Pre-MVRU Emission Rate (TPY)	CAM Applicable?
Carbon Monoxide	100	< 100	No per 64.2(a)(1) & (a)(2)
PM_{10}	100	< 100	No per 64.2(a)(1) & (a)(2)
TSP	100	< 100	No per 64.2(a)(1) & (a)(2)
Sulfur Dioxide	100	< 100	No per 64.2(a)(1) & (a)(2)
Oxides of Nitrogen	25	< 25	No per 64.2(a)(1) & (a)(2)
VOC	25	235	Yes per 64.2(a)
Lead	10	< 10	No per 64.2(a)(1) & (a)(2)
Any HAP	10	< 4	No per 64.2(a)(3)
All HAPS	25	< 11	No per 64.2(a)(3)
Any other Contaminant	100	< 100	No per 64.2(a)(1) & (a)(2)
Sulfuric Acid Mist	7	< 7	No per 64.2(a)(1) & (a)(2)

Air Contaminant	Process Indicators & Ranges [64.4(a)]	Justification 64.4(b)	Data Recorded 64.49(c)	Performance Test Date 64.4(d)	Implementation Plan if required 64.4(e)
VOC	Temperature ≥1,500 °F Carbon Monoxide, ≤100 ppm	Combustion efficiency	Temperature, Carbon Monoxide	October 2005, March 2011	None

TABLE 4
FCCU Catalyst Bins

Air Contaminant	Major Threshold Level (TPY)	Pre-Bin Emission Rate (TPY)	CAM Applicable?
Carbon Monoxide	100	< 100	No per 64.2(a)
PM_{10}	100	< 100	No per 64.2(a)(1) & (a)(2)
TSP	100	< 100	No per 64.2(a)(1) & (a)(2)
Sulfur Dioxide	100	< 100	No per 64.2(a)
Oxides of Nitrogen	25	< 25	No per 64.2(a)
VOC	25	< 25	No per 64.2(a)
Lead	10	< 10	No per 64.2(a)
Any HAP	10	< 10	No per 64.2(a)
All HAPS	25	< 25	No per 64.2(a)
Any other Contaminant	100	< 100	No per 64.2(a)
Sulfuric Acid Mist	7	< 7	No per 64.2(a)

TABLE 5
SRU Incinerator

Air Contaminant	Major Threshold Level (TPY)	Pre-Incinerator Emission Rate (TPY)	CAM Applicable?
Carbon Monoxide	100	< 100	No per 64.2(a)(1) & (a)(2)
PM_{10}	100	< 100	No per 64.2(a)(1) & (a)(2)
TSP	100	< 100	No per 64.2(a)(1) & (a)(2)
Sulfur Dioxide	100	< 100	No per 64.2(a)(3)
Oxides of Nitrogen	25	< 25	No per 64.2(a)(1) & (a)(2)
VOC	25	< 25	No per 64.2(a)(1) & (a)(2)
Lead	10	< 10	No per 64.2(a)(1) & (a)(2)
Any HAP	10	15 for H_2S	No per 64.2(a)(1)
All HAPS	25	15 for H_2S	No per 64.2(a)(3)
Any other Contaminant	100	< 100	No per 64.2(a)(1) & (a)(2)
Sulfuric Acid Mist	7	< 7	No per 64.2(a)(1) & (a)(2)

PAULSBORO REFINING COMPANY LLC
TITLE V PERMIT ACTIVITY SINCE 2/10/2017

Identification	Approval	Type	Description	Comments	Current Status
BOP160002	10-Apr-17	Sig Mod	Reconstruct Tank 1115 in order to install a dome on the tank - subjected the tank to NSPS Subpart Kb	Tank becomes NSPS Subpart Kb - Submitted 11-22-16, Draft 12/28/16, approved 4/10/17	Superseded
BOP170001	5-May-17	Minor Mod	Demolish tanks 766/767 and rebuild 766 tank only; add one new Asphalt Tank	submitted 3/8/17 - approved 5/5/17	Superseded
BOP170002	7-Jun-17	Minor Mod	NESHAPS maintenance vent extension - extension that USEPA allowed to the NESHAPS maintenance vent regulations	submitted 4/11/17; draft on 4/17/17; approved 6/7/17	Superseded
BOP170003	23-Oct-17	Sig Mod	Added Degreasers, 11 diesel engines and Paulsboro High School Air Monitoring System to the permit	submitted 6-5-17; draft permit on 7/6/17; approved 10-23-17	Superseded
BOP170004	3-Oct-17	Sig Mod	Coker Circulation Operation Scenario - provide an operating scenario similar to the decoking ones for periods when the Coker heaters are circlating	submitted 8/1/17 - draft on 8/7/17 - approved 10/3/17	Superseded
BOP170005	2-Jan-18	Minor Mod	Replace #89 RW diesel engine	submitted 10/26 - draft 11/6 - final 1/2/18	Superseded
BOP170006	9-Jan-18	Sig Mod	Reconstruct Tank 1064 in order to install a dome on the tank - subjects the tank to NSPS Subpart Kb	submitted 11/7/17 - final 1/9/18	Superseded
BOP180001	12-Mar-18	Minor Mod	S-52 Tank replacement - replacement of a fixed roof tank	submitted 1/17/18 - draft 1-18-18	Superseded
BOP180002	26-Jun-18	Sig Mod	New North Plant Flare - replaces existing spare flare for the North Plant with a new flare	submitted 2/16/18, 5/10 PCA approval - final 6/26/18	Superseded
BOP180003	10-Jul-18	Minor Mod	Tanks S-1 and S-7 Demo and Rebuild - fixed roof tank rebuilds	submitted 5/16/18, 5/21 PCA approval 7/10/18	Superseded
BOP180004	n/a	Minor Mod	PM10 increase for GTG/HRSG	submitted 8-27-18; stack test approved 9/26/19 - withdrawn	Withdrawn
BOP180005	19-Mar-19	Sig Mod	4 Diesel Air Compressors - install 4 diesel air compressors for the refinery instrument air system and soot blowing system at the FCCU	submitted 8-6-18; PCA on 1/30/19, approved 3/19/19	Superseded
BOP180006	n/a	Minor Mod	Coker RSR extension	submitted 11-1-18 - determined not needed due to EPA action on rule	Withdrawn
BOP180007	29-Apr-19	Minor Mod	Diesel Engine for Cooling Tower No. 3	sub 11-26-18, draft 12/12/18 - 1/30 public - 3/12 USEPA; final 4/29/19	Superseded
BOP180009	4-Mar-19	Minor Mod	New Asphalt Additive Tank	submitted 12/24/18, draft 12/27/18, 1/9/19 PCA, final 3/4/19	Superseded

PAULSBORO REFINING COMPANY LLC
TITLE V PERMIT ACTIVITY SINCE 2/10/2017

BOP190001	16-Apr-19	Minor Mod	GTG 10% power limit for RGGI - reinstates conditions related to NJ getting back into the RGGI	submitted 2/15/19, draft on 2/19/19, final 4/16/19	Superseded
BOP190002	6-Jun-19	Sig Mod	Reconstruct Tank 1023 as an internal floating roof tank to meet the doming requirement - subjected the tank to NSPS Subpart Kb	submitted 3/25/19 - draft 4/17/19 - final 6/6/19	Superseded
BOP190003	2-Oct-19	Sig Mod	Changes to Alt VOC Plan - realigned some of the tank doming timing, removes dry low NOx burners on the GTG and replaces them with low NOx burners on one of the boilers	submitted 4/25/19 - draft 5/23/19 - pn 7/3/19, EPA - 8/14 - approved 10/2/19	Superseded
BOP190004	8-Aug-19	Minor Mod	Tank S-8 demo and rebuild - fixed roof tank rebuild	submitted 6-14-19, draft 6-18-19, final 8/8/19	Superseded
BOP190005	26-Sep-19	Sig Mod	Kenny Atlantic Compound Diesel Engine	submitted 7/19/19, draft 7/26/19, final 9/26/19	Superseded
BOP190006	24-Jul-19	AA	Change RO to Capone	submitted 7/23/19; approved 7/24/19	Superseded
BOP190007	20-Sep-19	Sig Mod	Convert Tank S-81 as an internal floating roof tank to meet the doming requirement - does not subject the tank to NSPS Subpart Kb	submitted 7/25/19; draft 7/30/19; approved 9/20/19	Superseded
BOP200001	2/20/2020	Minor Mod	Increase CHD2 Duty to 25 mmbtu/hr	submitted 2/20/20, draft 3/5/20, PCA 3/6/20	Superseded
BOP200002	4/29/2020	Minor Mod	Change PTC ownership	submitted 4/2/20 - XOM had to resubmit under their PI# - draft 4/24	Superseded
BOP200003	8/18/2020	Sig Mod	Dock Sump Diesel Engine	submitted 6/11/20 - approved 8/18/20	Active
BOP200004		Sig Mod	Tanks 1116 and S-80 Doming	draft 7/6/20	Pending
BOP200005			Title V Renewal		

Section 2

Listing of Permit Action since 2011

Section 3
A Summary of 7-day Notice Changes

Instructions
Complete this form if any 7-day notices were sent to the NJDEP since the approval of this operating permit. With this information, the NJDEP will include the provisions of any eligible 7-day notice changes into the renewed permit.

No.	Date of 7-Day Notice	Brief Description of Change
		No 7-Day Notice Changes in Time Period

Section 5
Compliance Status

Instructions
Read the instruction on the previous page before completing this form.

Subject Item OS/ Ref #	Compliance Status (In Compliance Non- Compliance)	Method used to determine Compliance	Is a Compliance Schedule attached? (Yes/No)
Subject Item *FC* *OS / Ref #.*	In Compliance	Review of Environmental Department Files Review of Refinery Operating Procedures Review of Safety Department Files	No
Subject Item *FG1* *OS / Ref #.*	In Compliance	Review of Environmental Department Files Review of Semi-Annual and Quarterly Reports to USEPA and NJDEP	No
Subject Item *FG6* *OS / Ref #.*	In Compliance	No additional applicable requirements	No

Make additional copies of this form if needed.

Section 5
Compliance Status

Instructions
Read the instruction on page 8 before completing this form.

Subject Item OS/ Ref #	Compliance Status (In Compliance Non- Compliance)	Method used to determine Compliance	Is a Compliance Schedule attached? (Yes/No)
Subject Item *FG7*	**In Compliance**	**Review of Environmental Department Files**	**No**
OS / Ref #.			
Subject Item *FG8*	**In Compliance**	**Review of Environmental Department Files**	**No**
OS / Ref #.			
Subject Item *IS1*	**In Compliance**	**Review of Environmental Department Files**	**No**
OS / Ref #.			

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Section 5
Compliance Status

Instructions
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Subject Item OS/ Ref #	Compliance Status (In Compliance Non- Compliance)	Method used to determine Compliance	Is a Compliance Schedule attached? (Yes/No)
Subject Item *IS2*	In Compliance	Review of Environmental Department Files	No
OS / Ref #.			
Subject Item *IS3*	In Compliance	Review of Environmental Department Files	No
OS / Ref #.			
Subject Item *IS4*	In Compliance	Review of Environmental Department Files	No
OS / Ref #.			

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Section 5
Compliance Status

Instructions
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Subject Item OS/ Ref #	Compliance Status (In Compliance Non- Compliance)	Method used to determine Compliance	Is a Compliance Schedule attached? (Yes/No)
Subject Item *IS5*	In Compliance	Review of Environmental Department Files	No
OS / Ref #.			
Subject Item *IS6*	In Compliance	Review of Environmental Department Files	No
OS / Ref #.			
Subject Item *IS7*	In Compliance	Review of Environmental Department Files	No
OS / Ref #.			

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Section 5
Compliance Status

Instructions
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Subject Item OS/ Ref #	Compliance Status (In Compliance Non- Compliance)	Method used to determine Compliance	Is a Compliance Schedule attached? (Yes/No)
Subject Item *IS8*	In Compliance	Review of Environmental Department Files	No
OS / Ref #.			
Subject Item *IS9*	In Compliance	Review of Environmental Department Files	No
OS / Ref #.			
Subject Item *IS10*	In Compliance	Review of Environmental Department Files	No
OS / Ref #.			

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Section 5
Compliance Status

Instructions
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Subject Item OS/ Ref #	Compliance Status (In Compliance Non- Compliance)	Method used to determine Compliance	Is a Compliance Schedule attached? (Yes/No)
Subject Item *IS11*	In Compliance	Review of Environmental Department Files	No
OS / Ref #.			
Subject Item *IS13*	In Compliance	Review of Environmental Department Files	No
OS / Ref #.			
Subject Item *IS14*	In Compliance	Review of Environmental Department Files	No
OS / Ref #.			

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Section 5
Compliance Status

Instructions
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Subject Item OS/ Ref #	Compliance Status (In Compliance Non- Compliance)	Method used to determine Compliance	Is a Compliance Schedule attached? (Yes/No)
Subject Item *GR1*	**In Compliance**	**Review of Environmental Department Files**	**No**
OS / Ref #.			
Subject Item *GR2*	**In Compliance**	**Review of Environmental Department Files**	**No**
OS / Ref #.			
Subject Item *GR3*	**In Compliance**	**Review of Environmental Department Files**	**No**
OS / Ref #.			

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Section 5
Compliance Status

Instructions
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Subject Item OS/ Ref #	Compliance Status (In Compliance Non- Compliance)	Method used to determine Compliance	Is a Compliance Schedule attached? (Yes/No)
Subject Item *GR4*	**In Compliance**	**Review of Environmental Department Files**	**No**
OS / Ref #.			
Subject Item *GR5*	**In Compliance**	**Review of Environmental Department Files**	**No**
OS / Ref #.			
Subject Item *GR6*	**In Compliance**	**Review of Environmental Department Files**	**No**
		Accounted for in Individual Emission Unit Compliance Status	
OS / Ref #.			

Make additional copies of this form if needed.

Section 5
Compliance Status

Instructions
Read the instruction on page 8 before completing this form.

Subject Item OS/ Ref #	Compliance Status (In Compliance Non- Compliance)	Method used to determine Compliance	Is a Compliance Schedule attached? (Yes/No)
Subject Item *GR8*	**In Compliance**	**Review of Environmental Department Files**	**No**
OS / Ref #.			
Subject Item *GR9*	**In Compliance**	**Review of Environmental Department Files**	**No**
Reference No.			
Subject Item *U1*	**Non-Compliance**	**Stack test protocol not submitted 30 months prior to permit expiration – submitted 11/18/19 and stack tests completed**	**No**
		Stack test for nickel showed an exceedance of the permit limit – will re-test – extension granted for nickel re-test	
OS / Ref #. *OS0, #3; OS1 #15*		**Review of Department Files**	
		Review of Process Data	

Make additional copies of this form if needed.

Section 5
Compliance Status

Instructions
Read the instruction on page 8 before completing this form.

Subject Item OS/ Ref #	Compliance Status (In Compliance Non- Compliance)	Method used to determine Compliance	Is a Compliance Schedule attached? (Yes/No)
Subject Item *U2* *OS / Ref #.*	**In Compliance**	**Review of Department Files** **Review of Process Data**	**No**
Subject Item *U3* *OS / Ref #.*	**In Compliance**	**Review of Department Files** **Review of Process Data**	**No**
Subject Item *U5* *OS / Ref #.*	**In Compliance**	**Review of Department Files** **Review of Process Data**	**No**

Make additional copies of this form if needed.

Section 5
Compliance Status

Instructions
Read the instruction on page 8 before completing this form.

Subject Item OS/ Ref #	Compliance Status (In Compliance Non- Compliance)	Method used to determine Compliance	Is a Compliance Schedule attached? (Yes/No)
Subject Item *U6* *OS / Ref #.*	**In-Compliance**	**Review of Department Files** **Review of Process Data** **Did not complete stack test 18 months before permit expiration–an extension was granted for the stack test**	**No**
Subject Item *U7* *OS / Ref #.*	**In-Compliance**	**Review of Department Files** **Review of Process Data** **Did not complete stack test 18 months before permit expiration–an extension was granted for the stack test**	**No**
Subject Item *U8* *OS / Ref #.* *OS0 #2; OS1 #3, #4, #5, #6*	**In-Compliance**	**Review of Department Files** **Review of Process Data** **Stack test protocol not submitted 30 months prior to permit expiration – submitted 12/30/19 and stack test extension was granted – stack test complete – 7/8/2020**	**No**

Make additional copies of this form if needed.

Section 5
Compliance Status

Instructions
Read the instruction on page 8 before completing this form.

Subject Item OS/ Ref #	Compliance Status (In Compliance Non- Compliance)	Method used to determine Compliance	Is a Compliance Schedule attached? (Yes/No)
Subject Item *U9*	**Non-Compliance**	**Review of Department Files** **Review of Process Data**	**No**
OS / Ref #. *OS0 #2; OS1 #4, #7*		**Stack test protocol not submitted 30 months prior to permit expiration – submitted 12/30/19 and stack test extension was granted – stack test completed 7/9/2020**	
Subject Item *U10*	**Non-Compliance**	**Review of Department Files** **Review of Process Data**	**No**
OS / Ref #. *OS0 #2; OS1 #4, #7*		**Stack test protocol not submitted 30 months prior to permit expiration – submitted 12/30/19 and stack test extension was granted – stack test completed 7/7/2020**	
Subject Item *U11*	**In Compliance**	**Review of Department Files** **Review of Process Data**	**No**
OS / Ref #.			

Make additional copies of this form if needed.

Section 5
Compliance Status

Instructions
Read the instruction on page 8 before completing this form.

Subject Item OS/ Ref #	Compliance Status (In Compliance Non- Compliance)	Method used to determine Compliance	Is a Compliance Schedule attached? (Yes/No)
Subject Item *U12* *OS / Ref #.*	In Compliance	Review of Department Files Review of Process Data	No
Subject Item *U13* *OS / Ref #.*	In Compliance	Review of Department Files Review of Process Data	No
Subject Item *U14* *OS / Ref #.*	In Compliance	Review of Department Files Review of Process Data	No

Make additional copies of this form if needed.

Section 5
Compliance Status

Instructions
Read the instruction on page 8 before completing this form.

Subject Item OS/ Ref #	Compliance Status (In Compliance Non- Compliance)	Method used to determine Compliance	Is a Compliance Schedule attached? (Yes/No)
Subject Item *U15* *OS / Ref #.*	In Compliance	Review of Department Files Review of Process Data	No
Subject Item *U16* *OS / Ref #.*	In Compliance	Review of Department Files Review of Process Data	No
Subject Item *U17* *OS / Ref #.*	In Compliance	Review of Department Files Review of Process Data	No

Make additional copies of this form if needed.

Section 5
Compliance Status

Instructions
Read the instruction on page 8 before completing this form.

Subject Item OS/ Ref #	Compliance Status (In Compliance Non- Compliance)	Method used to determine Compliance	Is a Compliance Schedule attached? (Yes/No)
Subject Item *U18*	In Compliance	Review of Department Files	No
		Review of Process Data	
OS / Ref #.			
Subject Item *U20*	In Compliance	Review of Department Files	No
		Review of Process Data	
OS / Ref #.			
Subject Item			
OS / Ref #.			

Make additional copies of this form if needed.

Section 5
Compliance Status

Instructions
Read the instruction on page 8 before completing this form.

Subject Item OS/ Ref #	Compliance Status (In Compliance Non- Compliance)	Method used to determine Compliance	Is a Compliance Schedule attached? (Yes/No)
Subject Item *U21* *OS / Ref #.*	In Compliance	Review of Department Files Review of Process Data	No
Subject Item *U22* *OS / Ref #.*	In Compliance	Review of Department Files Review of Process Data	No
Subject Item *U25* *OS / Ref #.*	In Compliance	Review of Department Files Review of Process Data	No

Make additional copies of this form if needed.

Section 5
Compliance Status

Instructions
Read the instruction on page 8 before completing this form.

Subject Item OS/ Ref #	Compliance Status (In Compliance Non- Compliance)	Method used to determine Compliance	Is a Compliance Schedule attached? (Yes/No)
Subject Item *U26*	**Non-Compliance**	**Review of Department Files – Review of Process Data**	**No**
		Review of Process Data	
OS / Ref #. *OS0 #1*		**Stack test protocol not submitted 30 months prior to permit expiration – submitted 12/31/19 – stack test completed 3/3/2020**	
Subject Item *U49*	**In Compliance**	**Review of Department Files**	**No**
		Review of Process Data	
OS / Ref #.			
Subject Item *U52*	**In Compliance**	**Review of Department Files**	**No**
		Review of Process Data	
OS / Ref #.			

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Section 5
Compliance Status

Instructions
Read the instruction on page 8 before completing this form.

Subject Item OS/ Ref #	Compliance Status (In Compliance Non- Compliance)	Method used to determine Compliance	Is a Compliance Schedule attached? (Yes/No)
Subject Item *U53* *OS / Ref #.*	In Compliance	Review of Department Files Review of Process Data	No
Subject Item *U56* *OS / Ref #.*	In Compliance	Review of Department Files Review of Process Data	No
Subject Item *U57* *OS / Ref #.*	In Compliance	Review of Department Files Review of Process Data	No

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Section 5
Compliance Status

Instructions
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Subject Item OS/ Ref #	Compliance Status (In Compliance Non- Compliance)	Method used to determine Compliance	Is a Compliance Schedule attached? (Yes/No)
Subject Item *U59*	In Compliance	Review of Department Files	No
		Review of Process Data	
OS / Ref #.			
Subject Item *U65*	In Compliance	Review of Department Files	No
		Review of Process Data	
OS / Ref #.			
Subject Item *U66*	In Compliance	Review of Department Files	No
		Review of Process Data	
OS / Ref #.			

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Section 5
Compliance Status

Instructions
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Subject Item OS/ Ref #	Compliance Status (In Compliance Non- Compliance)	Method used to determine Compliance	Is a Compliance Schedule attached? (Yes/No)
Subject Item *U67* *OS / Ref #.*	**In Compliance**	**Review of Department Files** **Review of Process Data**	**No**
Subject Item *U780* *OS / Ref #.*	**In Compliance**	**Review of Department Files** **Review of Process Data**	**No**
Subject Item *U790* *OS / Ref #.*	**In Compliance**	**Review of Department Files** **Review of Process Data**	**No**

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Section 5
Compliance Status

Instructions
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Subject Item OS/ Ref #	Compliance Status (In Compliance Non- Compliance)	Method used to determine Compliance	Is a Compliance Schedule attached? (Yes/No)
Subject Item *U800* *OS / Ref #.*	In Compliance	Review of Department Files Review of Process Data	No
Subject Item *U802* *OS / Ref #.*	In Compliance	Review of Department Files Review of Process Data	No
Subject Item *U810* *OS / Ref #.*	In Compliance	Review of Department Files Review of Process Data	No

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Section 5
Compliance Status

Instructions
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Subject Item OS/ Ref #	Compliance Status (In Compliance Non- Compliance)	Method used to determine Compliance	Is a Compliance Schedule attached? (Yes/No)
Subject Item *U850* *OS / Ref #.*	In Compliance	Review of Department Files Review of Process Data	No
Subject Item *U900* *OS / Ref #.*	In Compliance	Review of Department Files Review of Process Data	No
Subject Item *U901* *OS / Ref #.*	In Compliance	Review of Department Files Review of Process Data	No

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Section 5
Compliance Status

Instructions
Read the instruction on page 8 before completing this form.

Subject Item OS/ Ref #	Compliance Status (In Compliance Non- Compliance)	Method used to determine Compliance	Is a Compliance Schedule attached? (Yes/No)
Subject Item *U902* *OS / Ref #.*	In Compliance	Review of Department Files Review of Process Data	No
Subject Item *U903* *OS / Ref #.*	In Compliance	Review of Department Files Review of Process Data	No
Subject Item *OS / Ref #.*			

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Section 6
Changes to NOx Emissions for Emission Units

Emission Unit Number		NOx Potential and Actual Emissions (tons per year)				
		2015	2016	2017	2018	2019
U1	*Potential*	223	223	223	223	223
	Actual	49.08	35.75	47.52	42.71	49.76
U2	*Potential*	4.35	4.35	4.35	4.35	4.35
	Actual	1.31	1.08	1.42	1.56	1.83
U3	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	N/A	N/A
U5	*Potential*	6.3	6.3	6.3	6.3	6.3
	Actual	4.21	3.38	2.26	2.76	3.12
U6	*Potential*	44.68	44.68	44.68	44.68	44.68
	Actual	13.65	9.52	8.49	8.84	9.50
U7	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	N/A	N/A
U8	*Potential*	37.2	37.2	37.2	37.2	37.2
	Actual	21.91	21.72	22.18	21.55	20.60
U9	*Potential*	33.6	33.6	33.6	33.6	33.6
	Actual	25.14	25.14	26.07	25.15	24.87
U10	*Potential*	41.7	41.7	41.7	41.7	41.7
	Actual	23.98	20.40	20.67	22.60	22.61
U11	*Potential*	96.36	96.36	96.36	96.36	96.36
	Actual	60.08	54.76	53.19	49.45	67.53
U12	*Potential*	95.5	95.5	95.5	95.5	95.5
	Actual	22.70	30.83	26.44	22.68	25.88
U13	*Potential*	70.08	70.08	70.08	70.08	70.08
	Actual	23.02	20.18	26.46	31.00	28.120

Section 6
Changes to NOx Emissions for Emission Units

Emission Unit Number		NOx Potential and Actual Emissions (tons per year)				
		Year 1	Year 2	Year 3	Year 4	Year 5
U14	*Potential*	12	12	12	12	12
	Actual	7.44	7.27	7.23	6.90	7.47
U15	*Potential*	60	60	60	60	60
	Actual	20.95	25.02	25.11	24.60	22.57
U16	*Potential*	21.59	21.59	21.59	21.59	21.59
	Actual	6.87	7.44	9.48	9.03	9.33
U17	*Potential*	10	10	10	10	10
	Actual	7.74	4.64	4.02	3.84	3.88
U18	*Potential*	48.18	48.18	48.18	48.18	48.18
	Actual	4.83	6.13	4.97	4.17	4.21
U20	*Potential*	428.85	428.85	428.85	428.85	428.85
	Actual	343.55	341.14	343.12	354.91	353.00
U21	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	2.66	4.58	2.91	2.19	1.67
U22	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	1.38	0.83	2.70	4.69	6.57
U25	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	2.86	3.48	4.16	3.59	7.73
U26	*Potential*	4.8	4.8	4.8	4.8	4.8
	Actual	0.54	1.23	0.49	0.22	0.18
U49	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	N/A	N/A

Section 6
Changes to NOx Emissions for Emission Units

Emission Unit Number		NOx Potential and Actual Emissions (tons per year)				
		Year 1	Year 2	Year 3	Year 4	Year 5
U52	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	N/A	N/A
U53	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	N/A	N/A
U56	*Potential*	9	9	9	9	9
	Actual	0.98	0.90	0.96	0.99	1.39
U57	*Potential*	143	143	143	143	143
	Actual	11.28	2.23	14.03	14.51	14.21
U59	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	N/A	N/A
U65	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	N/A	N/A
U66	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	0	0	0	0	0
U67	*Potential*	1.12	1.12	1.12	1.12	1.12
	Actual	0	0.01	0.01	0.01	0.00
U780	*Potential*	33.3	33.3	33.3	33.3	33.3
	Actual	13.62	17.44	23.60	18.96	20.20
U790	*Potential*	8.8	8.8	8.8	8.8	8.8
	Actual	1.69	1.80	3.17	4.40	3.79
U800	*Potential*	4.8	4.8	4.8	4.8	4.8
	Actual	2.47	2.95	3.49	3.64	3.39

Section 6
Changes to NOx Emissions for Emission Units

Emission Unit Number		NOx Potential and Actual Emissions (tons per year)				
		Year 1	Year 2	Year 3	Year 4	Year 5
U801	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	N/A	N/A
U802	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	N/A	N/A
U850	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	N/A	N/A
U900	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	N/A	N/A
U901	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	N/A	N/A
U902	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	N/A	N/A
U903	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	N/A	N/A
Totals	*Potential*	1438.19	1443.45	1443.45	1443.45	1443.45
	Actual	682.00	658.69	687.25	685.73	713.40
Net Change	*Potential*	-0.9	5.3	0.0	0.0	0.0
	Actual	33.4	-23.3	28.6	-1.5	27.7

Section 6
Changes to VOC Emissions for Emission Units

Emission Unit Number		VOC Potential and Actual Emissions (tons per year)				
		2015	2016	2017	2018	2019
U1	*Potential*	43	43	43	43	43
	Actual	13.45	6.65	16.18	14.68	10.52
U2	*Potential*	0.3	0.3	0.3	0.3	0.3
	Actual	0.12	0.11	0.14	0.16	0.18
U3	*Potential*	0.6	0.6	0.6	0.6	0.6
	Actual	0.02	0.02	0.02	0.02	0.02
U5	*Potential*	2.1	2.1	2.1	2.1	2.1
	Actual	0.11	0.08	0.06	0.07	0.08
U6	*Potential*	0.5	0.5	0.5	0.5	0.5
	Actual	0.44	0.47	0.32	0.33	0.36
U7	*Potential*	8.76	8.76	8.76	8.76	8.76
	Actual	4.23	4.54	4.20	3.07	3.35
U8	*Potential*	2.45	2.45	2.45	2.45	2.45
	Actual	0.47	0.47	0.48	0.46	0.44
U9	*Potential*	1.22	1.22	1.22	1.22	1.22
	Actual	0.79	0.81	0.83	0.78	0.78
U10	*Potential*	1.52	1.52	1.52	1.52	1.52
	Actual	0.95	0.99	0.98	0.92	0.94
U11	*Potential*	3.95	3.95	3.95	3.95	3.95
	Actual	1.07	0.98	0.95	0.88	1.03
U12	*Potential*	2.19	2.19	2.19	2.19	2.19
	Actual	0.64	0.84	0.72	0.88	1.03
U13	*Potential*	1.25	1.25	1.25	1.25	1.25
	Actual	0.34	0.37	0.34	0.35	0.34

Section 6
Changes to VOC Emissions for Emission Units

Emission Unit Number		VOC Potential and Actual Emissions (tons per year)				
		2015	2016	2017	2018	2019
U14	*Potential*	0.38	0.38	0.38	0.38	0.38
	Actual	0.28	0.27	0.27	0.26	0.28
U15	*Potential*	.907	.907	.907	.907	.907
	Actual	0.24	0.29	0.29	0.28	0.26
U16	*Potential*	0.6	0.6	0.6	0.6	0.6
	Actual	0.13	0.14	0.14	0.14	0.14
U17	*Potential*	.438	.438	.438	.438	.438
	Actual	0.09	0.09	0.10	0.10	0.10
U18	*Potential*	1.97	1.97	1.97	1.97	1.97
	Actual	0.07	0.09	0.07	0.06	0.06
U20	*Potential*	108.75	108.75	108.75	108.75	108.75
	Actual	6.67	7.50	9.95	10.38	10.52
U21	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	17.94	31.26	14.49	16.19	12.18
U22	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	9.05	5.27	13.39	35.30	49.82
U25	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	19.04	23.31	20.63	23.63	51.73
U26	*Potential*	6.26	6.26	6.26	6.26	6.26
	Actual	0.10	0.05	0.00	0.00	0.00
U49	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	0.32	0.0	0.0	0.0	0.0

Section 6
Changes to VOC Emissions for Emission Units

Emission Unit Number		VOC Potential and Actual Emissions (tons per year)				
		2015	2016	2017	2018	2019
U52	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	0.0	0.0	0.0	0.0	0.0
U53	*Potential*	23.2	23.2	23.2	23.2	23.2
	Actual	11.16	8.32	11.90	10.90	13.82
U56	*Potential*	0.13	0.13	0.13	0.13	0.13
	Actual	0.05	0.05	0.05	0.05	0.08
U57	*Potential*	11.6	11.6	11.6	11.6	11.6
	Actual	0.90	0.18	5.93	5.45	3.36
U59	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	0.0	0.0	0.0	0.0	0.0
U65	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	N/A	N/A
U66	*Potential*	3.3	3.3	3.3	3.3	3.3
	Actual	0.73	0.75	0.65	0.58	0.58
U67	*Potential*	14.56	14.56	14.56	14.56	14.56
	Actual	0.34	2.09	2.06	0.34	0.17
U780	*Potential*	2.1	2.1	2.1	2.1	2.1
	Actual	1.22	1.39	1.72	1.56	1.49
U790	*Potential*	0.28	0.28	0.28	0.28	0.28
	Actual	0.14	0.15	0.08	0.05	0.09
U800	*Potential*	0.15	0.15	0.15	0.15	0.15
	Actual	0.07	0.11	0.13	0.14	0.13
U802	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	N/A	N/A

Section 6
Changes to VOC Emissions for Emission Units

Emission Unit Number		VOC Potential and Actual Emissions (tons per year)				
		2015	**2016**	**2017**	**2018**	**2019**
U810	*Potential*	N/A	1.31	1.31	1.31	1.31
	Actual	N/A	0.03	0.29	0.28	0.30
U900	*Potential*	350	350	350	350	350
	Actual	123.55	121.13	114.09	54.21	51.90
U901	*Potential*	440	440	440	440	440
	Actual	80.10	90.53	89.65	105.00	90.07
U902	*Potential*	39	39	39	39	39
	Actual	0.18	0.41	0.48	0.48	0.28
U903	*Potential*	0	0	0	0	0
	Actual	0.01	0.01	0.01	0.01	0.01
Totals	*Potential*	1071.5	1072.8	1072.8	1072.8	1072.8
	Actual	294.9	309.7	311.7	287.8	305.8
Net Change	*Potential*	285.2	1.3	0.0	0.0	0.0
	Actual	9.8	14.8	2.0	-23.9	18.0

Section 6
Changes to HAP Emissions for Emission Units

Emission Unit Number		HAP Potential and Actual Emissions (tons per year)				
		2015	2016	2017	2018	2019
U1	*Potential*	245.9	245.9	245.9	245.9	245.9
	Actual	120.60	101.18	125.03	113.31	111.86
U2	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	.008	.010
U3	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	N/A	N/A
U5	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	.003	.004
U6	*Potential*	1.31	1.31	1.31	1.31	1.31
	Actual	0.51	0.42	0.38	0.40	0.44
U7	*Potential*	15	15	15	15	15
	Actual	3.32	1.38	0.03	0.02	0.03
U8	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	0.03	0.02
U9	*Potential*	1.08	1.08	1.08	1.08	1.08
	Actual	0.79	0.55	0.97	1.02	1.15
U10	*Potential*	1.34	1.34	1.34	1.34	1.34
	Actual	1.11	1.16	1.15	1.20	1.16
U11	*Potential*	1.36	1.36	1.36	1.36	1.36
	Actual	1.26	1.15	1.09	1.14	1.27
U12	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	0.04	0.03
U13	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	0.02	0.02

Section 6
Changes to HAP Emissions for Emission Units

Emission Unit Number		HAP Potential and Actual Emissions (tons per year)				
		2015	2016	2017	2018	2019
U14	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	0.02	0.02
U15	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	0.00	0.01
U16	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	0.01	0.01
U17	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	0.01	0.01
U18	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	0.00	0.00
U20	*Potential*	12.647	12.647	12.647	12.647	12.647
	Actual	13.52	13.64	12.61	12.27	12.98
U21	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	0.002	0.000
U22	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	0.005	0.007
U25	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	0.004	0.008
U26	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	0.00	0.00
U49	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	N/A	N/A
U52	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	N/A	N/A

Section 6
Changes to HAP Emissions for Emission Units

Emission Unit Number		HAP Potential and Actual Emissions (tons per year)				
		2015	2016	2017	2018	2019
U53	*Potential*	18.6	18.6	18.6	18.6	18.6
	Actual	6.94	8.32	11.19	11.37	13.82
U56	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	0.01	0.01	0.01	0.01	0.01
U57	*Potential*	N/A	N/A	N/A	N/A	.0206
	Actual	N/A	N/A	N/A	0.008	0.008
U59	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	N/A	N/A
U65	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	N/A	N/A
U66	*Potential*	8.6	8.6	8.6	8.6	8.6
	Actual	0.73	0.56	0.56	0.57	0.56
U67	*Potential*	0.32	0.32	0.32	0.32	0.32
	Actual	0.00	0.00	0.00	0.00	0.00
U780	*Potential*	2.942	2.942	2.942	2.942	2.942
	Actual	1.41	1.64	2.02	2.11	1.83
U790	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	0.008	0.007
U800	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	0.007	0.006
U802	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	N/A	N/A
U810	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	0.016	0.016

Section 6
Changes to HAP Emissions for Emission Units

Emission Unit Number		HAP Potential and Actual Emissions (tons per year)				
		2015	2016	2017	2018	2019
U850	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	N/A	N/A
U900	*Potential*	0.4	0.4	0.4	0.4	0.4
	Actual	0.0	0.0	0.0	0.0	0.0
U901	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	N/A	N/A
U902	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	N/A	N/A
U903	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	N/A	N/A
Totals	*Potential*	309.50	309.50	309.50	309.50	309.50
	Actual	150.20	130.01	155.75	143.59	145.29
Net Change	*Potential*	3.90	0	0	0	0.02
	Actual	28.27	-20.19	25.74	-12.16	1.71

Section 6
Changes to Non-Source Fugitive Estimated Emissions

		VOC Actual Emissions (tons per year)				
		2015	**2016**	**2017**	**2018**	**2019**
Total	*Actual*	13.85	12.79	15.10	15.32	14.49
Net Change	*Actual*	-1.55	-1.06	2.31	0.22	-0.83

		NOx Actual Emissions (tons per year)				
		2015	**2016**	**2017**	**2018**	**2019**
Total	*Actual*	0	0	0	0	0
Net Change	*Actual*	0	0	0	0	0

HAP Compound		HAP Actual Emissions (tons per year)				
		2015	**2016**	**2017**	**2018**	**2019**
TRS	*Actual*	0	0	0	0	0
MTBE	*Actual*	0	0	0	0	0
Benzene	*Actual*	1.28	1.37	1.62	1.64	1.55
HCN	*Actual*	0	0	0	0	0
Total	*Actual*	1.26	1.37	1.62	1.64	1.55
Net Change	*Actual*	------	0.09	0.25	0.02	-0.09

Make additional copies of this form if needed.

Section 6
Changes to Insignificant Source Emissions

		VOC Potential and Actual Emissions (tons per year)				
		2015	2016	2017	2018	2019
Totals	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	N/A	N/A
Net Change	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	N/A	N/A

		NOx Potential and Actual Emissions (tons per year)				
		2015	2016	2017	2018	2019
Totals	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	N/A	N/A
Net Change	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	N/A	N/A

HAP Compound		HAP Potential and Actual Emissions (tons per year)				
		2015	2016	2017	2018	2019
	Potential	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	N/A	N/A
	Potential					
	Actual					
Totals	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	N/A	N/A
Net Change	*Potential*	N/A	N/A	N/A	N/A	N/A
	Actual	N/A	N/A	N/A	N/A	N/A

Make additional copies of this form if needed

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Section 6
Emissions on Pound per Unit of Product Basis

Summarize 5-year trends in annual VOC, NOx, and HAP emissions on a pound per unit of product basis, based on annual actual emissions and annual production over the 5-year period. Changes should be itemized for each emission unit (or process) with a potential to emit over five tons per year of VOC or NOx or a potential to emit over one ton per year of any HAP. Also, show the net change for the facility.

