

Tronox LLC, Columbus

General Information

ID	Branch	SIC	County	Basin	Start	End
1696	Chemical	2491	Lowndes	Tombigbee River	10/27/1992	

Address

Physical Address (Primary)	Mailing Address
2300 14th Avenue North Columbus, MS 39701	PO Box 268859 Oklahoma City, OK 731268859

Telecommunications

Type	Address or Phone
Work phone number	(405) 775-5129

Alternate / Historic AI Identifiers

Alt ID	Alt Name	Alt Type	Start Date	End Date
2808700020	Tronox LLC, Columbus	Air-AIRS AFS	10/12/2000	06/01/2002
168000020	Kerr McGee Chemical Corporation, Columbus	Air-Construction	06/12/1998	
168000020	Kerr McGee Chemical Corporation, Columbus	Air-Synthetic Minor Operating	06/06/1997	06/01/2002
168000020	Kerr McGee Chemical Corporation, Columbus	Air-Synthetic Minor Operating	06/12/1998	06/01/2002
MSR220010	Kerr McGee Chemical Corporation, Columbus	GP-Wood Treating	10/27/1992	07/13/1997
MSD990866329	Kerr McGee Chemical Corporation, Columbus	Hazardous Waste-EPA ID	10/12/2000	
MSD990866329	Kerr McGee Chemical Corporation, Columbus	Hazardous Waste-TSD	06/11/2001	04/12/2006
MSD990866329	Tronox LLC, Columbus	Hazardous Waste-TSD	04/13/2006	05/31/2011
1696	Kerr McGee Chemical Corporation	Historic Site Name	10/27/1992	04/10/2006
1696	Tronox, LLC	Official Site Name	04/10/2006	
MSP090021	Kerr McGee Chemical Corporation, Columbus	Water-Pretreatment	10/11/1994	10/10/1999
MSP090021	Kerr McGee Chemical Corporation, Columbus	Water-Pretreatment	08/23/2000	07/31/2005
MSP090021	Kerr McGee Chemical Corporation, Columbus	Water-Pretreatment	10/31/2005	04/12/2006
MSP090021	Tronox LLC, Columbus	Water-Pretreatment	04/13/2006	09/30/2010

Regulatory Programs

Program	SubProgram	Start Date	End Date
Air	NSPS Subpart Dc	09/12/1990	06/01/2002
Air	SM	06/06/1997	06/01/2002
Hazardous Waste	Large Quantity Generator	04/01/1997	
Hazardous Waste	TSD - Not Classified	06/11/2001	
Water	PT CIU	10/11/1994	09/01/2003
Water	PT CIU - Timber Products	10/11/1994	09/01/2003

	Processing (Subpart 429)		
Water	PT NCS	09/01/2003	
Water	PT SIU	10/11/1994	

Locational Data

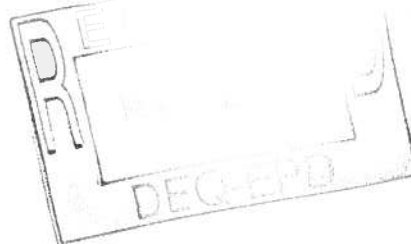
Latitude	Longitude	Metadata	S / T / R	Map Links
33 ° 30 ' 38 .51 (033.510697)	88 ° 24 ' 34 .02 (088.409450)	Point Desc: PG - Plant entrance (General) Data collected by Louis Crawford on 7/11/00. PG - Plant Entrance (General) Data collected by Clift Jeter on 6/13/02. LAT 33deg 30min 36.6sec LON 88deg 24min 35.1sec Method: GPS Code (Psuedo Range) Differential Datum: NAD83 Type: MDEQ	Section: Township: Range:	SWIMS TerraServer Map It

10/13/2006 10:29:50 AM



KERR-McGEE CHEMICAL LLC
KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

CERTIFIED MAIL
Return Receipt Requested



October 31, 2001

Mr. Jerry Cain, Chief Environmental Permits Division
Mississippi Department of Environmental Quality
Air Permitting Branch
Office of Air Pollution Control
P.O. Box 10385
Jackson, MS 39289-0385

RE: Title V Permit Renewal, Operating Permit 1680-0002
Kerr-McGee Chemical LLC, Columbus, Mississippi

Dear Mr. Cain:

As provided by in Part I, Condition 8 of the above referenced permit, please find enclosed a permit renewal application for Kerr-McGee Chemical LLC, (KMCLLC), Columbus, Mississippi wood preserving facility. I have enclosed two copies of the application for your review.

Net Change in Facility Emissions

KMCLLC has made a concerted effort to lower the facilities potential to emit (PTE). The rationale for lowering the PTE is based upon our commitments to pollution prevention, waste minimization, as well as our certification as an ISO 14001 facility and membership in EPA's Performance Track Program. We have accomplished PTE reductions through:

1. Limiting natural gas combustion from both boilers to 150 MMft³/year.
2. Limiting fuel oil combustion from both boilers to 216,000 gal/year.
3. Restricting boiler operation to one boiler operating at any one time except during startup or shutdown.
5. Limiting the wood treating production process to a maximum number of green wood charges of 913 in any 12-month period or 2,190 dry charges in any 12-month.



6. Limiting the wood treating production process to a maximum number of green wood charges to 90 in any one-month or 216 dry wood charges in any one month.
7. The large change in wood treating VOC's and HAPs is a result of adding fugitive emission sources (See Figure 5).

These company-imposed restrictions translate into a lower PTE for the facility.

Wood Preserving Process Emissions

KMCLLC has evaluated the emissions from the creosote wood preserving process. The 2001 AWPI emission model was utilized to make current estimates, whereas the 1995 AWPI emission model was utilized to make emission estimates in 1995.

Estimates for both 100% green wood treatment and 100% dry treatment are presented in Tables 4 through 6. These levels of wood preserving are:

1. 100% green wood treatment is a self-imposed restriction of 913 total green wood charges per year. (See Table 7)
2. 100 % dry wood treatment is a self-imposed restriction of 2,190 total dry wood charges per year. (See Table 7)

The Columbus facility neither processes 100% green, nor does it processes 100% dry in any one year. Table 6 demonstrates that green treatment has the higher potential to emit than dry treatment. However, there are a greater number of dry charges treated in a year (2190 dry Vs 913 green charges) thus, the overall emissions (TPY) are higher for dry charges. KMCLLC is therefore basing our proposed emission limits on dry treatment with the following permit restrictions. The facility also usually treats more dry charges than green charges in any given year.

1. Maximum number of 2190 dry charges or 913 green charges in any year.
2. Maximum number of 216 dry charges or 90 green charges in any month.
3. The comparison in Table 6 shows that as dry charges are replaced with green charges, total plant emission levels decrease. This restriction is a self regulating restriction for combinations of green and dry charges since it requires approximately 2.4 times the cycle time (24 hours Vs. 10 hours) to treat a green charge as it does a dry charge.