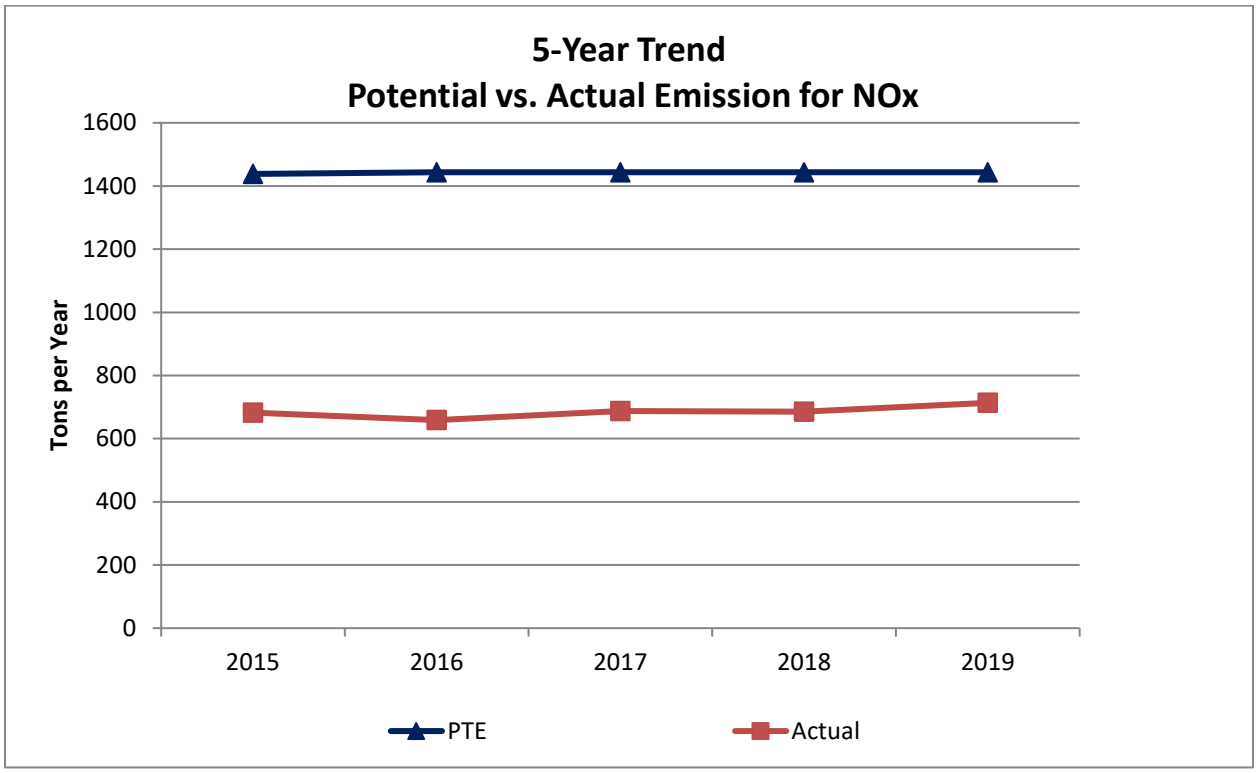
	Actual Emissions (pounds per year)				
Air Contaminant	**2015**	**2016**	**2017**	**2018**	**2019**
VOC (pounds per year)	44.80	43.46	45.81	43.72	46.94
NOx (pounds per year)	97.79	87.34	94.34	96.38	101.90
HAPs (pounds per year)	21.54	17.24	21.38	20.29	20.75
Million Pounds of Product	13,948	15,083	14.569	14.153	14,001

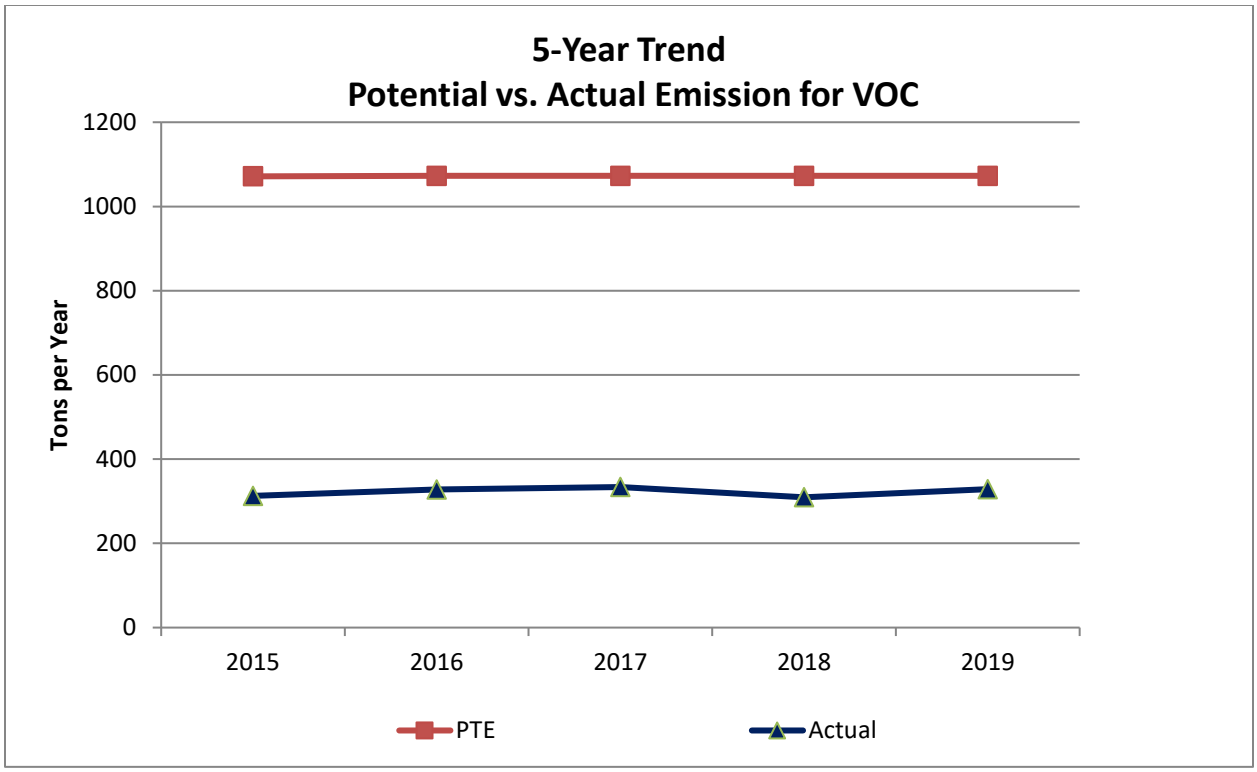
Net Change	Year 1 and 2	Year 2 and 3	Year 3 and 4	Year 4 and 5
VOC (pounds per year)	-1.34	2.35	-2.09	3.22
NOx (pounds per year)	-10.45	7.00	2.04	5.52
HAPs (pounds per year)	-4.30	4.14	-1.09	0.46
Million Pounds of Product	1,135	-514	-416	-152

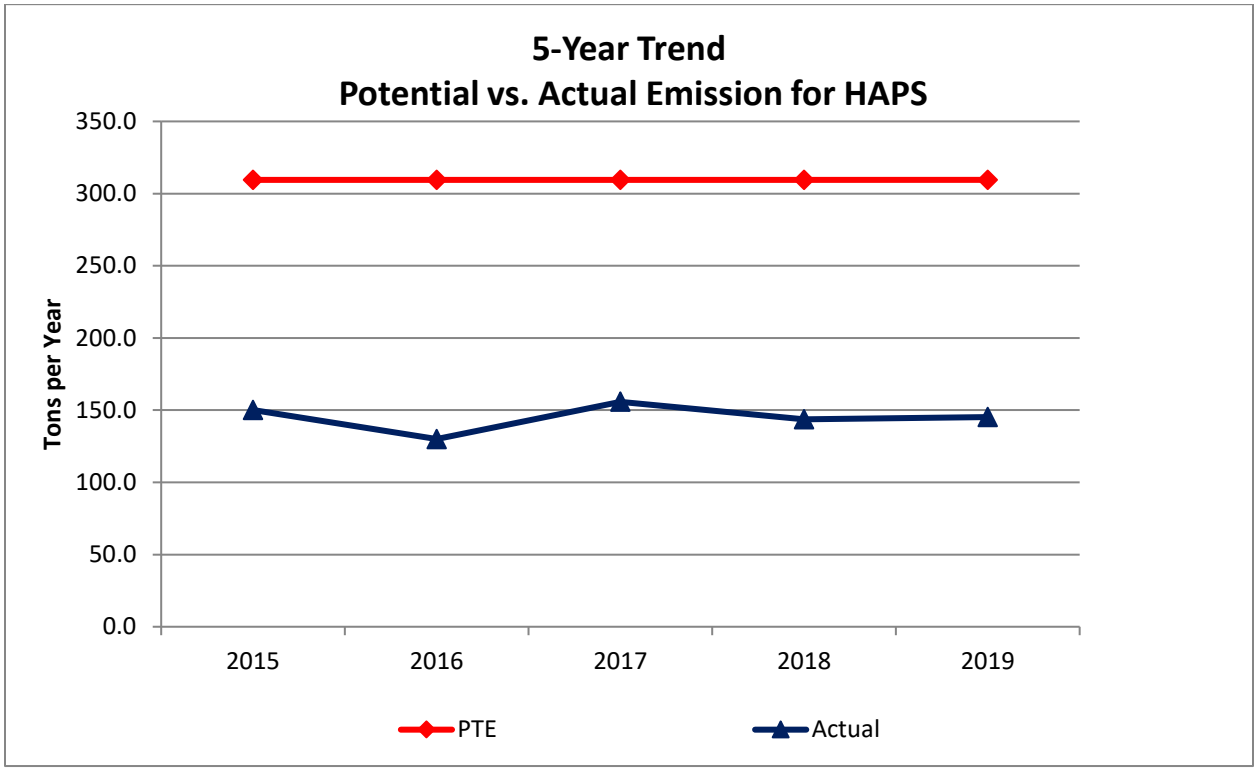
Sample Chart

Section 6
5-year Trends

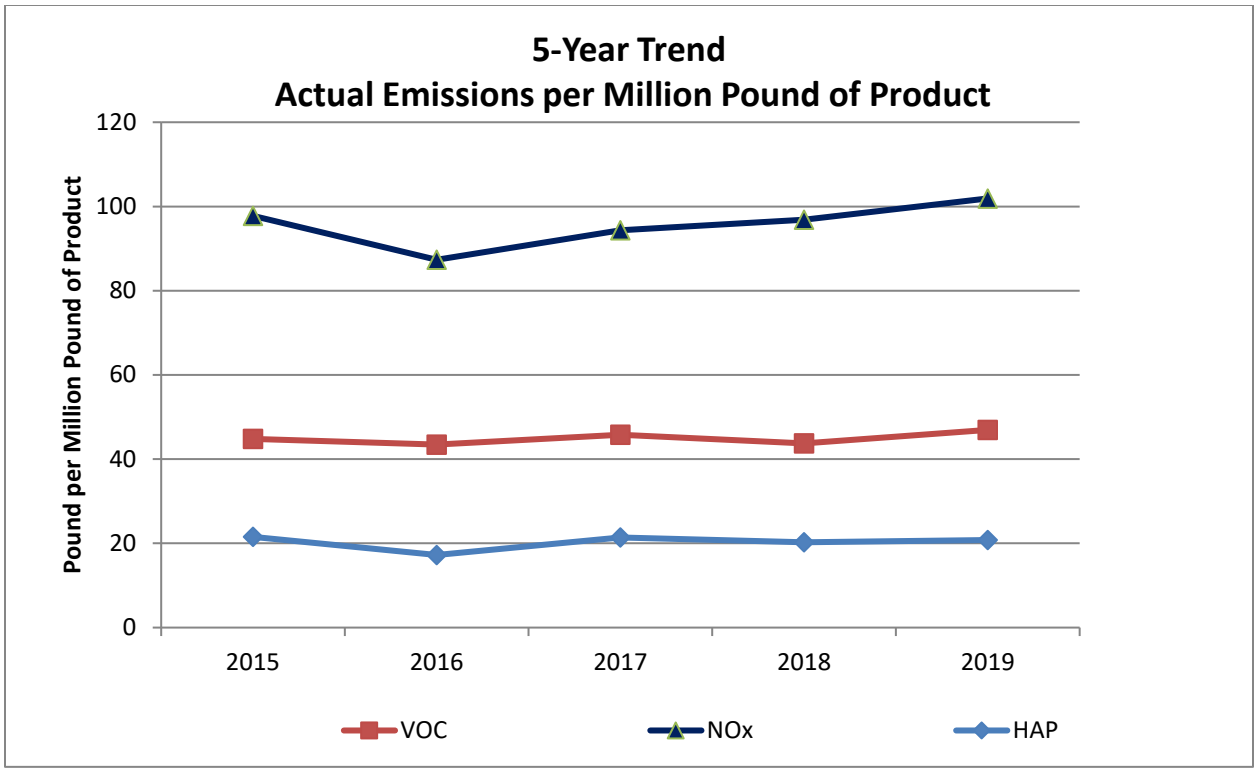
Although not required, the Department encourages the facility to explain the reason for any significant trend, including whether it is the result of cross media shifts (to air, water, or solid waste) and/or pollution prevention. Changes should be itemized for each emission unit (or process). Also, show the net change for the facility.




5-Year Trend
Potential vs. Actual Emission for VOC
Tons per Year
1200
1000
800
600
400
200
0
2015
2016
2017
2018
2019
PTE
Actual


5-Year Trend
Potential vs. Actual Emission for HAPS
Tons per Year
350.0
300.0
250.0
200.0
150.0
100.0
50.0
0.0
2015
2016
2017
2018
2019
PTE
Actual

Attachment to the RADIUS Operating Permit Renewal Application



Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U1 - FCC	0/2	The permittee shall conduct a stack test using a protocol approved by the Department to demonstrate compliance with emission limits for TSP as specified in the compliance plan for OS1 (annually). Testing must be conducted at worst-case permitted operating conditions with regard to meeting the applicable emission standards, but without creating an unsafe condition. [N.J.A.C. 7:27-22.16(a)]	Other: Monitoring as required under the applicable operating scenario.[N.J.A.C. 7:27-22.16(o)].	Other: Recordkeeping as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Submit a stack test protocol to the Emission Management Section (EMS) at Mail Code: 380-01A, PO Box 420, Trenton, NJ 08625. The protocol and test report must be prepared and submitted on a CD using the Electronic Reporting Tool (ERT), unless another format is approved by EMS. The ERT program can be downloaded at: http://www.epa.gov/ttnchie1/ert. Within 30 days of protocol approval or no less than 60 days prior to the testing deadline, whichever is later, the permittee must contact BTS at 609-530-4041 to schedule a mutually acceptable test date. A full stack test report must be submitted to BTS and a certified summary test report must be submitted to the Regional Enforcement Office within 45 days after performing the stack test pursuant to N.J.A.C. 7:27-22.19(d). The test results must be certified by a licensed professional engineer or certified industrial hygienist. [N.J.A.C. 7:27-22.18(e)] and. [N.J.A.C. 7:27-22.18(h)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

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Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U1 - FCC	0 / 3	The permittee shall conduct a stack test at least 18 months prior to the expiration of the renewed operating permit using an approved protocol to demonstrate compliance with emission limits for CO, NOx, TSP, PM10, VOC, SO2, SO3/H2SO4, Benzene, Hydrogen Cyanide and Nickel Compounds as specified in the compliance plan for OS1. Testing must be conducted at worst-case permitted operating conditions with regard to meeting the applicable emission standards, but without creating an unsafe condition. The permittee may propose, in the stack test protocol, to use CEMS data to satisfy the stack testing requirements, for NOx, CO, and/or SO2 with the Emission Management section (EMS) approval. In order for EMS to approve using CEMS data at the time of the stack test, the CEMS must be certified and be in compliance with all daily, quarterly and annual quality assurance requirements. The CEMS shall monitor and record emissions in units identical to those required by the applicable stack testing conditions of this permit. CEMS data, if allowed by this permit, shall be taken at the same worst case conditions as described above. [N.J.A.C. 7:27-22.16(a)]	Other: Monitoring as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	Other: Recordkeeping as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Submit a stack test protocol to EMS at Mail Code: 380-01A, PO Box 420, Trenton, NJ 08625 at least 30 months prior to the expiration of the approved operating permit. The protocol and test report must be prepared and submitted on a CD using the Electronic Reporting Tool (ERT), unless another format is approved by EMS. The ERT program can be downloaded at: http://www.epa.gov/ttnchie1/ert. Within 30 days of protocol approval or no less than 60 days prior to the testing deadline, whichever is later, the permittee must contact EMS at 609-530-4041 to schedule a mutually acceptable test date. A full stack test report must be submitted to EMS and a certified summary test report must be submitted to the Regional Enforcement Office within 45 days after performing the stack test pursuant to N.J.A.C. 7:27-22.19(d). The test results must be certified by a licensed professional engineer or certified industrial hygienist. [N.J.A.C. 7:27-22.18(e)] and. [N.J.A.C. 7:27-22.18(h)]	X	
U1 - FCC	0 / 25	Flowrate <= 208,723 SCFM on a wet basis. [N.J.A.C. 7:27-22.16(a)]	Flowrate: Monitored by flue gas flow rate instrument continuously. The monitor(s) shall be ranged such that the allowable value is approximately mid-scale of the full range current/voltage output. [N.J.A.C. 7:27-22.16(o)]	Flowrate: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)]	None.	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

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Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U1 - FCC	0/ 28	pH of the Scrubbing Solution at the Inlet of the Scrubber >= 5 other units for the Polishing Scrubber. [N.J.A.C. 7:27-22.16(a)]	pH of the Scrubbing Solution at the Inlet of the Scrubber: Monitored by pH instrument once per shift during operation. [N.J.A.C. 7:27-22.16(o)]	pH of the Scrubbing Solution at the Inlet of the Scrubber: Recordkeeping by manual logging of parameter or storing data in a computer data system once per shift during operation. [N.J.A.C. 7:27-22.16(o)]	None.	X	
U1 - FCC	0 / 29	Particulate Matter (PM) emissions must not the exceed 1.0 kilogram (kg) per 1,000 kg (1.0 lb/1,000 lb) of coke burn-off in the catalyst regenerator [40 CFR 60.102(a)(1)] and [40 CFR 63.1564(a)(1)]	Other: Monitor the average daily coke burn-off rate.[40 CFR 63.1564(c)(1)].	Other: Record each day the average coke burn-off rate (thousands of kilograms per hour) using Equation 1 in 40 CFR 63.1564 and the generator hours of operation. [Table 6 to 40 CFR 63 Subpart UUU] and [40 CFR 63.1564(c)(1)]. Follow all applicable record-keeping requirements specified at[40 CFR 63.1576].	Demonstrate compliance: As per the approved schedule. Demonstrate initial compliance using the procedures in [40 CFR 63.1571(a)(1)] through (4), Table 4 and Table 5 of [40 CFR 63 Subpart UUU]. [40 CFR 63.1564(b)(2)] and (5). Submit the Notification of Compliance Status containing the results of the initial compliance demonstration in accordance with [40 CFR 63.1574]. [40 CFR 63.1564(b)(7)]. Demonstrate continuous compliance by determining and recording each day the average coke burn-off rate using Equation 1 in 40 CFR 63.1564 and the hours of operation for the catalyst regenerator, and maintaining PM emission rate below 1.0 kg/1,000 kg (1.0 lb/1,000 lbs) of coke burn-off. [40 CFR 63.1564(c)(1)] and Table 6 of this subpart. Report deviations according to [40 CFR 63.1570(f)]. Submit reports semiannually as specified at.[40 CFR 63.1575]	X	
U1 - FCC	0 / 30	Periodic performance testing for PM: Starting no later than August 1 2017, conduct a PM performance test at least once every 5 years according to the requirements in Table 4 of [40 CFR 63. Subpart UUU]. Repeat the test annually if the PM emissions measured during the most recent test are greater than 0.80 g/kg (0.8 lb/1000 lb) coke burn-off. [40 CFR 63.1571(a)(5)] and [40 CFR 63.1571(a)(5)(ii)]	Other: Conduct the performance test using the procedures at Table 4 of [40 CFR 63 Subpart UUU].[40 CFR 63.1571(a)(5)].	Other: Follow all applicable record-keeping requirements specified at[40 CFR 63.1576].	Submit a report: As per the approved schedule. Report deviations according to [40 CFR 63.1570(f)]. Submit reports semiannually as specified at. [40 CFR 63.1575]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U1 - FCC OS0	31	One-time performance testing for HCN: Conduct a performance test for HCN no later than August 1, 2017 using the procedures at [40 CFR 63.1571(a)(6)(ii)]. If you conducted a performance test for HCN between March 31, 2011 and February 1, 2016, you may request the Administrator to use the previously conducted test results to fulfill the one-time HCN test requirements according to [40 CFR 63.1571(a)(6)(i)(A)] through (D). [40 CFR 63.1571(a)(6)(i)]	Other: Conduct a performance test for HCN no later than August 1, 2017 using the procedures[40 CFR 63.1571(a)(6)(ii)].	Other: Follow all applicable record-keeping requirements specified at[40 CFR 63.1576].	Submit a report: As per the approved schedule. Report deviations according to [40 CFR 63.1570(f)]. Submit reports semiannually as specified at. [40 CFR 63.1576]	X	
U1 - FCC	0 / 32	The opacity of emissions must not exceed 30 percent, except for one 6-minute average opacity reading in any 1-hour period [40 CFR 60.102(a)(2)] and [40 CFR 63.1564(a)(1)]	Other: Monitored by an alternative monitoring plan (AMP) approved by the EPA on 9/29/2004.[40 CFR 60.13(i)].	Other: Maintain records as per the alternative monitoring plan (AMP) approved by the EPA on 9/29/2004.[40 CFR 60.13(i)].	Demonstrate compliance: Other - as per the alternative monitoring plan (AMP) approved by the EPA on 9/29/2004. [40 CFR 60.13(i)]	X	
U1 - FCC	0 / 33	Pressure of water to the filtering modules of the Belco scrubber >= 41 psig. (Surrogate for opacity per AMP approved by the EPA on 9/29/2004). [40 CFR 60.13(i)]	N/A surrogate for Opacity: Monitored by pressure drop instrument continuously, based on a 1 hour block average. The 1-hr block average must have at least four 15-min data points to calculate the 1-hr block average. (See EPA approval letter dated 6/21/2016). [40 CFR 60.13(i)]	N/A surrogate for Opacity: Recordkeeping by strip chart or data acquisition (DAS) system continuously based on a 1-hr block average. Maintain records of water pressure at the plant site for at least 3 years. [40 CFR 60.13(i)]	Submit a report: Other. Semiannually as specified at 40 CFR 63.1575 Calibration of the water pressure measurement system shall be checked semiannually and the results included in the excess emission report. [40 CFR 60.13(i)]	X	
U1 - FCC	0 / 34	Flue gas pressure drop across the filtering modules/cyclolabs of the Belco scrubber >= 10 inches w.c. (Surrogate for opacity per AMP approved by the EPA on 9/29/2004). [40 CFR 60.13(i)]	N/A surrogate for Opacity: Monitored by pressure drop instrument continuously, based on a 1 hour block average. The 1-hr block average must have at least four 15-min data points to calculate the 1-hr block average. (See EPA approval letter dated 6/21/2016). [40 CFR 60.13(i)]	N/A surrogate for Opacity: Recordkeeping by strip chart or data acquisition (DAS) system continuously based on a 1-hr block average. Maintain records of flue gas pressure drop at the plant site for at least 3 years. [40 CFR 60.13(i)]	Submit a report: Other. Semiannually as specified at 40 CFR 63.1575 Calibration of the flue gas pressure drop measurement system shall be checked semiannually and the results included in the excess emission report. Report all excess emissions. [40 CFR 60.13(i)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U1 - FCC	0 / 37	CO emissions from the catalyst regenerator vent must not exceed 500 parts per million volume (ppmv) (dry basis). [40 CFR 60.103(a)] and [40 CFR 63.1565(a)(1)]	Other: A CO continuous monitoring system need not be installed if the owner or operator demonstrates that the average CO emissions are less than 50 ppm (dry basis) and also files a written request for exemption to the Administrator and receives such an exemption. [40 CFR 60.105(a)(2)(ii)]. The facility applied for and received this exemption from EPA. EPA exemption letter dated September 26, 2003 on file.[N.J.A.C. 7:27-22.16(o)].	None.	None.	X	
U1 - FCC	0 / 40	Maintain FCCU catalyst regenerator SO2 emissions at less than or equal to 50 ppm by volume (ppmv) determined daily on a 7-day rolling average basis. [40 CFR 60 104(b)(1)] and [40 CFR 60.104(c)]	Other: Install an instrument to continuously monitor and record the concentration of SO2 in the gases discharged from the regenerator. [40 CFR 60.105(a)(9)(i)] and (ii). The permittee shall evaluate the continuous monitoring system using the procedures at [40 CFR 60.105(a)(12)(i)] and[40 CFR 60.105(a)(12)(ii)].	Other: The continuous monitoring system data must be recorded at all times, except during system breakdowns, repairs, calibration checks, and zero and span adjustments. [40 CFR 60.105(a)(11)]. When data is not obtained because of breakdowns, repairs, calibration checks, and zero and span adjustments, the minimum emission data must be obtained by using one of the methods at [40 CFR 60.105(a)(13)(i)] through (iii) Each owner or operator shall record and maintain the information specified at [40 CFR 60.107 (b)(1)] and[40 CFR 60.107(b)(4)].	Demonstrate compliance: As per the approved schedule. Demonstrate initial compliance using the procedures and methods specified at [40 CFR 60.8] and [40 CFR 60.106(g)]. Continuous compliance is to be determined daily on a 7-day rolling average basis using the procedures outlined at [40 CFR 60.106(h)]. [40 CFR 60.104(c)]. Semi-annual reports are to be submitted according to [40 CFR 60.107(f)] and (g). Include all information specified at [40 CFR 60.107(c)] and. [40 CFR 60.107(d)]	X	
U1 - FCC	0 / 42	Fuel gas H2S content <= 0.1 gr/dscf (162 ppmvd) H2S. [40 CFR 60.104(a)(1)]	Other: Install an instrument to continuously monitor and record the concentration (dry basis) of H2S in fuel gase before being burned in any fuel gas combustion device in accordance with [40 CFR 60.105(4)(i)] through[40 CFR 60.105(a)(4)(iii)].	Recordkeeping by data acquisition system (DAS) / electronic data storage continuously based on a 3hr rolling average, based on a 1hr block average. [40 CFR 60.105(e)(3)(ii)]	Submit a report: As per the approved schedule. Demonstrate initial compliance using the procedures and methods specified at [40 CFR 60.8] and [40 CFR 60.106(e)(1)]. Excess emissions shall be determined and reported as follows: All rolling 3-hour periods during which the average concentration of H2S as measured by the H2S continuous monitoring system under [40 CFR 60.105(a)(4)] exceeds 162 ppmvd (0.10 gr/dscf). [40 CFR 60.105(e)(3)(ii)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U1 - FCC	1 / 1	Feed rate to the FCCU must not exceed 75,000 barrels per calendar day. [N.J.A.C. 7:27-22.16(a)]	Monitored by material feed/flow monitoring continuously. [N.J.A.C. 7:27-22.16(o)]	Recordkeeping by data acquisition system (DAS) / electronic data storage once per calendar day during operation. [N.J.A.C. 7:27-22.16(o)]	None.	X	
U1 - FCC	1 / 2	Catalyst circulation limited to 8,000,000 pounds per hour from preconstruction permit. [N.J.A.C. 7:27-22.16(a)]	Monitored by material feed/flow monitoring continuously. The current/voltage output of the monitor shall be compatible with the DAS. [N.J.A.C. 7:27-22.16(o)]	Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)]	None.	X	
U1 - FCC	1 / 3	PM-10 (Total) <= 60 lb/hr. [N.J.A.C. 7:27-22.16(e)]	PM-10 (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	PM-10 (Total): Recordkeeping by stack test results prior to permit expiration date. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	
U1 - FCC	1 / 4	TSP <= 30 lb/hr based on 0.02 grains per standard cubic foot. [N.J.A.C. 7:27- 6.2(a)]	Other: Annually and prior to permit renewal based on the average of three department validated stack test runs.[N.J.A.C. 7:27-22.16(o)].	TSP: Recordkeeping by stack test results upon occurrence of event. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. [N.J.A.C. 7:27-22.16(o)]	X	
U1 - FCC	1 / 5	VOC (Total) <= 9.8 lb/hr. [N.J.A.C. 7:27-22.16(a)]	VOC (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	VOC (Total): Recordkeeping by stack test results prior to permit expiration date. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	
U1 - FCC	1 / 6	Benzene <= 0.64 lb/hr. [N.J.A.C. 7:27-22.16(a)]	Benzene: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	Benzene: Recordkeeping by stack test results prior to permit expiration. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	
U1 - FCC	1 / 7	SO3 and H2SO4, as converted and expressed as H2SO4 <= 11.8 lb/hr. [N.J.A.C. 7:27-22.16(a)]	SO3 and H2SO4, as converted and expressed as H2SO4: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	SO3 and H2SO4, as converted and expressed as H2SO4: Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(e)]	X	
U1 - FCC	1 / 8	SO2 <= 39.3 lb/hr in the flue gas. [N.J.A.C. 7:27-22.16(a)]	SO2: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	SO2: Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U1 - FCC	1 / 9	SO2 <= 50 ppmvd @ 0% excess air measured as a 7-day rolling average. [N.J.A.C. 7:27-22.16(a)]	SO2: Monitored by continuous emission monitoring system continuously, based on a 7 day rolling average. [N.J.A.C. 7:27-22.16(o)]	SO2: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U1 - FCC	1 / 10	SO2 <= 39.3 lb/hr in the flue gas. [N.J.A.C. 7:27-22.16(a)]	SO2: Monitored by continuous emission monitoring system continuously, based on a 1 hour block average. [N.J.A.C. 7:27-22.16(e)]	SO2: Recordkeeping by strip chart, data acquisition (DAS) system, or other method approved by BTS continuously. [N.J.A.C. 7:27-22.16(e)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(e)]	X	
U1 - FCC	1 / 11	SO2 <= 25 ppmvd @ 0% excess air measured as a 365-day rolling average. [N.J.A.C. 7:27-22.16(a)]	SO2: Monitored by continuous emission monitoring system continuously, based on a consecutive 365 day period (rolling 1 day basis). [N.J.A.C. 7:27-22.16(o)]	SO2: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U1 - FCC	1 / 12	CO <= 50 ppmvd corrected for 0% oxygen concentration in the flue gas or 34.4 lb/hr (whichever is more stringent). [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by continuous emission monitoring system continuously, based on a 1 hour block average. The CEMS will have continuous data logger to convert ppm values to lb/hr emission rates. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by strip chart or data acquisition (DAS) system continuously. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U1 - FCC	1 / 13	CO <= 34.4 lb/hr or 50 ppmvd corrected for 0% oxygen concentration in the flue gas (whichever is more stringent). [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U1 - FCC	1 / 14	Hydrogen cyanide <= 75 lb/hr instantaneous max and 55.5 lb/hr average. [N.J.A.C. 7:27-22.16(a)]	Hydrogen cyanide: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	Hydrogen cyanide: Recordkeeping by stack test results prior to permit expiration date. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	
U1 - FCC	1 / 15	Nickel Emissions: shall be below reporting threshold of 0.0228 lb/hr. [N.J.A.C. 7:27-22.16(a)]	Nickel Emissions: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	Nickel Emissions: Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]		X
U1 - FCC	1 / 16	NOx (Total) <= 45 ppmvd @ 0% excess air or 50.9 lb/hr (whichever is more stringent). [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 1 hour block average. The CEMS will have continuous data logger to convert ppm values to lb/hr emission rates. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by strip chart or data acquisition (DAS) system continuously. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U1 - FCC	1 / 17	NOx (Total) <= 50.9 lb/hr or 45 ppmvd corrected to 0% oxygen concentration in the flue gas (whichever is more stringent). [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	
U1 - FCC	1 / 18	NOx (Total) <= 25 ppmvd @ 0% excess air measured as a 365-day rolling average. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a consecutive 365 day period (rolling 1 day basis). [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U2 - NHT - OS1 - GR2	1 / 1	The permittee shall adjust the combustion process in accordance with the requirements of N.J.A.C. 7:27-19. The permittee shall: 1. Inspect the burner, and clean or replace any components of the burner as necessary; 2. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern consistent with the manufacturer's specifications; 3. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly 4. Minimize total emissions of NOx and CO consistent with the manufacturer's specifications; and 5. Measure the concentrations in the effluent stream of NOx, CO and O2 in ppmvd, before and after the adjustment is made. [N.J.A.C. 7:27-19.16(a)]	Monitored by periodic emission monitoring annually. The permittee shall: Convert the emission values of the NOx, CO and O2 concentrations measured to pounds per million BTU (lb/MM BTU) according to the following formula: lb/MM BTU = ppmvd x MW x F dry factor x O2 correction factor / 387,000,000 Where: ppmvd is the concentration in parts per million by volume, dry basis, of NOx or CO, MW is the Molecular Weight for: NOx = 46 lb/lb-mole; CO = 28 lb/lb-mole, F dry factor for: Natural gas = 8,710 dscf/MM BTU and Residual or fuel oil = 9,190 dscf/MM BTU O2 correction factor: (20.9%) / (20.9% - O2 measured) O2 measured is percent oxygen on a dry basis. [N.J.A.C. 7:27-19.16(a)]	Recordkeeping by manual logging of parameter or storing data in a computer data system annually Records shall contain the following information for each adjustment: 1. The date of the adjustment and the times at which it began and ended; 2. The name, title and affiliation of the person who made the adjustment; 3. The NOx and CO concentrations in the effluent stream, in ppmvd, before and after each actual adjustment was made; 4. The concentration of O2 (in percent dry basis) at which the CO and NOx concentrations were measured; 5. A description of any corrective action taken; 6. Results from any subsequent tests performed after taking any corrective action, including concentrations and converted emission values in pounds per million BTU (lb/MM BTU); and 7. The type and amount of fuel used over the 12 months prior to the annual adjustment. [N.J.A.C. 7:27-19.16(b)]	Submit a report: Annually within 45 days of the adjustment. Reports shall be submitted electronically in the format the department specifies at its website. The report shall contain the following: 1. The concentrations of NOx and CO in the effluent stream in ppmvd, and O2 in percent dry basis, measured before and after the adjustment of the combustion process; 2. The converted emission values in lb/MM BTU for the measurements taken before and after the adjustment of the combustion process; 3. A description of any corrective actions taken as a part of the combustion adjustment; and 4. The type and amount of fuel used over the 12 months prior to the annual adjustment. N.J.A.C. 7:27-19.16(c) and. [N.J.A.C. 7:27-19.16(d)]	X	

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U2 - NHT - OS1 - GR2	1 / 1	H2S <= 0.1 gr/dscf (162 ppmvd) in fuel gas. [40 CFR 60.104(a)(1)]. Fuel gas means any gas which is generated at a petroleum refinery and which is combusted. Fuel gas includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a refinery. Fuel gas does not include gases generated by catalytic cracking unit catalyst regenerators and fluid coking burners. Fuel gas does not include vapors that are collected and combusted in a thermal oxidizer or flare installed to control emissions from wastewater treatment units or marine tank vessel loading operations. [40 CFR 60.101(d)]	H2S: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. Install, calibrate and maintain an instrument that continuously monitors and records the concentration (dry basis) of H2S in refinery fuel gas before being burned in any fuel gas combustion device. (i) The span value for this instrument is 425 mg/dscm H2S. (ii) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H2S in the fuel gas being burned. (iii) The performance evaluations for this H2S monitor under 40 CFR 60.13(c) shall use Performance Specification 7. Method 11, 15, 15A or 16 shall be used for conducting the relative accuracy evaluations in accordance with 40 CFR 60.106(e)(1). [40 CFR 60.105(a)(4)]	H2S: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)] and. [40 CFR 60.105(a)(4)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	

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Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U3 - Dgreasers		NONE					

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U5 - FGDU-OS1 - GR2	1 / 1	The permittee shall adjust the combustion process in accordance with the requirements of N.J.A.C. 7:27-19. The permittee shall: 1. Inspect the burner, and clean or replace any components of the burner as necessary; 2. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern consistent with the manufacturer's specifications; 3. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly 4. Minimize total emissions of NOx and CO consistent with the manufacturer's specifications; and 5. Measure the concentrations in the effluent stream of NOx, CO and O2 in ppmvd, before and after the adjustment is made. [N.J.A.C. 7:27-19.16(a)]	Monitored by periodic emission monitoring annually. The permittee shall: Convert the emission values of the NOx, CO and O2 concentrations measured to pounds per million BTU (lb/MM BTU) according to the following formula: lb/MM BTU = ppmvd x MW x F dry factor x O2 correction factor / 387,000,000 Where: ppmvd is the concentration in parts per million by volume, dry basis, of NOx or CO, MW is the Molecular Weight for: NOx = 46 lb/lb-mole; CO = 28 lb/lb-mole, F dry factor for: Natural gas = 8,710 dscf/MM BTU and Residual or fuel oil = 9,190 dscf/MM BTU O2 correction factor: (20.9%) / (20.9% - O2 measured) O2 measured is percent oxygen on a dry basis. [N.J.A.C. 7:27-19.16(a)]	Recordkeeping by manual logging of parameter or storing data in a computer data system annually Records shall contain the following information for each adjustment: 1. The date of the adjustment and the times at which it began and ended; 2. The name, title and affiliation of the person who made the adjustment; 3. The NOx and CO concentrations in the effluent stream, in ppmvd, before and after each actual adjustment was made; 4. The concentration of O2 (in percent dry basis) at which the CO and NOx concentrations were measured; 5. A description of any corrective action taken; 6. Results from any subsequent tests performed after taking any corrective action, including concentrations and converted emission values in pounds per million BTU (lb/MM BTU); and 7. The type and amount of fuel used over the 12 months prior to the annual adjustment. [N.J.A.C. 7:27-19.16(b)]	Submit a report: Annually within 45 days of the adjustment. Reports shall be submitted electronically in the format the department specifies at its website. The report shall contain the following: 1. The concentrations of NOx and CO in the effluent stream in ppmvd, and O2 in percent dry basis, measured before and after the adjustment of the combustion process; 2. The converted emission values in lb/MM BTU for the measurements taken before and after the adjustment of the combustion process; 3. A description of any corrective actions taken as a part of the combustion adjustment; and 4. The type and amount of fuel used over the 12 months prior to the annual adjustment. N.J.A.C. 7:27-19.16(c) and. [N.J.A.C. 7:27-19.16(d)]	X	

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U5 - FGDU-OS1 - GR2	1 / 1	H2S <= 0.1 gr/dscf (162 ppmvd) in fuel gas. [40 CFR 60.104(a)(1)]. Fuel gas means any gas which is generated at a petroleum refinery and which is combusted. Fuel gas includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a refinery. Fuel gas does not include gases generated by catalytic cracking unit catalyst regenerators and fluid coking burners. Fuel gas does not include vapors that are collected and combusted in a thermal oxidizer or flare installed to control emissions from wastewater treatment units or marine tank vessel loading operations. [40 CFR 60.101(d)]	H2S: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. Install, calibrate and maintain an instrument that continuously monitors and records the concentration (dry basis) of H2S in refinery fuel gas before being burned in any fuel gas combustion device. (i) The span value for this instrument is 425 mg/dscm H2S. (ii) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H2S in the fuel gas being burned. (iii) The performance evaluations for this H2S monitor under 40 CFR 60.13(c) shall use Performance Specification 7. Method 11, 15, 15A or 16 shall be used for conducting the relative accuracy evaluations in accordance with 40 CFR 60.106(e)(1). [40 CFR 60.105(a)(4)]	H2S: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)] and. [40 CFR 60.105(a)(4)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	

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Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U6 - CHD1 OS0	0 / 2	The permittee shall conduct a stack test at least 18 months prior to the expiration of the renewed operating permit using an approved protocol to demonstrate compliance with emission limits for NOx and CO as specified in the compliance plan for OS1. Testing must be conducted at worst-case permitted operating conditions with regard to meeting the applicable emission standards, but without creating an unsafe condition. The permittee may propose, in the stack test protocol, to use CEMS data to satisfy the stack testing requirements, for NOx and/or CO, with the Emission Management section (EMS) approval. In order for EMS to approve using CEMS data at the time of the stack test, the CEMS must be certified and be in compliance with all daily, quarterly and annual quality assurance requirements. The CEMS shall monitor and record emissions in units identical to those required by the applicable stack testing conditions of this permit. CEMS data, if allowed by this permit, shall be taken at the same worst case conditions as described above. [N.J.A.C. 7:27-22.16(a)]	Other: Monitoring as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	Other: Recordkeeping as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Submit a stack test protocol to EMS at Mail Code: 380-01A, PO Box 420, Trenton, NJ 08625 at least 30 months prior to the expiration of the approved operating permit. The protocol and test report must be prepared and submitted on a CD using the Electronic Reporting Tool (ERT), unless another format is approved by EMS. The ERT program can be downloaded at: http://www.epa.gov/ttnchie1/ert. Within 30 days of protocol approval or no less than 60 days prior to the testing deadline, whichever is later, the permittee must contact EMS at 609-530-4041 to schedule a mutually acceptable test date. A full stack test report must be submitted to EMS and a certified summary test report must be submitted to the Regional Enforcement Office within 45 days after performing the stack test pursuant to N.J.A.C. 7:27-22.19(d). The test results must be certified by a licensed professional engineer or certified industrial hygienist. [N.J.A.C. 7:27-22.18(e)] and. [N.J.A.C. 7:27-22.18(h)]	X	

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Instructions:

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Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U6 - CHD1 OS1 - GR2	1 / 1	The permittee shall adjust the combustion process in accordance with the requirements of N.J.A.C. 7:27-19. The permittee shall: 1. Inspect the burner, and clean or replace any components of the burner as necessary; 2. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern consistent with the manufacturer's specifications; 3. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly 4. Minimize total emissions of NOx and CO consistent with the manufacturer's specifications; and 5. Measure the concentrations in the effluent stream of NOx, CO and O2 in ppmvd, before and after the adjustment is made. [N.J.A.C. 7:27-19.16(a)]	Monitored by periodic emission monitoring annually. The permittee shall: Convert the emission values of the NOx, CO and O2 concentrations measured to pounds per million BTU (lb/MM BTU) according to the following formula: lb/MM BTU = ppmvd x MW x F dry factor x O2 correction factor / 387,000,000 Where: ppmvd is the concentration in parts per million by volume, dry basis, of NOx or CO, MW is the Molecular Weight for: NOx = 46 lb/lb-mole; CO = 28 lb/lb-mole, F dry factor for: Natural gas = 8,710 dscf/MM BTU and Residual or fuel oil = 9,190 dscf/MM BTU O2 correction factor: (20.9%) / (20.9% - O2 measured) O2 measured is percent oxygen on a dry basis. [N.J.A.C. 7:27-19.16(a)]	Recordkeeping by manual logging of parameter or storing data in a computer data system annually Records shall contain the following information for each adjustment: 1. The date of the adjustment and the times at which it began and ended; 2. The name, title and affiliation of the person who made the adjustment; 3. The NOx and CO concentrations in the effluent stream, in ppmvd, before and after each actual adjustment was made; 4. The concentration of O2 (in percent dry basis) at which the CO and NOx concentrations were measured; 5. A description of any corrective action taken; 6. Results from any subsequent tests performed after taking any corrective action, including concentrations and converted emission values in pounds per million BTU (lb/MM BTU); and 7. The type and amount of fuel used over the 12 months prior to the annual adjustment. [N.J.A.C. 7:27-19.16(b)]	Submit a report: Annually within 45 days of the adjustment. Reports shall be submitted electronically in the format the department specifies at its website. The report shall contain the following: 1. The concentrations of NOx and CO in the effluent stream in ppmvd, and O2 in percent dry basis, measured before and after the adjustment of the combustion process; 2. The converted emission values in lb/MM BTU for the measurements taken before and after the adjustment of the combustion process; 3. A description of any corrective actions taken as a part of the combustion adjustment; and 4. The type and amount of fuel used over the 12 months prior to the annual adjustment. N.J.A.C. 7:27-19.16(c) and. [N.J.A.C. 7:27-19.16(d)]	X	

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Instructions:

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Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U6 - CHD1 OS1 - GR2	1 / 1	H2S <= 0.1 gr/dscf (162 ppmvd) in fuel gas. [40 CFR 60.104(a)(1)]. Fuel gas means any gas which is generated at a petroleum refinery and which is combusted. Fuel gas includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a refinery. Fuel gas does not include gases generated by catalytic cracking unit catalyst regenerators and fluid coking burners. Fuel gas does not include vapors that are collected and combusted in a thermal oxidizer or flare installed to control emissions from wastewater treatment units or marine tank vessel loading operations. [40 CFR 60.101(d)]	H2S: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. Install, calibrate and maintain an instrument that continuously monitors and records the concentration (dry basis) of H2S in refinery fuel gas before being burned in any fuel gas combustion device. (i) The span value for this instrument is 425 mg/dscm H2S. (ii) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H2S in the fuel gas being burned. (iii) The performance evaluations for this H2S monitor under 40 CFR 60.13(c) shall use Performance Specification 7. Method 11, 15, 15A or 16 shall be used for conducting the relative accuracy evaluations in accordance with 40 CFR 60.106(e)(1). [40 CFR 60.105(a)(4)]	H2S: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)] and. [40 CFR 60.105(a)(4)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U6 - CHD1 OS1	1 / 4	NOx (Total) <= 10.2 lb/hr. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	
U6 - CHD1 OS1	1 / 5	NOx (Total) <= 0.2 lb/MMBTU. [N.J.A.C. 7:27-19.7(h)]	NOx (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. Any NOx testing conducted pursuant to this section shall be conducted concurrently with CO testing. [N.J.A.C. 7:27-19.15(a)2]	NOx (Total): Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U6 - CHD1 OS1	1 / 6	NOx (Total) <= 0.06 lb/MMBTU. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	
U6 - CHD1 OS1	1 / 7	CO <= 3.3 lb/hr. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U7 - SRU Complex - OS0	0 / 2	The permittee shall conduct a stack test at least 18 months prior to the expiration of the renewed operating permit using an approved protocol to demonstrate compliance with emission limits for Total Reduced Sulfur Compounds (TRS), H2S, CO and VOC emission limits as specified in the compliance plan for OS3 and OS4. NOTE: Total Reduced Sulfur Compounds means hydrogen sulfide (H2S), carbonyl sulfide (COS) and carbon disulfide (CS2). Testing must be conducted at worst-case permitted operating conditions to meet the applicable emission standards, without creating an unsafe condition. The permittee may propose, in the stack test protocol, to use CEMS data to satisfy the stack testing requirements, for NOx and/or CO, with the Emission Management section (EMS) approval. In order for EMS to approve using CEMS data at the time of the stack test, the CEMS must be certified and be in compliance with all daily, quarterly and annual quality assurance requirements. The CEMS shall monitor and record emissions in units identical to those required by the applicable stack testing conditions of this permit. CEMS data, if allowed by this permit, shall be taken at the same worst case conditions as described above. [N.J.A.C. 7:27-22.16(a)]	Other: Monitoring as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	Other: Recordkeeping as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Submit a stack test protocol to EMS at Mail Code: 380-01A, PO Box 420, Trenton, NJ 08625 at least 30 months prior to the expiration of the approved operating permit. The protocol and test report must be prepared and submitted on a CD using the Electronic Reporting Tool (ERT), unless another format is approved by EMS. The ERT program can be downloaded at: http://www.epa.gov/ttnchie1/ert. Within 30 days of protocol approval or no less than 60 days prior to the testing deadline, whichever is later, the permittee must contact EMS at 609-530-4041 to schedule a mutually acceptable test date. A full stack test report must be submitted to EMS and a certified summary test report must be submitted to the Regional Enforcement Office within 45 days after performing the stack test pursuant to N.J.A.C. 7:27-22.19(d). The test results must be certified by a licensed professional engineer or certified industrial hygienist. [N.J.A.C. 7:27-22.18(e)] and. [N.J.A.C. 7:27-22.18(h)]	X	

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U7 - SRU Complex - OS0	0 / 4	Reduced Sulfur Compounds <= 15 tons/yr. This is also HAPs (Total) and includes hydrogen sulfide, carbon disulfide, and carbon oxysulfide. [N.J.A.C. 7:27-22.16(a)]	Reduced Sulfur Compounds: Monitored by continuous emission monitoring system continuously based on a 1 hour block average, based on a consecutive 12 month period (rolling 1 month basis) and used in conjunction with the stack gas flow calculation to obtain mass emission rates, and calculated annually. The monitor shall be equipped with integrating and data logging devices. [N.J.A.C. 7:27-22.16(o)]	Reduced Sulfur Compounds: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. Records will be maintained on site in readily accessible computer memories for a minimum of five years after collection and shall be made available to representatives of the Department upon request. [N.J.A.C. 7:27-22.16(o)]	None.	X	
U7 - Sulfur Complex - OS3	3 / 1	The owner or operator shall not discharge from any Claus sulfur recovery plant any gasses into the atmosphere containing in excess of 300 ppm by volume of reduced sulfur compounds and 10 ppm by volume hydrogen sulfide (H2S), each calculated as ppm SO2 by volume (dry basis) at zero percent excess air. 40 CFR 63.1568(a)(1) and [40 CFR 60.104(a)(2)(ii)]	Other: OPTION 1: Install an instrument for continuously monitoring and recording the hourly average concentration of reduced sulfur and O2 emissions into the atmosphere. The reduced sulfur emissions shall be calculated as SO2 (dry basis, zero percent excess air). [40 CFR 60.105(a)(6)]. The instrument span values shall be set and performance evaluations performed as specified at [40 CFR 60.105(a)(6)(i) and (ii)]. OPTION 2: Install an instrument that uses an air or O2 dilution and oxidation system to convert the reduced sulfur to SO2 for continuously monitoring and recording the hourly average concentration (dry basis, zero percent excess air) of the resultant SO2. The monitor shall include an oxygen monitor for correcting the data for excess oxygen. [40 CFR 60.105(a)(7)] For reporting purposes, the SO2 exceedance level for this monitor is 250 ppm (dry basis, zero percent excess air). The instrument span values shall be set and performance evaluations performed as specified at [40 CFR 60.105(a)(7)(i) and (iii)].[40 CFR 60.105].	Other: Determine and record each 12-hour rolling average concentration of reduced sulfur (as SO2) as measured by the reduced sulfur continuous monitoring system. [40 CFR 60.105(e)(4)(ii)]. OR Determine and record each 12-hour rolling average concentration of SO2 as measured by the SO2 continuous monitoring system.[40 CFR 60.105(e)(4)(iii)].	Demonstrate compliance: As per the approved schedule. The owner or operator shall determine compliance with the SO2 and the H2S and reduced sulfur standards by conducting performance tests specified at [40 CFR 60.106(f)]. Periods of excess emissions shall be determined and reported as follows: All 12-hour periods during which the average concentration of reduced sulfur (as SO2) as measured by the reduced sulfur continuous monitoring system under [40 CFR 60.105(a)(6)] exceeds 300 ppm [40 CFR 60.105(e)(4)(ii)]. OR All 12-hour periods during which the average concentration of SO2 as measured by the SO2 continuous monitoring system under [40 CFR 60.105(a)(7)] exceeds 250 ppm (dry basis, zero percent excess air). [40 CFR 60.105(e)(4)(iii)]. Submit reports semiannually per. [40 CFR 60.7(c)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U7 - Sulfur Complex - OS3	3 / 4	Reduced Sulfur Compounds <= 8 lb/hr calculated as SO2. [N.J.A.C. 7:27-22.16(a)]	Reduced Sulfur Compounds: Monitored by continuous emission monitoring system continuously. The monitor shall be equipped with integrating and data logging devices. [N.J.A.C. 7:27-22.16(o)]	Reduced Sulfur Compounds: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U7 - Sulfur Complex - OS3	3 / 5	Reduced Sulfur Compounds: The owner or operator shall not discharge or cause the discharge of any gases into the atmosphere containing in excess of 300 ppm by volume of reduced sulfur compounds calculated as ppm SO2 by volume (dry basis) at zero percent excess air. [40 CFR 60.104(a)(2)(ii)]	Reduced Sulfur Compounds: Monitored by stack emission testing prior to permit renewal. The owner/operator shall determine compliance with the reduced sulfur standards in 40 CFR 60.104(a)(ii) using the procedures specified at. [40 CFR 60.106(f)]	Reduced Sulfur Compounds: Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	
U7 - Sulfur Complex - OS3	3 / 6	Reduced Sulfur Compounds <= 8 lb/hr. [N.J.A.C. 7:27-22.16(a)]	Reduced Sulfur Compounds: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	Reduced Sulfur Compounds: Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. [N.J.A.C. 7:27-22.16(o)]	X	
U7 - Sulfur Complex - OS3	3 / 7	Hydrogen sulfide: The owner or operator shall not discharge or cause the discharge of any gasses into the atmosphere containing in excess of 10 ppm by volume of hydrogen sulfide (H2S), calculated as ppm SO2 by volume (dry basis) at zero percent excess air. [40 CFR 60.104(a)(2)(ii)]	Hydrogen sulfide: Monitored by stack emission testing prior to permit renewal. The owner/operator shall determine compliance with the reduced sulfur standards in 40 CFR 60.104(a)(ii) using the procedures specified at. [40 CFR 60.106(f)]	Hydrogen sulfide: Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	
U7 - Sulfur Complex - OS3	3 / 8	Hydrogen sulfide <= 0.4 lb/hr. [N.J.A.C. 7:27-22.16(a)]	Hydrogen sulfide: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	Hydrogen sulfide: Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. [N.J.A.C. 7:27-22.16(o)]	X	
U7 - Sulfur Complex - OS3	3 / 9	CO <= 5 lb/hr. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. [N.J.A.C. 7:27-22.16(o)]	X	

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U7 - Sulfur Complex - OS3	3 / 10	VOC (Total) <= 1 lb/hr. [N.J.A.C. 7:27-22.16(a)]	VOC (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	VOC (Total): Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. [N.J.A.C. 7:27-22.16(o)]	X	
U7 - Sulfur Complex - OS4	4 / 1	The owner or operator shall not discharge from any Claus sulfur recovery plant any gasses into the atmosphere containing in excess of 300 ppm by volume of reduced sulfur compounds and 10 ppm by volume hydrogen sulfide (H2S), each calculated as ppm SO2 by volume (dry basis) at zero percent excess air. 40 CFR 63.1568(a)(1) and [40 CFR 60.104(a)(2)(ii)]	Other: OPTION 1: Install an instrument for continuously monitoring and recording the hourly average concentration of reduced sulfur and O2 emissions into the atmosphere. The reduced sulfur emissions shall be calculated as SO2 (dry basis, zero percent excess air). [40 CFR 60.105(a)(6)]. The instrument span values shall be set and performance evaluations performed as specified at [40 CFR 60.105(a)(6)(i) and (ii)]. OPTION 2: Install an instrument that uses an air or O2 dilution and oxidation system to convert the reduced sulfur to SO2 for continuously monitoring and recording the hourly average concentration (dry basis, zero percent excess air) of the resultant SO2. The monitor shall include an oxygen monitor for correcting the data for excess oxygen. [40 CFR 60.105(a)(7)] For reporting purposes, the SO2 exceedance level for this monitor is 250 ppm (dry basis, zero percent excess air). The instrument span values shall be set and performance evaluations performed as specified at [40 CFR 60.105(a)(7)(i) and (iii)].[40 CFR 60.105].	Other: Determine and record each 12-hour rolling average concentration of reduced sulfur (as SO2) as measured by the reduced sulfur continuous monitoring system. [40 CFR 60.105(e)(4)(ii)]. OR Determine and record each 12-hour rolling average concentration of SO2 as measured by the SO2 continuous monitoring system.[40 CFR 60.105(e)(4)(iii)].	Demonstrate compliance: As per the approved schedule. The owner or operator shall determine compliance with the SO2 and the H2S and reduced sulfur standards by conducting performance tests specified at [40 CFR 60.106(f)]. Periods of excess emissions shall be determined and reported as follows: All 12-hour periods during which the average concentration of reduced sulfur (as SO2) as measured by the reduced sulfur continuous monitoring system under [40 CFR 60.105(a)(6)] exceeds 300 ppm [40 CFR 60.105(e)(4)(ii)]. OR All 12-hour periods during which the average concentration of SO2 as measured by the SO2 continuous monitoring system under [40 CFR 60.105(a)(7)] exceeds 250 ppm (dry basis, zero percent excess air). [40 CFR 60.105(e)(4)(iii)]. Submit reports semiannually per. [40 CFR 60.7(c)]	X	

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U7 - Sulfur Complex - OS4	4 / 4	Reduced Sulfur Compounds <= 8 lb/hr calculated as SO2. [N.J.A.C. 7:27-22.16(a)]	Reduced Sulfur Compounds: Monitored by continuous emission monitoring system continuously. The monitor shall be equipped with integrating and data logging devices. [N.J.A.C. 7:27-22.16(o)]	Reduced Sulfur Compounds: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U7 - Sulfur Complex - OS4	4 / 5	Reduced Sulfur Compounds: The owner or operator shall not discharge or cause the discharge of any gases into the atmosphere containing in excess of 300 ppm by volume of reduced sulfur compounds calculated as ppm SO2 by volume (dry basis) at zero percent excess air. [40 CFR 60.104(a)(2)(ii)]	Reduced Sulfur Compounds: Monitored by stack emission testing prior to permit renewal. The owner/operator shall determine compliance with the reduced sulfur standards in 40 CFR 60.104(a)(ii) using the procedures specified at. [40 CFR 60.106(f)]	Reduced Sulfur Compounds: Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	
U7 - Sulfur Complex - OS4	4 / 6	Reduced Sulfur Compounds <= 8 lb/hr. [N.J.A.C. 7:27-22.16(a)]	Reduced Sulfur Compounds: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	Reduced Sulfur Compounds: Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. [N.J.A.C. 7:27-22.16(o)]	X	
U7 - Sulfur Complex - OS4	4 / 7	Hydrogen sulfide: The owner or operator shall not discharge or cause the discharge of any gasses into the atmosphere containing in excess of 10 ppm by volume of hydrogen sulfide (H2S), calculated as ppm SO2 by volume (dry basis) at zero percent excess air. [40 CFR 60.104(a)(2)(ii)]	Hydrogen sulfide: Monitored by stack emission testing prior to permit renewal. The owner/operator shall determine compliance with the reduced sulfur standards in 40 CFR 60.104(a)(ii) using the procedures specified at. [40 CFR 60.106(f)]	Hydrogen sulfide: Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	
U7 - Sulfur Complex - OS4	4 / 8	Hydrogen sulfide <= 0.4 lb/hr. [N.J.A.C. 7:27-22.16(a)]	Hydrogen sulfide: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	Hydrogen sulfide: Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. [N.J.A.C. 7:27-22.16(o)]	X	

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U7 - Sulfur Complex - OS4	4 / 9	CO <= 5 lb/hr. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. [N.J.A.C. 7:27-22.16(o)]	X	
U7 - Sulfur Complex - OS4	4 / 10	VOC (Total) <= 1 lb/hr. [N.J.A.C. 7:27-22.16(a)]	VOC (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	VOC (Total): Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. [N.J.A.C. 7:27-22.16(o)]	X	

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Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U8 - CU7 F1A - OS0	0 / 2	The permittee shall conduct a stack test at least 18 months prior to the expiration of the renewed operating permit using an approved protocol to demonstrate compliance with emission limits for NOx and CO as specified in the compliance plan for OS1. Testing must be conducted at worst-case permitted operating conditions with regard to meeting the applicable emission standards, but without creating an unsafe condition. The permittee may propose, in the stack test protocol, to use CEMS data to satisfy the stack testing requirements, for NOx and/or CO, with the Emission Management section (EMS) approval. In order for EMS to approve using CEMS data at the time of the stack test, the CEMS must be certified and be in compliance with all daily, quarterly and annual quality assurance requirements. The CEMS shall monitor and record emissions in units identical to those required by the applicable stack testing conditions of this permit. CEMS data, if allowed by this permit, shall be taken at the same worst case conditions as described above. [N.J.A.C. 7:27-22.16(a)]	Other: Monitoring as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	Other: Recordkeeping as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Submit a stack test protocol to EMS at Mail Code: 380-01A, PO Box 420, Trenton, NJ 08625 at least 30 months prior to the expiration of the approved operating permit. The protocol and test report must be prepared and submitted on a CD using the Electronic Reporting Tool (ERT), unless another format is approved by EMS. The ERT program can be downloaded at: http://www.epa.gov/ttnchie1/ert. Within 30 days of protocol approval or no less than 60 days prior to the testing deadline, whichever is later, the permittee must contact EMS at 609-530-4041 to schedule a mutually acceptable test date. A full stack test report must be submitted to EMS and a certified summary test report must be submitted to the Regional Enforcement Office within 45 days after performing the stack test pursuant to N.J.A.C. 7:27-22.19(d). The test results must be certified by a licensed professional engineer or certified industrial hygienist. [N.J.A.C.7:27-22.18(e)] and. [N.J.A.C. 7:27-22.18(h)]	X	

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U8 - CU7 F1A - OS1 - GR2	1 / 1	The permittee shall adjust the combustion process in accordance with the requirements of N.J.A.C. 7:27-19. The permittee shall: 1. Inspect the burner, and clean or replace any components of the burner as necessary; 2. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern consistent with the manufacturer's specifications; 3. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly 4. Minimize total emissions of NOx and CO consistent with the manufacturer's specifications; and 5. Measure the concentrations in the effluent stream of NOx, CO and O2 in ppmvd, before and after the adjustment is made. [N.J.A.C. 7:27-19.16(a)]	Monitored by periodic emission monitoring annually. The permittee shall: Convert the emission values of the NOx, CO and O2 concentrations measured to pounds per million BTU (lb/MM BTU) according to the following formula: lb/MM BTU = ppmvd x MW x F dry factor x O2 correction factor / 387,000,000 Where: ppmvd is the concentration in parts per million by volume, dry basis, of NOx or CO, MW is the Molecular Weight for: NOx = 46 lb/lb-mole; CO = 28 lb/lb-mole, F dry factor for: Natural gas = 8,710 dscf/MM BTU and Residual or fuel oil = 9,190 dscf/MM BTU O2 correction factor: (20.9%) / (20.9% - O2 measured) O2 measured is percent oxygen on a dry basis. [N.J.A.C. 7:27-19.16(a)]	Recordkeeping by manual logging of parameter or storing data in a computer data system annually Records shall contain the following information for each adjustment: 1. The date of the adjustment and the times at which it began and ended; 2. The name, title and affiliation of the person who made the adjustment; 3. The NOx and CO concentrations in the effluent stream, in ppmvd, before and after each actual adjustment was made; 4. The concentration of O2 (in percent dry basis) at which the CO and NOx concentrations were measured; 5. A description of any corrective action taken; 6. Results from any subsequent tests performed after taking any corrective action, including concentrations and converted emission values in pounds per million BTU (lb/MM BTU); and 7. The type and amount of fuel used over the 12 months prior to the annual adjustment. [N.J.A.C. 7:27-19.16(b)]	Submit a report: Annually within 45 days of the adjustment. Reports shall be submitted electronically in the format the department specifies at its website. The report shall contain the following: 1. The concentrations of NOx and CO in the effluent stream in ppmvd, and O2 in percent dry basis, measured before and after the adjustment of the combustion process; 2. The converted emission values in lb/MM BTU for the measurements taken before and after the adjustment of the combustion process; 3. A description of any corrective actions taken as a part of the combustion adjustment; and 4. The type and amount of fuel used over the 12 months prior to the annual adjustment. N.J.A.C. 7:27-19.16(c) and. [N.J.A.C. 7:27-19.16(d)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U8 - CU7 F1A - OS1 - GR2	1 / 1	H2S <= 0.1 gr/dscf (162 ppmvd) in fuel gas. [40 CFR 60.104(a)(1)]. Fuel gas means any gas which is generated at a petroleum refinery and which is combusted. Fuel gas includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a refinery. Fuel gas does not include gases generated by catalytic cracking unit catalyst regenerators and fluid coking burners. Fuel gas does not include vapors that are collected and combusted in a thermal oxidizer or flare installed to control emissions from wastewater treatment units or marine tank vessel loading operations. [40 CFR 60.101(d)]	H2S: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. Install, calibrate and maintain an instrument that continuously monitors and records the concentration (dry basis) of H2S in refinery fuel gas before being burned in any fuel gas combustion device. (i) The span value for this instrument is 425 mg/dscm H2S. (ii) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H2S in the fuel gas being burned. (iii) The performance evaluations for this H2S monitor under 40 CFR 60.13(c) shall use Performance Specification 7. Method 11, 15, 15A or 16 shall be used for conducting the relative accuracy evaluations in accordance with 40 CFR 60.106(e)(1). [40 CFR 60.105(a)(4)]	H2S: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)] and. [40 CFR 60.105(a)(4)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U8 - CU7 F1A - OS1	1 / 3	NOx (Total) <= 0.1 lb/MMBTU. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule : See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	
U8 - CU7 F1A - OS1	1 / 4	NOx (Total) <= 8.5 lb/hr. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule ; See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	
U8 - CU7 F1A - OS1	'1 / 5	NOx (Total) <= 0.2 lb/MMBTU. [N.J.A.C. 7:27-19.7(h)]	NOx (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-19.15(a)2]	NOx (Total): Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U8 - CU7 F1A - OS1	1 / 6	CO <= 1.7 lb/hr. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule ; See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U9 - CU7 F1 - OS0	0 / 2	The permittee shall conduct a stack test at least 18 months prior to the expiration of the renewed operating permit using an approved protocol to demonstrate compliance with emission limits for NOx and CO as specified in the compliance plan for OS1. Testing must be conducted at worst-case permitted operating conditions with regard to meeting the applicable emission standards, but without creating an unsafe condition. The permittee may propose, in the stack test protocol, to use CEMS data to satisfy the stack testing requirements, for NOx and/or CO, with the Emission Management section (EMS) approval. In order for EMS to approve using CEMS data at the time of the stack test, the CEMS must be certified and be in compliance with all daily, quarterly and annual quality assurance requirements. The CEMS shall monitor and record emissions in units identical to those required by the applicable stack testing conditions of this permit. CEMS data, if allowed by this permit, shall be taken at the same worst case conditions as described above. [N.J.A.C. 7:27-22.16(a)]	Other: Monitoring as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	Other: Recordkeeping as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Submit a stack test protocol to EMS at Mail Code: 380-01A, PO Box 420, Trenton, NJ 08625 at least 30 months prior to the expiration of the approved operating permit. The protocol and test report must be prepared and submitted on a CD using the Electronic Reporting Tool (ERT), unless another format is approved by EMS. The ERT program can be downloaded at: http://www.epa.gov/ttnchie1/ert. Within 30 days of protocol approval or no less than 60 days prior to the testing deadline, whichever is later, the permittee must contact EMS at 609-530-4041 to schedule a mutually acceptable test date. A full stack test report must be submitted to EMS and a certified summary test report must be submitted to the Regional Enforcement Office within 45 days after performing the stack test pursuant to N.J.A.C. 7:27-22.19(d). The test results must be certified by a licensed professional engineer or certified industrial hygienist. [N.J.A.C. 7:27-22.18(e)] and. [N.J.A.C. 7:27-22.18(h)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U9 - CU7 F1 - OS1 - GR2	1' / 1	The permittee shall adjust the combustion process in accordance with the requirements of N.J.A.C. 7:27-19. The permittee shall: 1. Inspect the burner, and clean or replace any components of the burner as necessary; 2. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern consistent with the manufacturer's specifications; 3. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly 4. Minimize total emissions of NOx and CO consistent with the manufacturer's specifications; and 5. Measure the concentrations in the effluent stream of NOx, CO and O2 in ppmvd, before and after the adjustment is made. [N.J.A.C. 7:27-19.16(a)]	Monitored by periodic emission monitoring annually. The permittee shall: Convert the emission values of the NOx, CO and O2 concentrations measured to pounds per million BTU (lb/MM BTU) according to the following formula: lb/MM BTU = ppmvd x MW x F dry factor x O2 correction factor / 387,000,000 Where: ppmvd is the concentration in parts per million by volume, dry basis, of NOx or CO, MW is the Molecular Weight for: NOx = 46 lb/lb-mole; CO = 28 lb/lb-mole, F dry factor for: Natural gas = 8,710 dscf/MM BTU and Residual or fuel oil = 9,190 dscf/MM BTU O2 correction factor: (20.9%) / (20.9% - O2 measured) O2 measured is percent oxygen on a dry basis. [N.J.A.C. 7:27-19.16(a)]	Recordkeeping by manual logging of parameter or storing data in a computer data system annually Records shall contain the following information for each adjustment: 1. The date of the adjustment and the times at which it began and ended; 2. The name, title and affiliation of the person who made the adjustment; 3. The NOx and CO concentrations in the effluent stream, in ppmvd, before and after each actual adjustment was made; 4. The concentration of O2 (in percent dry basis) at which the CO and NOx concentrations were measured; 5. A description of any corrective action taken; 6. Results from any subsequent tests performed after taking any corrective action, including concentrations and converted emission values in pounds per million BTU (lb/MM BTU); and 7. The type and amount of fuel used over the 12 months prior to the annual adjustment. [N.J.A.C. 7:27-19.16(b)]	Submit a report: Annually within 45 days of the adjustment. Reports shall be submitted electronically in the format the department specifies at its website. The report shall contain the following: 1. The concentrations of NOx and CO in the effluent stream in ppmvd, and O2 in percent dry basis, measured before and after the adjustment of the combustion process; 2. The converted emission values in lb/MM BTU for the measurements taken before and after the adjustment of the combustion process; 3. A description of any corrective actions taken as a part of the combustion adjustment; and 4. The type and amount of fuel used over the 12 months prior to the annual adjustment. N.J.A.C. 7:27-19.16(c) and. [N.J.A.C. 7:27-19.16(d)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U9 - CU7 F1 - OS1 - GR2	1 / 1	H2S <= 0.1 gr/dscf (162 ppmvd) in fuel gas. [40 CFR 60.104(a)(1)]. Fuel gas means any gas which is generated at a petroleum refinery and which is combusted. Fuel gas includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a refinery. Fuel gas does not include gases generated by catalytic cracking unit catalyst regenerators and fluid coking burners. Fuel gas does not include vapors that are collected and combusted in a thermal oxidizer or flare installed to control emissions from wastewater treatment units or marine tank vessel loading operations. [40 CFR 60.101(d)]	H2S: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. Install, calibrate and maintain an instrument that continuously monitors and records the concentration (dry basis) of H2S in refinery fuel gas before being burned in any fuel gas combustion device. (i) The span value for this instrument is 425 mg/dscm H2S. (ii) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H2S in the fuel gas being burned. (iii) The performance evaluations for this H2S monitor under 40 CFR 60.13(c) shall use Performance Specification 7. Method 11, 15, 15A or 16 shall be used for conducting the relative accuracy evaluations in accordance with 40 CFR 60.106(e)(1). [40 CFR 60.105(a)(4)]	H2S: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)] and. [40 CFR 60.105(a)(4)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U9 - CU7 F1 - OS1 - GR2	1 / 4	NOx (Total) <= 7.67 lb/hr. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by stack emission testing prior to permit expiration date, based on each of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results prior to permit expiration date. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U9 - CU7 F1 - OS1 - GR2	1 / 5	NOx (Total) <= 0.055 lb/MMBTU . [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by continuous emission monitoring system continuously based on a 365-day rolling average. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage each hour during operation. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U9 - CU7 F1 - OS1 - GR2	1 / 6	NOx (Total) <= 0.2 lb/MMBTU . [N.J.A.C. 7:27-19.7(h)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average. The owner or operator shall calculate the average NOx emission rate using the data from continuous emission monitoring system for the NOx concentration in the flue gas and either the flue gas flow rate or the fuel flow rate. To calculate the emission rate using the NOx concentration and fuel flow rate, the owner or operator shall use the conversion procedure set forth in the Acid Rain regulations at 40 CFR 75, Appendix F, or an alternative procedure that the Department determines will yield the same result. Compliance with the limit shall be based upon the average of emissions: i. Between May 1 and September 30, over each calendar day; and ii. From October 1 through April 30 of the following year, over the 30-day period ending on each such day. [N.J.A.C. 7:27-19.15(a)1]	NOx (Total): Recordkeeping by strip chart or data acquisition (DAS) system continuously. [N.J.A.C. 7:27-19.18(a)5]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U9 - CU7 F1 - OS1 - GR2	1 / 7	CO <= 3.48 lb/hr. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U10 - CU7 F2 - OS0	0 / 2	The permittee shall conduct a stack test at least 18 months prior to the expiration of the renewed operating permit using an approved protocol to demonstrate compliance with emission limits for NOx and CO as specified in the compliance plan for OS1. Testing must be conducted at worst-case permitted operating conditions with regard to meeting the applicable emission standards, but without creating an unsafe condition. The permittee may propose, in the stack test protocol, to use CEMS data to satisfy the stack testing requirements, for NOx and/or CO, with the Emission Management section (EMS) approval. In order for EMS to approve using CEMS data at the time of the stack test, the CEMS must be certified and be in compliance with all daily, quarterly and annual quality assurance requirements. The CEMS shall monitor and record emissions in units identical to those required by the applicable stack testing conditions of this permit. CEMS data, if allowed by this permit, shall be taken at the same worst case conditions as described above. [N.J.A.C. 7:27-22.16(a)]	Other: Monitoring as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	Other: Recordkeeping as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Submit a stack test protocol to EMS at Mail Code: 380-01A, PO Box 420, Trenton, NJ 08625 at least 30 months prior to the expiration of the approved operating permit. The protocol and test report must be prepared and submitted on a CD using the Electronic Reporting Tool (ERT), unless another format is approved by EMS. The ERT program can be downloaded at: http://www.epa.gov/ttnchie1/ert. Within 30 days of protocol approval or no less than 60 days prior to the testing deadline, whichever is later, the permittee must contact EMS at 609-530-4041 to schedule a mutually acceptable test date. A full stack test report must be submitted to EMS and a certified summary test report must be submitted to the Regional Enforcement Office within 45 days after performing the stack test pursuant to N.J.A.C. 7:27-22.19(d). The test results must be certified by a licensed professional engineer or certified industrial hygienist. [N.J.A.C. 7:27-22.18(e)] and. [N.J.A.C. 7:27-22.18(h)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U10 - CU7 F2 - OS1 - GR2	1 / 1	The permittee shall adjust the combustion process in accordance with the requirements of N.J.A.C. 7:27-19. The permittee shall: 1. Inspect the burner, and clean or replace any components of the burner as necessary; 2. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern consistent with the manufacturer's specifications; 3. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly 4. Minimize total emissions of NOx and CO consistent with the manufacturer's specifications; and 5. Measure the concentrations in the effluent stream of NOx, CO and O2 in ppmvd, before and after the adjustment is made. [N.J.A.C. 7:27-19.16(a)]	Monitored by periodic emission monitoring annually. The permittee shall: Convert the emission values of the NOx, CO and O2 concentrations measured to pounds per million BTU (lb/MM BTU) according to the following formula: lb/MM BTU = ppmvd x MW x F dry factor x O2 correction factor / 387,000,000 Where: ppmvd is the concentration in parts per million by volume, dry basis, of NOx or CO, MW is the Molecular Weight for: NOx = 46 lb/lb-mole; CO = 28 lb/lb-mole, F dry factor for: Natural gas = 8,710 dscf/MM BTU and Residual or fuel oil = 9,190 dscf/MM BTU O2 correction factor: (20.9%) / (20.9% - O2 measured) O2 measured is percent oxygen on a dry basis. [N.J.A.C. 7:27-19.16(a)]	Recordkeeping by manual logging of parameter or storing data in a computer data system annually Records shall contain the following information for each adjustment: 1. The date of the adjustment and the times at which it began and ended; 2. The name, title and affiliation of the person who made the adjustment; 3. The NOx and CO concentrations in the effluent stream, in ppmvd, before and after each actual adjustment was made; 4. The concentration of O2 (in percent dry basis) at which the CO and NOx concentrations were measured; 5. A description of any corrective action taken; 6. Results from any subsequent tests performed after taking any corrective action, including concentrations and converted emission values in pounds per million BTU (lb/MM BTU); and 7. The type and amount of fuel used over the 12 months prior to the annual adjustment. [N.J.A.C. 7:27-19.16(b)]	Submit a report: Annually within 45 days of the adjustment. Reports shall be submitted electronically in the format the department specifies at its website. The report shall contain the following: 1. The concentrations of NOx and CO in the effluent stream in ppmvd, and O2 in percent dry basis, measured before and after the adjustment of the combustion process; 2. The converted emission values in lb/MM BTU for the measurements taken before and after the adjustment of the combustion process; 3. A description of any corrective actions taken as a part of the combustion adjustment; and 4. The type and amount of fuel used over the 12 months prior to the annual adjustment. N.J.A.C. 7:27-19.16(c) and. [N.J.A.C. 7:27-19.16(d)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U10 - CU7 F2 - OS1 - GR2	1 / 1	H2S <= 0.1 gr/dscf (162 ppmvd) in fuel gas. [40 CFR 60.104(a)(1)]. Fuel gas means any gas which is generated at a petroleum refinery and which is combusted. Fuel gas includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a refinery. Fuel gas does not include gases generated by catalytic cracking unit catalyst regenerators and fluid coking burners. Fuel gas does not include vapors that are collected and combusted in a thermal oxidizer or flare installed to control emissions from wastewater treatment units or marine tank vessel loading operations. [40 CFR 60.101(d)]	H2S: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. Install, calibrate and maintain an instrument that continuously monitors and records the concentration (dry basis) of H2S in refinery fuel gas before being burned in any fuel gas combustion device. (i) The span value for this instrument is 425 mg/dscm H2S. (ii) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H2S in the fuel gas being burned. (iii) The performance evaluations for this H2S monitor under 40 CFR 60.13(c) shall use Performance Specification 7. Method 11, 15, 15A or 16 shall be used for conducting the relative accuracy evaluations in accordance with 40 CFR 60.106(e)(1). [40 CFR 60.105(a)(4)]	H2S: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)] and. [40 CFR 60.105(a)(4)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U10 - CU7 F2 - OS1	1 / 4	NOx (Total) <= 9.52 lb/hr. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule See OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U10 - CU7 F2 - OS1	1 / 5	NOx (Total) <= 0.2 lb/MMBTU. [N.J.A.C. 7:27-19.7(h)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average. The owner or operator shall calculate the average NOx emission rate using the data from continuous emission monitoring system for the NOx concentration in the flue gas and either the flue gas flow rate or the fuel flow rate. To calculate the emission rate using the NOx concentration and fuel flow rate, the owner or operator shall use the conversion procedure set forth in the Acid Rain regulations at 40 CFR 75, Appendix F, or an alternative procedure that the Department determines will yield the same result. Compliance with the limit shall be based upon the average of emissions: i. Between May 1 and September 30, over each calendar day; and ii. From October 1 through April 30 of the following year, over the 30-day period ending on each such day. [N.J.A.C. 7:27-19.15(a)1]	NOx (Total): Recordkeeping by strip chart or data acquisition (DAS) system continuously. [N.J.A.C. 7:27-19.18(a)5]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U10 - CU7 F2 - OS1	1 / 6	NOx (Total) <= 0.055 lb/MMBTU. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by continuous emission monitoring system continuously based on a 365-day rolling average. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage each hour during operation. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U10 - CU7 F2 - OS1	1 / 7'	CO <= 4.33 lb/hr. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule See OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U11 - CU6 - OS0	0 / 2	The permittee shall conduct a stack test at least 18 months prior to the expiration of the renewed operating permit using an approved protocol to demonstrate compliance with emission limits for NOx and CO as specified in the compliance plan for OS1. Testing must be conducted at worst-case permitted operating conditions with regard to meeting the applicable emission standards, but without creating an unsafe condition. The permittee may propose, in the stack test protocol, to use CEMS data to satisfy the stack testing requirements, for NOx and/or CO, with the Emission Management section (EMS) approval. In order for EMS to approve using CEMS data at the time of the stack test, the CEMS must be certified and be in compliance with all daily, quarterly and annual quality assurance requirements. The CEMS shall monitor and record emissions in units identical to those required by the applicable stack testing conditions of this permit. CEMS data, if allowed by this permit, shall be taken at the same worst case conditions as described above. [N.J.A.C. 7:27-22.16(a)]	Other: Monitoring as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	Other: Recordkeeping as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Submit a stack test protocol to EMS at Mail Code: 380-01A, PO Box 420, Trenton, NJ 08625 at least 30 months prior to the expiration of the approved operating permit. The protocol and test report must be prepared and submitted on a CD using the Electronic Reporting Tool (ERT), unless another format is approved by EMS. The ERT program can be downloaded at: http://www.epa.gov/ttnchie1/ert. Within 30 days of protocol approval or no less than 60 days prior to the testing deadline, whichever is later, the permittee must contact EMS at 609-530-4041 to schedule a mutually acceptable test date. A full stack test report must be submitted to EMS and a certified summary test report must be submitted to the Regional Enforcement Office within 45 days after performing the stack test pursuant to N.J.A.C. 7:27-22.19(d). The test results must be certified by a licensed professional engineer or certified industrial hygienist. [N.J.A.C. 7:27-22.18(e)] and. [N.J.A.C. 7:27-22.18(h)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U11 - CU6 - OS1 - GR2	1'1 /	The permittee shall adjust the combustion process in accordance with the requirements of N.J.A.C. 7:27-19. The permittee shall: 1. Inspect the burner, and clean or replace any components of the burner as necessary; 2. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern consistent with the manufacturer's specifications; 3. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly 4. Minimize total emissions of NOx and CO consistent with the manufacturer's specifications; and 5. Measure the concentrations in the effluent stream of NOx, CO and O2 in ppmvd, before and after the adjustment is made. [N.J.A.C. 7:27-19.16(a)]	Monitored by periodic emission monitoring annually. The permittee shall: Convert the emission values of the NOx, CO and O2 concentrations measured to pounds per million BTU (lb/MM BTU) according to the following formula: lb/MM BTU = ppmvd x MW x F dry factor x O2 correction factor / 387,000,000 Where: ppmvd is the concentration in parts per million by volume, dry basis, of NOx or CO, MW is the Molecular Weight for: NOx = 46 lb/lb-mole; CO = 28 lb/lb-mole, F dry factor for: Natural gas = 8,710 dscf/MM BTU and Residual or fuel oil = 9,190 dscf/MM BTU O2 correction factor: (20.9%) / (20.9% - O2 measured) O2 measured is percent oxygen on a dry basis. [N.J.A.C. 7:27-19.16(a)]	Recordkeeping by manual logging of parameter or storing data in a computer data system annually Records shall contain the following information for each adjustment: 1. The date of the adjustment and the times at which it began and ended; 2. The name, title and affiliation of the person who made the adjustment; 3. The NOx and CO concentrations in the effluent stream, in ppmvd, before and after each actual adjustment was made; 4. The concentration of O2 (in percent dry basis) at which the CO and NOx concentrations were measured; 5. A description of any corrective action taken; 6. Results from any subsequent tests performed after taking any corrective action, including concentrations and converted emission values in pounds per million BTU (lb/MM BTU); and 7. The type and amount of fuel used over the 12 months prior to the annual adjustment. [N.J.A.C. 7:27-19.16(b)]	Submit a report: Annually within 45 days of the adjustment. Reports shall be submitted electronically in the format the department specifies at its website. The report shall contain the following: 1. The concentrations of NOx and CO in the effluent stream in ppmvd, and O2 in percent dry basis, measured before and after the adjustment of the combustion process; 2. The converted emission values in lb/MM BTU for the measurements taken before and after the adjustment of the combustion process; 3. A description of any corrective actions taken as a part of the combustion adjustment; and 4. The type and amount of fuel used over the 12 months prior to the annual adjustment. N.J.A.C. 7:27-19.16(c) and. [N.J.A.C. 7:27-19.16(d)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U11 - CU6 - OS1 - GR2	1 / 1	H2S <= 0.1 gr/dscf (162 ppmvd) in fuel gas. [40 CFR 60.104(a)(1)]. Fuel gas means any gas which is generated at a petroleum refinery and which is combusted. Fuel gas includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a refinery. Fuel gas does not include gases generated by catalytic cracking unit catalyst regenerators and fluid coking burners. Fuel gas does not include vapors that are collected and combusted in a thermal oxidizer or flare installed to control emissions from wastewater treatment units or marine tank vessel loading operations. [40 CFR 60.101(d)]	H2S: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. Install, calibrate and maintain an instrument that continuously monitors and records the concentration (dry basis) of H2S in refinery fuel gas before being burned in any fuel gas combustion device. (i) The span value for this instrument is 425 mg/dscm H2S. (ii) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H2S in the fuel gas being burned. (iii) The performance evaluations for this H2S monitor under 40 CFR 60.13(c) shall use Performance Specification 7. Method 11, 15, 15A or 16 shall be used for conducting the relative accuracy evaluations in accordance with 40 CFR 60.106(e)(1). [40 CFR 60.105(a)(4)]	H2S: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)] and. [40 CFR 60.105(a)(4)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U11 - CU6 - OS1	1 / 4	NOx (Total) <= 22 lb/hr. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	
U11 - CU6 - OS1	1 / 5	NOx (Total) <= 0.2 lb/MMBTU. [N.J.A.C. 7:27-19.7(h)]	NOx (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. Any NOx testing conducted pursuant to this section shall be conducted concurrently with CO testing. [N.J.A.C. 7:27-19.15(a)2]	NOx (Total): Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U11 - CU6 - OS1	1 / 6	NOx (Total) <= 0.125 lb/MMBTU. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	
U11 - CU6 - OS1	1 / 7	CO <= 7 lb/hr. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U12 - Coker - OS0	0 / 2	The permittee shall conduct a stack test at least 18 months prior to the expiration of the renewed operating permit using an approved protocol to demonstrate compliance with emission limits for NOx and CO as specified in the compliance plan for OS1 and OS2. Testing must be conducted at worst-case permitted operating conditions with regard to meeting the applicable emission standards, but without creating an unsafe condition. The permittee may propose, in the stack test protocol, to use CEMS data to satisfy the stack testing requirements, for NOx and/or CO, with the Emission Management section (EMS) approval. In order for EMS to approve using CEMS data at the time of the stack test, the CEMS must be certified and be in compliance with all daily, quarterly and annual quality assurance requirements. The CEMS shall monitor and record emissions in units identical to those required by the applicable stack testing conditions of this permit. CEMS data, if allowed by this permit, shall be taken at the same worst case conditions as described above. [N.J.A.C. 7:27-22.16(a)]	Other: Monitoring as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	Other: Recordkeeping as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Submit a stack test protocol to EMS at Mail Code: 380-01A, PO Box 420, Trenton, NJ 08625 at least 30 months prior to the expiration of the approved operating permit. The protocol and test report must be prepared and submitted on a CD using the Electronic Reporting Tool (ERT), unless another format is approved by EMS. The ERT program can be downloaded at: http://www.epa.gov/ttnchie1/ert. Within 30 days of protocol approval or no less than 60 days prior to the testing deadline, whichever is later, the permittee must contact EMS at 609-530-4041 to schedule a mutually acceptable test date. A full stack test report must be submitted to EMS and a certified summary test report must be submitted to the Regional Enforcement Office within 45 days after performing the stack test pursuant to N.J.A.C. 7:27-22.19(d). The test results must be certified by a licensed professional engineer or certified industrial hygienist. [N.J.A.C. 7:27-22.18(e)] and. [N.J.A.C. 7:27-22.18(h)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U12 - Coker - OS1 - GR2	1 / 1	The permittee shall adjust the combustion process in accordance with the requirements of N.J.A.C. 7:27-19. The permittee shall: 1. Inspect the burner, and clean or replace any components of the burner as necessary; 2. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern consistent with the manufacturer's specifications; 3. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly 4. Minimize total emissions of NOx and CO consistent with the manufacturer's specifications; and 5. Measure the concentrations in the effluent stream of NOx, CO and O2 in ppmvd, before and after the adjustment is made. [N.J.A.C. 7:27-19.16(a)]	Monitored by periodic emission monitoring annually. The permittee shall: Convert the emission values of the NOx, CO and O2 concentrations measured to pounds per million BTU (lb/MM BTU) according to the following formula: lb/MM BTU = ppmvd x MW x F dry factor x O2 correction factor / 387,000,000 Where: ppmvd is the concentration in parts per million by volume, dry basis, of NOx or CO, MW is the Molecular Weight for: NOx = 46 lb/lb-mole; CO = 28 lb/lb-mole, F dry factor for: Natural gas = 8,710 dscf/MM BTU and Residual or fuel oil = 9,190 dscf/MM BTU O2 correction factor: (20.9%) / (20.9% - O2 measured) O2 measured is percent oxygen on a dry basis. [N.J.A.C. 7:27-19.16(a)]	Recordkeeping by manual logging of parameter or storing data in a computer data system annually Records shall contain the following information for each adjustment: 1. The date of the adjustment and the times at which it began and ended; 2. The name, title and affiliation of the person who made the adjustment; 3. The NOx and CO concentrations in the effluent stream, in ppmvd, before and after each actual adjustment was made; 4. The concentration of O2 (in percent dry basis) at which the CO and NOx concentrations were measured; 5. A description of any corrective action taken; 6. Results from any subsequent tests performed after taking any corrective action, including concentrations and converted emission values in pounds per million BTU (lb/MM BTU); and 7. The type and amount of fuel used over the 12 months prior to the annual adjustment. [N.J.A.C. 7:27-19.16(b)]	Submit a report: Annually within 45 days of the adjustment. Reports shall be submitted electronically in the format the department specifies at its website. The report shall contain the following: 1. The concentrations of NOx and CO in the effluent stream in ppmvd, and O2 in percent dry basis, measured before and after the adjustment of the combustion process; 2. The converted emission values in lb/MM BTU for the measurements taken before and after the adjustment of the combustion process; 3. A description of any corrective actions taken as a part of the combustion adjustment; and 4. The type and amount of fuel used over the 12 months prior to the annual adjustment. N.J.A.C. 7:27-19.16(c) and. [N.J.A.C. 7:27-19.16(d)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U12 - Coker OS1 - GR2	1 / 1	H2S <= 0.1 gr/dscf (162 ppmvd) in fuel gas. [40 CFR 60.104(a)(1)]. Fuel gas means any gas which is generated at a petroleum refinery and which is combusted. Fuel gas includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a refinery. Fuel gas does not include gases generated by catalytic cracking unit catalyst regenerators and fluid coking burners. Fuel gas does not include vapors that are collected and combusted in a thermal oxidizer or flare installed to control emissions from wastewater treatment units or marine tank vessel loading operations. [40 CFR 60.101(d)]	H2S: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. Install, calibrate and maintain an instrument that continuously monitors and records the concentration (dry basis) of H2S in refinery fuel gas before being burned in any fuel gas combustion device. (i) The span value for this instrument is 425 mg/dscm H2S. (ii) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H2S in the fuel gas being burned. (iii) The performance evaluations for this H2S monitor under 40 CFR 60.13(c) shall use Performance Specification 7. Method 11, 15, 15A or 16 shall be used for conducting the relative accuracy evaluations in accordance with 40 CFR 60.106(e)(1). [40 CFR 60.105(a)(4)]	H2S: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)] and. [40 CFR 60.105(a)(4)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U11 - Coker OS1	1 / 3	NOx (Total) <= 8.13 lb/hr. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule See OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U11 - Coker - OS1	1 / 4	NOx (Total) <= 0.2 lb/MMBTU. [N.J.A.C. 7:27-19.7(h)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average. The owner or operator shall calculate the average NOx emission rate using the data from continuous emission monitoring system for the NOx concentration in the flue gas and either the flue gas flow rate or the fuel flow rate. To calculate the emission rate using the NOx concentration and fuel flow rate, the owner or operator shall use the conversion procedure set forth in the Acid Rain regulations at 40 CFR 75, Appendix F, or an alternative procedure that the Department determines will yield the same result. Compliance with the limit shall be based upon the average of emissions: i. Between May 1 and September 30, over each calendar day; and ii. From October 1 through April 30 of the following year, over the 30-day period ending on each such day. [N.J.A.C. 7:27-19.15(a)1]	NOx (Total): Recordkeeping by strip chart or data acquisition (DAS) system continuously. [N.J.A.C. 7:27-19.18(a)5]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U11 - Coker - OS1	1 / 5	NOx (Total) <= 0.065 lb/MMBTU. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by continuous emission monitoring system continuously based on a 365-day rolling average. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage each hour during operation. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U11 - Coker - OS1	1 / 6	CO <= 0.75 lb/hr. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule See OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U12 - Coker - OS2 - GR2	2 / 1	The permittee shall adjust the combustion process in accordance with the requirements of N.J.A.C. 7:27-19. The permittee shall: 1. Inspect the burner, and clean or replace any components of the burner as necessary; 2. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern consistent with the manufacturer's specifications; 3. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly 4. Minimize total emissions of NOx and CO consistent with the manufacturer's specifications; and 5. Measure the concentrations in the effluent stream of NOx, CO and O2 in ppmvd, before and after the adjustment is made. [N.J.A.C. 7:27-19.16(a)]	Monitored by periodic emission monitoring annually. The permittee shall: Convert the emission values of the NOx, CO and O2 concentrations measured to pounds per million BTU (lb/MM BTU) according to the following formula: lb/MM BTU = ppmvd x MW x F dry factor x O2 correction factor / 387,000,000 Where: ppmvd is the concentration in parts per million by volume, dry basis, of NOx or CO, MW is the Molecular Weight for: NOx = 46 lb/lb-mole; CO = 28 lb/lb-mole, F dry factor for: Natural gas = 8,710 dscf/MM BTU and Residual or fuel oil = 9,190 dscf/MM BTU O2 correction factor: (20.9%) / (20.9% - O2 measured) O2 measured is percent oxygen on a dry basis. [N.J.A.C. 7:27-19.16(a)]	Recordkeeping by manual logging of parameter or storing data in a computer data system annually Records shall contain the following information for each adjustment: 1. The date of the adjustment and the times at which it began and ended; 2. The name, title and affiliation of the person who made the adjustment; 3. The NOx and CO concentrations in the effluent stream, in ppmvd, before and after each actual adjustment was made; 4. The concentration of O2 (in percent dry basis) at which the CO and NOx concentrations were measured; 5. A description of any corrective action taken; 6. Results from any subsequent tests performed after taking any corrective action, including concentrations and converted emission values in pounds per million BTU (lb/MM BTU); and 7. The type and amount of fuel used over the 12 months prior to the annual adjustment. [N.J.A.C. 7:27-19.16(b)]	Submit a report: Annually within 45 days of the adjustment. Reports shall be submitted electronically in the format the department specifies at its website. The report shall contain the following: 1. The concentrations of NOx and CO in the effluent stream in ppmvd, and O2 in percent dry basis, measured before and after the adjustment of the combustion process; 2. The converted emission values in lb/MM BTU for the measurements taken before and after the adjustment of the combustion process; 3. A description of any corrective actions taken as a part of the combustion adjustment; and 4. The type and amount of fuel used over the 12 months prior to the annual adjustment. N.J.A.C. 7:27-19.16(c) and. [N.J.A.C. 7:27-19.16(d)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U12 - Coker OS2 - GR2	2 / 1	H2S <= 0.1 gr/dscf (162 ppmvd) in fuel gas. [40 CFR 60.104(a)(1)]. Fuel gas means any gas which is generated at a petroleum refinery and which is combusted. Fuel gas includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a refinery. Fuel gas does not include gases generated by catalytic cracking unit catalyst regenerators and fluid coking burners. Fuel gas does not include vapors that are collected and combusted in a thermal oxidizer or flare installed to control emissions from wastewater treatment units or marine tank vessel loading operations. [40 CFR 60.101(d)]	H2S: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. Install, calibrate and maintain an instrument that continuously monitors and records the concentration (dry basis) of H2S in refinery fuel gas before being burned in any fuel gas combustion device. (i) The span value for this instrument is 425 mg/dscm H2S. (ii) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H2S in the fuel gas being burned. (iii) The performance evaluations for this H2S monitor under 40 CFR 60.13(c) shall use Performance Specification 7. Method 11, 15, 15A or 16 shall be used for conducting the relative accuracy evaluations in accordance with 40 CFR 60.106(e)(1). [40 CFR 60.105(a)(4)]	H2S: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)] and. [40 CFR 60.105(a)(4)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U11 - Coker OS2	2 / 3	NOx (Total) <= 8.13 lb/hr. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule See OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U11 - Coker - OS2	2 / 4	NOx (Total) <= 0.2 lb/MMBTU. [N.J.A.C. 7:27-19.7(h)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average. The owner or operator shall calculate the average NOx emission rate using the data from continuous emission monitoring system for the NOx concentration in the flue gas and either the flue gas flow rate or the fuel flow rate. To calculate the emission rate using the NOx concentration and fuel flow rate, the owner or operator shall use the conversion procedure set forth in the Acid Rain regulations at 40 CFR 75, Appendix F, or an alternative procedure that the Department determines will yield the same result. Compliance with the limit shall be based upon the average of emissions: i. Between May 1 and September 30, over each calendar day; and ii. From October 1 through April 30 of the following year, over the 30-day period ending on each such day. [N.J.A.C. 7:27-19.15(a)1]	NOx (Total): Recordkeeping by strip chart or data acquisition (DAS) system continuously. [N.J.A.C. 7:27-19.18(a)5]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U11 - Coker - OS2	2 / 5	NOx (Total) <= 0.065 lb/MMBTU. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by continuous emission monitoring system continuously based on a 365-day rolling average. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage each hour during operation. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U11 - Coker - OS2	2 / 6	CO <= 0.75 lb/hr. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule See OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U12 - Coker - OS3 - GR2	3 / 1	The permittee shall adjust the combustion process in accordance with the requirements of N.J.A.C. 7:27-19. The permittee shall: 1. Inspect the burner, and clean or replace any components of the burner as necessary; 2. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern consistent with the manufacturer's specifications; 3. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly 4. Minimize total emissions of NOx and CO consistent with the manufacturer's specifications; and 5. Measure the concentrations in the effluent stream of NOx, CO and O2 in ppmvd, before and after the adjustment is made. [N.J.A.C. 7:27-19.16(a)]	Monitored by periodic emission monitoring annually. The permittee shall: Convert the emission values of the NOx, CO and O2 concentrations measured to pounds per million BTU (lb/MM BTU) according to the following formula: lb/MM BTU = ppmvd x MW x F dry factor x O2 correction factor / 387,000,000 Where: ppmvd is the concentration in parts per million by volume, dry basis, of NOx or CO, MW is the Molecular Weight for: NOx = 46 lb/lb-mole; CO = 28 lb/lb-mole, F dry factor for: Natural gas = 8,710 dscf/MM BTU and Residual or fuel oil = 9,190 dscf/MM BTU O2 correction factor: (20.9%) / (20.9% - O2 measured) O2 measured is percent oxygen on a dry basis. [N.J.A.C. 7:27-19.16(a)]	Recordkeeping by manual logging of parameter or storing data in a computer data system annually Records shall contain the following information for each adjustment: 1. The date of the adjustment and the times at which it began and ended; 2. The name, title and affiliation of the person who made the adjustment; 3. The NOx and CO concentrations in the effluent stream, in ppmvd, before and after each actual adjustment was made; 4. The concentration of O2 (in percent dry basis) at which the CO and NOx concentrations were measured; 5. A description of any corrective action taken; 6. Results from any subsequent tests performed after taking any corrective action, including concentrations and converted emission values in pounds per million BTU (lb/MM BTU); and 7. The type and amount of fuel used over the 12 months prior to the annual adjustment. [N.J.A.C. 7:27-19.16(b)]	Submit a report: Annually within 45 days of the adjustment. Reports shall be submitted electronically in the format the department specifies at its website. The report shall contain the following: 1. The concentrations of NOx and CO in the effluent stream in ppmvd, and O2 in percent dry basis, measured before and after the adjustment of the combustion process; 2. The converted emission values in lb/MM BTU for the measurements taken before and after the adjustment of the combustion process; 3. A description of any corrective actions taken as a part of the combustion adjustment; and 4. The type and amount of fuel used over the 12 months prior to the annual adjustment. N.J.A.C. 7:27-19.16(c) and. [N.J.A.C. 7:27-19.16(d)]	X	