Mr. Jerry Cain
October 31, 2001
Page 3

State Emission Inventory Dated September 13, 2001

KMCLLC has reviewed the emission inventory developed on September 13, 2001. Of interest is Source I.D. No. AA-20. This source is listed as a diesel storage tank; yet potential emissions estimated for this source are consistent with a combustion unit. We can find no facility emission source consistent with these emission estimates. The five diesel storage tanks were shown to be insignificant sources (See Appendix E) during our 1995 Title V permit review. Perhaps these were emission estimates for the boiler we had in service in 1995?

Documents Relevant to Permit Review

The following documents are intended to be relevant to the Columbus, MS Permit Renewal:

- | | |
|---|---|
| 1. Application Addendum | MDEQ Forms |
| 2. Application For Title V Operating Permit | Renewal Of An Operating Permit |
| 3. Table 1-10 | Table Description |
| 3.1. Table 1 | Boiler Natural Gas Combustion (150 MMft ³ /year) |
| 3.2. Table 2 | Boiler Fuel Oil Combustion (216,000 Gallons/year) |
| 3.3. Table 3 | Boiler Potential To Emit (Based Operating Limitations) |
| 3.4. Table 4 | 2001 AWPI Model For Green Treatment (913 Charges/year) |
| 3.5. Table 5 | 2001 AWPI Model For Dry Treatment (2,190 Charges/year) |
| 3.6. Table 6 | Comparison Of Green And Dry Treatment To Determine PTE |
| 3.7. Table 7 | Process Production Limits |
| 3.8. Table 8 | Plant PTE |
| 3.9. Table 9 | Comparison Of MDEQ Emission Inventory and Permit Renewal Emission Inventory |
| 3.10. Table 10 | Black Tie Storage Emission Estimate |
| 4. Appendix A | AP-42 Emission Factors |
| 5. Appendix B | AWPI Model For 100% Green Treatment |
| 6. Appendix C | AWPI Model For 100% Dry Treatment |
| 7. Appendix D | AWPI Emission Model, June 2001 |

Mr. Jerry Cain
October 31, 2001
Page 4

8. Appendix E

1995 Fuel Oil Storage Tank Emission Est.

Should you or your staff have questions or require additional information during review, please telephone me at (405) 270-2394 or email at nbock@kmg.com.

Sincerely,

Kerr-McGee CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION



Nicholas E. Bock
Manager - Environmental Affairs and Regulatory Compliance

Attachments

cc: R. Murphey, Plant Manager
R. P. Michel, VP

Table 1

Emission Estimates For Boilers

Natural Gas

Kerr-McGee Chemical LLC
Columbus, MS
Revised October 22, 2001

Hurst Series 400, 350 HP Boiler-Natural Gas								
Application: June 2001								
Emission Point AA-028								
Regulated Air Pollutants	Emission Factor* (lb/MMft ³)	Fuel Value (BTU/ft ³)	Firing Rate (MMBTU/hr)	Hourly Emission (lb/hr)	Hours Per Year (hours/yr)	Conversion Factor (lb/ton)	Annual Emissions (Ton/year)	Hurst Boiler PTE (Ton/year)
Particulate	1.9	1000	14.7	0.03	8760	2000	0.12	0.12
PM-10	1.9	1000	14.7	0.03	8760	2000	0.12	0.12
SO ₂	0.6	1000	14.7	0.01	8760	2000	0.04	0.04
NO _x	100	1000	14.7	1.47	8760	2000	6.44	6.44
CO	84	1000	14.7	1.23	8760	2000	5.41	5.41
VOC's	5.5	1000	14.7	0.08	8760	2000	0.35	0.35
PAC (lb/MMBTU)	3.15E-05	1000	14.7	0.00	8760	2000	0.00	0.00

Hurst Series 400, 350 HP Boiler-Natural Gas has the maximum capacity of 129 MMft³/year

Cleaver Brooks Model CB D-6								
Existing Boiler								
Emission Point AA-001								
Regulated Air Pollutants	Emission Factor* (lb/MMft ³)	Fuel Value (BTU/ft ³)	Firing Rate (MMBTU/hr)	Hourly Emission (lb/hr)	Limit ² Nat Gas 150 MMft ³ /yr	Conversion Factor (lb/ton)	Annual Emissions (Ton/year)	CB-D-6 Boiler PTE (Ton/year)
Particulate	1.9	1000	34	0.06	150	2000	0.14	0.14
PM-10	1.9	1000	34	0.06	150	2000	0.14	0.14
SO ₂	0.6	1000	34	0.02	150	2000	0.05	0.05
NO _x	100	1000	34	3.40	150	2000	7.50	7.50
CO	84	1000	34	2.86	150	2000	6.30	6.30
VOC's	5.5	1000	34	0.19	150	2000	0.41	0.41
PAC (lb/MMBTU)	3.15E-05	1000	34	0.00	150	2000	0.00	0.00

Maximum Emission From Oil or Gas

* All Emission Factors are based on AP-42 Factors: Table 1.4-1/2, 7/98

PAC (lb/MMBTU) Emission Factor From EPA Seminar

Limit²

Seeking an operating limit of maximum annual gas usage of 150 MMft³/year

Cleaver Brooks Boiler-Natural Gas has the maximum capacity of 298 MMft³/year

Seeking an operating limit where only one boiler is operating at a time except during startup or shutdown

Table 2
Emission Estimates For Boilers
Number 2 Fuel Oil
 Kerr-McGee Chemical LLC
 Columbus, MS
 Revised October 22, 2001

Hurst Series 400, 350 HP Boiler-No. 2 Fuel Oil (With Fuel Oil Limitation) Application: November 2001 Emission Point AA-028								
Regulated Air Pollutants	Emission Factor* (lb)/1000gal	Conversion Factor (per 1000gal)	Fuel Value (Gal/hr)	Hourly Emission (lb/hr)	Limit ¹ 216,000 (Hours/yr)	Conversion Factor (lb/ton)	Annual Emissions (Ton/year)	Hurst PTE (Ton/year)
Particulate	2	0.001	105	0.21	2057	2000	0.22	0.22
PM-10	2	0.001	105	0.21	2057	2000	0.22	0.22
SOx (.5% Sulfur)	71	0.001	105	7.46	2057	2000	7.67	7.67
NOx (.03% Nitrogen)	20	0.001	105	2.10	2057	2000	2.16	2.16
CO	5	0.001	105	0.53	2057	2000	0.54	0.54
VOC's	0.2	0.001	105	0.02	2057	2000	0.02	0.02
PAC lb/MMBTU	2.51E-08			0.000			0.00	0.00

Cleaver Brooks Model CB D-6 Existing Boiler (Has Fuel Oil Limitation) Emission Point AA-001								
Regulated Air Pollutants	Emission Factor* (lb)	Conversion Factor (per 1000gal)	Fuel Value (Gal/hr)	Hourly Emission (lb/hr)	Limit ¹ 216,000 (Hours/yr)	Conversion Factor (lb/ton)	Annual Emissions (Ton/year)	CB D-6 PTE (Ton/year)
Particulate	2	0.001	100	0.20	2160	2000	0.22	0.22
PM-10	2	0.001	100	0.20	2160	2000	0.22	0.22
SOx (.5% Sulfur)	71	0.001	100	7.1	2160	2000	7.67	7.67
NOx (.03% Nitrogen)	20	0.001	100	2.00	2160	2000	2.16	2.16
CO	5	0.001	100	0.50	2160	2000	0.54	0.54
VOC's	0.2	0.001	100	0.02	2160	2000	0.02	0.02
PAC lb/MMBTU	2.51E-08			0.000			0.00	0.00

Maximum Emissions

* All Emission Factors are based on AP-42 Factors: Table 1.3-1, Distillate oil fired

Limit¹ Operating Permit Limits annual fuel oil usage to 216,000 gallons
 in any 12 consecutive months Permit 1680-0002

Seeking an operating limit where only one boiler is operating at a time except during startup or shutdown

Table 3
Emission Estimates For Boilers
Potential To Emit Summary (Permit Limit)
 Kerr-McGee Chemical LLC
 Columbus, MS
 Revised October 22, 2001

Regulated Air Pollutants	Short Term Permit Limit (lb/hr)						
	See Table	Boiler Fuel	Boiler Fuel	Hurst Boiler	CB D-6 Boiler	Single Boiler Maximum	Short Term Allowable lb/hr
Particulate	Table 2	No. 2 Fuel Oil	No. 2 Fuel Oil	0.21	0.20	0.21	0.21
PM-10	Table 2	No. 2 Fuel Oil	No. 2 Fuel Oil	0.21	0.20	0.21	0.21
SOx	Table 2	No. 2 Fuel Oil	No. 2 Fuel Oil	7.46	7.10	7.46	7.46
NOx	Table 1	Natural Gas	Natural Gas	1.47	3.40	3.40	3.40
CO	Table 1	Natural Gas	Natural Gas	1.23	2.86	2.86	2.86
VOC's	Table 1	Natural Gas	Natural Gas	0.08	0.19	0.19	0.19

PAC is NA

Allowable
 Based on the greatest emission level using either natural gas or No. 2 fuel oil for a single boiler

Regulated Air Pollutants	Long Term Permit Limit (TPY)						
	See Table	Boiler Fuel	Hurst Boiler	CB D-6 12 Mon. Gas	CB D-6 3 Mons. Oil	CB D-6 9 Mons. Gas	Long Term Allowable TPY*
Particulate	Table 2	No. 2 Fuel Oil	0.22	0.14	0.22	0.11	0.32
PM-10	Table 2	No. 2 Fuel Oil	0.22	0.14	0.22	0.11	0.32
SOx	Table 2	No. 2 Fuel Oil	7.67	0.05	7.67	0.03	7.70
NOx	Table 1	Natural Gas	6.44	7.50			7.50
CO	Table 1	Natural Gas	5.41	6.30			6.30
VOC's	Table 1	Natural Gas	0.35	0.41			0.41

Permit Value PAC is NA

All Emission Factors are based on AP-42 Factors

Allowable TPY* Operating Permit Limits annual fuel oil usage to 216,000 gallons and/or 150 MMft³/year Natural Gas in any 12 consecutive months for either boilers combined.

Based on higher of 12 months natural gas usage or 3 months oil/9months natural gas usage.

Seeking an operating limit where only one boiler is operating at a time except during startup or shutdown

Table 4

2000 Columbus Title V-100% Green Treatment (913 Charges/yr; 90 Green Charges/Month)

Revised 10/30/01

I. Point Sources	Point Source (Controlled) Emissions (pounds per year) Green Permit Limit					
	Naphthalene	Dibenzofuran	Quinoline	Biphenyl	VOC	PAC
Work Tanks	1.9	0.2	0.2	0.2	4.3	0
Storage Tanks	0	0	0	0	0	0
Boulton Conditioning	76	9	4	3	175	0
Wood Treatment	47	5	2	2	108	0
Flash	0	0	0	0	0	0
Dehydrator	9	1	0	0	21	0
Wastewater Treatment	29	3	1	1	67	0
Point Source Total (lb)	163	19	8	7	375	1
Point Source Total (TPY)	0.08	0.01	0.00	0.00	0.19	0.00
Point Source Total (Lb/hr)	0.03	0.00	0.00	0.00	0.06	0.00

II. Fugitives	Fugative Emissions (pounds per year) Green Permit Limit					
	Naphthalene	Dibenzofuran	Quinoline	Biphenyl	VOC	PAC
Ancillary Equipment	706	80	33	29	1621	2
Retort Door	208	24	10	9	477	0
Sumps	90	10	4	4	207	0
AWPI Black Tie Storage Yard Model	9102	1042	430	378	21670	20
Black Pole Storage	0	0	0	0	0	0
Fugitive Total (lb)	10105	1156	477	419	23974	22
Fugitive Source Total (TPY)	5.05	0.58	0.24	0.21	11.99	0.01
Fugitive Source Total (lb/hr)	1.15	0.13	0.05	0.05	2.74	0.00

Total Emissions - 913 Green Charges Per Year						
Summary	Naphthalene (lb/yr)	Dibenzofuran (lb/yr)	Quinoline (lb/yr)	Biphenyl (lb/yr)	VOC (lb/yr)	Total HAP (lb/yr)
Total Point Sources	163	19	8	7	375	197
Total Fugative Sources	10105	1156	477	419	23974	12158
Total Plant Emissions (lb/yr)	10269	1175	485	426	24349	12355
Total Plant Emissions (TPY)	5.13	0.59	0.24	0.21	12.17	6.18
Title V Threshold	10	10	10	10	100	25

Based on June 2001 AWP Emissions Model. See Appendix B

Based 913 green charges per year (90 Maximum Green Charges/Month) See Table 6 and Table 7

Table 5
Wood Preserving Process PTE (Base on Process Limitation)
2000 Columbus Title V-100% Dry Treatment (2190 Charges/yr; 216 Dry Charges/Month)
 Revised 10/30/01

I. Point Sources	Controlled Emissions (pounds per year) Dry PTE				
	Naphthalene	Dibenzofuran	Quinoline	Biphenyl	VOC
Work Tanks	2	0	0	0	5
Storage Tanks	0	0	0	0	0
Boulton Conditioning	0	0	0	0	0
Wood Treatment	926	105	44	38	2127
Flash	0	0	0	0	0
Dehydrator	9	1	0	0	21
Wastewater Treatment	29	3	1	1	67
Point Source Total (lb)	967	110	45	40	2220
Point Source Total (TPY)	0.48	0.06	0.02	0.02	1.11
Point Source Total (Lb/hr)	0.17	0.02	0.01	0.01	0.38