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U12 - Coker OS3 - GR2	1 / 1	H2S <= 0.1 gr/dscf (162 ppmvd) in fuel gas. [40 CFR 60.104(a)(1)]. Fuel gas means any gas which is generated at a petroleum refinery and which is combusted. Fuel gas includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a refinery. Fuel gas does not include gases generated by catalytic cracking unit catalyst regenerators and fluid coking burners. Fuel gas does not include vapors that are collected and combusted in a thermal oxidizer or flare installed to control emissions from wastewater treatment units or marine tank vessel loading operations. [40 CFR 60.101(d)]	H2S: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. Install, calibrate and maintain an instrument that continuously monitors and records the concentration (dry basis) of H2S in refinery fuel gas before being burned in any fuel gas combustion device. (i) The span value for this instrument is 425 mg/dscm H2S. (ii) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H2S in the fuel gas being burned. (iii) The performance evaluations for this H2S monitor under 40 CFR 60.13(c) shall use Performance Specification 7. Method 11, 15, 15A or 16 shall be used for conducting the relative accuracy evaluations in accordance with 40 CFR 60.106(e)(1). [40 CFR 60.105(a)(4)]	H2S: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)] and. [40 CFR 60.105(a)(4)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U12 - Coker OS3	3 / 3	NOx (Total) <= 25 lb/hr. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 1 hour block average. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage each hour during operation. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U12 - Coker - OS3	3 / 4	NOx (Total) <= 0.2 lb/MMBTU. [N.J.A.C. 7:27-19.7(h)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average. The owner or operator shall calculate the average NOx emission rate using the data from continuous emission monitoring system for the NOx concentration in the flue gas and either the flue gas flow rate or the fuel flow rate. To calculate the emission rate using the NOx concentration and fuel flow rate, the owner or operator shall use the conversion procedure set forth in the Acid Rain regulations at 40 CFR 75, Appendix F, or an alternative procedure that the Department determines will yield the same result. Compliance with the limit shall be based upon the average of emissions: i. Between May 1 and September 30, over each calendar day; and ii. From October 1 through April 30 of the following year, over the 30-day period ending on each such day. [N.J.A.C. 7:27-19.15(a)1]	NOx (Total): Recordkeeping by strip chart or data acquisition (DAS) system continuously. [N.J.A.C. 7:27-19.18(a)5]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U12 - Coker - OS4 - GR2	4 / 1	H2S <= 0.1 gr/dscf (162 ppmvd) in fuel gas. [40 CFR 60.104(a)(1)]. Fuel gas means any gas which is generated at a petroleum refinery and which is combusted. Fuel gas includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a refinery. Fuel gas does not include gases generated by catalytic cracking unit catalyst regenerators and fluid coking burners. Fuel gas does not include vapors that are collected and combusted in a thermal oxidizer or flare installed to control emissions from wastewater treatment units or marine tank vessel loading operations. [40 CFR 60.101(d)]	H2S: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. Install, calibrate and maintain an instrument that continuously monitors and records the concentration (dry basis) of H2S in refinery fuel gas before being burned in any fuel gas combustion device. (i) The span value for this instrument is 425 mg/dscm H2S. (ii) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H2S in the fuel gas being burned. (iii) The performance evaluations for this H2S monitor under 40 CFR 60.13(c) shall use Performance Specification 7. Method 11, 15, 15A or 16 shall be used for conducting the relative accuracy evaluations in accordance with 40 CFR 60.106(e)(1). [40 CFR 60.105(a)(4)]	H2S: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)] and. [40 CFR 60.105(a)(4)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U12 - Coker - OS4	4 / 3	NOx (Total) <= 25 lb/hr. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 1 hour block average. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage each hour during operation. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U12 - Coker - OS4	4 / 4	NOx (Total) <= 0.2 lb/MMBTU. [N.J.A.C. 7:27-19.7(h)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average. The owner or operator shall calculate the average NOx emission rate using the data from continuous emission monitoring system for the NOx concentration in the flue gas and either the flue gas flow rate or the fuel flow rate. To calculate the emission rate using the NOx concentration and fuel flow rate, the owner or operator shall use the conversion procedure set forth in the Acid Rain regulations at 40 CFR 75, Appendix F, or an alternative procedure that the Department determines will yield the same result. Compliance with the limit shall be based upon the average of emissions: i. Between May 1 and September 30, over each calendar day; and ii. From October 1 through April 30 of the following year, over the 30-day period ending on each such day. [N.J.A.C. 7:27-19.15(a)1]	NOx (Total): Recordkeeping by strip chart or data acquisition (DAS) system continuously. [N.J.A.C. 7:27-19.18(a)5]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U12 - Coker - OS5 - GR2	5 / 1	H2S <= 0.1 gr/dscf (162 ppmvd) in fuel gas. [40 CFR 60.104(a)(1)]. Fuel gas means any gas which is generated at a petroleum refinery and which is combusted. Fuel gas includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a refinery. Fuel gas does not include gases generated by catalytic cracking unit catalyst regenerators and fluid coking burners. Fuel gas does not include vapors that are collected and combusted in a thermal oxidizer or flare installed to control emissions from wastewater treatment units or marine tank vessel loading operations. [40 CFR 60.101(d)]	H2S: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. Install, calibrate and maintain an instrument that continuously monitors and records the concentration (dry basis) of H2S in refinery fuel gas before being burned in any fuel gas combustion device. (i) The span value for this instrument is 425 mg/dscm H2S. (ii) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H2S in the fuel gas being burned. (iii) The performance evaluations for this H2S monitor under 40 CFR 60.13(c) shall use Performance Specification 7. Method 11, 15, 15A or 16 shall be used for conducting the relative accuracy evaluations in accordance with 40 CFR 60.106(e)(1). [40 CFR 60.105(a)(4)]	H2S: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)] and. [40 CFR 60.105(a)(4)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U12 - Coker - OS5	5 / 3	NOx (Total) <= 25 lb/hr. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 1 hour block average. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage each hour during operation. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U12 - Coker - OS5	5 / 4	NOx (Total) <= 0.2 lb/MMBTU. [N.J.A.C. 7:27-19.7(h)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average. The owner or operator shall calculate the average NOx emission rate using the data from continuous emission monitoring system for the NOx concentration in the flue gas and either the flue gas flow rate or the fuel flow rate. To calculate the emission rate using the NOx concentration and fuel flow rate, the owner or operator shall use the conversion procedure set forth in the Acid Rain regulations at 40 CFR 75, Appendix F, or an alternative procedure that the Department determines will yield the same result. Compliance with the limit shall be based upon the average of emissions: i. Between May 1 and September 30, over each calendar day; and ii. From October 1 through April 30 of the following year, over the 30-day period ending on each such day. [N.J.A.C. 7:27-19.15(a)1]	NOx (Total): Recordkeeping by strip chart or data acquisition (DAS) system continuously. [N.J.A.C. 7:27-19.18(a)5]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U12 - Coker - OS6 - GR2	6 / 1	H2S <= 0.1 gr/dscf (162 ppmvd) in fuel gas. [40 CFR 60.104(a)(1)]. Fuel gas means any gas which is generated at a petroleum refinery and which is combusted. Fuel gas includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a refinery. Fuel gas does not include gases generated by catalytic cracking unit catalyst regenerators and fluid coking burners. Fuel gas does not include vapors that are collected and combusted in a thermal oxidizer or flare installed to control emissions from wastewater treatment units or marine tank vessel loading operations. [40 CFR 60.101(d)]	H2S: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. Install, calibrate and maintain an instrument that continuously monitors and records the concentration (dry basis) of H2S in refinery fuel gas before being burned in any fuel gas combustion device. (i) The span value for this instrument is 425 mg/dscm H2S. (ii) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H2S in the fuel gas being burned. (iii) The performance evaluations for this H2S monitor under 40 CFR 60.13(c) shall use Performance Specification 7. Method 11, 15, 15A or 16 shall be used for conducting the relative accuracy evaluations in accordance with 40 CFR 60.106(e)(1). [40 CFR 60.105(a)(4)]	H2S: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)] and. [40 CFR 60.105(a)(4)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U12 - Coker - OS6	6 / 3	NOx (Total) <= 25 lb/hr. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 1 hour block average. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage each hour during operation. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	

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Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U12 - Coker - OS6	6 / 4	NOx (Total) <= 0.2 lb/MMBTU. [N.J.A.C. 7:27-19.7(h)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average. The owner or operator shall calculate the average NOx emission rate using the data from continuous emission monitoring system for the NOx concentration in the flue gas and either the flue gas flow rate or the fuel flow rate. To calculate the emission rate using the NOx concentration and fuel flow rate, the owner or operator shall use the conversion procedure set forth in the Acid Rain regulations at 40 CFR 75, Appendix F, or an alternative procedure that the Department determines will yield the same result. Compliance with the limit shall be based upon the average of emissions: i. Between May 1 and September 30, over each calendar day; and ii. From October 1 through April 30 of the following year, over the 30-day period ending on each such day. [N.J.A.C. 7:27-19.15(a)1]	NOx (Total): Recordkeeping by strip chart or data acquisition (DAS) system continuously. [N.J.A.C. 7:27-19.18(a)5]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	

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Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U13 - Furf 1 - OS0	0 / 2	The permittee shall conduct a stack test at least 18 months prior to the expiration of the renewed operating permit using an approved protocol to demonstrate compliance with emission limits for NOx and CO as specified in the compliance plan for OS1. Testing must be conducted at worst-case permitted operating conditions with regard to meeting the applicable emission standards, but without creating an unsafe condition. The permittee may propose, in the stack test protocol, to use CEMS data to satisfy the stack testing requirements, for NOx and/or CO, with the Emission Management section (EMS) approval. In order for EMS to approve using CEMS data at the time of the stack test, the CEMS must be certified and be in compliance with all daily, quarterly and annual quality assurance requirements. The CEMS shall monitor and record emissions in units identical to those required by the applicable stack testing conditions of this permit. CEMS data, if allowed by this permit, shall be taken at the same worst case conditions as described above. [N.J.A.C. 7:27-22.16(a)]	Other: Monitoring as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	Other: Recordkeeping as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Submit a stack test protocol to EMS at Mail Code: 380-01A, PO Box 420, Trenton, NJ 08625 at least 30 months prior to the expiration of the approved operating permit. The protocol and test report must be prepared and submitted on a CD using the Electronic Reporting Tool (ERT), unless another format is approved by EMS. The ERT program can be downloaded at: http://www.epa.gov/ttnchie1/ert. Within 30 days of protocol approval or no less than 60 days prior to the testing deadline, whichever is later, the permittee must contact EMS at 609-530-4041 to schedule a mutually acceptable test date. A full stack test report must be submitted to EMS and a certified summary test report must be submitted to the Regional Enforcement Office within 45 days after performing the stack test pursuant to N.J.A.C. 7:27-22.19(d). The test results must be certified by a licensed professional engineer or certified industrial hygienist. [N.J.A.C. 7:27-22.18(e)] and. [N.J.A.C. 7:27-22.18(h)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U13 - Furf 1 - OS1 - GR2	1 / 1	The permittee shall adjust the combustion process in accordance with the requirements of N.J.A.C. 7:27-19. The permittee shall: 1. Inspect the burner, and clean or replace any components of the burner as necessary; 2. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern consistent with the manufacturer's specifications; 3. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly 4. Minimize total emissions of NOx and CO consistent with the manufacturer's specifications; and 5. Measure the concentrations in the effluent stream of NOx, CO and O2 in ppmvd, before and after the adjustment is made. [N.J.A.C. 7:27-19.16(a)]	Monitored by periodic emission monitoring annually. The permittee shall: Convert the emission values of the NOx, CO and O2 concentrations measured to pounds per million BTU (lb/MM BTU) according to the following formula: lb/MM BTU = ppmvd x MW x F dry factor x O2 correction factor / 387,000,000 Where: ppmvd is the concentration in parts per million by volume, dry basis, of NOx or CO, MW is the Molecular Weight for: NOx = 46 lb/lb-mole; CO = 28 lb/lb-mole, F dry factor for: Natural gas = 8,710 dscf/MM BTU and Residual or fuel oil = 9,190 dscf/MM BTU O2 correction factor: (20.9%) / (20.9% - O2 measured) O2 measured is percent oxygen on a dry basis. [N.J.A.C. 7:27-19.16(a)]	Recordkeeping by manual logging of parameter or storing data in a computer data system annually Records shall contain the following information for each adjustment: 1. The date of the adjustment and the times at which it began and ended; 2. The name, title and affiliation of the person who made the adjustment; 3. The NOx and CO concentrations in the effluent stream, in ppmvd, before and after each actual adjustment was made; 4. The concentration of O2 (in percent dry basis) at which the CO and NOx concentrations were measured; 5. A description of any corrective action taken; 6. Results from any subsequent tests performed after taking any corrective action, including concentrations and converted emission values in pounds per million BTU (lb/MM BTU); and 7. The type and amount of fuel used over the 12 months prior to the annual adjustment. [N.J.A.C. 7:27-19.16(b)]	Submit a report: Annually within 45 days of the adjustment. Reports shall be submitted electronically in the format the department specifies at its website. The report shall contain the following: 1. The concentrations of NOx and CO in the effluent stream in ppmvd, and O2 in percent dry basis, measured before and after the adjustment of the combustion process; 2. The converted emission values in lb/MM BTU for the measurements taken before and after the adjustment of the combustion process; 3. A description of any corrective actions taken as a part of the combustion adjustment; and 4. The type and amount of fuel used over the 12 months prior to the annual adjustment. N.J.A.C. 7:27-19.16(c) and. [N.J.A.C. 7:27-19.16(d)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U13 - Furf 1 - OS1 - GR2	1 / 1	H2S <= 0.1 gr/dscf (162 ppmvd) in fuel gas. [40 CFR 60.104(a)(1)]. Fuel gas means any gas which is generated at a petroleum refinery and which is combusted. Fuel gas includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a refinery. Fuel gas does not include gases generated by catalytic cracking unit catalyst regenerators and fluid coking burners. Fuel gas does not include vapors that are collected and combusted in a thermal oxidizer or flare installed to control emissions from wastewater treatment units or marine tank vessel loading operations. [40 CFR 60.101(d)]	H2S: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. Install, calibrate and maintain an instrument that continuously monitors and records the concentration (dry basis) of H2S in refinery fuel gas before being burned in any fuel gas combustion device. (i) The span value for this instrument is 425 mg/dscm H2S. (ii) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H2S in the fuel gas being burned. (iii) The performance evaluations for this H2S monitor under 40 CFR 60.13(c) shall use Performance Specification 7. Method 11, 15, 15A or 16 shall be used for conducting the relative accuracy evaluations in accordance with 40 CFR 60.106(e)(1). [40 CFR 60.105(a)(4)]	H2S: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)] and. [40 CFR 60.105(a)(4)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U13 - Furf 1 - OS1	1 / 4	NOx (Total) <= 0.15 lb/MMBTU. [N.J.A.C. 7:27-19.7(h)]	NOx (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-19.15(a)2]	NOx (Total): Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	
U13 - Furf 1 - OS1	1 / 5	CO <= 2.45 lb/hr. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule ; See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U13 - Furf 1 - OS2 - GR2	2 / 1	The permittee shall adjust the combustion process in accordance with the requirements of N.J.A.C. 7:27-19. The permittee shall: 1. Inspect the burner, and clean or replace any components of the burner as necessary; 2. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern consistent with the manufacturer's specifications; 3. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly 4. Minimize total emissions of NOx and CO consistent with the manufacturer's specifications; and 5. Measure the concentrations in the effluent stream of NOx, CO and O2 in ppmvd, before and after the adjustment is made. [N.J.A.C. 7:27-19.16(a)]	Monitored by periodic emission monitoring annually. The permittee shall: Convert the emission values of the NOx, CO and O2 concentrations measured to pounds per million BTU (lb/MM BTU) according to the following formula: lb/MM BTU = ppmvd x MW x F dry factor x O2 correction factor / 387,000,000 Where: ppmvd is the concentration in parts per million by volume, dry basis, of NOx or CO, MW is the Molecular Weight for: NOx = 46 lb/lb-mole; CO = 28 lb/lb-mole, F dry factor for: Natural gas = 8,710 dscf/MM BTU and Residual or fuel oil = 9,190 dscf/MM BTU O2 correction factor: (20.9%) / (20.9% - O2 measured) O2 measured is percent oxygen on a dry basis. [N.J.A.C. 7:27-19.16(a)]	Recordkeeping by manual logging of parameter or storing data in a computer data system annually Records shall contain the following information for each adjustment: 1. The date of the adjustment and the times at which it began and ended; 2. The name, title and affiliation of the person who made the adjustment; 3. The NOx and CO concentrations in the effluent stream, in ppmvd, before and after each actual adjustment was made; 4. The concentration of O2 (in percent dry basis) at which the CO and NOx concentrations were measured; 5. A description of any corrective action taken; 6. Results from any subsequent tests performed after taking any corrective action, including concentrations and converted emission values in pounds per million BTU (lb/MM BTU); and 7. The type and amount of fuel used over the 12 months prior to the annual adjustment. [N.J.A.C. 7:27-19.16(b)]	Submit a report: Annually within 45 days of the adjustment. Reports shall be submitted electronically in the format the department specifies at its website. The report shall contain the following: 1. The concentrations of NOx and CO in the effluent stream in ppmvd, and O2 in percent dry basis, measured before and after the adjustment of the combustion process; 2. The converted emission values in lb/MM BTU for the measurements taken before and after the adjustment of the combustion process; 3. A description of any corrective actions taken as a part of the combustion adjustment; and 4. The type and amount of fuel used over the 12 months prior to the annual adjustment. N.J.A.C. 7:27-19.16(c) and. [N.J.A.C. 7:27-19.16(d)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U13 - Furf 1 - OS2 - GR2	2 / 1	H2S <= 0.1 gr/dscf (162 ppmvd) in fuel gas. [40 CFR 60.104(a)(1)]. Fuel gas means any gas which is generated at a petroleum refinery and which is combusted. Fuel gas includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a refinery. Fuel gas does not include gases generated by catalytic cracking unit catalyst regenerators and fluid coking burners. Fuel gas does not include vapors that are collected and combusted in a thermal oxidizer or flare installed to control emissions from wastewater treatment units or marine tank vessel loading operations. [40 CFR 60.101(d)]	H2S: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. Install, calibrate and maintain an instrument that continuously monitors and records the concentration (dry basis) of H2S in refinery fuel gas before being burned in any fuel gas combustion device. (i) The span value for this instrument is 425 mg/dscm H2S. (ii) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H2S in the fuel gas being burned. (iii) The performance evaluations for this H2S monitor under 40 CFR 60.13(c) shall use Performance Specification 7. Method 11, 15, 15A or 16 shall be used for conducting the relative accuracy evaluations in accordance with 40 CFR 60.106(e)(1). [40 CFR 60.105(a)(4)]	H2S: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)] and. [40 CFR 60.105(a)(4)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U14 - Furf 2 - OS0	0 / 2	The permittee shall conduct a stack test at least 18 months prior to the expiration of the renewed operating permit using an approved protocol to demonstrate compliance with emission limits for NOx and CO as specified in the compliance plan for OS1. Testing must be conducted at worst-case permitted operating conditions with regard to meeting the applicable emission standards, but without creating an unsafe condition. The permittee may propose, in the stack test protocol, to use CEMS data to satisfy the stack testing requirements, for NOx and/or CO, with the Emission Management section (EMS) approval. In order for EMS to approve using CEMS data at the time of the stack test, the CEMS must be certified and be in compliance with all daily, quarterly and annual quality assurance requirements. The CEMS shall monitor and record emissions in units identical to those required by the applicable stack testing conditions of this permit. CEMS data, if allowed by this permit, shall be taken at the same worst case conditions as described above. [N.J.A.C. 7:27-22.16(a)]	Other: Monitoring as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	Other: Recordkeeping as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Submit a stack test protocol to EMS at Mail Code: 380-01A, PO Box 420, Trenton, NJ 08625 at least 30 months prior to the expiration of the approved operating permit. The protocol and test report must be prepared and submitted on a CD using the Electronic Reporting Tool (ERT), unless another format is approved by EMS. The ERT program can be downloaded at: http://www.epa.gov/ttnchie1/ert. Within 30 days of protocol approval or no less than 60 days prior to the testing deadline, whichever is later, the permittee must contact EMS at 609-530-4041 to schedule a mutually acceptable test date. A full stack test report must be submitted to EMS and a certified summary test report must be submitted to the Regional Enforcement Office within 45 days after performing the stack test pursuant to N.J.A.C. 7:27-22.19(d). The test results must be certified by a licensed professional engineer or certified industrial hygienist. [N.J.A.C. 7:27-22.18(e)] and. [N.J.A.C. 7:27-22.18(h)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U14 - Furf 2 - OS1 - GR2	1 / 1	The permittee shall adjust the combustion process in accordance with the requirements of N.J.A.C. 7:27-19. The permittee shall: 1. Inspect the burner, and clean or replace any components of the burner as necessary; 2. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern consistent with the manufacturer's specifications; 3. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly 4. Minimize total emissions of NOx and CO consistent with the manufacturer's specifications; and 5. Measure the concentrations in the effluent stream of NOx, CO and O2 in ppmvd, before and after the adjustment is made. [N.J.A.C. 7:27-19.16(a)]	Monitored by periodic emission monitoring annually. The permittee shall: Convert the emission values of the NOx, CO and O2 concentrations measured to pounds per million BTU (lb/MM BTU) according to the following formula: lb/MM BTU = ppmvd x MW x F dry factor x O2 correction factor / 387,000,000 Where: ppmvd is the concentration in parts per million by volume, dry basis, of NOx or CO, MW is the Molecular Weight for: NOx = 46 lb/lb-mole; CO = 28 lb/lb-mole, F dry factor for: Natural gas = 8,710 dscf/MM BTU and Residual or fuel oil = 9,190 dscf/MM BTU O2 correction factor: (20.9%) / (20.9% - O2 measured) O2 measured is percent oxygen on a dry basis. [N.J.A.C. 7:27-19.16(a)]	Recordkeeping by manual logging of parameter or storing data in a computer data system annually Records shall contain the following information for each adjustment: 1. The date of the adjustment and the times at which it began and ended; 2. The name, title and affiliation of the person who made the adjustment; 3. The NOx and CO concentrations in the effluent stream, in ppmvd, before and after each actual adjustment was made; 4. The concentration of O2 (in percent dry basis) at which the CO and NOx concentrations were measured; 5. A description of any corrective action taken; 6. Results from any subsequent tests performed after taking any corrective action, including concentrations and converted emission values in pounds per million BTU (lb/MM BTU); and 7. The type and amount of fuel used over the 12 months prior to the annual adjustment. [N.J.A.C. 7:27-19.16(b)]	Submit a report: Annually within 45 days of the adjustment. Reports shall be submitted electronically in the format the department specifies at its website. The report shall contain the following: 1. The concentrations of NOx and CO in the effluent stream in ppmvd, and O2 in percent dry basis, measured before and after the adjustment of the combustion process; 2. The converted emission values in lb/MM BTU for the measurements taken before and after the adjustment of the combustion process; 3. A description of any corrective actions taken as a part of the combustion adjustment; and 4. The type and amount of fuel used over the 12 months prior to the annual adjustment. N.J.A.C. 7:27-19.16(c) and. [N.J.A.C. 7:27-19.16(d)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U14 - Furf 2 - OS1 - GR2	1 / 1	H2S <= 0.1 gr/dscf (162 ppmvd) in fuel gas. [40 CFR 60.104(a)(1)]. Fuel gas means any gas which is generated at a petroleum refinery and which is combusted. Fuel gas includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a refinery. Fuel gas does not include gases generated by catalytic cracking unit catalyst regenerators and fluid coking burners. Fuel gas does not include vapors that are collected and combusted in a thermal oxidizer or flare installed to control emissions from wastewater treatment units or marine tank vessel loading operations. [40 CFR 60.101(d)]	H2S: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. Install, calibrate and maintain an instrument that continuously monitors and records the concentration (dry basis) of H2S in refinery fuel gas before being burned in any fuel gas combustion device. (i) The span value for this instrument is 425 mg/dscm H2S. (ii) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H2S in the fuel gas being burned. (iii) The performance evaluations for this H2S monitor under 40 CFR 60.13(c) shall use Performance Specification 7. Method 11, 15, 15A or 16 shall be used for conducting the relative accuracy evaluations in accordance with 40 CFR 60.106(e)(1). [40 CFR 60.105(a)(4)]	H2S: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)] and. [40 CFR 60.105(a)(4)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U14 - Furf 2 - OS1	1 / 3	NOx (Total) <= 0.041 lb/MMBTU. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule : See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	
U14 - Furf 2 - OS1	1 / 4	NOx (Total) <= 2.8 lb/hr. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule ; See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U14 - Furf 2 - OS1	1 / 5	NOx (Total) <= 0.2 lb/MMBTU. [N.J.A.C. 7:27-19.7(h)]	NOx (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. Any NOx testing conducted pursuant to this section shall be conducted concurrently with CO testing. [N.J.A.C. 7:27-19.15(a)2]	NOx (Total): Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	
U14 - Furf 2 - OS1	1 / 6	CO <= 2.51 lb/hr. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule ; See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U15 - PDA - OS0	0 / 2	The permittee shall conduct a stack test at least 18 months prior to the expiration of the renewed operating permit using an approved protocol to demonstrate compliance with emission limits for NOx and CO as specified in the compliance plan for OS2. Testing must be conducted at worst-case permitted operating conditions with regard to meeting the applicable emission standards, but without creating an unsafe condition. The permittee may propose, in the stack test protocol, to use CEMS data to satisfy the stack testing requirements, for NOx and/or CO, with the Emission Management section (EMS) approval. In order for EMS to approve using CEMS data at the time of the stack test, the CEMS must be certified and be in compliance with all daily, quarterly and annual quality assurance requirements. The CEMS shall monitor and record emissions in units identical to those required by the applicable stack testing conditions of this permit. CEMS data, if allowed by this permit, shall be taken at the same worst case conditions as described above. [N.J.A.C. 7:27-22.16(a)]	Other: Monitoring as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	Other: Recordkeeping as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Submit a stack test protocol to EMS at Mail Code: 380-01A, PO Box 420, Trenton, NJ 08625 at least 30 months prior to the expiration of the approved operating permit. The protocol and test report must be prepared and submitted on a CD using the Electronic Reporting Tool (ERT), unless another format is approved by EMS. The ERT program can be downloaded at: http://www.epa.gov/ttnchie1/ert. Within 30 days of protocol approval or no less than 60 days prior to the testing deadline, whichever is later, the permittee must contact EMS at 609-530-4041 to schedule a mutually acceptable test date. A full stack test report must be submitted to EMS and a certified summary test report must be submitted to the Regional Enforcement Office within 45 days after performing the stack test pursuant to NJ.A.C. 7:27-22.19(d). The test results must be certified by a licensed professional engineer or certified industrial hygienist. [N.J.A.C. 7:27-22.18(e)] and. [N.J.A.C. 7:27-22.18(h)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U15 - PDA - OS1 - GR2	1 / 1	The permittee shall adjust the combustion process in accordance with the requirements of N.J.A.C. 7:27-19. The permittee shall: 1. Inspect the burner, and clean or replace any components of the burner as necessary; 2. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern consistent with the manufacturer's specifications; 3. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly 4. Minimize total emissions of NOx and CO consistent with the manufacturer's specifications; and 5. Measure the concentrations in the effluent stream of NOx, CO and O2 in ppmvd, before and after the adjustment is made. [N.J.A.C. 7:27-19.16(a)]	Monitored by periodic emission monitoring annually. The permittee shall: Convert the emission values of the NOx, CO and O2 concentrations measured to pounds per million BTU (lb/MM BTU) according to the following formula: lb/MM BTU = ppmvd x MW x F dry factor x O2 correction factor / 387,000,000 Where: ppmvd is the concentration in parts per million by volume, dry basis, of NOx or CO, MW is the Molecular Weight for: NOx = 46 lb/lb-mole; CO = 28 lb/lb-mole, F dry factor for: Natural gas = 8,710 dscf/MM BTU and Residual or fuel oil = 9,190 dscf/MM BTU O2 correction factor: (20.9%) / (20.9% - O2 measured) O2 measured is percent oxygen on a dry basis. [N.J.A.C. 7:27-19.16(a)]	Recordkeeping by manual logging of parameter or storing data in a computer data system annually Records shall contain the following information for each adjustment: 1. The date of the adjustment and the times at which it began and ended; 2. The name, title and affiliation of the person who made the adjustment; 3. The NOx and CO concentrations in the effluent stream, in ppmvd, before and after each actual adjustment was made; 4. The concentration of O2 (in percent dry basis) at which the CO and NOx concentrations were measured; 5. A description of any corrective action taken; 6. Results from any subsequent tests performed after taking any corrective action, including concentrations and converted emission values in pounds per million BTU (lb/MM BTU); and 7. The type and amount of fuel used over the 12 months prior to the annual adjustment. [N.J.A.C. 7:27-19.16(b)]	Submit a report: Annually within 45 days of the adjustment. Reports shall be submitted electronically in the format the department specifies at its website. The report shall contain the following: 1. The concentrations of NOx and CO in the effluent stream in ppmvd, and O2 in percent dry basis, measured before and after the adjustment of the combustion process; 2. The converted emission values in lb/MM BTU for the measurements taken before and after the adjustment of the combustion process; 3. A description of any corrective actions taken as a part of the combustion adjustment; and 4. The type and amount of fuel used over the 12 months prior to the annual adjustment. N.J.A.C. 7:27-19.16(c) and. [N.J.A.C. 7:27-19.16(d)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U15 - PDA - OS1 - GR2	1 / 1	H2S <= 0.1 gr/dscf (162 ppmvd) in fuel gas. [40 CFR 60.104(a)(1)]. Fuel gas means any gas which is generated at a petroleum refinery and which is combusted. Fuel gas includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a refinery. Fuel gas does not include gases generated by catalytic cracking unit catalyst regenerators and fluid coking burners. Fuel gas does not include vapors that are collected and combusted in a thermal oxidizer or flare installed to control emissions from wastewater treatment units or marine tank vessel loading operations. [40 CFR 60.101(d)]	H2S: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. Install, calibrate and maintain an instrument that continuously monitors and records the concentration (dry basis) of H2S in refinery fuel gas before being burned in any fuel gas combustion device. (i) The span value for this instrument is 425 mg/dscm H2S. (ii) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H2S in the fuel gas being burned. (iii) The performance evaluations for this H2S monitor under 40 CFR 60.13(c) shall use Performance Specification 7. Method 11, 15, 15A or 16 shall be used for conducting the relative accuracy evaluations in accordance with 40 CFR 60.106(e)(1). [40 CFR 60.105(a)(4)]	H2S: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)] and. [40 CFR 60.105(a)(4)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U15 - PDA - OS2- GR2	2 / 1	The permittee shall adjust the combustion process in accordance with the requirements of N.J.A.C. 7:27-19. The permittee shall: 1. Inspect the burner, and clean or replace any components of the burner as necessary; 2. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern consistent with the manufacturer's specifications; 3. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly 4. Minimize total emissions of NOx and CO consistent with the manufacturer's specifications; and 5. Measure the concentrations in the effluent stream of NOx, CO and O2 in ppmvd, before and after the adjustment is made. [N.J.A.C. 7:27-19.16(a)]	Monitored by periodic emission monitoring annually. The permittee shall: Convert the emission values of the NOx, CO and O2 concentrations measured to pounds per million BTU (lb/MM BTU) according to the following formula: lb/MM BTU = ppmvd x MW x F dry factor x O2 correction factor / 387,000,000 Where: ppmvd is the concentration in parts per million by volume, dry basis, of NOx or CO, MW is the Molecular Weight for: NOx = 46 lb/lb-mole; CO = 28 lb/lb-mole, F dry factor for: Natural gas = 8,710 dscf/MM BTU and Residual or fuel oil = 9,190 dscf/MM BTU O2 correction factor: (20.9%) / (20.9% - O2 measured) O2 measured is percent oxygen on a dry basis. [N.J.A.C. 7:27-19.16(a)]	Recordkeeping by manual logging of parameter or storing data in a computer data system annually Records shall contain the following information for each adjustment: 1. The date of the adjustment and the times at which it began and ended; 2. The name, title and affiliation of the person who made the adjustment; 3. The NOx and CO concentrations in the effluent stream, in ppmvd, before and after each actual adjustment was made; 4. The concentration of O2 (in percent dry basis) at which the CO and NOx concentrations were measured; 5. A description of any corrective action taken; 6. Results from any subsequent tests performed after taking any corrective action, including concentrations and converted emission values in pounds per million BTU (lb/MM BTU); and 7. The type and amount of fuel used over the 12 months prior to the annual adjustment. [N.J.A.C. 7:27-19.16(b)]	Submit a report: Annually within 45 days of the adjustment. Reports shall be submitted electronically in the format the department specifies at its website. The report shall contain the following: 1. The concentrations of NOx and CO in the effluent stream in ppmvd, and O2 in percent dry basis, measured before and after the adjustment of the combustion process; 2. The converted emission values in lb/MM BTU for the measurements taken before and after the adjustment of the combustion process; 3. A description of any corrective actions taken as a part of the combustion adjustment; and 4. The type and amount of fuel used over the 12 months prior to the annual adjustment. N.J.A.C. 7:27-19.16(c) and. [N.J.A.C. 7:27-19.16(d)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U15 - PDA - OS2 - GR2	2 / 1	H2S <= 0.1 gr/dscf (162 ppmvd) in fuel gas. [40 CFR 60.104(a)(1)]. Fuel gas means any gas which is generated at a petroleum refinery and which is combusted. Fuel gas includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a refinery. Fuel gas does not include gases generated by catalytic cracking unit catalyst regenerators and fluid coking burners. Fuel gas does not include vapors that are collected and combusted in a thermal oxidizer or flare installed to control emissions from wastewater treatment units or marine tank vessel loading operations. [40 CFR 60.101(d)]	H2S: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. Install, calibrate and maintain an instrument that continuously monitors and records the concentration (dry basis) of H2S in refinery fuel gas before being burned in any fuel gas combustion device. (i) The span value for this instrument is 425 mg/dscm H2S. (ii) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H2S in the fuel gas being burned. (iii) The performance evaluations for this H2S monitor under 40 CFR 60.13(c) shall use Performance Specification 7. Method 11, 15, 15A or 16 shall be used for conducting the relative accuracy evaluations in accordance with 40 CFR 60.106(e)(1). [40 CFR 60.105(a)(4)]	H2S: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)] and. [40 CFR 60.105(a)(4)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U15 - PDA - OS2	2 / 4	NOx (Total) <= 0.2 lb/MMBTU. [N.J.A.C. 7:27-19.7(h)]	NOx (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-19.15(a)2]	NOx (Total): Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	
U15 - PDA - OS2	2 / 5	CO <= 2.1 lb/hr. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule ; See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U16 - MLDW		NONE					