II. Fugitives	Controlled Emissions (pounds per year)				
	Naphthalene	Dibenzofuran	Quinoline	Biphenyl	VOC
Ancillary Equipment	706	80	33	29	1621
Retort Door	469	53	22	19	1078
Sumps	90	10	4	4	207
AWPI Black Tie Storage Yard Model	9102	1042	430	378	21670
Black Pole Storage	0	0	0	0	0
Fugitive Total (lb)	10367	1186	489	430	24575
Fugitive Source Total (TPY)	5.18	0.59	0.24	0.22	12.29
Fugitive Source Total (lb/hr)	1.8	0.2	0.1	0.1	4.2

Total Emissions - 2190 Dry Charges Per Year					
Summary	Naphthalene (lb/yr)	Dibenzofuran (lb/yr)	Quinoline (lb/yr)	Biphenyl (lb/yr)	VOC (lb/yr)
Total Point Source	967	110	45	40	2220
Fugitive Total (lb)	10367	1186	489	430	24575
Total Plant Emissions (lb/yr)	11334	1296	535	470	26795
Total Plant Emissions (TPY)	5.67	0.65	0.27	0.24	13.40
Title V Threshold (TPY)	10	10	10	10	100
					25

Based on June 2001 AWPI Emissions Model. See Appendix C.

Based on 2190 dry charges per year (216 Maximum Dry Charges/month) See Table 6 and Table 7

Table 6
Comparison Of Green And Dry Treatment
Tables 4 and 5
Columbus, MS Permit Renewal
June 25, 2001

Permit Limit (<i>italicized</i>)							
Dry Treatment Limit = 2190			Green Treatment Limit = 913			Dry + Green	
Number Dry Charges 12 Months	Total Emissions VOC (lb/yr)	VOC Emissions Charge (lb/charge)	Number Green Charges 12 Months	Total Emissions VOC (lb/yr)	VOC Emissions Charge (lb/charge)	Total Emissions VOC (lb/yr)	Number Total Charges 12 Months
Maximum Level						Maximum Level	
<i>2190</i>	26795	12.24	0	0	26.68	<i>26795</i>	2190
2000	24471	12.24	79	2112	26.68	26583	2079
1900	23247	12.24	121	3224	26.68	26471	2021
1800	22024	12.24	163	4336	26.68	26360	1963
1700	20800	12.24	204	5448	26.68	26248	1904
1600	19577	12.24	246	6560	26.68	26136	1846
1500	18353	12.24	288	7672	26.68	26025	1788
1400	17129	12.24	329	8783	26.68	25913	1729
1300	15906	12.24	371	9895	26.68	25801	1671
1200	14682	12.24	413	11007	26.68	25689	1613
1100	13459	12.24	454	12119	26.68	25578	1554
1000	12235	12.24	496	13231	26.68	25466	1496
900	11012	12.24	538	14342	26.68	25354	1438
800	9788	12.24	579	15454	26.68	25243	1379
700	8565	12.24	621	16566	26.68	25131	1321
600	7341	12.24	663	17678	26.68	25019	1263
500	6118	12.24	704	18790	26.68	24907	1204
400	4894	12.24	746	19902	26.68	24796	1146
300	3671	12.24	788	21013	26.68	24684	1088
200	2447	12.24	829	22125	26.68	24572	1029
100	1224	12.24	871	23237	26.68	24461	971
0	0	12.24	912.5	24349	26.68	24349	913
Minimum Level						Minimum Level	

See Table 4 and Table 5

Based on 2190 dry charges per year (216 Maximum Dry Charges/month) or 913 green charges per year (90 Maximum Green Charges/Month)

Table 7
Synthetic Minor Renewal Application
 Revised 10/30/01
 Production Limits

Production Limits									
2001 Modification									
Cuft/Charge	Ave. Chg/Day	Max. Chg/Mo.	Max. Chg/yr	Cuft/yr	Ave Cuft/day	T.E./Chg	Process		
2364	6	216	2190	5,177,160	14,184	650	Dry		
2364	2.5	90	913	2,157,150	5,910	650	Green		
PTE									
Creosote Used									
2001 Modification									
Cuft/day	Lbs.Creo/Ft3	Max. Chg/Mo.	Max. Chg/yr	Lbs. Creo/Gal	Ave Gal/Day	Gal/yr	Process		
14,184	7	216	2190	9.1	10,911	3,982,431	Dry		
5,910	7	90	913	9.1	4,546	1,659,346	Green		
Summary									
2001 Modification									
Cuft/yr	Ave. Chg/Day	Max. Chg/Mo.	Max. Chg/yr	Ave. T.E./day	Max. T.E./Mon.	Max. T.E./yr	Process		
5,177,160	6	216	2190	14,184	140,400	1,423,500	Dry		
2,157,150	2.5	90	913	5,910	58,500	593,125	Green		

Based on 2190 dry charges per year (216 Maximum Dry Charges/month) or 913 green charges per year (90 Maximum Green Charges/Month)

Production Limits									
1995 PTE									
Cuft/Charge	Charge/Day	Cuft/yr	Cuft/day	T.E./Chg	Process				
2364	9	7,765,740	21,276	650	Dry				
2364	3	2,588,580	7,092	650	Green				
Creosote Used									
1995 PTE									
Cuft/day	Lbs.Creo/Ft3	Lbs. Creo/Gal	Gal/Day	Gal/yr	Process				
21,276	7	9.1	16,366	5,973,646	Dry				
7,092	7	9.1	5,455	1,991,215	Green				
Summary									
1995 PTE									
Cuft/yr	Cuft/Charge	Chg/yr	T.E./yr	T.E./day	Process				
7,765,740	2364	3285	2,133,445	5,845	Dry				
2,588,580	2364	1095	711,148	1,948	Green				