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U17 - CHD2		NONE					

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U18 H2 Pt		NONE					

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U20 - Utilities - OS0	0 / 2	The permittee shall conduct a stack test using a protocol approved by the Department to demonstrate compliance with emission limits for NOx and CO as specified in the compliance plan for OS30 and OS31. Testing must be conducted at worst-case permitted operating conditions with regard to meeting the applicable emission standards, but without creating an unsafe condition. [N.J.A.C. 7:27-22.16(a)]	Other: The stack test must be conducted 60 days of the protocol approval or within 180 days of bringing a boiler onsite, whichever comes later. If a source is subject to NSPS, extending the testing date beyond 180 days after the source's initial startup requires prior approval from US EPA. [N.J.A.C. 7:27-22.18] and [N.J.A.C. 7:27-22.16(o)].	Other: Recordkeeping as required under the applicable operating scenario(s).[N.J.A.C. 7:27-22.16(o)].	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Submit a stack test protocol to the Emission Measurement Section (EMS) at Mail Code: 380-01A, PO Box 420, Trenton, NJ 08625 within 60 days from the date of the approved initial (or modified) operating permit. The protocol and test report must be prepared and submitted on a CD using the Electronic Reporting Tool (ERT), unless another format is approved by EMS. The ERT program can be downloaded at: http://www.epa.gov/ttnchie1/ert. Within 30 days of protocol approval or no less than 60 days prior to the testing deadline, whichever is later, the permittee must contact EMS at 609-530-4041 to schedule a mutually acceptable test date. A full stack test report must be submitted to EMS and a certified summary test report must be submitted to the Regional Enforcement Office within 45 days after performing the stack test pursuant to N.J.A.C. 7:27-22.19(d). The test results must be certified by a licensed professional engineer or certified industrial hygienist. [N.J.A.C 7:27-22.18(e)] and. [N.J.A.C. 7:27-22.18(h)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U20 - Utilities - OS0	0 / 3	The permittee shall conduct a stack test at least 18 months prior to the expiration of the renewed operating permit using an approved protocol to demonstrate compliance with emission limits for TSP and PM10 as specified in the compliance plan for OS1, OS2 and OS3. Testing must be conducted at worst-case permitted operating conditions with regard to meeting the applicable emission standards, but without creating an unsafe condition. [N.J.A.C. 7:27-22.16(a)]	Other: Monitoring as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	Other: Recordkeeping as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Submit a stack test protocol to EMS at Mail Code: 380-01A, PO Box 420, Trenton, NJ 08625 at least 30 months prior to the expiration of the approved operating permit. The protocol and test report must be prepared and submitted on a CD using the Electronic Reporting Tool (ERT), unless another format is approved by EMS. The ERT program can be downloaded at: http://www.epa.gov/ttnchie1/ert. Within 30 days of protocol approval or no less than 60 days prior to the testing deadline, whichever is later, the permittee must contact EMS at 609-530-4041 to schedule a mutually acceptable test date. A full stack test report must be submitted to EMS and a certified summary test report must be submitted to the Regional Enforcement Office within 45 days after performing the stack test pursuant to N.J.A.C. 7:27-22.19(d). The test results must be certified by a licensed professional engineer or certified industrial hygienist. [N.J.A.C. 7:27-22.18(e)] and. [N.J.A.C. 7:27-22.18(h)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U20 - Utilities - OS0	0 / 4	The permittee shall conduct a stack test at least 18 months prior to the expiration of the renewed operating permit using an approved protocol to demonstrate compliance with emission limits for NOx, CO and PM10 as specified in the compliance plan for OS4. The permittee shall provide Emission Management section (EMS) with the turbine load performance curve with the protocol. The duct burner shall be in operation during stack testing. Testing must be conducted at worst-case permitted operating conditions with regard to meeting the applicable emission standards, but without creating an unsafe condition. The permittee may propose, in the stack test protocol, to use CEMS data to satisfy the stack testing requirements, for NOx and/or CO, with the Emission Management section (EMS) approval. In order for EMS to approve using CEMS data at the time of the stack test, the CEMS must be certified and be in compliance with all daily, quarterly and annual quality assurance requirements. The CEMS shall monitor and record emissions in units identical to those required by the applicable stack testing conditions of this permit. CEMS data, if allowed by this permit, shall be taken at the same worst case conditions as described above. [N.J.A.C. 7:27-22.16(a)]	Other: Monitoring as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	Other: Recordkeeping as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Submit a stack test protocol to EMS at Mail Code: 380-01A, PO Box 420, Trenton, NJ 08625 at least 30 months prior to the expiration of the approved operating permit. The protocol and test report must be prepared and submitted on a CD using the Electronic Reporting Tool (ERT), unless another format is approved by EMS. The ERT program can be downloaded at: http://www.epa.gov/ttnchie1/ert. Within 30 days of protocol approval or no less than 60 days prior to the testing deadline, whichever is later, the permittee must contact EMS at 609-530-4041 to schedule a mutually acceptable test date. A full stack test report must be submitted to EMS and a certified summary test report must be submitted to the Regional Enforcement Office within 45 days after performing the stack test pursuant to N.J.A.C. 7:27-22.19(d). The test results must be certified by a licensed professional engineer or certified industrial hygienist. [N.J.A.C. 7:27-22.18(e)] and. [N.J.A.C. 7:27-22.18(h)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U20 - Utilities - OS1	1 / 1	The permittee shall adjust the combustion process in accordance with the requirements of N.J.A.C. 7:27-19. The permittee shall: 1. Inspect the burner, and clean or replace any components of the burner as necessary; 2. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern consistent with the manufacturer's specifications; 3. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly 4. Minimize total emissions of NOx and CO consistent with the manufacturer's specifications; and 5. Measure the concentrations in the effluent stream of NOx, CO and O2 in ppmvd, before and after the adjustment is made. [N.J.A.C. 7:27-19.16(a)]	Monitored by periodic emission monitoring annually. The permittee shall: Convert the emission values of the NOx, CO and O2 concentrations measured to pounds per million BTU (lb/MM BTU) according to the following formula: lb/MM BTU = ppmvd x MW x F dry factor x O2 correction factor / 387,000,000 Where: ppmvd is the concentration in parts per million by volume, dry basis, of NOx or CO, MW is the Molecular Weight for: NOx = 46 lb/lb-mole; CO = 28 lb/lb-mole, F dry factor for: Natural gas = 8,710 dscf/MM BTU and Residual or fuel oil = 9,190 dscf/MM BTU O2 correction factor: (20.9%) / (20.9% - O2 measured) O2 measured is percent oxygen on a dry basis. [N.J.A.C. 7:27-19.16(a)]	Recordkeeping by manual logging of parameter or storing data in a computer data system annually Records shall contain the following information for each adjustment: 1. The date of the adjustment and the times at which it began and ended; 2. The name, title and affiliation of the person who made the adjustment; 3. The NOx and CO concentrations in the effluent stream, in ppmvd, before and after each actual adjustment was made; 4. The concentration of O2 (in percent dry basis) at which the CO and NOx concentrations were measured; 5. A description of any corrective action taken; 6. Results from any subsequent tests performed after taking any corrective action, including concentrations and converted emission values in pounds per million BTU (lb/MM BTU); and 7. The type and amount of fuel used over the 12 months prior to the annual adjustment. [N.J.A.C. 7:27-19.16(b)]	Submit a report: Annually within 45 days of the adjustment. Reports shall be submitted electronically in the format the department specifies at its website. The report shall contain the following: 1. The concentrations of NOx and CO in the effluent stream in ppmvd, and O2 in percent dry basis, measured before and after the adjustment of the combustion process; 2. The converted emission values in lb/MM BTU for the measurements taken before and after the adjustment of the combustion process; 3. A description of any corrective actions taken as a part of the combustion adjustment; and 4. The type and amount of fuel used over the 12 months prior to the annual adjustment. N.J.A.C. 7:27-19.16(c) and. [N.J.A.C. 7:27-19.16(d)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U20 - Utilities - OS1	1 / 1	H2S <= 0.1 gr/dscf (162 ppmvd) in fuel gas. [40 CFR 60.104(a)(1)]. Fuel gas means any gas which is generated at a petroleum refinery and which is combusted. Fuel gas includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a refinery. Fuel gas does not include gases generated by catalytic cracking unit catalyst regenerators and fluid coking burners. Fuel gas does not include vapors that are collected and combusted in a thermal oxidizer or flare installed to control emissions from wastewater treatment units or marine tank vessel loading operations. [40 CFR 60.101(d)]	H2S: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. Install, calibrate and maintain an instrument that continuously monitors and records the concentration (dry basis) of H2S in refinery fuel gas before being burned in any fuel gas combustion device. (i) The span value for this instrument is 425 mg/dscm H2S. (ii) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H2S in the fuel gas being burned. (iii) The performance evaluations for this H2S monitor under 40 CFR 60.13(c) shall use Performance Specification 7. Method 11, 15, 15A or 16 shall be used for conducting the relative accuracy evaluations in accordance with 40 CFR 60.106(e)(1). [40 CFR 60.105(a)(4)]	H2S: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)] and. [40 CFR 60.105(a)(4)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U20 - Utilities - OS1	1 / 3	VOC (Total) <= 9.7 lb/hr. [N.J.A.C. 7:27-22.16(a)]	VOC (Total): Monitored by stack emission testing once initially, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	VOC (Total): Recordkeeping by stack test results once initially. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U20 - Utilities - OS1	1 / 8	NOx (Total) <= 19.4 lb/hr or 0.04 lb/MMBtu, when firing RFG. NOx (Total) <= 48.4 lb/hr or 0.1 lb/MMBtu, when firing No.2 FO. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by stack emission testing once initially, based on the average of three Department validated stack test runs Since the predominant fuel in this boiler is always RFG, the permittee is not required to conduct a stack test for 100% fuel oil combustion. The stack test should be conducted at normal operating conditions. When firing a combination of RFG and No.2 FO, the emission limit shall be calculated based upon the heating value and quantity of each fuel combusted during the stack test. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results once initially. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	
U20 - Utilities - OS1	1 / 9	NOx (Total) <= 19.4 lb/hr or 0.04 lb/MMBtu, when using RFG as fuel. NOx (Total) <= 48.4 lb/hr or 0.1 lb/MMBtu, when using No. 2 oil as fuel. When using a combination of RFG and No.2 FO, the emission rates shall be determined based upon the heating value and quantity of each fuel combusted. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 1 hour block average. CEMS shall also continuously monitor fuel flow, heating value of fuel and calculate emissions in lb/hr and lb/MMBTU. The continuous monitors shall conform to EPA performance specifications in 40 CFR 60, Appendix B. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage each hour during operation. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U20 - Utilities - OS1	1 / 10	CO <= 18.9 lb/hr or 0.039 lb/MMBtu. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by stack emission testing once initially, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results once initially. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	
U20 - Utilities - OS1	1 / 11	CO <= 100 ppmvd @ 7% O2. [N.J.A.C. 7:27-16.8(b)2]	CO: Monitored by stack emission testing once initially, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results once initially. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U20 - Utilities - OS1	1 / 12	CO <= 18.9 lb/hr or 0.039 lb/MMBtu. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by continuous emission monitoring system continuously, based on a 1 hour block average. CEMS shall also continuously monitor fuel flow, heating value of fuel, fuel flow, and calculate emissions in lb/hr or lb/MMBTU. The CEMS shall conform to EPA performance specifications in 40 CFR 60, Appendix B. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage each hour during operation. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U20 - Utilities - OS1	1 / 14	TSP <= 9.7 lb/hr when firing RFG. TSP <= 24.2 lb/hr when firing No.2 FO. [N.J.A.C. 7:27-22.16(a)]	TSP: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. Since the predominant fuel in this boiler is always RFG, the permittee is not required to conduct a stack test for 100% fuel oil combustion. The stack test should be conducted at normal operating conditions. When firing a combination of RFG and No.2 FO, the emission limit shall be calculated based upon the heating value and quantity of each fuel combusted during the stack test. [N.J.A.C. 7:27-22.16(o)]	TSP: Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(e)]	X	
U20 - Utilities - OS1	1 / 15	PM-10 (Total) <= 9.7 lb/hr when firing RFG PM-10 (Total) <= 24.2 lb/hr when firing No.2 FO. [N.J.A.C. 7:27-22.16(a)]	PM-10 (Total): Monitored by stack emission testing once initially and prior to permit expiration date, based on the average of three Department validated stack test runs. Since the predominant fuel in this boiler is always RFG, the permittee is not required to conduct a stack test for 100% fuel oil combustion. The stack test should be conducted at normal operating conditions. When firing a combination of RFG and No. 2 fuel oil, the emission limit shall be calculated based upon the heating value and quantity of each fuel combusted during the stack test. [N.J.A.C. 7:27-22.16(o)]	PM-10 (Total): Recordkeeping by stack test results upon occurrence of event. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U20 - Utilities - OS1	1 / 23	NOx (Total) <= 0.2 lb/MMBTU expressed as NO2. [40 CFR 60.44b(a)(1)(ii)]. Compliance is determined on a 30-day rolling average basis. [40 CFR 60.44b(i)]. Nitrogen oxide emission limits apply at all times including periods of startup, shutdown, or malfunction. [(40 CFR 60.44b(h)]. [40 CFR 60.44b(h)]	Other: Install, calibrate, maintain, and operate CEMS for measuring NOx and O2 emissions discharged to the atmosphere and record the output of the system as specified at 40 CFR 63.48b(b)(1), 40 CFR 63.48b(c), (d), (e) and (f). The permittee shall determine compliance with the NOx standards on a continuous basis through the use of a 30-day rolling average emission rate. A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly NOx emission data for the preceding 30 steam generating unit operating days.[40 CFR 60.46b(e)(3)].	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. The CEMS shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments. [40 CFR 60.48b(c)]. The 1-hour average NOx emission rates measured by the continuous NOx monitor and required under 40 CFR 60.13(h) shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the average emission rates under 40 CFR 60.44b. The 1-hour averages shall be calculated using the data points required under 40 CFR 60.13(h)(2). [40 CFR 60.48b(d)]. For each steam generating unit operating day, maintain records of all information stipulated in [40 CFR 60.49b(g)] All records shall be maintained for a period of 2 years following the date of such record. [40 CFR 60.49b(o)]	Submit a report: As per the approved schedule. Reports of excess emissions and all information recorded under 40 CFR 60.49b(g) shall be submitted each 6 month period and be postmarked by the 30th day following the 6 month period. [40 CFR 49b(h)] and. [40 CFR 60.49b(w)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U20 - Utilities - OS2	2 / 1	The permittee shall adjust the combustion process in accordance with the requirements of N.J.A.C. 7:27-19. The permittee shall: 1. Inspect the burner, and clean or replace any components of the burner as necessary; 2. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern consistent with the manufacturer's specifications; 3. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly 4. Minimize total emissions of NOx and CO consistent with the manufacturer's specifications; and 5. Measure the concentrations in the effluent stream of NOx, CO and O2 in ppmvd, before and after the adjustment is made. [N.J.A.C. 7:27-19.16(a)]	Monitored by periodic emission monitoring annually. The permittee shall: Convert the emission values of the NOx, CO and O2 concentrations measured to pounds per million BTU (lb/MM BTU) according to the following formula: lb/MM BTU = ppmvd x MW x F dry factor x O2 correction factor / 387,000,000 Where: ppmvd is the concentration in parts per million by volume, dry basis, of NOx or CO, MW is the Molecular Weight for: NOx = 46 lb/lb-mole; CO = 28 lb/lb-mole, F dry factor for: Natural gas = 8,710 dscf/MM BTU and Residual or fuel oil = 9,190 dscf/MM BTU O2 correction factor: (20.9%) / (20.9% - O2 measured) O2 measured is percent oxygen on a dry basis. [N.J.A.C. 7:27-19.16(a)]	Recordkeeping by manual logging of parameter or storing data in a computer data system annually Records shall contain the following information for each adjustment: 1. The date of the adjustment and the times at which it began and ended; 2. The name, title and affiliation of the person who made the adjustment; 3. The NOx and CO concentrations in the effluent stream, in ppmvd, before and after each actual adjustment was made; 4. The concentration of O2 (in percent dry basis) at which the CO and NOx concentrations were measured; 5. A description of any corrective action taken; 6. Results from any subsequent tests performed after taking any corrective action, including concentrations and converted emission values in pounds per million BTU (lb/MM BTU); and 7. The type and amount of fuel used over the 12 months prior to the annual adjustment. [N.J.A.C. 7:27-19.16(b)]	Submit a report: Annually within 45 days of the adjustment. Reports shall be submitted electronically in the format the department specifies at its website. The report shall contain the following: 1. The concentrations of NOx and CO in the effluent stream in ppmvd, and O2 in percent dry basis, measured before and after the adjustment of the combustion process; 2. The converted emission values in lb/MM BTU for the measurements taken before and after the adjustment of the combustion process; 3. A description of any corrective actions taken as a part of the combustion adjustment; and 4. The type and amount of fuel used over the 12 months prior to the annual adjustment. N.J.A.C. 7:27-19.16(c) and. [N.J.A.C. 7:27-19.16(d)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U20 - Utilities - OS2	2 / 1	H2S <= 0.1 gr/dscf (162 ppmvd) in fuel gas. [40 CFR 60.104(a)(1)]. Fuel gas means any gas which is generated at a petroleum refinery and which is combusted. Fuel gas includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a refinery. Fuel gas does not include gases generated by catalytic cracking unit catalyst regenerators and fluid coking burners. Fuel gas does not include vapors that are collected and combusted in a thermal oxidizer or flare installed to control emissions from wastewater treatment units or marine tank vessel loading operations. [40 CFR 60.101(d)]	H2S: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. Install, calibrate and maintain an instrument that continuously monitors and records the concentration (dry basis) of H2S in refinery fuel gas before being burned in any fuel gas combustion device. (i) The span value for this instrument is 425 mg/dscm H2S. (ii) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H2S in the fuel gas being burned. (iii) The performance evaluations for this H2S monitor under 40 CFR 60.13(c) shall use Performance Specification 7. Method 11, 15, 15A or 16 shall be used for conducting the relative accuracy evaluations in accordance with 40 CFR 60.106(e)(1). [40 CFR 60.105(a)(4)]	H2S: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)] and. [40 CFR 60.105(a)(4)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U20 - Utilities - OS2	2 / 3	VOC (Total) <= 9.7 lb/hr. [N.J.A.C. 7:27-22.16(a)]	VOC (Total): Monitored by stack emission testing once initially, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	VOC (Total): Recordkeeping by stack test results once initially. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U20 - Utilities - OS2	2 / 8	NOx (Total) <= 19.4 lb/hr or 0.04 lb/MMBtu, when firing RFG. NOx (Total) <= 48.4 lb/hr or 0.1 lb/MMBtu, when firing No.2 FO. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by stack emission testing once initially, based on the average of three Department validated stack test runs Since the predominant fuel in this boiler is always RFG, the permittee is not required to conduct a stack test for 100% fuel oil combustion. The stack test should be conducted at normal operating conditions. When firing a combination of RFG and No.2 FO, the emission limit shall be calculated based upon the heating value and quantity of each fuel combusted during the stack test. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results once initially. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	
U20 - Utilities - OS2	2 / 9	NOx (Total) <= 19.4 lb/hr or 0.04 lb/MMBtu, when using RFG as fuel. NOx (Total) <= 48.4 lb/hr or 0.1 lb/MMBtu, when using No. 2 oil as fuel. When using a combination of RFG and No.2 FO, the emission rates shall be determined based upon the heating value and quantity of each fuel combusted. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 1 hour block average. CEMS shall also continuously monitor fuel flow, heating value of fuel and calculate emissions in lb/hr and lb/MMBTU. The continuous monitors shall conform to EPA performance specifications in 40 CFR 60, Appendix B. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage each hour during operation. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U20 - Utilities - OS2	2 / 10	CO <= 18.9 lb/hr or 0.039 lb/MMBtu. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by stack emission testing once initially, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results once initially. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	
U20 - Utilities - OS2	2 / 11	CO <= 100 ppmvd @ 7% O2. [N.J.A.C. 7:27-16.8(b)2]	CO: Monitored by stack emission testing once initially, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results once initially. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U20 - Utilities - OS2	2 / 12	CO <= 18.9 lb/hr or 0.039 lb/MMBtu. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by continuous emission monitoring system continuously, based on a 1 hour block average. CEMS shall also continuously monitor fuel flow, heating value of fuel, fuel flow, and calculate emissions in lb/hr or lb/MMBTU. The CEMS shall conform to EPA performance specifications in 40 CFR 60, Appendix B. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage each hour during operation. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U20 - Utilities - OS2	2 / 14	TSP <= 9.7 lb/hr when firing RFG. TSP <= 24.2 lb/hr when firing No.2 FO. [N.J.A.C. 7:27-22.16(a)]	TSP: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. Since the predominant fuel in this boiler is always RFG, the permittee is not required to conduct a stack test for 100% fuel oil combustion. The stack test should be conducted at normal operating conditions. When firing a combination of RFG and No.2 FO, the emission limit shall be calculated based upon the heating value and quantity of each fuel combusted during the stack test. [N.J.A.C. 7:27-22.16(o)]	TSP: Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(e)]	X	
U20 - Utilities - OS2	2 / 15	PM-10 (Total) <= 9.7 lb/hr when firing RFG PM-10 (Total) <= 24.2 lb/hr when firing No.2 FO. [N.J.A.C. 7:27-22.16(a)]	PM-10 (Total): Monitored by stack emission testing once initially and prior to permit expiration date, based on the average of three Department validated stack test runs. Since the predominant fuel in this boiler is always RFG, the permittee is not required to conduct a stack test for 100% fuel oil combustion. The stack test should be conducted at normal operating conditions. When firing a combination of RFG and No. 2 fuel oil, the emission limit shall be calculated based upon the heating value and quantity of each fuel combusted during the stack test. [N.J.A.C. 7:27-22.16(o)]	PM-10 (Total): Recordkeeping by stack test results upon occurrence of event. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U20 - Utilities - OS2	2 / 23	NOx (Total) <= 0.2 lb/MMBTU expressed as NO2. [40 CFR 60.44b(a)(1)(ii)]. Compliance is determined on a 30-day rolling average basis. [40 CFR 60.44b(i)]. Nitrogen oxide emission limits apply at all times including periods of startup, shutdown, or malfunction. [(40 CFR 60.44b(h)]. [40 CFR 60.44b(h)]	Other: Install, calibrate, maintain, and operate CEMS for measuring NOx and O2 emissions discharged to the atmosphere and record the output of the system as specified at 40 CFR 63.48b(b)(1), 40 CFR 63.48b(c), (d), (e) and (f). The permittee shall determine compliance with the NOx standards on a continuous basis through the use of a 30-day rolling average emission rate. A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly NOx emission data for the preceding 30 steam generating unit operating days.[40 CFR 60.46b(e)(3)].	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. The CEMS shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments. [40 CFR 60.48b(c)]. The 1-hour average NOx emission rates measured by the continuous NOx monitor and required under 40 CFR 60.13(h) shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the average emission rates under 40 CFR 60.44b. The 1-hour averages shall be calculated using the data points required under 40 CFR 60.13(h)(2). [40 CFR 60.48b(d)]. For each steam generating unit operating day, maintain records of all information stipulated in [40 CFR 60.49b(g)] All records shall be maintained for a period of 2 years following the date of such record. [40 CFR 60.49b(o)]	Submit a report: As per the approved schedule. Reports of excess emissions and all information recorded under 40 CFR 60.49b(g) shall be submitted each 6 month period and be postmarked by the 30th day following the 6 month period. [40 CFR 49b(h)] and. [40 CFR 60.49b(w)]	X	

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U20 - Utilities - OS03	3 / 1	The permittee shall adjust the combustion process in accordance with the requirements of N.J.A.C. 7:27-19. The permittee shall: 1. Inspect the burner, and clean or replace any components of the burner as necessary; 2. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern consistent with the manufacturer's specifications; 3. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly 4. Minimize total emissions of NOx and CO consistent with the manufacturer's specifications; and 5. Measure the concentrations in the effluent stream of NOx, CO and O2 in ppmvd, before and after the adjustment is made. [N.J.A.C. 7:27-19.16(a)]	Monitored by periodic emission monitoring annually. The permittee shall: Convert the emission values of the NOx, CO and O2 concentrations measured to pounds per million BTU (lb/MM BTU) according to the following formula: lb/MM BTU = ppmvd x MW x F dry factor x O2 correction factor / 387,000,000 Where: ppmvd is the concentration in parts per million by volume, dry basis, of NOx or CO, MW is the Molecular Weight for: NOx = 46 lb/lb-mole; CO = 28 lb/lb-mole, F dry factor for: Natural gas = 8,710 dscf/MM BTU and Residual or fuel oil = 9,190 dscf/MM BTU O2 correction factor: (20.9%) / (20.9% - O2 measured) O2 measured is percent oxygen on a dry basis. [N.J.A.C. 7:27-19.16(a)]	Recordkeeping by manual logging of parameter or storing data in a computer data system annually Records shall contain the following information for each adjustment: 1. The date of the adjustment and the times at which it began and ended; 2. The name, title and affiliation of the person who made the adjustment; 3. The NOx and CO concentrations in the effluent stream, in ppmvd, before and after each actual adjustment was made; 4. The concentration of O2 (in percent dry basis) at which the CO and NOx concentrations were measured; 5. A description of any corrective action taken; 6. Results from any subsequent tests performed after taking any corrective action, including concentrations and converted emission values in pounds per million BTU (lb/MM BTU); and 7. The type and amount of fuel used over the 12 months prior to the annual adjustment. [N.J.A.C. 7:27-19.16(b)]	Submit a report: Annually within 45 days of the adjustment. Reports shall be submitted electronically in the format the department specifies at its website. The report shall contain the following: 1. The concentrations of NOx and CO in the effluent stream in ppmvd, and O2 in percent dry basis, measured before and after the adjustment of the combustion process; 2. The converted emission values in lb/MM BTU for the measurements taken before and after the adjustment of the combustion process; 3. A description of any corrective actions taken as a part of the combustion adjustment; and 4. The type and amount of fuel used over the 12 months prior to the annual adjustment. N.J.A.C. 7:27-19.16(c) and. [N.J.A.C. 7:27-19.16(d)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U20 - Utilities - OS3	3 / 1	H2S <= 0.1 gr/dscf (162 ppmvd) in fuel gas. [40 CFR 60.104(a)(1)]. Fuel gas means any gas which is generated at a petroleum refinery and which is combusted. Fuel gas includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a refinery. Fuel gas does not include gases generated by catalytic cracking unit catalyst regenerators and fluid coking burners. Fuel gas does not include vapors that are collected and combusted in a thermal oxidizer or flare installed to control emissions from wastewater treatment units or marine tank vessel loading operations. [40 CFR 60.101(d)]	H2S: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. Install, calibrate and maintain an instrument that continuously monitors and records the concentration (dry basis) of H2S in refinery fuel gas before being burned in any fuel gas combustion device. (i) The span value for this instrument is 425 mg/dscm H2S. (ii) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H2S in the fuel gas being burned. (iii) The performance evaluations for this H2S monitor under 40 CFR 60.13(c) shall use Performance Specification 7. Method 11, 15, 15A or 16 shall be used for conducting the relative accuracy evaluations in accordance with 40 CFR 60.106(e)(1). [40 CFR 60.105(a)(4)]	H2S: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)] and. [40 CFR 60.105(a)(4)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
	3 / 9	Until December 31, 2020: NOx (Total) <= 19.4 lb/hr or 0.04 lb/MMBtu, when firing RFG. NOx (Total) <= 48.4 lb/hr or 0.1 lb/MMBtu, when firing No.2 FO. [N.J.A.C. 7:27-22.16(a)]	Monitored by stack emission testing once initially, based on the average of three Department validated stack test runs. Since the predominant fuel in this boiler is always RFG, the permittee is not required to conduct a stack test for 100% fuel oil combustion. The stack test should be conducted at normal operating conditions. When firing a combination of RFG and No.2 FO, the emission limit shall be calculated based upon the heating value and quantity of each fuel combusted during the stack test. [N.J.A.C. 7:27-22.16(o)]	Recordkeeping by stack test results once initially. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
	3 / 10	Until December 31, 2020: NOx (Total) <= 19.4 lb/hr or 0.04 lb/MMBtu, when using RFG as fuel. NOx (Total) <= 48.4 lb/hr or 0.1 lb/MMBtu, when using No. 2 oil as fuel. When using a combination of RFG and No.2 FO, the emission rates shall be determined based upon the heating value and quantity of each fuel combusted. [N.J.A.C. 7:27-22.16(a)]	Monitored by continuous emission monitoring system continuously, based on a 1 hour block average. CEMS shall also continuously monitor fuel flow, heating value of fuel and calculate emissions in lb/hr and lb/MMBTU. The continuous monitors shall conform to EPA performance specifications in 40 CFR 60, Appendix B. [N.J.A.C. 7:27-22.16(o)]	Recordkeeping by data acquisition system (DAS) / electronic data storage each hour during operation. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
	3 / 11	After December 31, 2020: NOx (Total) <= 17.1 lb/hr or 0.035 lb/MMBtu, when firing RFG. NOx (Total) <= 48.4 lb/hr or 0.1 lb/MMBtu, when firing No.2 FO. [N.J.A.C. 7:27-22.16(a)]	Monitored by stack emission testing once initially, based on the average of three Department validated stack test runs. Since the predominant fuel in this boiler is always RFG, the permittee is not required to conduct a stack test for 100% fuel oil combustion. The stack test should be conducted at normal operating conditions. When firing a combination of RFG and No.2 FO, the emission limit shall be calculated based upon the heating value and quantity of each fuel combusted during the stack test. [N.J.A.C. 7:27-22.16(o)]	Recordkeeping by stack test results once initially. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	
	3 / 12	After December 31, 2020: NOx (Total) <= 17.1 lb/hr or 0.035 lb/MMBtu, when using RFG as fuel. NOx (Total) <= 48.4 lb/hr or 0.1 lb/MMBtu, when using No. 2 oil as fuel. When using a combination of RFG and No.2 FO, the emission rates shall be determined based upon the heating value and quantity of each fuel combusted. [N.J.A.C. 7:27-22.16(a)]	Monitored by continuous emission monitoring system continuously, based on a 1 hour block average for the lb/hr limit and a consecutive 365 day period (rolling 1 day basis) for the lb/MMBtu limit. CEMS shall also continuously monitor fuel flow, heating value of fuel and calculate emissions in lb/hr and lb/MMBTU. The continuous monitors shall conform to EPA performance specifications in 40 CFR 60, Appendix B. [N.J.A.C. 7:27-22.16(o)]	Recordkeeping by data acquisition system (DAS) / electronic data storage each hour during operation. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
	3 / 13	CO <= 18.9 lb/hr or 0.039 lb/MMBtu. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by stack emission testing once initially, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results once initially. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	
	3 / 14	CO <= 100 ppmvd @ 7% O2. [N.J.A.C. 7:27-16.8(b)2]	CO: Monitored by stack emission testing once initially, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results once initially. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	
	3 / 15	CO <= 18.9 lb/hr or 0.039 lb/MMBtu. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by continuous emission monitoring system continuously, based on a 1 hour block average. CEMS shall also continuously monitor fuel flow, heating value of fuel, fuel flow, and calculate emissions in lb/hr or lb/MMBTU. The CEMS shall conform to EPA performance specifications in 40 CFR 60, Appendix B. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage each hour during operation. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
	3 / 17	TSP <= 9.7 lb/hr when firing RFG. TSP <= 24.2 lb/hr when firing No.2 FO. [N.J.A.C. 7:27-22.16(a)]	TSP: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. Since the predominant fuel in this boiler is always RFG, the permittee is not required to conduct a stack test for 100% fuel oil combustion. The stack test should be conducted at normal operating conditions. When firing a combination of RFG and No.2 FO, the emission limit shall be calculated based upon the heating value and quantity of each fuel combusted during the stack test. [N.J.A.C. 7:27-22.16(o)]	TSP: Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(e)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
	3 / 18	PM-10 (Total) <= 9.7 lb/hr when firing RFG PM-10 (Total) <= 24.2 lb/hr when firing No.2 FO. [N.J.A.C. 7:27-22.16(a)]	PM-10 (Total): Monitored by stack emission testing once initially and prior to permit expiration date, based on the average of three Department validated stack test runs. Since the predominant fuel in this boiler is always RFG, the permittee is not required to conduct a stack test for 100% fuel oil combustion. The stack test should be conducted at normal operating conditions. When firing a combination of RFG and No. 2 fuel oil, the emission limit shall be calculated based upon the heating value and quantity of each fuel combusted during the stack test. [N.J.A.C. 7:27-22.16(o)]	PM-10 (Total): Recordkeeping by stack test results upon occurrence of event. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	
	3 / 26	NOx (Total) <= 0.2 lb/MMBTU expressed as NO2. [40 CFR 60.44b(a)(1)(ii)]. Compliance is determined on a 30-day rolling average basis. [40 CFR 60.44b(i)]. Nitrogen oxide emission limits apply at all times including periods of startup, shutdown, or malfunction. [(40 CFR 60.44b(h)]. [40 CFR 60.44b(h)]	Other: Install, calibrate, maintain, and operate CEMS for measuring NOx and O2 emissions discharged to the atmosphere and record the output of the system as specified at 40 CFR 63.48b(b)(1), 40 CFR 63.48b(c), (d), (e) and (f). The permittee shall determine compliance with the NOx standards on a continuous basis through the use of a 30-day rolling average emission rate. A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly NOx emission data for the preceding 30 steam generating unit operating days.[40 CFR 60.46b(e)(3)].	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. The CEMS shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments. [40 CFR 60.48b(c)]. The 1-hour average NOx emission rates measured by the continuous NOx monitor and required under 40 CFR 60.13(h) shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the average emission rates under 40 CFR 60.44b. The 1-hour averages shall be calculated using the data points required under 40 CFR 60.13(h)(2). [40 CFR 60.48b(d)]. For each steam generating unit operating day, maintain records of all information stipulated in [40 CFR 60.49b(g)] All records shall be maintained for a period of 2 years following the date of such record. [40 CFR 60.49b(o)]	Submit a report: As per the approved schedule. Reports of excess emissions and all information recorded under 40 CFR 60.49b(g) shall be submitted each 6 month period and be postmarked by the 30th day following the 6 month period. [40 CFR 49b(h)] and. [40 CFR 60.49b(w)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U20 - Utilities - OS4	4 / 1	H2S <= 0.1 gr/dscf (162 ppmvd) in fuel gas. [40 CFR 60.104(a)(1)]. Fuel gas means any gas which is generated at a petroleum refinery and which is combusted. Fuel gas includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a refinery. Fuel gas does not include gases generated by catalytic cracking unit catalyst regenerators and fluid coking burners. Fuel gas does not include vapors that are collected and combusted in a thermal oxidizer or flare installed to control emissions from wastewater treatment units or marine tank vessel loading operations. [40 CFR 60.101(d)]	H2S: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. Install, calibrate and maintain an instrument that continuously monitors and records the concentration (dry basis) of H2S in refinery fuel gas before being burned in any fuel gas combustion device. (i) The span value for this instrument is 425 mg/dscm H2S. (ii) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H2S in the fuel gas being burned. (iii) The performance evaluations for this H2S monitor under 40 CFR 60.13(c) shall use Performance Specification 7. Method 11, 15, 15A or 16 shall be used for conducting the relative accuracy evaluations in accordance with 40 CFR 60.106(e)(1). [40 CFR 60.105(a)(4)]	H2S: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)] and. [40 CFR 60.105(a)(4)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U20 - Utilities - OS4	4 / 2	Adjust the combustion process according to the manufacturer's recommended procedures and maintenance schedule. [N.J.A.C.7:27-19.16(g)] An exceedance of an emission limit that occurs during an adjustment of the combustion process is not a violation if it occurs as a result of the adjustment. After the combustion adjustment has been completed, the maximum emission rate of any contaminant shall not exceed the maximum allowable emission rate applicable under this subchapter or under an operating permit issued pursuant to N.J.A.C. 7:27-22. [N.J.A.C. 7:27-19.16(f)]	None.	Other: Retain the following records for each adjustment for at least five years: 1. The date of the adjustment and the times at which it began and ended; 2. The name, title, and affiliation of the person who performed the procedure and adjustment; 3. The type of procedure and maintenance performed; 4. The concentrations of NOx, CO and O2, measured before and after the adjustment was made; and 5. The type and amount of fuel use over the 12 months prior to the adjustment.[N.J.A.C. 7:27-19.16(h)].	None.	X	
	4 / 8	NOx (Total) <= 1.3 lb of NOx per MWh. [N.J.A.C. 7:27-19.5(d)2]	NOx (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	
U20 - Utilities - OS4	4 / 9	NOx (Total) <= 98.6 lb/hr. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 1 hour block average. The continuous emission monitors shall conform to EPA performance specifications in 40 CFR 60, Appendix B. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U20 - Utilities - OS4	4 / 10	CO <= 0.064 lb/MMBTU or 41.2 lb/hr. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs . [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U20 - Utilities - OS4	4 / 11	CO <= 250 ppmvd @ 15% O2. [N.J.A.C. 7:27-16.9(b)]	CO: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs . [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	
U20 - Utilities - OS4	4 / 12	CO <= 0.064 lb/MMBTU or 41.2 lb/hr. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by continuous emission monitoring system continuously, based on a 1 hour block average. The continuous emission monitors shall conform to EPA performance specifications in 40 CFR 60, Appendix B. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U20 - Utilities - OS4	4 / 15	PM-10 (Total) <= 0.005 lb/MMBTU or 3.2 lb/hr. [N.J.A.C. 7:27-22.16(a)]	PM-10 (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	PM-10 (Total): Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U20 - Utilities - OS4	4 / 20	NOx (Total) <= 0.2 lb/MMBTU expressed as NO2. [40 CFR 60.44b(a)(4)(i)]. Compliance is determined on a 30-day rolling average basis. [40 CFR 60.44b(i)]. Nitrogen oxide emission limits apply at all times including periods of startup, shutdown, or malfunction. [(40 CFR 60.44b(h)]. [40 CFR 60.44b(h)]	Other: Install, calibrate, maintain, and operate CEMS for measuring NOx and O2 emissions discharged to the atmosphere and record the output of the system as specified at 40 CFR 63.48b(b)(1), 40 CFR 63.48b(c), (d), (e) and (f). The permittee shall determine compliance with the NOx standards on a continuous basis through the use of a 30-day rolling average emission rate. A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly NOx emission data for the preceding 30 steam generating unit operating days.[40 CFR 60.46b(e)(3)].	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. The CEMS shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments. [40 CFR 60.48b(c)]. The 1-hour average NOx emission rates measured by the continuous NOx monitor and required under 40 CFR 60.13(h) shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the average emission rates under 40 CFR 60.44b. The 1-hour averages shall be calculated using the data points required under 40 CFR 60.13(h)(2). [40 CFR 60.48b(d)]. For each steam generating unit operating day, maintain records of all information stipulated in [40 CFR 60.49b(g)] All records shall be maintained for a period of 2 years following the date of such record. [40 CFR 60.49b(o)]	Submit a report: As per the approved schedule. Reports of excess emissions and all information recorded under 40 CFR 60.49b(g) shall be submitted each 6 month period and be postmarked by the 30th day following the 6 month period. [40 CFR 49b(h)] and. [40 CFR 60.49b(w)]	X	