T.E. = Tie Equivalents

Table 8

Synthetic Minor Renewal Application

Revised October 30, 2001

PTE - Emission Summary - Columbus, MS

Pollutant	Maximum Emission Rate (PTE To Emission Summary Section C)																								Data Source
	Particulate		PM10		SOx		NOx		CO		VOC		Naphthalene		Dibenzofuran		Quinoline		Biphenyl		PAC				
	Short (lb/hr)	Long TPY	Short (lb/hr)	Long TPY	Short (lb/hr)	Long TPY	Short (lb/hr)	Long TPY	Short (lb/hr)	Long TPY	Short (lb/hr)	Long TPY	Short (lb/hr)	Long TPY	Short (lb/hr)	Long TPY	Short (lb/hr)	Long TPY	Short (lb/hr)	Long TPY	Short (lb/hr)	Long TPY			
Particulate - Boilers (Fuel Oil)	0.21	0.32																					Table 3*		
PM-10 -Boilers(Fuel Oil)			0.21	0.32																			Table 3		
Particulate - Framing Mill (Title V App.)**	0.73	3.20																					1995 Title V		
PM-10 - Framing Mill (Title V App.)**			0.37	1.62																			1995 Title V		
Particulate - Switch Tie Unloader (Title V App.)**	0.21	0.93																					1995 Title V		
PM-10 - Switch Tie Unloader (Title V App.)**			0.11	0.47																			1995 Title V		
Particulate -Cross Tie Unloader (Title V App.)**	0.38	1.67																					1995 Title V		
PM-10 - Cross Tie Unloader (Title V App.)**			0.19	0.84																			1995 Title V		
SOx Boilers (Fuel Oil)					7.46	7.70																	Table 3*		
NOx - Boilers (Natural Gas)							3.40	7.50															Table 3*		
CO - Boilers (Natural Gas)								2.86	6.30														Table 3*		
VOC's - Boilers (Natural Gas)										0.19	0.41												Table 3*		
Wood Preserving VOC										4.59	13.40												Table 5**		
Wood Preserving Naphthalene (43.6% VOC)													2.00	5.67									Table 5**		
Wood Preserving Dibenzofuran (4.96% VOC)															0.23	0.65							Table 5**		
Wood Preserving Quinoline (2.05% VOC)																	0.09	0.27					Table 5**		
Wood Preserving Biphenyl (1.80% VOC)																			0.08	0.24			Table 5**		
Wood Preserving Process PAC (9.52% VOC)																					0.44	1.28	Table 5**		
Total Maximum	1.53	6.12	0.88	3.25	7.46	7.70	3.40	7.50	2.86	6.30	4.78	13.81	2.00	5.67	0.23	0.65	0.09	0.27	0.08	0.24	0.44	1.28			

Based on Tables 1 & 2

2190 Dry Treatment charges (Table 5) has higher emissions than 913 Green Treatment charges (Table 4).

Based on 2190 dry charges per year (216 Maximum Dry Charges/month) or 913 green charges per year (90 Maximum Green Charges/Month)

Table 3*

Table 5**

Production (Table 7)

Table 9
Revised October 30, 2001
Comparison of Emissions Inventory, Permit Application and Current Permit

Emission	Emission Point	Emission Unit	9/13/2001 MDEQ-EI		Permit Renewal Nov-01		Difference (Charge) TPY	Potential Reasons For Differences
			TPY	PPH	TPY	PPH		
PM	CB Boiler	AA-001	0.88	0.20	0	0	-0.88	Only single boiler operating at one time See Table 3
PM	Vogt Boiler	AA-002	0.16	0.038	0	0	-0.16	Vogt Boiler Demolished
PM	Framing Mill	AA-003	3.20	0.73	3.20	0.73	0.00	
PM	SW Unloader	AA-008	0.93	0.213	0.93	0.21	0.00	
PM	Tie Unloader	AA-009	1.67	0.381	1.67	0.38	0.00	
PM	Fuel Storage	AA-020	0.85	0.195	0	0	-0.85	Insignificant emission source
PM	Hurst Boiler	AA-028	0.92	0.21	0.32	0.21	-0.60	PM Decreased 2.6 TPY (Single Boiler)
PM	Total		8.61		6.12		-2.5	
PM-10	CB Boiler	AA-001	0.88	0.2	0	0	-0.88	Only single boiler operating at one time See Table 3
PM-10	Vogt Boiler	AA-002	0.16	0.036	0	0	-0.16	Vogt Boiler Demolished
PM-10	Framing Mill	AA-003	1.62	0.038	1.62	0.038	0.00	
PM-10	SW Unloader	AA-008	0.47	0.107	0.47	0.107	0.00	
PM-10	Tie Unloader	AA-009	0.84	0.192	0.84	0.192	0.00	
PM-10	Fuel Storage	AA-020	0.85	0.195	0	0	-0.85	Insignificant emission source
PM-10	Hurst Boiler	AA-028	0.92	0.21	0.32	0.21	-0.60	PM-10 Decreased 2.6 TPY (Single Boiler)
PM-10	Total		5.74		3.25		-2.5	
SO2	Boiler (2 Boilers)		71.78		7.70		-64	See Table 3 Only single boiler operating at one time SO2 Decrease 64 TPY (F.O. Limit/One Boiler)
NOx	Boiler (2 Boilers)		38.63		7.50		-31	Only single boiler operating at one time Limit Natural Gas to 150 MMft ³ /year See Table 3 NOx Decrease 31 TPY (Nat Gas Limit/One Boiler)
CO	Boiler (2 Boilers)		22.24		6.30		-16	Only single boiler operating at one time Limit Natural Gas to 150 MMft ³ /year See Table 3 CO Decreased 16 TPY (Nat Gas Limit/One Boiler)
VOC	Boiler	AA-001	0.83		0.41	0.19	-0.4175	Only single boiler operating at one time AA-001 has greater PTE
	Boiler	AA-028	0.35		0	0	0	Limit Natural Gas to 150 MMft ³ /year
	Storage Tank	A004	0.18				-0.11	
	Storage Tank	A005	0.11				-0.11	
	Storage Tank	A006	0.11				-0.11	
	Storage Tank	A007	0.04				-0.04	
	Fuel Oil Storage	A020	0.14				-0.14	
	Point Sources		0		1.11	0.38	1.11	Insignificant emission source: See Appendix D Includes AA-004-007; A-010-013; A0015-019; A-027
	Fugitive Sources		0		12.29	4.2	12.29	Includes A-010; A-014; Black Tie Storage; A-020-023
	Total		1.87		13.81		11.9	VOC Increase (Included Fugitives)

Table 10, Black Tie Storage Yard**KMCLLC Columbus**

Title V Renewal June 2001

October 30, 2001

ESTIMATED EMISSIONS FROM A BLACK TIE STORAGE YARD

30-Oct-01

1. FACILITY IDENTIFICATIONFACILITY NAME KMCLLC Columbus
FACILITY LOCATION Title V Mod June 2001NUMBER OF TIES EQUIVALENTS¹ TREATED PER MONTH **83,955**
% TIES SHIPPED WITHIN 24 HOURS **10** (0 to 100 %)**2. SELECT STORAGE GEOMETRY**RECTANGULAR ☒ Mark with X if applicable
TRAM BUNDLE ☒ Mark with X if applicable**3. INDIVIDUAL BLACK TIE GEOMETRY**LENGTH **8.5** feet
WIDTH **9** inches
HEIGHT **7** inches
VOLUME **3.71875** cubic feet**4. RECTANGULAR STACKING GEOMETRY**BLACK TIES PER STACK **60** ties per yard stack
STACK HEIGHT **6** ties tall
STACK HEIGHT **6** feet tall
STACK WIDTH **9** ties wide
STACK WIDTH **9** feet wide
STACK SURFACE AREA **54** square feet**5. TRAM BUNDLE STACKING GEOMETRY**NO. OF TIES IN A TRAM BUNDLE **60** ties per tram bundle
EQUIVALENT DIAMETER OF BUNDLE **5.78** feet
SURFACE AREA OF A 6-TIE TRAM BUNDLE **206.88** square feet**6. WEATHER DATA**