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U20 - Utilities - OS10	10 / 1	H2S <= 0.1 gr/dscf (162 ppmvd) in fuel gas. [40 CFR 60.104(a)(1)]. Fuel gas means any gas which is generated at a petroleum refinery and which is combusted. Fuel gas includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a refinery. Fuel gas does not include gases generated by catalytic cracking unit catalyst regenerators and fluid coking burners. Fuel gas does not include vapors that are collected and combusted in a thermal oxidizer or flare installed to control emissions from wastewater treatment units or marine tank vessel loading operations. [40 CFR 60.101(d)]	H2S: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. Install, calibrate and maintain an instrument that continuously monitors and records the concentration (dry basis) of H2S in refinery fuel gas before being burned in any fuel gas combustion device. (i) The span value for this instrument is 425 mg/dscm H2S. (ii) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H2S in the fuel gas being burned. (iii) The performance evaluations for this H2S monitor under 40 CFR 60.13(c) shall use Performance Specification 7. Method 11, 15, 15A or 16 shall be used for conducting the relative accuracy evaluations in accordance with 40 CFR 60.106(e)(1). [40 CFR 60.105(a)(4)]	H2S: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)] and. [40 CFR 60.105(a)(4)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U20 - Utilities - OS10	10 / 8	NOx (Total) <= 0.2 lb/MMBTU expressed as NO2. [40 CFR 60.44b(a)(4)(i)]. Compliance is determined on a 30-day rolling average basis. [40 CFR 60.44b(i)]. Nitrogen oxide emission limits apply at all times including periods of startup, shutdown, or malfunction. [(40 CFR 60.44b(h)]. [40 CFR 60.44b(h)]	Other: Install, calibrate, maintain, and operate CEMS for measuring NOx and O2 emissions discharged to the atmosphere and record the output of the system as specified at 40 CFR 63.48b(b)(1), 40 CFR 63.48b(c), (d), (e) and (f). The permittee shall determine compliance with the NOx standards on a continuous basis through the use of a 30-day rolling average emission rate. A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly NOx emission data for the preceding 30 steam generating unit operating days.[40 CFR 60.46b(e)(3)].	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. The CEMS shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments. [40 CFR 60.48b(c)]. The 1-hour average NOx emission rates measured by the continuous NOx monitor and required under 40 CFR 60.13(h) shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the average emission rates under 40 CFR 60.44b. The 1-hour averages shall be calculated using the data points required under 40 CFR 60.13(h)(2). [40 CFR 60.48b(d)]. For each steam generating unit operating day, maintain records of all information stipulated in [40 CFR 60.49b(g)] All records shall be maintained for a period of 2 years following the date of such record. [40 CFR 60.49b(o)]	Submit a report: As per the approved schedule. Reports of excess emissions and all information recorded under 40 CFR 60.49b(g) shall be submitted each 6 month period and be postmarked by the 30th day following the 6 month period. [40 CFR 49b(h)] and. [40 CFR 60.49b(w)]	X	

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U20 - Utilities - OS11	11 / 1	H2S <= 0.1 gr/dscf (162 ppmvd) in fuel gas. [40 CFR 60.104(a)(1)]. Fuel gas means any gas which is generated at a petroleum refinery and which is combusted. Fuel gas includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a refinery. Fuel gas does not include gases generated by catalytic cracking unit catalyst regenerators and fluid coking burners. Fuel gas does not include vapors that are collected and combusted in a thermal oxidizer or flare installed to control emissions from wastewater treatment units or marine tank vessel loading operations. [40 CFR 60.101(d)]	H2S: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. Install, calibrate and maintain an instrument that continuously monitors and records the concentration (dry basis) of H2S in refinery fuel gas before being burned in any fuel gas combustion device. (i) The span value for this instrument is 425 mg/dscm H2S. (ii) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H2S in the fuel gas being burned. (iii) The performance evaluations for this H2S monitor under 40 CFR 60.13(c) shall use Performance Specification 7. Method 11, 15, 15A or 16 shall be used for conducting the relative accuracy evaluations in accordance with 40 CFR 60.106(e)(1). [40 CFR 60.105(a)(4)]	H2S: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)] and. [40 CFR 60.105(a)(4)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U20 - Utilities - OS11	11 / 8	NOx (Total) <= 0.2 lb/MMBTU expressed as NO2. [40 CFR 60.44b(a)(4)(i)]. Compliance is determined on a 30-day rolling average basis. [40 CFR 60.44b(i)]. Nitrogen oxide emission limits apply at all times including periods of startup, shutdown, or malfunction. [(40 CFR 60.44b(h)]. [40 CFR 60.44b(h)]	Other: Install, calibrate, maintain, and operate CEMS for measuring NOx and O2 emissions discharged to the atmosphere and record the output of the system as specified at 40 CFR 63.48b(b)(1), 40 CFR 63.48b(c), (d), (e) and (f). The permittee shall determine compliance with the NOx standards on a continuous basis through the use of a 30-day rolling average emission rate. A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly NOx emission data for the preceding 30 steam generating unit operating days.[40 CFR 60.46b(e)(3)].	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. The CEMS shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments. [40 CFR 60.48b(c)]. The 1-hour average NOx emission rates measured by the continuous NOx monitor and required under 40 CFR 60.13(h) shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the average emission rates under 40 CFR 60.44b. The 1-hour averages shall be calculated using the data points required under 40 CFR 60.13(h)(2). [40 CFR 60.48b(d)]. For each steam generating unit operating day, maintain records of all information stipulated in [40 CFR 60.49b(g)] All records shall be maintained for a period of 2 years following the date of such record. [40 CFR 60.49b(o)]	Submit a report: As per the approved schedule. Reports of excess emissions and all information recorded under 40 CFR 60.49b(g) shall be submitted each 6 month period and be postmarked by the 30th day following the 6 month period. [40 CFR 49b(h)] and. [40 CFR 60.49b(w)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U20 - Utilities - OS12	12 / 1	H2S <= 0.1 gr/dscf (162 ppmvd) in fuel gas. [40 CFR 60.104(a)(1)]. Fuel gas means any gas which is generated at a petroleum refinery and which is combusted. Fuel gas includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a refinery. Fuel gas does not include gases generated by catalytic cracking unit catalyst regenerators and fluid coking burners. Fuel gas does not include vapors that are collected and combusted in a thermal oxidizer or flare installed to control emissions from wastewater treatment units or marine tank vessel loading operations. [40 CFR 60.101(d)]	H2S: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. Install, calibrate and maintain an instrument that continuously monitors and records the concentration (dry basis) of H2S in refinery fuel gas before being burned in any fuel gas combustion device. (i) The span value for this instrument is 425 mg/dscm H2S. (ii) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H2S in the fuel gas being burned. (iii) The performance evaluations for this H2S monitor under 40 CFR 60.13(c) shall use Performance Specification 7. Method 11, 15, 15A or 16 shall be used for conducting the relative accuracy evaluations in accordance with 40 CFR 60.106(e)(1). [40 CFR 60.105(a)(4)]	H2S: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)] and. [40 CFR 60.105(a)(4)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U20 - Utilities - OS12	12 / 8	NOx (Total) <= 0.2 lb/MMBTU expressed as NO2. [40 CFR 60.44b(a)(4)(i)]. Compliance is determined on a 30-day rolling average basis. [40 CFR 60.44b(i)]. Nitrogen oxide emission limits apply at all times including periods of startup, shutdown, or malfunction. [(40 CFR 60.44b(h)]. [40 CFR 60.44b(h)]	Other: Install, calibrate, maintain, and operate CEMS for measuring NOx and O2 emissions discharged to the atmosphere and record the output of the system as specified at 40 CFR 63.48b(b)(1), 40 CFR 63.48b(c), (d), (e) and (f). The permittee shall determine compliance with the NOx standards on a continuous basis through the use of a 30-day rolling average emission rate. A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly NOx emission data for the preceding 30 steam generating unit operating days.[40 CFR 60.46b(e)(3)].	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. The CEMS shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments. [40 CFR 60.48b(c)]. The 1-hour average NOx emission rates measured by the continuous NOx monitor and required under 40 CFR 60.13(h) shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the average emission rates under 40 CFR 60.44b. The 1-hour averages shall be calculated using the data points required under 40 CFR 60.13(h)(2). [40 CFR 60.48b(d)]. For each steam generating unit operating day, maintain records of all information stipulated in [40 CFR 60.49b(g)] All records shall be maintained for a period of 2 years following the date of such record. [40 CFR 60.49b(o)]	Submit a report: As per the approved schedule. Reports of excess emissions and all information recorded under 40 CFR 60.49b(g) shall be submitted each 6 month period and be postmarked by the 30th day following the 6 month period. [40 CFR 49b(h)] and. [40 CFR 60.49b(w)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U20 - Utilities - OS13	13 / 1	H2S <= 0.1 gr/dscf (162 ppmvd) in fuel gas. [40 CFR 60.104(a)(1)]. Fuel gas means any gas which is generated at a petroleum refinery and which is combusted. Fuel gas includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a refinery. Fuel gas does not include gases generated by catalytic cracking unit catalyst regenerators and fluid coking burners. Fuel gas does not include vapors that are collected and combusted in a thermal oxidizer or flare installed to control emissions from wastewater treatment units or marine tank vessel loading operations. [40 CFR 60.101(d)]	H2S: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. Install, calibrate and maintain an instrument that continuously monitors and records the concentration (dry basis) of H2S in refinery fuel gas before being burned in any fuel gas combustion device. (i) The span value for this instrument is 425 mg/dscm H2S. (ii) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H2S in the fuel gas being burned. (iii) The performance evaluations for this H2S monitor under 40 CFR 60.13(c) shall use Performance Specification 7. Method 11, 15, 15A or 16 shall be used for conducting the relative accuracy evaluations in accordance with 40 CFR 60.106(e)(1). [40 CFR 60.105(a)(4)]	H2S: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)] and. [40 CFR 60.105(a)(4)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U20 - Utilities - OS13	13 / 8	NOx (Total) <= 0.2 lb/MMBTU expressed as NO2. [40 CFR 60.44b(a)(4)(i)]. Compliance is determined on a 30-day rolling average basis. [40 CFR 60.44b(i)]. Nitrogen oxide emission limits apply at all times including periods of startup, shutdown, or malfunction. [(40 CFR 60.44b(h)]. [40 CFR 60.44b(h)]	Other: Install, calibrate, maintain, and operate CEMS for measuring NOx and O2 emissions discharged to the atmosphere and record the output of the system as specified at 40 CFR 63.48b(b)(1), 40 CFR 63.48b(c), (d), (e) and (f). The permittee shall determine compliance with the NOx standards on a continuous basis through the use of a 30-day rolling average emission rate. A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly NOx emission data for the preceding 30 steam generating unit operating days.[40 CFR 60.46b(e)(3)].	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. The CEMS shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments. [40 CFR 60.48b(c)]. The 1-hour average NOx emission rates measured by the continuous NOx monitor and required under 40 CFR 60.13(h) shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the average emission rates under 40 CFR 60.44b. The 1-hour averages shall be calculated using the data points required under 40 CFR 60.13(h)(2). [40 CFR 60.48b(d)]. For each steam generating unit operating day, maintain records of all information stipulated in [40 CFR 60.49b(g)] All records shall be maintained for a period of 2 years following the date of such record. [40 CFR 60.49b(o)]	Submit a report: As per the approved schedule. Reports of excess emissions and all information recorded under 40 CFR 60.49b(g) shall be submitted each 6 month period and be postmarked by the 30th day following the 6 month period. [40 CFR 49b(h)] and. [40 CFR 60.49b(w)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U21 OSF		NONE					

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U22 NSF		NONE					

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U18 H2 Pt		NONE					

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U26 - MVR - OS0	0 / 1	The permittee shall conduct a stack test at least 18 months prior to the expiration of the renewed operating permit using an approved protocol to demonstrate compliance with emission limits for VOC, CO, NOx and VOC control efficiency as specified in the compliance plan for OS1, [N.J.A.C. 7:27-16.5(h)] and [N.J.A.C. 7:27-16.5(i)]. Testing must be conducted at worst-case permitted operating conditions with regard to meeting the applicable emission standards, but without creating an unsafe condition. The permittee may propose, in the stack test protocol, to use CEMS data to satisfy the stack testing requirements, for NOx and/or CO, with the Emission Management section (EMS) approval. In order for EMS to approve using CEMS data at the time of the stack test, the CEMS must be certified and be in compliance with all daily, quarterly and annual quality assurance requirements. The CEMS shall monitor and record emissions in units identical to those required by the applicable stack testing conditions of this permit. CEMS data, if allowed by this permit, shall be taken at the same worst case conditions as described above. [N.J.A.C. 7:27-22.16(a)]	Other: Monitoring as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	Other: Recordkeeping as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Submit a stack test protocol to EMS at Mail Code: 380-01A, PO Box 420, Trenton, NJ 08625 at least 30 months prior to the expiration of the approved operating permit. The protocol and test report must be prepared and submitted on a CD using the Electronic Reporting Tool (ERT), unless another format is approved by EMS. The ERT program can be downloaded at: http://www.epa.gov/ttnchie1/ert. Within 30 days of protocol approval or no less than 60 days prior to the testing deadline, whichever is later, the permittee must contact EMS at 609-530-4041 to schedule a mutually acceptable test date. A full stack test report must be submitted to EMS and a certified summary test report must be submitted to the Regional Enforcement Office within 45 days after performing the stack test pursuant to N.J.A.C. 7:27-22.19(d). The test results must be certified by a licensed professional engineer or certified industrial hygienist. [N.J.A.C. 7:27-22.18(e)] and. [N.J.A.C. 7:27-22.18(h)]	X	
U26 - MVR - OS0	0 / 7	The permittee shall install and operate a control apparatus, which reduces the total VOC emissions to the outdoor atmosphere resulting from gasoline transfers at the facility by no less than 95 percent by weight. [N.J.A.C. 7:27-16.5(b)]	Monitored by stack emission testing prior to permit renewal, based on each of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. [N.J.A.C. 7:27-22.o]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U26 - MVR - OS1	1 / 1	VOC (Total) <= 15.42 lb/hr. [N.J.A.C. 7:27-22.16(a)]	VOC (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	VOC (Total): Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. [N.J.A.C. 7:27-22.16(o)]	X	
U26 - MVR - OS1	1 / 2	VOC (Total) <= 10 mg/liter gasoline loaded. [N.J.A.C. 7:27-22.16(a)]	VOC (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	VOC (Total): Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. [N.J.A.C. 7:27-22.16(o)]	X	
U26 - MVR - OS1	1 / 3	NOx (Total) <= 9.41 lb/hr. [N.J.A.C. 7:27-22.16(a)]	VOC (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. [N.J.A.C. 7:27-22.16(o)]	X	
U26 - MVR - OS1	1 / 4	CO <= 12.97 lb/hr. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. [N.J.A.C. 7:27-22.16(o)]	X	
U26 - MVR - OS1	1 / 7	Minimum Operating Temperature at the Outlet of the Thermal Oxidizer >= 1,500 degrees F. The permittee shall have the option of establishing a different temperature limit based upon the temperature during stack testing that meets the minimum destruction efficiency of 95%. The temperature limit will be a minimum of 50 degrees F above the temperature that met the destruction efficiency. [N.J.A.C. 7:27-22.16(a)]	Minimum Operating Temperature at the Outlet of the Thermal Oxidizer: Monitored by temperature instrument continuously, based on a 1 hour block average. [N.J.A.C. 7:27-22.16(o)]	Minimum Operating Temperature at the Outlet of the Thermal Oxidizer: Recordkeeping by strip chart or data acquisition (DAS) system continuously. [N.J.A.C. 7:27-22.16(o)]	None.	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U26 - MVR - OS1	1 / 10	CO <= 100 ppmvd @ 7% O2. For O2 concentrations in the flue gas greater than 14%, the maximum allowable concentration of CO is 50 ppmv, on a dry basis, uncorrected. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average at all times when gasoline is being loaded. The monitor shall be installed downstream from the thermal oxidizer and measure and record CO and O2. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U49 - Hydorbins		NONE					

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U52 - FCC Cat Handling		NONE					

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U53 - WWTP		NONE					

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U56 - SRU Incinerator		NONE					

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U57 - Diesel Engines - OS10	10 / 11	Limit concentration of CO in the stationary RICE exhaust to 230 ppmvd or less at 15 percent O2. [Item 3 of Table 2c in 40 CFR 63 Subpart ZZZZ]. [40 CFR 63.6602]	Other: Monitored by stack emission testing conducted as specified in Item 3 of Table 4, and Item 12 of Table 5 in 40 CFR 63 Subpart ZZZZ.[40 CFR 63.6612(a)].	Other: Keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. [40 CFR 63.6660(b)]. Keep all applicable records specified in 40 CFR 63.6655(a)(1) through (5). [40 CFR 63.6655(a)].[40 CFR 63.6655(a)].	Submit a report: As per the approved schedule. Submit the semi-annual compliance report according to 40 CFR 63.6650 and Item 1 of Table 7 in 40 CFR 63 Subpart ZZZZ. [40 CFR 63.6650]. Conduct an initial performance test within 180 days after the compliance date that is specified for your stationary RICE in 40 CFR 63.6595 and according to the provisions in 40 CFR 63.7(a)(2). [40 CFR 63.6612(a)]. NOTE: For formaldehyde, CO, O2, and moisture measurement, ducts <= 6 inches in diameter may be sampled at a single point located at the duct centroid. [Item3 of Table 4 to 40 CFR 63 Subpart ZZZZ]. Submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in 40 CFR 63.6645. [40 CFR 63.6630(c)]. Report each instance you did not meet the emission limit in Table 2c of 40 CFR 63 Subpart ZZZZ that applies to you, according to 40 CFR 63.6650. [40 CFR 63.6640(b)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U57 - Diesel Engines - OS11	11 / 11	Limit concentration of CO in the stationary RICE exhaust to 230 ppmvd or less at 15 percent O2. [Item 3 of Table 2c in 40 CFR 63 Subpart ZZZZ]. [40 CFR 63.6602]	Other: Monitored by stack emission testing conducted as specified in Item 3 of Table 4, and Item 12 of Table 5 in 40 CFR 63 Subpart ZZZZ.[40 CFR 63.6612(a)].	Other: Keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. [40 CFR 63.6660(b)]. Keep all applicable records specified in 40 CFR 63.6655(a)(1) through (5). [40 CFR 63.6655(a)].[40 CFR 63.6655(a)].	Submit a report: As per the approved schedule. Submit the semi-annual compliance report according to 40 CFR 63.6650 and Item 1 of Table 7 in 40 CFR 63 Subpart ZZZZ. [40 CFR 63.6650]. Conduct an initial performance test within 180 days after the compliance date that is specified for your stationary RICE in 40 CFR 63.6595 and according to the provisions in 40 CFR 63.7(a)(2). [40 CFR 63.6612(a)]. NOTE: For formaldehyde, CO, O2, and moisture measurement, ducts <= 6 inches in diameter may be sampled at a single point located at the duct centroid. [Item3 of Table 4 to 40 CFR 63 Subpart ZZZZ]. Submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in 40 CFR 63.6645. [40 CFR 63.6630(c)]. Report each instance you did not meet the emission limit in Table 2c of 40 CFR 63 Subpart ZZZZ that applies to you, according to 40 CFR 63.6650. [40 CFR 63.6640(b)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U57 - Diesel Engines - OS12	12 / 11	Limit concentration of CO in the stationary RICE exhaust to 230 ppmvd or less at 15 percent O2. [Item 3 of Table 2c in 40 CFR 63 Subpart ZZZZ]. [40 CFR 63.6602]	Other: Monitored by stack emission testing conducted as specified in Item 3 of Table 4, and Item 12 of Table 5 in 40 CFR 63 Subpart ZZZZ.[40 CFR 63.6612(a)].	Other: Keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. [40 CFR 63.6660(b)]. Keep all applicable records specified in 40 CFR 63.6655(a)(1) through (5). [40 CFR 63.6655(a)].[40 CFR 63.6655(a)].	Submit a report: As per the approved schedule. Submit the semi-annual compliance report according to 40 CFR 63.6650 and Item 1 of Table 7 in 40 CFR 63 Subpart ZZZZ. [40 CFR 63.6650]. Conduct an initial performance test within 180 days after the compliance date that is specified for your stationary RICE in 40 CFR 63.6595 and according to the provisions in 40 CFR 63.7(a)(2). [40 CFR 63.6612(a)]. NOTE: For formaldehyde, CO, O2, and moisture measurement, ducts <= 6 inches in diameter may be sampled at a single point located at the duct centroid. [Item3 of Table 4 to 40 CFR 63 Subpart ZZZZ]. Submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in 40 CFR 63.6645. [40 CFR 63.6630(c)]. Report each instance you did not meet the emission limit in Table 2c of 40 CFR 63 Subpart ZZZZ that applies to you, according to 40 CFR 63.6650. [40 CFR 63.6640(b)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U57 - Diesel Engines - OS17	17 / 11	Limit concentration of formaldehyde in the stationary RICE exhaust to 580 ppbvd or less at 15 percent O2. [Item 3b of Table 2a in 40 CFR 63 Subpart ZZZZ]. [40 CFR 63.6600(b)]	Other: Monitored by stack emission testing conducted as specified in Item 3 of Table 4, and Item 10 of Table 5 in 40 CFR 63 Subpart ZZZZ.[40 CFR 63.6610(a)].	Other: Keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. [40 CFR 63.6660(b)]. Keep all applicable records specified in 40 CFR 63.6655(a)(1) through (5). [40 CFR 63.6655(a)].[40 CFR 63.6655(a)]. Keep the records required in Item 8 of Table 6 in 40 CFR 63 Subpart ZZZZ to show continuous compliance with the emission limit that applies to you.[40 CFR limit that applies to you.[40 CFR 63.6655(d)].	Submit a report: As per the approved schedule. Submit the semi-annual compliance report according to 40 CFR 63.6650 and Item 1 of Table 7 in 40 CFR 63 Subpart ZZZZ. [40 CFR 63.6650]. Conduct an initial performance test within 180 days after the compliance date that is specified for your stationary RICE in 40 CFR 63.6595 and according to the provisions in 40 CFR 63.7(a)(2). [40 CFR 63.6612(a)]. NOTE: For formaldehyde, CO, O2, and moisture measurement, ducts <= 6 inches in diameter may be sampled at a single point located at the duct centroid. [Item3 of Table 4 to 40 CFR 63 Subpart ZZZZ]. Submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in 40 CFR 63.6645. [40 CFR 63.6630(c)]. Report each instance you did not meet the emission limit in Table 2c of 40 CFR 63 Subpart ZZZZ that applies to you, according to 40 CFR 63.6650. [40 CFR 63.6640(b)] Conduct subsequent performance tests semiannually.[Item 3 of Table 3 in 40 CFR 63 Subpart ZZZZ 40 CFR 63.6610(a)]. Report each instance you did not meet the emission limit in Tables 2a and 2b of 40 CFR 63 Subpart ZZZZ that applies to you, according to 40 CFR 63.6650. [40 CFR 63.6640(b)]. For new engines, deviations that occur during the first 200 hours of operation from engine startup (engine burn-in period) are not violations. [40 CFR 63.6640(d)]. After demonstrating compliance for two consecutive tests, you may conduct performance tests annually. [Item 8 of Table 6 in 40 CFR 63 Subpart ZZZZ]. [40 CFR 63].	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U57 - Diesel Engines - OS20	20 / 9	Limit concentration of formaldehyde in the stationary RICE exhaust to 580 ppbvd or less at 15 percent O2. [40 CFR 63.6600(b)]	Other: Conduct the initial stack test within 180 days of start up, as specified in [Item 3 in Table 4 of 40 CFR 63 Subpart ZZZZ] and the provisions in 40 CFR 63.7(a)(2). [40 CFR 63.6595(a)[3)] and [40 CFR 63.6610(a)]. Conduct subsequent performance tests semiannually, as specified in [Item 3 in Table 4 of 40 CFR 63 Subopart ZZZZ], and within +/- 10 % of 100 % load. Each performance test must comprise three 1 hour test runs, as specified in 40 CFR 63.7(e)(3). [40 CFR 63.6615], [40 CFR 63.6620(b)] and [40 CFR 63.6620(d)]. After demonstrating compliance for two consecutive tests, the frequency of subsequent tests may be reduced to annually. However, if any subsequent test indicates non compliance, you must resume semiannual testing. [Item 3 in Table 3 of 40 CFR 63 Subpart ZZZZ] and[40 CFR 63.6615].	Other: Keep records as specified at 40 CFR 63.6660(a) through (c). [40 CFR 63.6660]. Keep the records described at 40 CFR 63.6655(a)(1) through (a)(5). [40 CFR 63.6655(a)]. To show continuous compliance keep the records in Item 8 of Table 6 in 40 CFR 63 Subpart ZZZZ.[40 CFR 63.6655(d)].	Submit notification: As per the approved schedule. Submit a Notification of Intent to conduct a performance test at least 60 days prior to the test as required in 40 CFR 63.7(b)(1). [40 CFR 63.6645(g)]. Demonstrate initial compliance with the limitation in Item 10 of Table 5 in 40 CFR 63 Subpart ZZZZ. [40 CFR 63.6630(a)]. Submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in 40 CFR 63.6645. [40 CFR 63.6630(c)]. Demonstrate continuous compliance by the methods in Item 8 of Table 6 in 40 CFR 63 Subpart ZZZZ. [40 CFR 63.6640(a)] Report each instance in which you did not meet the formaldehyde limit. [40 CFR 63.6640(b)] and [40 CFR 63.6640(d)]. Submit a report semiannually per the requirements in 40 CFR 63.6650(b)(1) through (5). [40 CFR 63.6650(a)]. The Compliance report must contain the information required in 40 CFR 63.5560(c). [40 CFR 63.5560(c)]. For each deviation the compliance report must contain must contain the information required in 40 CFR 63.6650(d). [40 CFR 63.6650(d)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U57 - Diesel Engines - OS21	21 / 9	Limit concentration of formaldehyde in the stationary RICE exhaust to 580 ppbvd or less at 15 percent O2. [40 CFR 63.6600(b)]	Other: Conduct the initial stack test within 180 days of start up, as specified in [Item 3 in Table 4 of 40 CFR 63 Subpart ZZZZ] and the provisions in 40 CFR 63.7(a)(2). [40 CFR 63.6595(a)[3)] and [40 CFR 63.6610(a)]. Conduct subsequent performance tests semiannually, as specified in [Item 3 in Table 4 of 40 CFR 63 Subopart ZZZZ], and within +/- 10 % of 100 % load. Each performance test must comprise three 1 hour test runs, as specified in 40 CFR 63.7(e)(3). [40 CFR 63.6615], [40 CFR 63.6620(b)] and [40 CFR 63.6620(d)]. After demonstrating compliance for two consecutive tests, the frequency of subsequent tests may be reduced to annually. However, if any subsequent test indicates non compliance, you must resume semiannual testing. [Item 3 in Table 3 of 40 CFR 63 Subpart ZZZZ] and[40 CFR 63.6615].	Other: Keep records as specified at 40 CFR 63.6660(a) through (c). [40 CFR 63.6660]. Keep the records described at 40 CFR 63.6655(a)(1) through (a)(5). [40 CFR 63.6655(a)]. To show continuous compliance keep the records in Item 8 of Table 6 in 40 CFR 63 Subpart ZZZZ.[40 CFR 63.6655(d)].	Submit notification: As per the approved schedule. Submit a Notification of Intent to conduct a performance test at least 60 days prior to the test as required in 40 CFR 63.7(b)(1). [40 CFR 63.6645(g)]. Demonstrate initial compliance with the limitation in Item 10 of Table 5 in 40 CFR 63 Subpart ZZZZ. [40 CFR 63.6630(a)]. Submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in 40 CFR 63.6645. [40 CFR 63.6630(c)]. Demonstrate continuous compliance by the methods in Item 8 of Table 6 in 40 CFR 63 Subpart ZZZZ. [40 CFR 63.6640(a)] Report each instance in which you did not meet the formaldehyde limit. [40 CFR 63.6640(b)] and [40 CFR 63.6640(d)]. Submit a report semiannually per the requirements in 40 CFR 63.6650(b)(1) through (5). [40 CFR 63.6650(a)]. The Compliance report must contain the information required in 40 CFR 63.5560(c). [40 CFR 63.5560(c)]. For each deviation the compliance report must contain must contain the information required in 40 CFR 63.6650(d). [40 CFR 63.6650(d)]	X	

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U57 - Diesel Engines - OS22	22 / 9	Limit concentration of formaldehyde in the stationary RICE exhaust to 580 ppbvd or less at 15 percent O2. [40 CFR 63.6600(b)]	Other: Conduct the initial stack test within 180 days of start up, as specified in [Item 3 in Table 4 of 40 CFR 63 Subpart ZZZZ] and the provisions in 40 CFR 63.7(a)(2). [40 CFR 63.6595(a)[3)] and [40 CFR 63.6610(a)]. Conduct subsequent performance tests semiannually, as specified in [Item 3 in Table 4 of 40 CFR 63 Subopart ZZZZ], and within +/- 10 % of 100 % load. Each performance test must comprise three 1 hour test runs, as specified in 40 CFR 63.7(e)(3). [40 CFR 63.6615], [40 CFR 63.6620(b)] and [40 CFR 63.6620(d)]. After demonstrating compliance for two consecutive tests, the frequency of subsequent tests may be reduced to annually. However, if any subsequent test indicates non compliance, you must resume semiannual testing. [Item 3 in Table 3 of 40 CFR 63 Subpart ZZZZ] and[40 CFR 63.6615].	Other: Keep records as specified at 40 CFR 63.6660(a) through (c). [40 CFR 63.6660]. Keep the records described at 40 CFR 63.6655(a)(1) through (a)(5). [40 CFR 63.6655(a)]. To show continuous compliance keep the records in Item 8 of Table 6 in 40 CFR 63 Subpart ZZZZ.[40 CFR 63.6655(d)].	Submit notification: As per the approved schedule. Submit a Notification of Intent to conduct a performance test at least 60 days prior to the test as required in 40 CFR 63.7(b)(1). [40 CFR 63.6645(g)]. Demonstrate initial compliance with the limitation in Item 10 of Table 5 in 40 CFR 63 Subpart ZZZZ. [40 CFR 63.6630(a)]. Submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in 40 CFR 63.6645. [40 CFR 63.6630(c)]. Demonstrate continuous compliance by the methods in Item 8 of Table 6 in 40 CFR 63 Subpart ZZZZ. [40 CFR 63.6640(a)] Report each instance in which you did not meet the formaldehyde limit. [40 CFR 63.6640(b)] and [40 CFR 63.6640(d)]. Submit a report semiannually per the requirements in 40 CFR 63.6650(b)(1) through (5). [40 CFR 63.6650(a)]. The Compliance report must contain the information required in 40 CFR 63.5560(c). [40 CFR 63.5560(c)]. For each deviation the compliance report must contain must contain the information required in 40 CFR 63.6650(d). [40 CFR 63.6650(d)]	X	

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U57 - Diesel Engines - OS23	23 / 9	Limit concentration of formaldehyde in the stationary RICE exhaust to 580 ppbvd or less at 15 percent O2. [40 CFR 63.6600(b)]	Other: Conduct the initial stack test within 180 days of start up, as specified in [Item 3 in Table 4 of 40 CFR 63 Subpart ZZZZ] and the provisions in 40 CFR 63.7(a)(2). [40 CFR 63.6595(a)[3)] and [40 CFR 63.6610(a)]. Conduct subsequent performance tests semiannually, as specified in [Item 3 in Table 4 of 40 CFR 63 Subopart ZZZZ], and within +/- 10 % of 100 % load. Each performance test must comprise three 1 hour test runs, as specified in 40 CFR 63.7(e)(3). [40 CFR 63.6615], [40 CFR 63.6620(b)] and [40 CFR 63.6620(d)]. After demonstrating compliance for two consecutive tests, the frequency of subsequent tests may be reduced to annually. However, if any subsequent test indicates non compliance, you must resume semiannual testing. [Item 3 in Table 3 of 40 CFR 63 Subpart ZZZZ] and[40 CFR 63.6615].	Other: Keep records as specified at 40 CFR 63.6660(a) through (c). [40 CFR 63.6660]. Keep the records described at 40 CFR 63.6655(a)(1) through (a)(5). [40 CFR 63.6655(a)]. To show continuous compliance keep the records in Item 8 of Table 6 in 40 CFR 63 Subpart ZZZZ.[40 CFR 63.6655(d)].	Submit notification: As per the approved schedule. Submit a Notification of Intent to conduct a performance test at least 60 days prior to the test as required in 40 CFR 63.7(b)(1). [40 CFR 63.6645(g)]. Demonstrate initial compliance with the limitation in Item 10 of Table 5 in 40 CFR 63 Subpart ZZZZ. [40 CFR 63.6630(a)]. Submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in 40 CFR 63.6645. [40 CFR 63.6630(c)]. Demonstrate continuous compliance by the methods in Item 8 of Table 6 in 40 CFR 63 Subpart ZZZZ. [40 CFR 63.6640(a)] Report each instance in which you did not meet the formaldehyde limit. [40 CFR 63.6640(b)] and [40 CFR 63.6640(d)]. Submit a report semiannually per the requirements in 40 CFR 63.6650(b)(1) through (5). [40 CFR 63.6650(a)]. The Compliance report must contain the information required in 40 CFR 63.5560(c). [40 CFR 63.5560(c)]. For each deviation the compliance report must contain must contain the information required in 40 CFR 63.6650(d). [40 CFR 63.6650(d)]	X	

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U59 - Bioremediation		NONE					

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U65 - Pet Coke		NONE					

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U66 - CCR Chlorsorb - OS0	0 / 2	The permittee shall conduct a stack test using a protocol approved by the Department to demonstrate compliance with emission limits for VOC and Hydrogen Chloride as specified in the compliance plan for OS1 and OS2 (once initially). Testing must be conducted at worst-case permitted operating conditions with regard to meeting the applicable emission standards, but without creating an unsafe condition. [N.J.A.C. 7:27-22.16(a)]	Other: Monitoring as required under the applicable operating scenario.[N.J.A.C. 7:27-22.16(o)].	Other: Recordkeeping as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Submit a stack test protocol to the Emission Management Section (EMS) at Mail Code: 380-01A, PO Box 420, Trenton, NJ 08625. The protocol and test report must be prepared and submitted on a CD using the Electronic Reporting Tool (ERT), unless another format is approved by EMS. The ERT program can be downloaded at: http://www.epa.gov/ttnchie1/ert. Within 30 days of protocol approval or no less than 60 days prior to the testing deadline, whichever is later, the permittee must contact BTS at 609-530-4041 to schedule a mutually acceptable test date. A full stack test report must be submitted to BTS and a certified summary test report must be submitted to the Regional Enforcement Office within 45 days after performing the stack test pursuant to N.J.A.C. 7:27-22.19(d). The test results must be certified by a licensed professional engineer or certified industrial hygienist. [N.J.A.C. 7:27-22.18(e)] and. [N.J.A.C. 7:27-22.18(h)]	X	
U66 - CCR Chlorsorb - OS1	1 / 4	VOC (Total) <= 0.75 lb/hr. [N.J.A.C. 7:27-22.16(a)]	VOC (Total): Monitored by stack emission testing once initially, based on the average of three Department validated stack test runs. See OS Summary for stack test requirements. [N.J.A.C. 7:27-22.16(o)]	. See OS Summary for stack test requirements. VOC (Total): Recordkeeping by stack test results once initially. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See OS Summary for stack test requirements. [N.J.A.C. 7:27-22.16(o)]	X	
U66 - CCR Chlorsorb - OS1	1 / 5	Hydrogen chloride <= 1.96 lb/hr. [N.J.A.C. 7:27-22.16(a)]	Hydrogen chloride: Monitored by stack emission testing once initially, based on the average of three Department validated stack test runs. See OS Summary for stack test requirements. [N.J.A.C. 7:27-22.16(o)]	Hydrogen chloride: Recordkeeping by stack test results once initially. See OS Summary for stack test requirements. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See OS Summary for stack test requirements. [N.J.A.C. 7:27-22.16(o)]	X	

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U66 - CCR Chlorsorb - OS2	2 / 4	VOC (Total) <= 0.75 lb/hr. [N.J.A.C. 7:27-22.16(a)]	VOC (Total): Monitored by stack emission testing once initially, based on the average of three Department validated stack test runs. See OS Summary for stack test requirements. [N.J.A.C. 7:27-22.16(o)]	. See OS Summary for stack test requirements. VOC (Total): Recordkeeping by stack test results once initially. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See OS Summary for stack test requirements. [N.J.A.C. 7:27-22.16(o)]	X	
U66 - CCR Chlorsorb - OS2	2 / 5	Hydrogen chloride <= 1.96 lb/hr. [N.J.A.C. 7:27-22.16(a)]	Hydrogen chloride: Monitored by stack emission testing once initially, based on the average of three Department validated stack test runs. See OS Summary for stack test requirements. [N.J.A.C. 7:27-22.16(o)]	Hydrogen chloride: Recordkeeping by stack test results once initially. See OS Summary for stack test requirements. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See OS Summary for stack test requirements. [N.J.A.C. 7:27-22.16(o)]	X	