MONTH	AVERAGE MONTHLY TEMPERATURE (°F)	
JANUARY	41.2	From Title V Application
FEBRUARY	44.9	From Title V Application
MARCH	52.6	From Title V Application
APRIL	62.6	From Title V Application
MAY	70.4	From Title V Application
JUNE	77.7	From Title V Application
JULY	80.9	From Title V Application
AUGUST	80.1	From Title V Application
SEPTEMBER	74.1	From Title V Application
OCTOBER	62.3	From Title V Application
NOVEMBER	51.1	From Title V Application
DECEMBER	44.1	From Title V Application

7. NUMBER OF BLACK TIES ON-SITE

MONTH	NUMBER OF TIES	
	ON-SITE	Plant Estimate
JANUARY	350,000	350,000
FEBRUARY	250,000	250,000
MARCH	200,000	200,000
APRIL	200,000	200,000
MAY	200,000	200,000
JUNE	200,000	200,000
JULY	250,000	250,000
AUGUST	250,000	250,000
SEPTEMBER	250,000	250,000
OCTOBER	250,000	250,000
NOVEMBER	300,000	300,000
DECEMBER	350,000	350,000

¹NOTE: FOR BLACK TIE EQUIVALENTS, ENTER EQUIVALENT NUMBER OF TIES THAT HAVE THE SAME VOLUME (3.72 CUBIC FEET)

Table 10, Black Tie Storage Yard**KMCLLC Columbus**

Title V Renewal June 2001

October 30, 2001

RESULTS FOR BLACK TIE EMISSIONS

Annual Production			
1.0074605	million ties per year		
3.746493734	million cubic feet per year		
Maximum Black Ties on Site		350,000	
Minimum Black Ties on Site		200,000	
Annual Naphthalene Emissions:			Rounded
4.529	tons per year 43.55% Naph	9058	9100
Annual VOC Emissions:			
10.447	tons per year	20894	21000
HAPs			
4.529	tons per year naphthalene 43.55% Naph	9058	9100
0.518	tons per year dibenzofuran 4.96 % Dibenzo	1036	1040
0.214	tons per year quinoline 2.05 % Quinoline	428	430
0.188	tons per year biphenyl 1.8% biphenyl	376	380
5.449	tons per year total HAPs	10898	10900

**STATE OF MISSISSIPPI
DEPT. OF ENVIRONMENTAL QUALITY
OFFICE OF POLLUTION CONTROL
P.O. BOX 10385
JACKSON, MS 39289-0385
(601) 961-5171**



**APPLICATION ADDENDUM
FOR A
SYNTHETIC MINOR OPERATING PERMIT**

NOTE: This addendum may be affixed to the front of the Application for Title V Air Pollution Control Permit to Operate Air Emissions Equipment. If the addendum is used, all air emission sources, pollutants, and emission rates must be included in the application. There are no insignificant or trivial activities.

A Synthetic Minor Source is defined in Regulation APC-S-2 as: Any facility which would otherwise constitute a major source under Commission Regulation APC-S-6, "Air Emissions Operating Permit Regulations for the Purposes of Title V of the Federal Clean Air Act", except that the owner or operator of the facility elects for federally enforceable emissions limitations which may include permit conditions restricting hours of operation, or type or amount of material stored, combusted or processed, or establishing more stringent air pollution control efficiency requirements to lower allowable emissions for air pollutants in the State Permit to Operate below applicability thresholds for a Title V major source.

Facility Name	<u>Kerr McGee Chemical LLC, Columbus, MS</u>
Facility Number (If Known)	<u>1680-00020</u>
City: <u>Columbus, MS</u>	County: <u>Lowndes</u>

List the limitations/restrictions you are proposing to make your facility a synthetic minor source and the proposed methods of demonstrating compliance with those limitations/restrictions. If necessary, use a separate page for each Emission Point.

1. Fuel Oil with a maximum sulfur content of 0.5%.
2. Fuel Oil usage shall be limited to 216,000 gallons in any consecutive 12-month period. See Table 2
3. Natural Gas usage shall be limited to 150 MMft³ in any consecutive 12-month period. See Table 1
4. Only one boiler shall operate at any one time, except during boiler startup and shutdown. See Table 3
5. Fuel Oil and Natural Gas usage shall be monitored and documented with recordkeeping calculated monthly the total fuel oil usage of the current calendar year.
6. Maximum number of green wood charges of 913 in any 12 month period or 2190 dry charges in any 12 month period or any combination of green and dry charges. See Tables 5, 6 & 7
7. Maximun number of green wood charges of 90 in any one month or 216 dry wood charges in any one month. See Tables 5, 6 & 7

R. P. Michel, Vice President

Printed/Typed Name



*Signature

Date

10/30/01

*Signature should be the same as on the application form.

APPLICATION RECEIPT DATE: _____

APPLICATION NO.: _____

FOR MODIFICATION: _____

MINOR _____

SIGNIFICANT _____

STATE OF MISSISSIPPI
DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF POLLUTION CONTROL
AIR DIVISION
P.O. BOX 10385
JACKSON, MS. 39289-0385
PHONE NO.: (601) 961 - 5171

APPLICATION FOR TITLE V
AIR POLLUTION CONTROL PERMIT
TO OPERATE AIR EMISSIONS EQUIPMENT

PERMITTING ACTIVITY:

- ☐ INITIAL APPLICATION
☐ MODIFICATION
☒ RENEWAL OF OPERATING PERMIT (Revised 10-30-01)

NAME: Kerr McGee Chemical LLC.

CITY: Columbus, MS

COUNTY: Lowndes

FACILITY No. (if known): 1680-00020

Owners Information

Section B

1. Name, Address & Contact for the Owner/Applicant

A. Company Name: Kerr McGee Chemical LLC.

B. Mailing Address: 2300 14th Ave. North

1. Street Address or P.O. Box:

2. City: Columbus

3. State: MS

4. Zip Code: 39701

5. Telephone No.: (662) 328-7551

C. Contact:

1. Name: Ron Murphey

2. Title: Plant Manger

2. Name, Address, Location and Contact for the Facility:

A. Name: Ron Murphey

B. Mailing Address:

1. Street Address or P.O. Box: 2300 14th Ave. North

2. City: Columbus

3. State: MS

4. Zip Code: 39701

5. Telephone No.: (662) 328-7551

C. Site Location:

1. Street: 2300 14th Ave. North

2. City: Columbus

3. State: MS

4. County: Lowndes

5. Zip Code: 39701

6. Telephone No.: (662) 328-7551

Note: If the facility is located outside of the City limits, please attach a sketch or description to this application showing the approximate location of the site.