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U67 - Storm Water		NONE					

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U780 - CCR Plat - OS0	0 / 2	The permittee shall conduct a stack test at least 18 months prior to the expiration of the renewed operating permit using an approved protocol to demonstrate compliance with emission limits for NOx, CO and PM10 as specified in the compliance plan for OS1. Testing must be conducted at worst-case permitted operating conditions with regard to meeting the applicable emission standards, but without creating an unsafe condition. The permittee may propose, in the stack test protocol, to use CEMS data to satisfy the stack testing requirements, for NOx and/or CO, with the Emission Management section (EMS) approval. In order for EMS to approve using CEMS data at the time of the stack test, the CEMS must be certified and be in compliance with all daily, quarterly and annual quality assurance requirements. The CEMS shall monitor and record emissions in units identical to those required by the applicable stack testing conditions of this permit. CEMS data, if allowed by this permit, shall be taken at the same worst case conditions as described above. [N.J.A.C. 7:27-22.16(a)]	Other: Monitoring as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	Other: Recordkeeping as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Submit a stack test protocol to EMS at Mail Code: 380-01A, PO Box 420, Trenton, NJ 08625 at least 30 months prior to the expiration of the approved operating permit. The protocol and test report must be prepared and submitted on a CD using the Electronic Reporting Tool (ERT), unless another format is approved by EMS. The ERT program can be downloaded at: http://www.epa.gov/ttnchie1/ert. Within 30 days of protocol approval or no less than 60 days prior to the testing deadline, whichever is later, the permittee must contact EMS at 609-530-4041 to schedule a mutually acceptable test date. A full stack test report must be submitted to EMS and a certified summary test report must be submitted to the Regional Enforcement Office within 45 days after performing the stack test pursuant to N.J.A.C. 7:27-22.19(d). The test results must be certified by a licensed professional engineer or certified industrial hygienist. [N.J.A.C. 7:27-22.18(e)] and. [N.J.A.C.7:27-22.18(h)]	X	

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U780 - CCR Plat - OS1 - GR2	1 / 1	The permittee shall adjust the combustion process in accordance with the requirements of N.J.A.C. 7:27-19. The permittee shall: 1. Inspect the burner, and clean or replace any components of the burner as necessary; 2. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern consistent with the manufacturer's specifications; 3. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly 4. Minimize total emissions of NOx and CO consistent with the manufacturer's specifications; and 5. Measure the concentrations in the effluent stream of NOx, CO and O2 in ppmvd, before and after the adjustment is made. [N.J.A.C. 7:27-19.16(a)]	Monitored by periodic emission monitoring annually. The permittee shall: Convert the emission values of the NOx, CO and O2 concentrations measured to pounds per million BTU (lb/MM BTU) according to the following formula: lb/MM BTU = ppmvd x MW x F dry factor x O2 correction factor / 387,000,000 Where: ppmvd is the concentration in parts per million by volume, dry basis, of NOx or CO, MW is the Molecular Weight for: NOx = 46 lb/lb-mole; CO = 28 lb/lb-mole, F dry factor for: Natural gas = 8,710 dscf/MM BTU and Residual or fuel oil = 9,190 dscf/MM BTU O2 correction factor: (20.9%) / (20.9% - O2 measured) O2 measured is percent oxygen on a dry basis. [N.J.A.C. 7:27-19.16(a)]	Recordkeeping by manual logging of parameter or storing data in a computer data system annually Records shall contain the following information for each adjustment: 1. The date of the adjustment and the times at which it began and ended; 2. The name, title and affiliation of the person who made the adjustment; 3. The NOx and CO concentrations in the effluent stream, in ppmvd, before and after each actual adjustment was made; 4. The concentration of O2 (in percent dry basis) at which the CO and NOx concentrations were measured; 5. A description of any corrective action taken; 6. Results from any subsequent tests performed after taking any corrective action, including concentrations and converted emission values in pounds per million BTU (lb/MM BTU); and 7. The type and amount of fuel used over the 12 months prior to the annual adjustment. [N.J.A.C. 7:27-19.16(b)]	Submit a report: Annually within 45 days of the adjustment. Reports shall be submitted electronically in the format the department specifies at its website. The report shall contain the following: 1. The concentrations of NOx and CO in the effluent stream in ppmvd, and O2 in percent dry basis, measured before and after the adjustment of the combustion process; 2. The converted emission values in lb/MM BTU for the measurements taken before and after the adjustment of the combustion process; 3. A description of any corrective actions taken as a part of the combustion adjustment; and 4. The type and amount of fuel used over the 12 months prior to the annual adjustment. N.J.A.C. 7:27-19.16(c) and. [N.J.A.C. 7:27-19.16(d)]	X	

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U780 - CCR Plat - OS1 - GR2	1 / 1	H2S <= 0.1 gr/dscf (162 ppmvd) in fuel gas. [40 CFR 60.104(a)(1)]. Fuel gas means any gas which is generated at a petroleum refinery and which is combusted. Fuel gas includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a refinery. Fuel gas does not include gases generated by catalytic cracking unit catalyst regenerators and fluid coking burners. Fuel gas does not include vapors that are collected and combusted in a thermal oxidizer or flare installed to control emissions from wastewater treatment units or marine tank vessel loading operations. [40 CFR 60.101(d)]	H2S: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. Install, calibrate and maintain an instrument that continuously monitors and records the concentration (dry basis) of H2S in refinery fuel gas before being burned in any fuel gas combustion device. (i) The span value for this instrument is 425 mg/dscm H2S. (ii) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H2S in the fuel gas being burned. (iii) The performance evaluations for this H2S monitor under 40 CFR 60.13(c) shall use Performance Specification 7. Method 11, 15, 15A or 16 shall be used for conducting the relative accuracy evaluations in accordance with 40 CFR 60.106(e)(1). [40 CFR 60.105(a)(4)]	H2S: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)] and. [40 CFR 60.105(a)(4)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U780 - CCR Plat - OS1	1 / 5	NOx (Total) <= 7.6 lb/hr. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 1 hour block average. The CEMS shall also continuously monitor fuel flow, heating value of refinery fuel gas, gas flow, and calculate lb/hr & lb/MMBtu. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage each hour during operation. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U780 - CCR Plat - OS1	1 / 6	NOx (Total) <= 0.2 lb/MMBTU. [N.J.A.C. 7:27-19.7(h)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average. The owner or operator shall calculate the average NOx emission rate using the data from continuous emission monitoring system for the NOx concentration in the flue gas and either the flue gas flow rate or the fuel flow rate. To calculate the emission rate using the NOx concentration and fuel flow rate, the owner or operator shall use the conversion procedure set forth in the Acid Rain regulations at 40 CFR 75, Appendix F, or an alternative procedure that the Department determines will yield the same result. Compliance with the limit shall be based upon the average of emissions: i. Between May 1 and September 30, over each calendar day; and ii. From October 1 through April 30 of the following year, over the 30-day period ending on each such day. [N.J.A.C. 7:27-19.15(a)1]	NOx (Total): Recordkeeping by strip chart or data acquisition (DAS) system continuously. [N.J.A.C. 7:27-19.18(a)5]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U780 - CCR Plat - OS1	1 / 7	NOx (Total) <= 0.02 lb/MMBTU. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by continuous emission monitoring system continuously based on a 365-day rolling average. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage each hour during operation. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U780 - CCR Plat - OS1	1 / 8	NOx (Total) <= 7.6 lb/hr. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule See OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U780 - CCR Plat - OS1	1 / 9	CO <= 13.81 lb/hr. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by continuous emission monitoring system continuously, based on a 1 hour block average. The CEMS shall also continuously monitor fuel flow, heating value of refinery fuel gas, gas flow, and calculate lb/hr & lb/MMBtu. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage each hour during operation. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U780 - CCR Plat - OS1	1 / 10	CO <= 0.036 lb/MMBTU. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by continuous emission monitoring system continuously, based on a 1 hour block average. The CEMS shall also continuously monitor fuel flow, heating value of refinery fuel gas, gas flow, and calculate lb/hr & lb/MMBtu. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage each hour during operation. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U780 - CCR Plat - OS1	1 / 11	CO <= 13.81 lb/hr. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule See OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	
U780 - CCR Plat - OS1	1 / 12	CO <= 0.036 lb/MMBTU. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule See OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	
U780 - CCR Plat - OS1	1 / 14	PM-10 (Total) <= 3.97 lb/hr. [N.J.A.C. 7:27-22.16(a)]	PM-10 (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	PM-10 (Total): Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule : See OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	
U780 - CCR Plat - OS2	2 / 5	CO <= 100 ppmvd @ 7% O2. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by continuous emission monitoring system continuously, based on the average over the length of the cycle (start-up or shut-down cycle). [N.J.A.C. 7:27-22.16(o)]	during the start-up or shut-down cycle. CO: Recordkeeping by data acquisition system (DAS) / electronic data storage each hour during operation. [N.J.A.C. 7:27-22.16(o)]	None.	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U780 - CCR Plat - OS2	2 / 6	NOx (Total) <= 0.2 lb/MMBTU. [N.J.A.C. 7:27-19.7(h)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on the average over the length of the cycle (start-up or shut-down cycle). [N.J.A.C. 7:27-22.16(o)]	during the start-up or shut-down cycle. NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage each hour during operation. [N.J.A.C. 7:27-22.16(o)]	None.	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U790 - CCR F101 - OS0	0 / 2	The permittee shall conduct a stack test at least 18 months prior to the expiration of the renewed operating permit using an approved protocol to demonstrate compliance with emission limits for NOx and CO as specified in the compliance plan for OS1. Testing must be conducted at worst-case permitted operating conditions with regard to meeting the applicable emission standards, but without creating an unsafe condition. The permittee may propose, in the stack test protocol, to use CEMS data to satisfy the stack testing requirements, for NOx and/or CO, with the Emission Management section (EMS) approval. In order for EMS to approve using CEMS data at the time of the stack test, the CEMS must be certified and be in compliance with all daily, quarterly and annual quality assurance requirements. The CEMS shall monitor and record emissions in units identical to those required by the applicable stack testing conditions of this permit. CEMS data, if allowed by this permit, shall be taken at the same worst case conditions as described above. [N.J.A.C. 7:27-22.16(a)]	Other: Monitoring as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	Other: Recordkeeping as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Submit a stack test protocol to EMS at Mail Code: 380-01A, PO Box 420, Trenton, NJ 08625 at least 30 months prior to the expiration of the approved operating permit. The protocol and test report must be prepared and submitted on a CD using the Electronic Reporting Tool (ERT), unless another format is approved by EMS. The ERT program can be downloaded at: http://www.epa.gov/ttnchie1/ert. Within 30 days of protocol approval or no less than 60 days prior to the testing deadline, whichever is later, the permittee must contact EMS at 609-530-4041 to schedule a mutually acceptable test date. A full stack test report must be submitted to EMS and a certified summary test report must be submitted to the Regional Enforcement Office within 45 days after performing the stack test pursuant to N.J.A.C. 7:27-22.19(d). The test results must be certified by a licensed professional engineer or certified industrial hygienist. [N.J.A.C. 7:27-22.18(e)] and. [N.J.A.C. 7:27-22.18(h)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U790 - CCR F101 - OS1 - GR2	1 / 1	The permittee shall adjust the combustion process in accordance with the requirements of N.J.A.C. 7:27-19. The permittee shall: 1. Inspect the burner, and clean or replace any components of the burner as necessary; 2. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern consistent with the manufacturer's specifications; 3. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly 4. Minimize total emissions of NOx and CO consistent with the manufacturer's specifications; and 5. Measure the concentrations in the effluent stream of NOx, CO and O2 in ppmvd, before and after the adjustment is made. [N.J.A.C. 7:27-19.16(a)]	Monitored by periodic emission monitoring annually. The permittee shall: Convert the emission values of the NOx, CO and O2 concentrations measured to pounds per million BTU (lb/MM BTU) according to the following formula: lb/MM BTU = ppmvd x MW x F dry factor x O2 correction factor / 387,000,000 Where: ppmvd is the concentration in parts per million by volume, dry basis, of NOx or CO, MW is the Molecular Weight for: NOx = 46 lb/lb-mole; CO = 28 lb/lb-mole, F dry factor for: Natural gas = 8,710 dscf/MM BTU and Residual or fuel oil = 9,190 dscf/MM BTU O2 correction factor: (20.9%) / (20.9% - O2 measured) O2 measured is percent oxygen on a dry basis. [N.J.A.C. 7:27-19.16(a)]	Recordkeeping by manual logging of parameter or storing data in a computer data system annually Records shall contain the following information for each adjustment: 1. The date of the adjustment and the times at which it began and ended; 2. The name, title and affiliation of the person who made the adjustment; 3. The NOx and CO concentrations in the effluent stream, in ppmvd, before and after each actual adjustment was made; 4. The concentration of O2 (in percent dry basis) at which the CO and NOx concentrations were measured; 5. A description of any corrective action taken; 6. Results from any subsequent tests performed after taking any corrective action, including concentrations and converted emission values in pounds per million BTU (lb/MM BTU); and 7. The type and amount of fuel used over the 12 months prior to the annual adjustment. [N.J.A.C. 7:27-19.16(b)]	Submit a report: Annually within 45 days of the adjustment. Reports shall be submitted electronically in the format the department specifies at its website. The report shall contain the following: 1. The concentrations of NOx and CO in the effluent stream in ppmvd, and O2 in percent dry basis, measured before and after the adjustment of the combustion process; 2. The converted emission values in lb/MM BTU for the measurements taken before and after the adjustment of the combustion process; 3. A description of any corrective actions taken as a part of the combustion adjustment; and 4. The type and amount of fuel used over the 12 months prior to the annual adjustment. N.J.A.C. 7:27-19.16(c) and. [N.J.A.C. 7:27-19.16(d)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U790 - CCR F101 - OS1 - GR2	1 / 1	H2S <= 0.1 gr/dscf (162 ppmvd) in fuel gas. [40 CFR 60.104(a)(1)]. Fuel gas means any gas which is generated at a petroleum refinery and which is combusted. Fuel gas includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a refinery. Fuel gas does not include gases generated by catalytic cracking unit catalyst regenerators and fluid coking burners. Fuel gas does not include vapors that are collected and combusted in a thermal oxidizer or flare installed to control emissions from wastewater treatment units or marine tank vessel loading operations. [40 CFR 60.101(d)]	H2S: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. Install, calibrate and maintain an instrument that continuously monitors and records the concentration (dry basis) of H2S in refinery fuel gas before being burned in any fuel gas combustion device. (i) The span value for this instrument is 425 mg/dscm H2S. (ii) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H2S in the fuel gas being burned. (iii) The performance evaluations for this H2S monitor under 40 CFR 60.13(c) shall use Performance Specification 7. Method 11, 15, 15A or 16 shall be used for conducting the relative accuracy evaluations in accordance with 40 CFR 60.106(e)(1). [40 CFR 60.105(a)(4)]	H2S: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)] and. [40 CFR 60.105(a)(4)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U790 - CCR F101 - OS1	1 / 3	NOx (Total) <= 0.04 lb/MMBTU. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule : See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	
U790 - CCR F101 - OS1	1 / 4	NOx (Total) <= 2 lb/hr. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule ; See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U790 - CCR F101 - OS1	1 / 5	NOx (Total) <= 0.2 lb/MMBTU. [N.J.A.C. 7:27-19.7(h)]	NOx (Total): Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. Any NOx testing conducted pursuant to this section shall be conducted concurrently with CO testing. [N.J.A.C. 7:27-19.15(a)2]	NOx (Total): Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	
U790 - CCR F101 - OS1	1 / 6	CO <= 1.82 lb/hr. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by stack emission testing prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule ; See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U800 - CCR F5 - OS1 - GR2	0 / 1	The permittee shall adjust the combustion process in accordance with the requirements of N.J.A.C. 7:27-19. The permittee shall: 1. Inspect the burner, and clean or replace any components of the burner as necessary; 2. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern consistent with the manufacturer's specifications; 3. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly 4. Minimize total emissions of NOx and CO consistent with the manufacturer's specifications; and 5. Measure the concentrations in the effluent stream of NOx, CO and O2 in ppmvd, before and after the adjustment is made. [N.J.A.C. 7:27-19.16(a)]	Monitored by periodic emission monitoring annually. The permittee shall: Convert the emission values of the NOx, CO and O2 concentrations measured to pounds per million BTU (lb/MM BTU) according to the following formula: lb/MM BTU = ppmvd x MW x F dry factor x O2 correction factor / 387,000,000 Where: ppmvd is the concentration in parts per million by volume, dry basis, of NOx or CO, MW is the Molecular Weight for: NOx = 46 lb/lb-mole; CO = 28 lb/lb-mole, F dry factor for: Natural gas = 8,710 dscf/MM BTU and Residual or fuel oil = 9,190 dscf/MM BTU O2 correction factor: (20.9%) / (20.9% - O2 measured) O2 measured is percent oxygen on a dry basis. [N.J.A.C. 7:27-19.16(a)]	Recordkeeping by manual logging of parameter or storing data in a computer data system annually Records shall contain the following information for each adjustment: 1. The date of the adjustment and the times at which it began and ended; 2. The name, title and affiliation of the person who made the adjustment; 3. The NOx and CO concentrations in the effluent stream, in ppmvd, before and after each actual adjustment was made; 4. The concentration of O2 (in percent dry basis) at which the CO and NOx concentrations were measured; 5. A description of any corrective action taken; 6. Results from any subsequent tests performed after taking any corrective action, including concentrations and converted emission values in pounds per million BTU (lb/MM BTU); and 7. The type and amount of fuel used over the 12 months prior to the annual adjustment. [N.J.A.C. 7:27-19.16(b)]	Submit a report: Annually within 45 days of the adjustment. Reports shall be submitted electronically in the format the department specifies at its website. The report shall contain the following: 1. The concentrations of NOx and CO in the effluent stream in ppmvd, and O2 in percent dry basis, measured before and after the adjustment of the combustion process; 2. The converted emission values in lb/MM BTU for the measurements taken before and after the adjustment of the combustion process; 3. A description of any corrective actions taken as a part of the combustion adjustment; and 4. The type and amount of fuel used over the 12 months prior to the annual adjustment. N.J.A.C. 7:27-19.16(c) and. [N.J.A.C. 7:27-19.16(d)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U800 - CCR F5 - OS1 - GR2	1 / 1	H2S <= 0.1 gr/dscf (162 ppmvd) in fuel gas. [40 CFR 60.104(a)(1)]. Fuel gas means any gas which is generated at a petroleum refinery and which is combusted. Fuel gas includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a refinery. Fuel gas does not include gases generated by catalytic cracking unit catalyst regenerators and fluid coking burners. Fuel gas does not include vapors that are collected and combusted in a thermal oxidizer or flare installed to control emissions from wastewater treatment units or marine tank vessel loading operations. [40 CFR 60.101(d)]	H2S: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. Install, calibrate and maintain an instrument that continuously monitors and records the concentration (dry basis) of H2S in refinery fuel gas before being burned in any fuel gas combustion device. (i) The span value for this instrument is 425 mg/dscm H2S. (ii) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H2S in the fuel gas being burned. (iii) The performance evaluations for this H2S monitor under 40 CFR 60.13(c) shall use Performance Specification 7. Method 11, 15, 15A or 16 shall be used for conducting the relative accuracy evaluations in accordance with 40 CFR 60.106(e)(1). [40 CFR 60.105(a)(4)]	H2S: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)] and. [40 CFR 60.105(a)(4)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U802 - MPE Unit		NONE					

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U810 - CCR F303 - OS0	0 / 2	The permittee shall conduct a stack test using a protocol approved by the Department to demonstrate compliance with emission limits for NOx and CO as specified in the compliance plan for OS1. Testing must be conducted at worst-case permitted operating conditions with regard to meeting the applicable emission standards, but without creating an unsafe condition. THIS STACK TEST IS SUBJECT TO THE SIGNIFICANT MODIFICATION SUPPLEMENTAL FEES PURSUANT TO N.J.A.C. 7:27-22.31. [N.J.A.C. 7:27-22.16(a)]	Other: The stack test must be conducted 60 days of the protocol approval or within 180 days after initial startup of the new or modified source, whichever comes later. If a source is subject to NSPS, extending the testing date beyond 180 days after the source's initial startup requires prior approval from US EPA. [N.J.A.C.7:27-22.18] and [N.J.A.C. 7:27-22.16(o)].	Other: Recordkeeping as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Submit a stack test protocol to the Emission Measurement Section (EMS) at Mail Code: 380-01A, PO Box 420, Trenton, NJ 08625 within 60 days from the date of the approved initial (or modified) operating permit. The protocol and test report must be prepared and submitted on a CD using the Electronic Reporting Tool (ERT), unless another format is approved by EMS. The ERT program can be downloaded at: http://www.epa.gov/ttnchie1/ert. Within 30 days of protocol approval or no less than 60 days prior to the testing deadline, whichever is later, the permittee must contact EMS at 609-530-4041 to schedule a mutually acceptable test date. A full stack test report must be submitted to EMS and a certified summary test report must be submitted to the Regional Enforcement Office within 45 days after performing the stack test pursuant to N.J.A.C. 7:27-22.19(d). The test results must be certified by a licensed professional engineer or certified industrial hygienist. [N.J.A.C. 7:27-22.18(e)] and. [N.J.A.C. 7:27-22.18(h)]	X	

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A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U810 - CCR F303 - OS0	0 / 3	The permittee shall conduct a stack test at least 18 months prior to the expiration of the renewed operating permit using an approved protocol to demonstrate compliance with emission limits for NOx and CO as specified in the compliance plan for OS1. Testing must be conducted at worst-case permitted operating conditions with regard to meeting the applicable emission standards, but without creating an unsafe condition. The permittee may propose, in the stack test protocol, to use CEMS data to satisfy the stack testing requirements, for NOx and/or CO, with the Emission Management section (EMS) approval. In order for EMS to approve using CEMS data at the time of the stack test, the CEMS must be certified and be in compliance with all daily, quarterly and annual quality assurance requirements. The CEMS shall monitor and record emissions in units identical to those required by the applicable stack testing conditions of this permit. CEMS data, if allowed by this permit, shall be taken at the same worst case conditions as described above. [N.J.A.C. 7:27-22.16(a)]	Other: Monitoring as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	Other: Recordkeeping as required under the applicable operating scenario(s). [N.J.A.C. 7:27-22.16(o)].	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Submit a stack test protocol to EMS at Mail Code: 380-01A, PO Box 420, Trenton, NJ 08625 at least 30 months prior to the expiration of the approved operating permit. The protocol and test report must be prepared and submitted on a CD using the Electronic Reporting Tool (ERT), unless another format is approved by EMS. The ERT program can be downloaded at: http://www.epa.gov/ttnchie1/ert. Within 30 days of protocol approval or no less than 60 days prior to the testing deadline, whichever is later, the permittee must contact EMS at 609-530-4041 to schedule a mutually acceptable test date. A full stack test report must be submitted to EMS and a certified summary test report must be submitted to the Regional Enforcement Office within 45 days after performing the stack test pursuant to N.J.A.C. 7:27-22.19(d). The test results must be certified by a licensed professional engineer or certified industrial hygienist. [N.J.A.C. 7:27-22.18(e)] and. [N.J.A.C. 7:27-22.18(h)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U810 - CCR F303 - OS0	0 / 10	The owner or operator shall not burn in any fuel gas combustion device any fuel gas that contains H2S in excess of 162 ppmv, determined hourly on a 3-hour rolling average basis, and H2S in excess of 60 ppmv, determined daily on a 365 successive calendar day rolling average basis. [40 CFR 60.102a(g)(1)(ii)]	Other: The owner or operator of a fuel gas combustion device that elects to comply with the H2S concentration limits in [40 CFR 60.107a(a)(2)(i)], shall, install, operate, calibrate and maintain an instrument to continuously monitor and record the concentration by volume (dry basis) of H2S in the fuel gases, before being burned in any fuel gas combustion device or flare. [40 CFR 60.107a(a)(2)(i)] through[40 CFR 60.107a(a)(2)(iv)].	Other: Comply with the recordkeeping requirements of [40 CFR 60.7]. [40 CFR 60.108a(a)]. Keep all applicable records specified at [40CFR60.108a(c)(6)].	Comply with rule/regulation: As per the approved schedule. Comply with the notification and reporting requirements of [40 CFR 60.7]. [40 CFR 60.108a(a)]. Each owner or operator subject to an emissions limitation in [40 CFR 60.102a] shall notify the Administrator of the specific monitoring provisions in [40 CFR 60.107a] with which the owner or operator intends to comply. [40 CFR 60.108a(b)]. The owner or operator shall conduct a performance test for each fuel gas combustion device to demonstrate initial compliance with each applicable emissions limit in [40 CFR 60.102a] according to the requirements of [40 CFR 60.8]. The notification requirements of [40 CFR 60.8(d)] apply to the initial performance test. [40 CFR 60.104a(a)]. The owner or operator shall determine compliance with the applicable H2S emissions limit in [40 CFR 60.102a(g)(1)] for a fuel gas combustion device according to the test methods and procedures at [40 CFR 60.104a(j)(1)] through [40 CFR 60.104a(j)(4)]. Submit an excess emissions report for all periods of excess emissions according to the requirements of [40 CFR 60.7(c)] with the information specified at [40 CFR 60.108a(d)(1)] through. [40 CFR 60.108a(d)(7)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U810 - CCR F303 - OS0	0 / 11	A natural draft process heater with a rated capacity greater than 40 MMBtu/hr on a higher heating value basis, shall not emit NOx to the outside atmosphere in excess of the following limit: 0.040 lb/MMBtu higher heating value basis determined daily on a 30-day rolling average basis. [40 CFR 60.102a(g)(2)(i)]	Other: The owner or operator of a process heater subject to the NOx emissions limit in [40 CFR 60.102a(g)(2)] and electing to comply with the applicable emissions limit in [40 CFR 60.102a(g)(2)(i)(B)], shall install, operate, calibrate and maintain an instrument to continuously monitor and record the concentration (dry basis, 0-percent excess air) of NOx emissions into the atmosphere, and shall determine the F factor of the fuel gas stream no less frequently than once per day according to the monitoring requirements in paragraphs [40 CFR 60.107a(d)(1) through[40 CFR 60.107a(d)(2)].	Other: Comply with the recordkeeping requirements of [40 CFR 60.7]. [40 CFR 60.108a(a)]. Keep all applicable records specified at [40 CFR 60.108a(c)(6)].	Comply with rule/regulation: As per the approved schedule. Comply with the notification and reporting requirements of [40 CFR 60.7]. [40 CFR 60.108a(a)]. Each owner or operator subject to an emissions limitation in [40 CFR 60.102a] shall notify the Administrator of the specific monitoring provisions in [40 CFR 60.107a] with which the owner or operator intends to comply. [40 CFR 60.108a(b)]. The owner or operator shall conduct a performance test for each fuel gas combustion device to demonstrate initial compliance with each applicable emissions limit in [40 CFR 60.102a] according to the requirements of [40 CFR 60.8]. The notification requirements of [40 CFR 60.8(d)] apply to the initial performance test. [40 CFR 60.104a(a)]. The owner or operator shall determine compliance with the NOx emissions limits in [40 CFR 60.102a(g)] for a fuel gas combustion device according to the test methods and procedures at [40 CFR 60.104a(i)(1)] through [40 CFR 60.104a(i)(4)]. Submit an excess emissions report for all periods of excess emissions according to the requirements of [40 CFR 60.7(c)] with the information specified at [40 CFR 60.108a(d)(1)] through. [40 CFR 60.108a(d)(7)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U810 - CCR F303 - OS1 - GR2	1 / 1	The permittee shall adjust the combustion process in accordance with the requirements of N.J.A.C. 7:27-19. The permittee shall: 1. Inspect the burner, and clean or replace any components of the burner as necessary; 2. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern consistent with the manufacturer's specifications; 3. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly 4. Minimize total emissions of NOx and CO consistent with the manufacturer's specifications; and 5. Measure the concentrations in the effluent stream of NOx, CO and O2 in ppmvd, before and after the adjustment is made. [N.J.A.C. 7:27-19.16(a)]	Monitored by periodic emission monitoring annually. The permittee shall: Convert the emission values of the NOx, CO and O2 concentrations measured to pounds per million BTU (lb/MM BTU) according to the following formula: lb/MM BTU = ppmvd x MW x F dry factor x O2 correction factor / 387,000,000 Where: ppmvd is the concentration in parts per million by volume, dry basis, of NOx or CO, MW is the Molecular Weight for: NOx = 46 lb/lb-mole; CO = 28 lb/lb-mole, F dry factor for: Natural gas = 8,710 dscf/MM BTU and Residual or fuel oil = 9,190 dscf/MM BTU O2 correction factor: (20.9%) / (20.9% - O2 measured) O2 measured is percent oxygen on a dry basis. [N.J.A.C. 7:27-19.16(a)]	Recordkeeping by manual logging of parameter or storing data in a computer data system annually Records shall contain the following information for each adjustment: 1. The date of the adjustment and the times at which it began and ended; 2. The name, title and affiliation of the person who made the adjustment; 3. The NOx and CO concentrations in the effluent stream, in ppmvd, before and after each actual adjustment was made; 4. The concentration of O2 (in percent dry basis) at which the CO and NOx concentrations were measured; 5. A description of any corrective action taken; 6. Results from any subsequent tests performed after taking any corrective action, including concentrations and converted emission values in pounds per million BTU (lb/MM BTU); and 7. The type and amount of fuel used over the 12 months prior to the annual adjustment. [N.J.A.C. 7:27-19.16(b)]	Submit a report: Annually within 45 days of the adjustment. Reports shall be submitted electronically in the format the department specifies at its website. The report shall contain the following: 1. The concentrations of NOx and CO in the effluent stream in ppmvd, and O2 in percent dry basis, measured before and after the adjustment of the combustion process; 2. The converted emission values in lb/MM BTU for the measurements taken before and after the adjustment of the combustion process; 3. A description of any corrective actions taken as a part of the combustion adjustment; and 4. The type and amount of fuel used over the 12 months prior to the annual adjustment. N.J.A.C. 7:27-19.16(c) and. [N.J.A.C. 7:27-19.16(d)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U810 - CCR F303 - OS1 - GR2	1 / 1	H2S <= 0.1 gr/dscf (162 ppmvd) in fuel gas. [40 CFR 60.104(a)(1)]. Fuel gas means any gas which is generated at a petroleum refinery and which is combusted. Fuel gas includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a refinery. Fuel gas does not include gases generated by catalytic cracking unit catalyst regenerators and fluid coking burners. Fuel gas does not include vapors that are collected and combusted in a thermal oxidizer or flare installed to control emissions from wastewater treatment units or marine tank vessel loading operations. [40 CFR 60.101(d)]	H2S: Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. Install, calibrate and maintain an instrument that continuously monitors and records the concentration (dry basis) of H2S in refinery fuel gas before being burned in any fuel gas combustion device. (i) The span value for this instrument is 425 mg/dscm H2S. (ii) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H2S in the fuel gas being burned. (iii) The performance evaluations for this H2S monitor under 40 CFR 60.13(c) shall use Performance Specification 7. Method 11, 15, 15A or 16 shall be used for conducting the relative accuracy evaluations in accordance with 40 CFR 60.106(e)(1). [40 CFR 60.105(a)(4)]	H2S: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)] and. [40 CFR 60.105(a)(4)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U810 - CCR F303 - OS1	1 / 3	NOx (Total) <= 1.2 lb/hr. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by stack emission testing once initially and prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results once initially. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	
U810 - CCR F303 - OS1	1 / 4	NOx (Total) <= 0.02 lb/MMBTU. [N.J.A.C. 7:27-19.7(h)]	NOx (Total): Monitored by stack emission testing once initially and prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results once initially. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U810 - CCR F303 - OS1	1 / 5	NOx (Total) <= 0.02 lb/MMBTU. [N.J.A.C. 7:27-19.7(h)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a consecutive 365 day period (rolling 1 day basis). [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage each hour during operation. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding calendar quarter (the calendar quarters begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]	X	
U810 - CCR F303 - OS1	1 / 6	CO <= 2.34 lb/hr. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by stack emission testing once initially and prior to permit expiration date, based on the average of three Department validated stack test runs. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results once initially and prior to permit expiration date. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule ; See stack test requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	X	

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U850 - Landfill		NONE					

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U900 - EFR tanks		NONE					

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U901 - FR tanks		NONE					

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U902 - vented tanks		NONE					

Section 4

A Summary of the Results from Stack Testing and Monitoring

Instructions:

Complete this form if the permit required emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance	
						Yes	No
U903 - misc tanks		NONE					

Ref.#	Applicable Requirement	Monitoring Requirement
	The following requirement becomes active as soon as New Jersey rejoins the Regional Greenhouse Gas Initiative (RGGI). [N.J.A.C. 7:27-22.16(a)]. The supply of the GTG/HRSG unit's annual electrical output to the electric grid shall not exceed 10% of the annual gross generation of the unit. [N.J.A.C. 7:27C-1.3(b)]	Monitored by or the amount of (i) annual electrical output to the grid, and (ii) annual gross electricity generated by the GTG/HRSG unit at the refinery.[N.J.A.C. 7:27C-1.3(d))

Recordkeeping Requirement	Submittal/Action Requirement
Recordkeeping by manual logging of parameter or storing data in a computer data system each month during operation. The permittee shall record monthly electrical output to the electric grid; monthly gross generation of electricity by the unit; year-to-date electrical output to the electric grid; and year-to-date gross generation of electricity by the unit. The permittee shall maintain records for a period of 10 years from the date the records are created demonstrating that the conditions of N.J.A.C. 7:27C-1.3(b) were met. [N.J.A.C. 7:27-22.16(o)] and [N.J.A.C. 7:27C-1.3(f)].	Submit a report: Annually by February 1. The permittee shall report to the Department the amount of annual gross generation of electricity by the GTG/HRSG unit and the amount of annual gross generation of electricity by the GTG/HRSG unit supplied to the electric grid during the year. [N.J.A.C. 7:27C-1.3(e)]

2.1 SUMMARY OF RESULTS

2.2 Presentation

Table 2-1 presents a summary of the test results. Detailed test results are presented in **Appendix A**; field and analytical data are given in **Appendices B and C**, respectively. Calibration records are presented in **Appendix E**. The plant data are presented in **Appendix E**. Qualified individual certifications are presented in **Appendix H.**

TABLE 2-1
TEST RESULTS SUMMARY

	Run 1	Run 2	Run 3	Run 4	Average	Permit Limit
Run Time	1120-1347	0856-1023	1158-1343	1456-1626	- -	- -
Total Suspended PM	12.5	13.1	- -[a]	11.7	12.5	30 lb/hr
PM_{10}	16.1	15.4	- -[a]	14.2	15.2	60 lb/hr
Sulfur Dioxide	0.0704	0.0350	- -[b]	0.593	0.233	39.3 lb/hr
Nitrogen Oxides as NO_2	14.7	13.8	- -[b]	14.4	14.3	45 ppm @ 0% O_2
	12.2	11.9	- -[b]	11.9	12.0	50.9 lb/hr
Carbon Monoxide	11.2	12.5	- -[b]	13.8	12.5	50 ppm @ 0% O_2
	5.64	6.57	- -[b]	6.96	6.39	34.4 lb/hr
Sulfuric Acid Mist	- -[c]	0.478	0.667	0.632	0.592	10 mg/dscf
	- -[c]	7.21	10.91	10.74	9.62	11.8 lb/hr
Nickel [d]	- -[e]	0.0167	0.0521	0.0250	0.0313	0.0228 lb/hr
Benzene	< 0.0121	< 0.0122	< 0.0121	- -[f]	< 0.0121	0.64 lb/hr

[a] Run NJATM1\202-3 aborted due to failed final leak check.
[b] No valid flow rates were available due to run NJATM\202-3 being aborted.
[c] Run MM8-1 aborted due to sample contamination.
[d] Blank corrected as per the method.
[e] Run M29-1 was aborted due to failed final leak check.
[f] No 4^{th} run was needed.

Summary of Particulate Matter Test Results, Non-Blank Corrected
Paulsboro Refining Company
Gas Turbine Generating Stack
Paulsboro, New Jersey

	Run ID	M201A/202-1	M201A/202-2	M201A/202-3	AVERAGE
	Test Date	3/26/2019	3/26/2019	3/27/2019	
	Run Start Time	10:40	15:12	9:05	
	Run Finish Time	13:56	18:45	12:21	
	Net Traverse Points	12	12	12	
Theta	Net Run Time, Minutes	182.75	180.75	181.25	
Dia	Nozzle Diameter, Inches	0.157	0.154	0.157	
C_p	Pitot tube Coeffecient	0.762	0.762	0.762	
Y	Dry Gas Meter Calibration Factor	0.9755	0.9755	0.9755	
P_{bar}	Barometric Pressure, "Hg	30.1	30.1	30.4	
Delta H	Average Differential Pressure of Orifice, ft^3	0.40	0.40	0.38	0.39
V_m	Volume of Metered Gas Sample, ft^3	66.012	66.809	65.438	66.086
t_m	Average Temp. of Dry Gas Meter, °F	46.6	45.8	44.2	45.5
V_{mstd}	Volume of Stack Gas Metered At Standard Conditions, ft^3	67.560	68.477	67.960	67.999
vl	Volume of Liquid Collected in Impingers, g	**255.5**	**271.8**	**256.7**	261.3
% H20	Percent Moisture by Volume	15.11	15.74	15.10	15.32
Mfd	Dry Mole Fraction	0.849	0.843	0.849	0.847
$\%CO_2$	Percent Carbon Dioxide	**5.26**	**5.29**	**5.23**	5.26
$\%O_2$	Percent Oxygen	**11.65**	**11.63**	**11.71**	11.66
$\%CO\text{-}N_2$	Percent Carbon Monoxide and Nitrogen	83.09	83.08	83.06	83.1
Md	Gas Molecular Weight, Dry	29.31	29.31	29.31	29.31
Mw	Gas Molecular Weight, Wet	27.60	27.53	27.60	27.58
P_g	Static Pressure, "H_2O	-0.5	-0.54	-0.8	-0.61
P_s	Absolute Flue Gas Pressure, "Hg	30.06	30.06	30.34	30.15
t_s	Average Flue Gas Temp., °F	359.3	355.5	359.8	358.2
Delta-p	Average Velocity Head, "H_2O	1.565	1.571	1.621	1.586
vs	Flue Gas Velocity, ft/sec	80.98	81.06	82.05	81.36
A	Stack/Duct Area, in^2	11,215.7	11,215.7	11,215.7	11,215.7
Q_{sd}	Volumetric Flow, DSCFM	207,949	207,532	212,560	209,347
Q_{aw}	Volumetric Flow, ACFM	378,432	378,797	383,444	380,224
%I	Percent IsoKinetics	103.0	109.9	102.2	105.0
Vs	Stack Gas Viscosity	234.25	232.83	234.40	233.83
Qs	PM10 Flow, @ Cyclone Conditions, ACFM	0.672	0.691	0.676	0.680
D50	**Dia of Particles in Cyclone I, Microns**	**9.89**	**9.65**	**9.84**	**9.79**
N_{re}	Reynolds Number Actual	2512.1	2603.0	2545.7	2553.6
C_{act}	Cunningham Correction Factor @ Stack Conditions	1.10	1.10	1.10	1.10
D_{50} (N_{re}<3162)	Particulate Cut Diameter for N_{re}<3162 for Cyclone IV	2.29	2.19	2.26	2.25
C_r	Re-estimated Cunningham Correction Factor	1.12	1.12	1.12	1.12
$D_{50\text{-}1}$	**Re-calculate Particle Cut Diameter for N_{re}<3162**	**2.27**	2.17	2.24	2.23
Z (N_{re}<3162)	Ratio (Z) Between D_{50} and $D_{50\text{-}1}$ Values	0.992	0.990	0.991	0.991
	Acceptance Criteria for Z Values (N_{re}<3163)	PASS	PASS	PASS	
mg Filterable Catch	Filterable PM Catch, Less Than 10 Microns, mg	2.3	0.8	1.9	1.67
mg Organic CPM	Organic Condensable PM, mg	2.9	2.6	1.7	2.40
mg Inorganic CPM	Inorganic Condensable PM, mg	2.3	2.2	1.7	2.07
	Blank Correction (Max of 2 mg)	0.0	0.0	0.0	0.0
mg CPM	Total CPM	5.2	4.8	3.4	4.47
Filterable PM_{10}	Milligrams Collected on M201A Filter	2.3	0.8	1.9	1.7
gr/DSCF	Concentration, grains/DSCF	0.00053	0.00018	0.00043	0.00038
mg/DSCM	Concentration, mg/DSCM	1.20	0.41	0.99	0.87
lb/hr	Emission Rate, lb/hr	0.936	0.321	0.786	0.681
Organic Cond. PM_{10}	Milligrams of Organic PM Collected in Impingers and CPM Filter	2.9	2.6	1.7	2.4
gr/DSCF	Concentration, grains/DSCF	0.00066	0.00059	0.00039	0.00054
mg/DSCM	Concentration, mg/DSCM	1.52	1.34	0.88	1.25
lb/hr	Emission Rate, lb/hr	1.181	1.042	0.703	0.975
Organic Cond. PM_{10}	Milligrams of Inorganic PM Collected in Impingers and CPM Filter	2.3	2.2	1.7	2.1
gr/DSCF	Concentration, grains/DSCF	0.00053	0.00050	0.00039	0.00047
mg/DSCM	Concentration, mg/DSCM	1.20	1.13	0.88	1.07
lb/hr	Emission Rate, lb/hr	0.936	0.882	0.703	0.841
Total Cond. PM_{10} [(1)]	Milligrams of Cond. PM Collected in Impingers and CPM Filter	5.2	4.8	3.4	4.5
gr/DSCF	Concentration, grains/DSCF	0.00119	0.00108	0.00077	0.00101
mg/DSCM	Concentration, mg/DSCM	2.72	2.48	1.77	2.32
lb/hr	Emission Rate, lb/hr	2.117	1.924	1.407	1.816
Total PM_{10} [(1)]	Total Milligrams Collected with Sample Train	7.5	5.6	5.3	6.1
gr/DSCF	Concentration, grains/DSCF	0.00171	0.00126	0.00120	0.00139
mg/DSCM	Concentration, mg/DSCM	3.92	2.89	2.75	3.19
lb/hr	Emission Rate, lb/hr	3.05	2.24	2.19	2.50

[(1)] No blank correction

SECTION THREE Results

TABLE 3-1. BOILER 2A PM (TSP) AND PM_{10} TEST RESULTS

TEST RUN NO.	:	BA-PM-1	BA-PM-2	BA-PM-3	
TEST DATE	:	2/28/2017	2/28/2017	2/28/2017	
TEST TIME	:	12:41 - 13:58	14:51 - 16:07	16:50 - 18:07	Average
Stack Gas Parameters					
Temperature, av. °F		425.0	424.3	424.8	424.7
Velocity, av. ft/sec		64.596	64.709	65.509	64.938
Volume flow, acfm		165,565	165,855	167,907	166,442
Volume flow, scfm		100,296	100,551	101,728	100,858
Volume flow, dscfm		85,452	83,603	84,220	84,425
Volume flow, scfh		6,017,745	6,033,036	6,103,684	6,051,488
Volume flow, dscfh		5,127,102	5,016,165	5,053,221	5,065,496
Moisture, av. % vol		14.80	16.86	17.21	16.29
CO_2, av. % vol, db		11.11	11.08	11.11	11.10
O_2, av. % vol, db		2.33	2.36	2.37	2.36
Sample Train Data					
Time, min		60.0	60.0	60.0	60.0
Volume, dscf		38.461	36.438	36.927	37.275
Volume, dscm		1.089	1.032	1.046	1.056
Filterable PM collected, mg		1.48	0.93	1.20	1.20
Isokinetic ratio, %		108.5	105.0	105.6	106.4
Filterable PM (TSP)					
Concentration					
gr/dscf		0.00201	0.00059	0.00171	0.00144
lb/dscf x 10^{-6}		0.2867	0.0847	0.2448	0.2054
Emission rate					
lb/hr		**1.4692**	**0.4248**	**1.2367**	**1.0436**
ton/yr		6.44	1.86	5.42	4.57
Emission limit					
lb/hr		**9.7**	**9.7**	**9.7**	**9.7**
Condensable PM_{10}					
Concentration					
grains/dscf		0.00221	0.00170	0.00152	0.00181
x 10^{-6} lb/dscf		0.3158	0.2436	0.2176	0.2590
Emission rate					
lb/hr		1.6186	1.2215	1.0994	1.3131
Total PM_{10}					
Concentration					
x 10^{-3} grains/dscf		0.00422	0.00230	0.00324	0.00325
x 10^{-6} lb/dscf		0.6024	0.3283	0.4624	0.4644
Emission rate					
lb/hr		**3.0878**	**1.6463**	**2.3361**	**2.3567**
Emission limit					
lb/hr		**9.7**	**9.7**	**9.7**	**9.7**

SECTIONTHREE Results

TABLE 3-1. BOILER 2B PM (TSP) AND PM_{10} TEST RESULTS

TEST RUN NO.	:	BB-PM-1	BB-PM-2	BB-PM-3	
TEST DATE	:	3/1/2017	3/1/2017	3/1/2017	
TEST TIME	:	11:10 - 12:18	12:57 - 14:07	14:31 - 15:39	Average
Stack Gas Parameters					
Temperature, av. °F		414.5	414.3	414.1	414.3
Velocity, av. ft/sec		64.416	65.975	65.185	65.192
Volume flow, acfm		165,104	169,101	167,076	167,093
Volume flow, scfm		98,951	101,366	100,181	100,166
Volume flow, dscfm		81,839	83,290	82,555	82,561
Volume flow, scfh		5,937,049	6,081,974	6,010,856	6,009,960
Volume flow, dscfh		4,910,345	4,997,375	4,953,281	4,953,667
Moisture, av. % vol		17.29	17.83	17.59	17.57
CO_2, av. % vol, db		10.95	10.88	10.91	10.91
O_2, av. % vol, db		2.54	2.59	2.60	2.57
Sample Train Data					
Time, min		60.0	60.0	60.0	60.0
Volume, dscf		44.844	45.589	43.492	44.641
Volume, dscm		1.270	1.291	1.232	1.264
Filterable PM collected, mg		3.60	6.30	2.50	4.13
Isokinetic ratio, %		105.7	105.3	101.3	104.1
Filterable PM (TSP)					
Concentration					
gr/dscf		0.00124	0.00213	0.00089	0.00142
lb/dscf x 10^{-6}		0.1770	0.3047	0.1267	0.2028
Emission rate					
lb/hr		**0.8689**	**1.5223**	**0.6276**	**1.0063**
ton/yr		3.81	6.67	2.75	4.41
Emission limit					
lb/hr		**9.7**	**9.7**	**9.7**	**9.7**
Condensable PM_{10}					
Concentration					
gr/dscf		0.00159	0.00153	0.00096	0.00136
lb/dscf x 10^{-6}		0.2274	0.2188	0.1374	0.1945
Emission rate					
lb/hr		1.1164	1.0929	0.6805	0.9633
Total PM_{10}					
Concentration					
gr/dscf		0.00283	0.00366	0.00185	0.00278
lb/dscf x 10^{-6}		0.4044	0.5235	0.2642	0.3974
Emission rate					
lb/hr		**1.9853**	**2.6152**	**1.3081**	**1.9695**
Emission limit					
lb/hr		**9.7**	**9.7**	**9.7**	**9.7**

SECTION THREE Results

TABLE 3-1. BOILER 2C PM (TSP) AND PM_{10} TEST RESULTS

TEST RUN NO.	:	BC-PM-1	BC-PM-2	BC-PM-3	
TEST DATE	:	3/2/2017	3/2/2017	3/2/2017	
TEST TIME	:	09:55 - 11:15	11:55 - 13:03	13:45 - 14:52	Average
Stack Gas Parameters					
Temperature, av. °F		415.9	415.4	415.7	415.7
Velocity, av. ft/sec		63.444	62.962	63.307	63.238
Volume flow, acfm		162,614	161,378	162,262	162,085
Volume flow, scfm		97,576	96,892	97,389	97,286
Volume flow, dscfm		81,954	80,999	81,296	81,416
Volume flow, scfh		5,854,559	5,813,516	5,843,337	5,837,138
Volume flow, dscfh		4,917,232	4,859,942	4,877,750	4,884,974
Moisture, av. % vol		16.01	16.40	16.52	16.31
CO_2, av. % vol, db		11.18	11.13	11.13	11.15
O_2, av. % vol, db		2.10	2.12	2.13	2.11
Sample Train Data					
Time, min		60.0	60.0	60.0	60.0
Volume, dscf		43.229	43.506	42.546	43.094
Volume, dscm		1.224	1.232	1.205	1.220
Filterable PM collected, mg		1.40	1.90	1.70	1.67
Isokinetic ratio, %		102.4	104.3	101.6	102.8
Filterable PM (TSP)					
Concentration					
gr/dscf		0.00050	0.00067	0.00062	0.00060
lb/dscf x 10^{-6}		0.0714	0.0963	0.0881	0.0853
Emission rate					
lb/hr		**0.3510**	**0.4678**	**0.4296**	**0.4162**
ton/yr		1.54	2.05	1.88	1.82
Emission limit					
lb/hr		**9.7**	**9.7**	**9.7**	**9.7**
Condensable PM_{10}					
Concentration					
gr/dscf		0.00125	0.00187	0.00121	0.00144
lb/dscf x 10^{-6}		0.1791	0.2666	0.1733	0.2063
Emission rate					
lb/hr		0.8802	1.2950	0.8452	1.0068
Total PM_{10}					
Concentration					
gr/dscf		0.00175	0.00254	0.00183	0.00204
lb/dscf x 10^{-6}		0.2505	0.3629	0.2614	0.2916
Emission rate					
lb/hr		**1.2312**	**1.7629**	**1.2748**	**1.4230**
Emission limit					
lb/hr		**9.7**	**9.7**	**9.7**	**9.7**

TABLE 4-1
RESULTS SUMMARY NO_X, & CO EMISSIONS
PAULSBORO REFINING COMPANY
U790 CCR F-101

Run Number:	1	2	3	Average	Emission Limit
Date:	8/2/2019	8/2/2019	8/2/2019	--	--
Time:	12:10-13:13	13:35-14:38	14:55-15:57	--	--
Process Data:					
Total Heater Duty, MMBtu/hr	32.01	32.47	32.78	32.42	--
Flue Gas:					
O_2, % volume dry	5.2514	5.0137	4.8508	5.039	--
CO_2, % volume dry	8.639	8.7899	8.8799	8.770	--
Flue gas temperature °F	628.33	627.00	626.00	627.110	--
Moisture content, % volume	14.80	14.05	14.57	14.473	--
Volumetric flow rate, dscfm	9285.8	9066.8	9080.0	9144.200	--
F-factor O_2 (F_d), scf/MMBtu	8317	8322	8322	8320.333	--
Operating hours per year		8760			--
Nitrogen Oxides [NO_X as NO_2] Emissions:					
ppmv, dry	16.6	16.5	16.2	16.4	--
lb/hour	1.1	1.1	1.1	1.1	2.0
lb/MMBtu	0.02	0.02	0.02	0.02	0.04
tons/yr	4.82	4.69	4.64	4.72	--
Carbon Monoxide [CO] Emissions:					
ppmv, dry	<0.843	<1.01	<1.16	<1.00	--
lb/hour	<0.03	<0.04	<0.05	<0.04	1.82
lb/MMBtu	<0.0007	<0.0008	<0.0009	<0.0008	--
tons/yr	<0.15	<0.18	<0.20	<0.18	--

%: percent
°F: degrees Fahrenheit
dscfm: dry standard cubic feet per minute
lb/hour: pounds per hour
tons/yr: tons per year
ppmv, dry: parts per million by volume, dry basis
lb/MMBtu: pounds per million British Thermal units
MMBtu/hr: million British Thermal units per hour
scf/MMBtu: standard cubic foot per million British Thermal units

TABLE 4-1
RESULTS SUMMARY NO_X, & CO EMISSIONS
PAULSBORO REFINING COMPANY
U780 CCR F-1234

Run Number:	4	5	6	Average	Emission Limit
Date:	7/31/2019	7/31/2019	7/31/2019	--	--
Time:	14:53-16:41	17:55-19:47	20:33-22:18	--	--
Process Data:					
O_2, %	3.33	3.35	3.41	3.36	--
Total Heater Duty, MMBtu/hr	322.03	325.39	329.50	325.64	--
Flue Gas:					
O_2, % volume dry	3.821	3.7422	3.9099	3.824	--
CO_2, % volume dry	8.9937	9.0247	8.8885	8.969	--
Flue gas temperature °F	376.42	376.67	375.83	376.307	--
Moisture content, % volume	18.11	17.97	17.70	17.927	--
Volumetric flow rate, dscfm	56914.5	58152.4	57987.0	57684.633	--
F-factor O_2 (F_d), scf/MMBtu/	8228	8127	8139	8164	--
Operating hours per year		8760			--
Nitrogen Oxides [NO_X as NO_2] Emissions:					
ppmv, dry	17.5	17.7	16.3	17.2	--
lb/hour	7.2	7.4	6.8	7.1	7.6
lb/MMBtu	0.02	0.02	0.02	0.02	0.02
tons/yr	31.32	32.37	29.70	31.13	--
Carbon Monoxide [CO] Emissions:					
ppmv, dry	0.03	0.02	0.02	0.02	--
lb/hour	0.01	0.00	0.00	0.00	13.81
lb/MMBtu	0.000	0.000	0.000	0.000	0.036
tons/yr	0.04	0.00	0.00	0.01	--

%: percent
°F: degrees Fahrenheit
dscfm: dry standard cubic feet per minute
lb/hour: pounds per hour
tons/yr: tons per year
ppmv, dry: parts per million by volume, dry basis
lb/MMBtu: pounds per million British Thermal units
MMBtu/hr: million British Thermal units per hour
scf/MMBtu: standard cubic foot per million British Thermal units

TABLE 4-2
RESULTS SUMMARY PM_{10} EMISSIONS
PAULSBORO REFINING COMPANY
U780 CCR F-1234

Run	3	4	5	Average	Emission Limit
Date:	7/31/2019	7/31/2019	7/31/2019	--	--
Time:	14:53-16:41	17:55-19:47	20:33-22:18	--	--
Process Data:					
O_2, %	3.33	3.35	3.41	3.36	--
Total Heater Duty, MMBtu/hr	322.03	325.39	329.50	325.64	--
Flue Gas:					
O_2, % volume dry	3.821	3.7422	3.9099	3.824	--
CO_2, % volume dry	8.9937	9.0247	8.8885	8.969	--
Meter volume, dscf	376.42	376.67	375.83	376.307	--
Moisture content, % volume	18.11	17.97	17.70	17.927	--
Volumetric flow rate, dscfm	56914.5	58152.4	57987.0	57684.633	--
Meter volume, dscf	30.070	30.684	31.385	30.713	--
Filterable PM_{10} Emissions:					
grains/dscf	0.000523	0.000810	0.000472	0.000602	--
lb/hour	0.02255	0.404	0.235	0.298	--
Inorganic Condensable PM_{10} Emissions:					
grains/dscf	0.00293	0.00317	0.00149	0.00253	--
lb/hour	1.43	1.58	0.743	1.25	--
Organic Condensable PM_{10} Emissions:					
grains/dscf	0.00391	0.00313	0.00318	0.00341	--
lb/hour	1.91	1.56	1.58	1.68	--
Total PM_{10} (Filterable and Condensable) Emissions:					
grains/dscf	0.00632	0.00609	0.00539	0.00593	--
lb/hour	3.08	3.04	2.68	2.93	3.97

%: percent
lb/hour: pounds per hour
dscf: dry standard cubic foot
°F: degrees Fahrenheit
dscf: dry standard cubic foot
dscfm: dry standard cubic feet per minute
grains/dscf: grains per dry standard cubic foot

TABLE 4-1
RESULTS SUMMARY NO_X AND CO EMISSIONS
PAULSBORO REFINING COMPANY
U810 F303 CCR HEATER

Run Number:	1	3	4	5	Average[(1)]	Emission Limit
Date:	8/1/19	8/1/19	8/1/19	8/1/19	--	--
Time:	1345-1450	1612-1718	1740-1845	1905-2010	--	--
Process Data:						
Heater duty, MMBtu/hr	57.26	57.34	57.53	57.92	57.51	--
Flue Gas:						
O_2, % volume dry	5.9601	5.4142	5.7708	5.7209	5.7165	--
CO_2, % volume dry	8.0391	8.438	8.3056	8.4399	8.3057	--
Stack temperature, °F	398.67	401.58	400.92	400.33	400.38	--
Moisture, % volume	13.74	16.92	16.03	15.30	15.50	--
Volumetric flow rate, dscfm	11,019.5	13,211.9	12,475.4	12,316.1	12,255.73	--
Nitrogen Oxides [NO_X as NO_2] Emissions:						
ppmv, dry	--	12.5	12.6	12.2	12.4	--
lb/hour	--	1.18	1.13	1.08	1.13	1.2
tons/yr	--	5.16	4.94	4.73	4.94	5.26
lb/MMBtu	--	0.0165	0.0171	0.0167	0.0168	0.02
Carbon Monoxide [CO] Emissions:						
ppmv, dry	0.05	0.03	0.04	0.05	0.03	--
lb/hour	0.0024	0.017	0.024	0.026	0.018	2.34
tons/yr	0.0011	0.075	0.105	0.115	0.076	10.25

%: percent
°F: degrees Fahrenheit
dscfm: dry standard cubic feet per minute
ppmv, dry: parts per million by volume, dry basis
lb/hour: pounds per hour
tons/yr: tons per year
lb/MMBtu: pounds per million British Thermal units
(1) Averages for process data, flue gas parameters, and CO emissions are for runs 1, 3, 4, and 5. Averages for NOx parameters are for runs 3, 4, and 5.

2.0 SUMMARY OF RESULTS

2.1 COKER HEATER A TEST SUMMARY

Montrose conducted a compliance emission test on the Coker Heater A and Coker Heater B exhausts at the PRC refinery located in Paulsboro, New Jersey. The compliance test consisted of three 60-minute test runs on each heater to determine the concentrations and emission rates of CO. Testing was conducted on April 18, 2018 for the Coker A Heater and April 19, 2018 for the Coker B Heater.

TABLE 2-1 COKER HEATER A CO TEST RESULTS

Test Run	:	2	3	4	
Test Date	:	4/18/2018	4/18/2018	4/18/2018	
Test Time	:	13:15 - 14:20	14:35 - 15:39	16:00 - 17:03	Average
STACK GAS					
Temperature, av. °F		541.8	554.4	556.1	550.8
Velocity, av. ft/sec		25.80	25.91	27.66	26.46
Volume flow, acfm		46,869	47,054	50,237	48,053
Volume flow, scfh		1,480,614	1,467,990	1,564,689	1,504,431
Volume flow, dscfh		1,269,192	1,277,453	1,363,800	1,303,482
Moisture, av. % vol		14.28	12.98	12.84	13.37
CO_2, av. % vol, db		9.02	8.84	8.95	8.93
O_2, av. % vol, db		6.01	6.11	6.15	6.09
CARBON MONOXIDE					
Concentration					
ppmv db		0.4	1.2	1.2	0.9
lb/dscf x 10^{-6}		0.027	0.087	0.084	0.066
Emission rate					
lb/hr		**0.034**	**0.112**	**0.114**	**0.087**
ton/yr		**0.15**	**0.49**	**0.50**	**0.38**
Emission limit					
lb/hr		**0.75**	**0.75**	**0.75**	**0.75**
ton/yr		**6.57**	**6.57**	**6.57**	**6.57**

TABLE 2-2 COKER HEATER B CO TEST RESULTS

Test Run	:	1	2	3	
Test Date	:	4/19/2018	4/19/2018	4/19/2018	
Test Time	:	10:45 - 11:47	12:00 - 13:02	13:15 - 14:18	Average
STACK GAS					
Temperature, av. °F		542.7	545.2	544.7	544.2
Velocity, av. ft/sec		26.30	26.87	27.85	27.01
Volume flow, acfm		47,131	48,148	49,903	48,394
Volume flow, scfh		1,482,672	1,510,915	1,566,742	1,520,110
Volume flow, dscfh		1,283,881	1,321,710	1,352,964	1,319,519
Moisture, av. % vol		13.41	12.52	13.64	13.19
CO_2, av. % vol, db		9.10	9.11	9.16	9.13
O_2, av. % vol, db		6.11	5.98	6.20	6.10
CARBON MONOXIDE					
Concentration					
ppmv db		< 0.5	< 0.5	< 0.5	< 0.5
lb/dscf x 10^{-6}		< 0.036	< 0.036	< 0.036	< 0.036
Emission rate					
lb/hr		**< 0.046**	**< 0.048**	**< 0.049**	**< 0.048**
ton/yr		**< 0.20**	**< 0.21**	**< 0.21**	**< 0.21**
Emission limit					
lb/hr		**0.75**	**0.75**	**0.75**	**0.75**
ton/yr		**6.57**	**6.57**	**6.57**	**6.57**

TABLE 2-1 CRUDE UNIT NO. 6 HEATER NO_x AND CO TEST RESULTS

Test Run	:	CU6-R1	CU6-R2	CU6-R3	
Test Date	:	3/13/2019	3/13/2019	3/13/2019	
Test Time	:	10:30-12:15	13:00-14:17	14:42-15:47	Average
PROCESS DATA					
RFG F_d-Factor, dscf/MMBtu		8,386.6	8,386.2	8,390.2	8,387.7
Fuel Flow Rate, scfm (NG)		173.82	171.32	171.62	172.25
STACK GAS					
Temperature, av. °F		545.6	543.7	543.7	544.3
Velocity, av. ft/sec		34.64	35.61	34.36	34.87
Volume flow, acfm		68,966	70,891	68,406	69,421
Volume flow, scfh		2,211,760	2,277,656	2,191,962	2,227,126
Volume flow, dscfh		1,880,481	1,917,646	1,837,387	1,878,505
Moisture, av. % vol		14.98	15.81	16.18	15.65
CO_2, av. % vol, db		11.60	11.58	11.62	11.60
O_2, av. % vol, db		2.78	2.76	2.62	2.72
NITROGEN OXIDES as NO_2					
Concentration					
ppmv db		87.5	87.7	88.0	87.7
lb/dscf x 10^{-6}		10.446	10.475	10.511	10.477
Emission rate					
lb/hr		**19.64**	**20.09**	**19.31**	**19.68**
ton/yr		86.04	87.98	84.59	86.20
lb/MMBtu		**0.101**	**0.101**	**0.101**	**0.101**
Emission limit					
lb/hr		**22**	**22**	**22**	**22**
lb/MMBtu		**0.125**	**0.125**	**0.125**	**0.125**
CARBON MONOXIDE					
Concentration					
ppmv db		< 0.5	< 0.5	< 0.5	< 0.5
ppmv db @ 15% O_2		< 0.2	< 0.2	< 0.2	< 0.2
lb/dscf x 10^{-6}		< 0.036	< 0.036	< 0.036	< 0.036
Emission rate					
lb/hr		**< 0.068**	**< 0.070**	**< 0.067**	**< 0.068**
ton/yr		< 0.30	< 0.31	< 0.29	< 0.30
Emission limit					
lb/hr		**7**	**7**	**7**	**7**

[1] – Carbon monoxide values are based upon the detection limit of the analyzer system at 1% of the given span value.

2.0 SUMMARY OF RESULTS

2.1 FURFURAL-1 BB-1 TEST SUMMARY

Montrose conducted a compliance emission test on the Furfural-1 BB-1 Heater exhaust at the PRC refinery located in Paulsboro, New Jersey. The compliance test consisted of three 60-minute test runs to determine the concentrations and emission rates of NOx and CO. Testing was conducted on July 31, 2018.

TABLE 2-1 FURFURAL-1 BB-1 HEATER NO_x AND CO TEST RESULTS

Test Run	:	1	2	3	
Test Date	:	7/31/2018	7/31/2018	7/31/2018	
Test Time	:	10:18 - 11:18	11:48 - 12:48	13:10 - 14:10	Average
PROCESS DATA					
Heat Input, MMBtu/hr		66.73	66.57	66.24	66.51
Fuel Heating Value, Btu/dscf		1168.6	1185.4	1181.4	1178.5
O_2 Based Dry F_d-factor, dscf/MMBtu		8472	8479	8477	8476
STACK GAS					
Volume flow, dscfh		925,358	940,077	961,563	942,333
CO_2, av. % vol, db		8.07	8.03	7.82	7.97
O_2, av. % vol, db		8.13	8.35	8.70	8.39
NITROGEN OXIDES as NO_2					
Concentration					
ppmv db		59.7	61.9	64.8	62.1
lb/dscf x 10^{-6}		7.125	7.391	7.740	7.419
Emission rate					
lb/hr		**6.593**	**6.948**	**7.443**	**6.995**
ton/yr		**28.88**	**30.43**	**32.60**	**30.64**
lb/MMBtu		**0.0988**	**0.1044**	**0.1124**	**0.1052**
Emission limit					
lb/hr		**11**	**11**	**11**	**11**
ton/yr		**70.08**	**70.08**	**70.08**	**70.08**
lb/MMBtu		**0.15**	**0.15**	**0.15**	**0.15**
CARBON MONOXIDE					
Concentration					
ppmv db		< 0.5	< 0.5	< 0.5	< 0.5
lb/dscf x 10^{-6}		< 0.036	< 0.036	< 0.036	< 0.036
Emission rate					
lb/hr		**< 0.034**	**< 0.034**	**< 0.035**	**< 0.034**
ton/yr		**< 0.15**	**< 0.15**	**< 0.15**	**< 0.15**
Emission limit					
lb/hr		**2.45**	**2.45**	**2.45**	**2.45**
ton/yr		**14.6**	**14.6**	**14.6**	**14.6**

2.0 SUMMARY OF RESULTS

2.1 FURFURAL-2 B-101 TEST SUMMARY

Montrose conducted a compliance emission test on the Furfural-2 B-101 Heater exhaust at the PRC refinery located in Paulsboro, New Jersey. The compliance test consisted of three 60-minute test runs to determine the concentrations and emission rates of NOx and CO. Testing was conducted on April 17, 2018.

TABLE 2-1 FURFURAL-2 B-101 HEATER NO_x AND CO TEST RESULTS

Test Run	:	2	3	4	
Test Date	:	4/17/2018	4/17/2018	4/17/2018	
Test Time	:	10:28 - 11:48	13:00 -14:16	14:55 - 16:07	Average
PROCESS DATA					
Heat Input, MMBtu/hr		54.0	55.9	56.8	55.6
STACK GAS					
Temperature, av. °F		507.2	502.6	503.3	504.4
Velocity, av. ft/sec		19.85	20.67	20.29	20.27
Volume flow, acfm		27,863	29,022	28,489	28,458
Volume flow, scfh		905,800	947,980	929,910	927,896
Volume flow, dscfh		779,492	808,343	808,902	798,912
Moisture, av. % vol		13.94	14.73	13.01	13.90
CO2, av. % vol, db		8.83	9.48	9.63	9.31
O2, av. % vol, db		6.13	5.12	4.85	5.37
NITROGEN OXIDES as NO2					
Concentration					
ppmv db		27.3	22.0	20.6	23.3
lb/dscf x 10-6		3.249	2.610	2.455	2.771
Emission rate					
lb/hr		**2.53**	**2.11**	**1.99**	**2.21**
ton/yr		11.09	9.24	8.70	9.68
lb/MMBtu		**0.039**	**0.030**	**0.027**	**0.032**
Emission limit					
lb/hr		**2.8**	**2.8**	**2.8**	**2.8**
lb/MMBtu		**0.041**	**0.041**	**0.041**	**0.041**
CARBON MONOXIDE					
Concentration					
ppmv db		1.6	1.3	4.2	2.4
lb/dscf x 10-6		0.114	0.093	0.304	0.171
Emission rate					
lb/hr		**0.089**	**0.075**	**0.246**	**0.137**
ton/yr		0.39	0.33	1.08	0.60
lb/MMBtu		0.0014	0.0011	0.0034	0.0019
Emission limit					
lb/hr		**2.51**	**2.51**	**2.51**	**2.51**

2.1 SUMMARY OF RESULTS

2.2 Presentation

Table 2-1 presents a summary of the test results. Detailed test results are presented in **Appendix A**; field and analytical data are given in **Appendices B and C**, respectively. Calibration records are presented in **Appendix E**. The plant data are presented in **Appendix E**. Qualified individual certifications are presented in **Appendix H.**

TABLE 2-1
TEST RESULTS SUMMARY

	Run 1	Run 2	Run 3	Run 4	Average	Permit Limit
Run Time	1120-1347	0856-1023	1158-1343	1456-1626	- -	- -
Total Suspended PM	12.5	13.1	- -[a]	11.7	12.5	30 lb/hr
PM_{10}	16.1	15.4	- -[a]	14.2	15.2	60 lb/hr
Sulfur Dioxide	0.0704	0.0350	- -[b]	0.593	0.233	39.3 lb/hr
Nitrogen Oxides as NO_2	14.7	13.8	- -[b]	14.4	14.3	45 ppm @ 0% O_2
	12.2	11.9	- -[b]	11.9	12.0	50.9 lb/hr
Carbon Monoxide	11.2	12.5	- -[b]	13.8	12.5	50 ppm @ 0% O_2
	5.64	6.57	- -[b]	6.96	6.39	34.4 lb/hr
Sulfuric Acid Mist	- -[c]	0.478	0.667	0.632	0.592	10 mg/dscf
	- -[c]	7.21	10.91	10.74	9.62	11.8 lb/hr
Nickel [d]	- -[e]	0.0167	0.0521	0.0250	0.0313	0.0228 lb/hr
Benzene	< 0.0121	< 0.0122	< 0.0121	- -[f]	< 0.0121	0.64 lb/hr

[a] Run NJATM1\202-3 aborted due to failed final leak check.
[b] No valid flow rates were available due to run NJATM\202-3 being aborted.
[c] Run MM8-1 aborted due to sample contamination.
[d] Blank corrected as per the method.
[e] Run M29-1 was aborted due to failed final leak check.
[f] No 4^{th} run was needed.

SECTIONONE Introduction and Summary

TABLE 1-1. SUMMARY OF GTG/HRSG TEST RESULTS

TEST RUN NO. :	GTG-PM10-3	GTG-PM10-4	GTG-PM10-5		
TEST DATE :	2/6/2018	2/8/2018	2/8/2018		Emission
TEST TIME :	18:15-21:28	9:35-12:50	14:01-17:11	Average	Limit
PRC Plant Firing Duty Data					
GTG N-1 Firing Duty, MMBtu/hr	373.4	378.9	373.6	375.3	
HRSG B-1 Firing Duty, MMBtu/hr	251.7	254.7	251.4	252.6	
Total Heat Input, MMBtu/hr	625.0	633.7	624.9	627.9	
Total PM_{10}					
Concentration, x 10^{-3} gr/dscf	2.043	1.607	1.827	1.826	
Emission rate, lb/hr	3.58	2.79	3.16	3.18	**3.2**
Emission rate, lb/MMBtu	0.006	0.004	0.005	0.005	**0.005**
CO[1]					
Concentration, ppmvd	0.00	0.00	0.00	0.00	
Concentration, ppmv @ 15% O_2	0.00	0.00	0.00	0.00	**250**
Emission rate, lb/hr	0.00	0.00	0.00	0.00	**41.2**
Emission rate, lb/MMBtu	0.000	0.000	0.000	0.000	**0.064**
NOx[1]					
Concentration, ppmvd	45.15	45.86	45.36	45.46	
Emission rate, lb/MWh	0.42	0.44	0.43	0.43	**1.3**

[1] – All CO and NOx emission rates were calculated utilizing facility CEMS.

SECTION FOUR Results

TABLE 4-1. GTG/HRSG STACK PM_{10} TEST RESULTS

RUN NO	GTG-PM10-2	GTG-PM10-3	GTG-PM10-4	GTG-PM10-5	
TEST DATE	2/6/2018	2/6/2018	2/8/2018	2/8/2018	**Runs 3-5**
TEST TIME	14:13 - 17:23	18:15 - 21:28	9:35 - 12:50	14:01 - 17:11	**Average**
Stack Gas Parameters					
Temperature, ºF	361.8	362.5	364.2	363.1	363.3
Velocity, av. ft/sec	79.2	79.3	78.9	78.6	78.9
Volumetric flow, acfm	369,935	370,595	368,667	367,337	368,867
Volumetric flow, scfm	240,324	241,356	239,615	238,274	239,748
Volumetric flow, scfh	14,419,432	14,481,350	14,376,893	14,296,449	14,384,897
Volumetric flow, dscfm	202,434	204,613	202,872	201,757	203,081
Volumetric flow, dscfh	12,146,037	12,276,795	12,172,318	12,105,393	12,184,835
Moisture, av. % vol	15.8	15.2	15.3	15.3	15.3
Carbon Dioxide, av. % vol	4.7	4.6	4.6	4.4	4.6
Oxygen, av. % vol	12.2	12.4	12.8	12.8	12.7
PM_{10} Sample					
Time, min	173.6	174.3	173.2	172.3	173.3
Volume, dscf	62.040	63.382	62.062	62.128	62.524
>PM_{10} particulate, mg	0.70	0.87	0.73	0.39	0.66
PM_{10} particulate, mg	0.23	0.18	0.19	0.22	0.20
Condensible PM10 particulate, mg	10.52	8.21	6.27	7.14	7.21
Total PM_{10} particulate, mg	10.75	8.39	6.46	7.36	7.40
Isokinetic Ratio, %	96.5	97.1	96.5	97.7	97.1
D_{50} Cutpoint, μm	10.12	10.07	10.17	10.11	10.12
>PM_{10} Emissions					
Concentration					
x 10^{-3} grains/dscf[1]	0.1741	0.2118	0.1815	0.0969	0.1634
x 10^{-6} lb/dscf	0.025	0.030	0.026	0.014	0.023
Emission Rate					
lb/hr	0.302	0.372	0.316	0.168	0.285
Filterable PM_{10} Emissions					
Concentration					
x 10^{-3} grains/dscf	0.0572	0.0438	0.0472	0.0546	0.0486
x 10^{-6} lb/dscf	0.008	0.006	0.007	0.008	0.007
Emission Rate					
lb/hr	0.099	0.077	0.082	0.095	0.085
Condensible PM_{10} Emissions					
Concentration					
grains/dscf	0.0026	0.0020	0.0016	0.0018	0.0018
x 10^{-6} lb/dscf	0.374	0.286	0.223	0.253	0.254
Emission Rate					
lb/hr	4.540	3.507	2.712	3.067	3.095
Total PM_{10} Emissions					
Concentration					
x 10^{-3} grains/dscf	2.6731	2.0430	1.6066	1.8274	1.8256
x 10^{-6} lb/dscf	0.382	0.292	0.230	0.261	0.261
Emission Rate					
lb/hr	4.64	3.58	2.79	3.16	3.18
lb/MMBtu	0.007	0.006	0.004	0.005	0.005
Emission Limit					
lb/hr	**3.2**	**3.2**	**3.2**	**3.2**	**3.2**
lb/MMBtu	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**

4.0 SUMMARY OF RESULTS

The emission rates for the marine vapor control device installed at this marine loading facility were determined. The results are summarized in Table 4-1:

Table 4-1
Test Results

Date		3/3/2020	3/3/2020	3/3/2020		
Run ID		Run 1	Run 2	Run 3	Average	Permitted
Start Time		9:30	10:45	12:00		
Finish Time		10:30	11:45	13:00		
Inlet						
Flow(scfh)		23,154	22,971	22,753	22,959	
Gasoline Loaded (barrels)		3,699	3,547	3,517	3,588	
Natural Gas Usage		13,606	11,975	11,226	12,269	
Hydrocarbon						
Method 25B	ppm(C3H8)	174,712	180,985	183,202	179,633	
VOC	lbs/hr	733.6	790.5	811.7	778.6	
Natural Gas	lbs/hr	566.7	498.8	467.6	511.0	
Outlet						
scfh		1,012,228	999,313	896,533	969,358	
dscfh		970,727	948,348	828,396	915,824	
% Moisture		4.10	5.10	7.60	5.60	
% O2		15.88	15.48	15.40	15.59	
% CO2		3.29	3.60	3.67	3.52	
Hydrocarbon						
Method 25A	ppm(C3H8)	0.000	0.006	0.006	0.004	
	lbs/hr	0.000	0.000	0.000	0.000	15.42
	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	10.0
Destruction Efficiency						
	%	>99.99	>99.99	>99.99	>99.99	95.0
Carbon Monoxide	ppm	10.27	7.74	7.05	8.36	50.0
	ppmv, 7% O2	28.46	19.85	17.81	22.04	100.0
	lbs/hr	0.725	0.534	0.425	0.562	12.97
Oxides of Nitrogen	ppm	25.03	27.46	28.09	26.86	
	lbs/hr	2.90	3.11	2.78	2.93	9.41

TABLE 4-1
RESULTS SUMMARY NO_X AND CO EMISSIONS
PAULSBORO REFINING COMPANY
U15 PDA BB-2 PROCESS HEATER

Run Number:	1	2	3	Average	Emission Limit
Date:	9/17/19	9/17/19	9/17/19	--	--
Time:	0930-1030	1055-1155	1215-1315	--	--
Process Data:					
Heater duty, MMBtu/hr	57.81	59.58	59.01	58.80	--
Flue Gas:					
O_2, % volume dry	7.15E+00	7.15E+00	7.40E+00	7.23E+00	--
CO_2, % volume dry	8.26E+00	8.29E+00	8.19E+00	8.25E+00	--
Volumetric flow rate, dscfm					--
Nitrogen Oxides [NO_X as NO_2] Emissions:					
ppmv, dry	7.40E+01	7.30E+01	7.44E+01	7.38E+01	--
lb/hour	6.81E+00	6.93E+00	7.11E+00	6.95E+00	12
lb/MMBtu	1.18E-01	1.16E-01	1.20E-01	1.18E-01	0.2
Carbon Monoxide [CO] Emissions:					
ppmv, dry	6.42E-01	6.90E-01	5.95E-01	6.42E-01	--
lb/hour	3.60-E02	3.99E-02	3.46E-02	3.68E-02	2.1

%: percent
°F: degrees Fahrenheit
dscfm: dry standard cubic feet per minute
ppmv, dry: parts per million by volume, dry basis
lb/hour: pounds per hour
lb/MMBtu: pounds per million British Thermal units

2. TEST RESULTS

Table 2-1 summarizes the carbon monoxide (CO) and formaldehyde concentrations corrected to 15% oxygen content. The engines were tested at normal operating loads.

Table 2-1. Engine Emissions, Corrected to 15% Oxygen

Run No.	Time	CO, ppm
Pyramid Pump 4-11-18		
1	0837-0937	226.16
2	0946-1046	236.24
3	1104-1204	217.05
Average		**226.48**
Slop Pump 4-12-18		
1	1024-1124	63.87
2	1136-1236	156.84
3	1246-1346	292.86
Average		**171.19**
West OM Pump 5-10-18		
1	0944-1044	116.08
2	1051-1151	119.08
3	1157-1257	120.79
Average		**118.65**
Air Compressor 4-16-18		**Formaldehyde, ppb**
1	1220-1320	144.58
2	1335-1445	147.74
3	1450-1550	144.68
Average		**145.67**

2. TEST RESULTS

Table 2-1 summarizes the formaldehyde concentrations corrected to 15% oxygen content. The engines were testing at normal operating loads.

Table 2-1. Engine Emissions, Corrected to 15% Oxygen

Run No.	Time	Formaldehyde, ppb
Utilities 10-24-18		
1	0953-1053	459.0
2	1141-1241	134.0
3	1326-1426	85.0
Average		**226.0**
FCC 10-26-18		**Formaldehyde, ppb**
1	0915-1016	529.0
2	1049-1149	560.0
3	1219-1359	615.0
Average		**568.0**

2. TEST RESULTS

Table 2-1 summarizes the formaldehyde concentrations corrected to 15% oxygen content. The engines were testing at normal operating loads.

Table 2-1. Engine Emissions, Corrected to 15% Oxygen

Run No.	Time	Formaldehyde, ppb
Utilities 4-24-19		
1	1030-1130	188.5
2	1145-1245	185.5
3	1300-1400	124.5
Average		**166.2**

2. TEST RESULTS

Table 2-1 summarizes the formaldehyde concentrations corrected to 15% oxygen content. The engines were tested at normal operating loads.

Table 2-1. Engine Emissions, Corrected to 15% Oxygen

Run No.	Time	Formaldehyde, ppb
8/20/19 Utilities Compressor (800-22-1365)		
1	0952-1130	138
2	1155-1301	<315
3	1323-1424	<311
Average		**<255**
8/21/19 FCC Compressor (800-22-4905)		
1	1013-1113	336
2	1144-1245	<133
3	1315-1416	<96
Average		**<188**
8/22/19 Utilities Compressor (800-21-2462)		
1	1005-1105	<77
2	1120-1220	170
3	1245-1345	<76
Average		**<108**

Emission Unit	Description	Status
FC #4	Air Pollution Emergency Plan	will incorporate into the refinery plan post Title V renewal

PAULSBORO REFINING COMPANY LLC
INCORPORATION OF PAULSBORO TECHNICAL CENTER INTO PRC PERMIT

Emission Unit	Description	Status
U300	Test Engines - Engine Test Stands (10 stands) in Building 3 and 3A	remove from permit - the engines have been removed from facility
U1201	Building 12 Blending / Storage Operations - 13 tanks (550 - 21,000 gallons) & Drum Blending Operations	remove from permit - this operation no longer exists - leave the tanks listed in the permit as they are still standing but are not in operation
U3100	2 Unheated Open-Top Wash Tanks (Degreasers) in Room 3141	remove from permit - no longer in use - equipment remains
U3101	Parts Suface Cleaners (8 Units)	remove from permit - no longer in use - equipment remains
U3102	Parts Surface Cleaners (2 Units) Ultrasonic Unit + Parts Cleaner in Room 3105	remove from permit - no longer in use - equipment remains
U3103	Parts Surface Cleaner: Batch Vapor Parts Cleaning Unit in Room 3171	remove from permit - no longer in use - equipment remains
U4400	Chiller Engine (Building 44) - 1 Engine Burning Natural Gas	remove from permit - no longer in use - equipment remains
U4501	Lube Blending Tanks (Bldg. 45) - 15 Lube Blending Kettles, 10 to 2,200 gallons, Blending of Lubricants	remove from permit - no longer in use - equipment remains
U4600	Waste Storage Tanks 266, 267, 286 (3 7,000 gallon ASTs, mixture of gasoline and other Dist HC's)	remove from permit - no longer in use - equipment remains
U4601	Sources at Bldg. 46 (Trough, Hotbox, Shredder (2), Hopper/Steamers (4))	remove from permit - no longer in use - equipment remains
U9900	Storage Tanks, 53 ASTs (2000 to 22,000 gallons), Contents limited to Non-HAP Petrol. Dist. w/VP <=11.5 psia at 70 F	remove from permit - no longer in use - equipment remains
U9901	13 Heated Fixed Roof AST's, Contents Limited to Non-HAP Petro. Hydrocarbons with Vapor Pressure <= 0.05 psia at 70 F	remove from permit - no longer in use - equipment remains
U9902	Fuel Storage (22 ASTs) and Dispensing Station	remove from permit - no longer in use - equipment remains
U9990	Site Emergency Generators (3 listed in permit)	retain in permit - equipment still in potential use - need to add a generator

Emission Unit	Description	Status
IS1	Gasoline Tanks (<= 2,000 gals)	not in service
IS3	Lube Storage Tanks (<= 10,000 gals)	not in service
IS4	Test Engines (< 1 mmbtu/hr) firing diesel	gone
IS5	Test Engines (< 1 mmbtu/hr) firing gasoline	gone
IS7	Butane Tank (pressurized)	not in service
IS10	Clawson Tanks (< 2,000 gals)	not in service
IS15	Emergency Generators (< 1 mmbtu/hr) firing fuel oil	looks like 4 of these
IS16	Fire Pump (< 1 mmbtu/hr) firing fuel oil	retain
IS17	Tank 318 - urea storage	not in service
IS18	Emergency Generators (< 1 mmbtu/hr) firing gasoline	looks like 10 generators + 4 pumps
IS20	Water Displacement/Rust Inhibitor Booth 1	not in service
IS100	Heated Storage Tanks (non-HAP <0.02 psia)	not in service
IS200	Natural gas fired space heaters	retain
IS9004	Building 46 trough	not in service