D. Contact:

1. Name: Ron Murphey

2. Title: Plant Manager

3. SIC Code(s)(including any associated with alternate operating scenarios): 2491

4. Number of Employees: 41

5. Principal Product(s): Railroad Products/Utility Poles/Piling
6. Principal Raw Materials: Wood; Creosote
7. Principal Process(es): Wood Preserving
8. Maximum amount of principal product produced or raw material consumed per day:
21300 cubic feet of treated wood per day for dry treatment
check this out
9. Facility Operating Schedule (Optional):
- A. Specify maximum hours per day the operation will occur: 24
- B. Specify maximum days per week the operation will occur: 7
- C. Specify maximum weeks per year the operation will occur: 52
- D. Specify the months the operation will occur: 12
10. Is this facility a small business as defined by the Small Business Act? (Optional) No
11. **EACH APPLICATION MUST BE SIGNED BY THE APPLICANT.**

The application must be signed by a responsible official as defined in Regulation APC-S-6, Section I.A.26.

I certify that to the best of my knowledge and belief formed after reasonable inquiry, the statements and information in this application are true, complete, and accurate, and that, as a responsible official, my signature shall constitute an agreement that the applicant assumes the responsibility for any alteration, additions, or changes in operation that may be necessary to achieve and maintain compliance with all applicable Rules and Regulations.

R.P. Michel
Printed Name of Responsible Official

Vice President
Title

10/30/01
Date Application Signed

[Signature]
Signature of Applicants Responsible Official

EMISSIONS SUMMARY for the ENTIRE FACILITY

[illegible]

- With the exception of the emissions resulting from insignificant activities and emissions as defined in Regulation APC-S-6, Section VII, the pollutants listed above are all regulated air pollutants reasonably expected to be emitted from the facility.

Title V Application--Modified / tv5appwp.mod
Page # 18

September 12, 1995

SECTION C

For the sections listed below indicate the number that have been completed for each section as part of this application.

Section B ☒	Section L1 ☐	Section M1 ☐
Section C ☒	Section L2 ☐	Section M2 ☐
Section D ☒	Section L3 ☐	Section M3 ☒
Section E ☐	Section L4 ☐	Section M4 ☐
Section F ☐	Section L5 ☐	Section M5 ☐
Section G ☐	Section L6 ☐	Section M6 ☐
Section H ☐	Section L7 ☐	Section M7 ☒
Section I ☐	Section M8 ☐	
Section J ☐	Section N ☒	
Section K ☐	Section O ☒	

As a minimum, sections B, C, M, N and O must be completed for the application to be considered complete.

Please list below all insignificant activities required by APC-S-6, Section VII.B that apply to your facility.

Steam Vents and Leeks; Dearator Vents; Process Water Tanks; Effluent Neutralization;

Fuel Oil Storage Tanks; Natual Gas Space Heaters; Wood Waste Storage and Handling;

RISK MANAGEMENT PLANS

If the source is required to develop and register a risk management plan pursuant to Section 112(r) of the Title III of the Clean Air Act, the permittee need only specify that it will comply with the requirement to register such a plan. The content of the risk management plan need not itself be incorporated as a permit term.

Please answer the following questions:

- I. Are you required to develop and register a risk management plan pursuant to Section 112(r)?

Yes ☐ No ☒

Only if "yes", answer questions II., III., and/or IV.

- II. Have you submitted the risk management plan to the appropriate agency (i.e. Mississippi Emergency Management Agency (MEMA), Federal Emergency Management Agency (FEMA), etc.)?

Yes ☐ No ☐

- III. If yes, give agency name and date submitted.

- IV. If no, provide a schedule for developing and submitting the risk management plan to the appropriate agency and providing our agency with certification that this submittal was made.

FUEL BURNING EQUIPMENT (page 1 of 2)

SECTION D

1. Emission Point No. / Name: Emission Point AA-001; Boiler
2. Equipment Description: Clever Brooks D-6 Boiler

3. Was this unit constructed or modified after August 7, 1977? Yes ☐ No ☒
 If yes please give date and explain. However, new safety divices and repairs were made in May of 2001.
4. Capacity: 34 MMBTU/hr 5. Type of burner: Forced Draft Gas; Atomizing Oil
6. Usage Type (i.e. Space Heat, Process, etc.) : Boiler, Steam
7. Complete the following table, identifying each type of fuel and the amount used. Specify the units for heat content, hourly usage, and yearly usage.

FUEL TYPE	HEAT CONTENT	% SULFUR	% ASH	MAXIMUM HOURLY USAGE	ACTUAL YEARLY USAGE
Natural Gas	1000/cuft	<0.2	<0.05	34 MMBTU/hr	150 MMFt ³ /year Maximum
Standby No. 2 Fuel Oil	140,000/gal	<0.5	<0.01	105 gal	216,000 gal/year Maximum

Proposal to limit annual Natural Gas and No. 2 Fuel Oil usage. See Tables 1-3.

8. Please list any fuel components that are hazardous air pollutants and the percentage in the fuel.
None known

9. Operating Schedule: (Optional) 24 hours/day 7 days/week 52 weeks/year

10. Stack Data:

A. Height: 40 Feet
 B. Inside diameter: 36 inches

C. Exit gas velocity:
 D. Exit gas temperature:

11. UTM Coordinates:

A. ☒ Zone 16 East B. ☒ North 1397885.60 C. ☒ East 629281.99

FUEL BURNING EQUIPMENT (page 2 of 2) (First Boiler CB D-6; AA-001)

SECTION D

Revised
10/30/01

12. POLLUTANT EMISSIONS:

Example emission rate calculations, monitoring data, or stack test data must be attached in accordance with Operating Permit Application Requirements, pp. 3-5.

EMISSION POINT NO.	POLLUTANT (note 1)	CONTROL EQUIPMENT		ACTUAL EMISSION RATE (in accordance with Operating Permit Application Requirements, pp. 3-5)		PROPOSED ALLOWABLE EMISSION RATE (Optional)	
		yes/no	effic.	note 2	lb/hr	tn/yr	tn/yr
AA-001	SOx	No	NA	lb/MMBTU	7.5 (c)	7.70 (b)	7.5 (c)
AA-001	NOx	No	NA	lb/MMBTU	4.8 (a)	10 (b)	3.4 (a)
AA-001	CO	No	NA	lb/MMBTU	1.2 (a)	2.5 (b)	2.9 (a)
AA-001	PM	No	NA	lb/MMBTU	0.2 (c)	0.36 (b)	0.21 (c)
AA-001	PM-10	No	NA	lb/MMBTU	0.2 (c)	0.36 (b)	0.21 (c)
AA-001	VOCs	No	NA	lb/MMBTU	0.10 (a)	0.18 (b)	0.19 (a)

- All regulated air pollutants including hazardous air pollutants emitted from this source should be listed. A list of regulated air pollutants has been provided in Section A.
- Provide emission rate in units of applicable emission standard, e.g. lb/MMBtu, gr/dscf, etc. This may not apply to every emission point or every pollutant from an emission point.

If yes, attach appropriate Air Pollution Control Data Sheet from Section L or manufacturers specifications if other.

See Table 1, Table 2, and Table 3

- Emission rates are based on 12 months operation with Natural Gas limited at 150 MMbt/year
- Emission Rates are based on 216,000 gal/yr operation with No. 2 Fuel Oil and 9 months operation with Natural Gas.
- Emission Rates are based on operation with 216,000 gal/yr or 105 gal/hour.
- These emission rates are based on existing Air Operating Permit 1680-0020.
- Based on One boiler operating at any one time except during startup or shutdown.

FUEL BURNING EQUIPMENT (page 1 of 2)(Second Boiler Hurst; AA-028) SECTION D

1. Emission Point No. / Name: Emission Point AA-028; Boiler (New Boiler 2001)
2. Equipment Description: Hurst Series 400, 350 HP Hurst Boiler
3. Was this unit constructed or modified after August 7, 1977? Yes ☒ No ☐
If yes please give date and explain. Application for a new boiler in June of 2001
4. Capacity: 14.7 MMBTU/hr 5. Type of burner: Forced Draft Gas; Atomizing Oil
6. Usage Type (i.e. Space Heat, Process, etc.) : Boiler, Steam
7. Complete the following table, identifying each type of fuel and the amount used. Specify the units for heat content, hourly usage, and yearly usage.

FUEL TYPE	HEAT CONTENT	% SULFUR	% ASH	MAXIMUM HOURLY USAGE	ACTUAL YEARLY USAGE
Natural Gas	1000/cuft	<0.2	<0.05	14.7 MMBTU/hr	150 MMFt ³ /year Maximum
Standby No. 2 Fuel Oil	140,000/gal	<0.5	<0.01	105 Gal/hr	216,000 gal/year Maximum

Propose to limit annual Natural Gas and No. 2 Fuel Oil usage. See Tables 1-3

8. Please list any fuel components that are hazardous air pollutants and the percentage in the fuel.
N/A
9. Operating Schedule: (Optional) 24 hours/day 7 days/week 52 weeks/year
10. Stack Data:
A. Height: 40 Feet C. Exit gas velocity: 40 ft/sec
B. Inside diameter: 20 inches D. Exit gas temperature: 450 °F
12. UTM Coordinates:
A. ☒ Zone 16 East B. ☒ North 1397885.60 C. ☒ East 629281.99

FUEL BURNING EQUIPMENT (page 2 of 2)**SECTION D****12. POLLUTANT EMISSIONS:**

Example emission rate calculations, monitoring data, or stack test data must be attached in accordance with Operating Permit Application Requirements, pp. 3-5.

EMISSION POINT NO.	POLLUTANT (note 1)	CONTROL EQUIPMENT		ACTUAL EMISSION RATE (in accordance with Operating Permit Application Requirements, pp. 3-5)		PROPOSED ALLOWABLE EMISSION RATE (Optional)	
		* yes/no	effic.	note 2	lb/hr	tn/yr	lb/hr
AA-028	SOx	No	NA	lb/MMBTU	7.5 (c)	7.7 (b)	7.5 (c)
AA-028	NOx	No	NA	lb/MMBTU	4.76 (a)	10.04 (b)	3.4 (a)
AA-028	CO	No	NA	lb/MMBTU	1.19 (a)	2.51 (b)	2.9 (a)
AA-028	PM	No	NA	lb/MMBTU	0.2 (c)	0.36 (b)	0.21 (c)
AA-028	PM-10	No	NA	lb/MMBTU	0.2 (c)	0.36 (b)	0.21 (c)
AA-028	VOCs	No	NA	lb/MMBTU	0.10 (a)	0.18 (b)	0.19 (a)

1. All regulated air pollutants including hazardous air pollutants emitted from this source should be listed. A list of regulated air pollutants has been provided in Section A.
2. Provide emission rate in units of applicable emission standard, e.g. lb/MMBtu, gr/dscf, etc. This may not apply to every emission point or every pollutant from an emission point.

If yes, attach appropriate Air Pollution Control Data Sheet from Section L or manufacturers specifications if other.

See Table 1, Table 2, and Table 3

- (a) Emission rates are based on 12 months operation with Natural Gas limited at 150 MMcf/year
- (f) Emission Rates are based on 216,000 gal/yr operation with No. 2 Fuel Oil and 9 months operation with Natural Gas.
- (g) Emission Rates are based on operation with 216,000 gal/yr or 105 gal/hour.
- (h) These emission rates are based on existing Air Operating Permit 1680-0020.
- (i) Based on One boiler operating at any one time except during startup or shutdown.

MANUFACTURING PROCESSES (page 1 of 2)**SECTION E**

1. Emission Point No./ Name: NA
2. Process Description: _____

3. Was this unit constructed or modified after August 7, 1977? _____ yes _____ no
If yes please give date and explain. _____

4. Capacity (tons/hr): _____
5. Raw Material Input:

MATERIAL	QUANTITY/HR AVERAGE	QUANTITY/HR MAXIMUM	QUANTITY/YEAR

6. Product Output:

PRODUCT or BY-PRODUCT	QUANTITY/HR AVERAGE	QUANTITY/HR MAXIMUM	QUANTITY/YEAR

7. Stack Data:
- A. Height: _____ C. Exit gas velocity: _____
- B. Inside diameter: _____ D. Exit gas temperature: _____
8. UTM Coordinates: _____
- A. Zone _____ B. North _____ C. East _____

COATING, SOLVENT USAGE, and/or
DEGREASING (page 1 of 5)

SECTION F

NOTE: FOR EMISSION SOURCES OF VOLATILE ORGANIC COMPOUNDS (VOC'S) INCLUDING SPRAY BOOTHS, PAINTING, DEGREASING, FINISHING, GLUING AND SOLVENT USAGE.

COMPLETE AND ATTACH THE APPROPRIATE AIR POLLUTION CONTROL DEVICE FORM.

1. Emission Point No./ Name: NA
2. Process Description (INDICATE NO. OF IDENTICAL PROCESSES-BOOTHS, DIP TANKS, DEGREASING TANKS, FINISHING LINES, ETC.):

3. Were any of these units constructed or modified after August 7, 1977? yes no
If yes please give date and explain. _____

4. COATING:
- A. Describe Articles Coated: _____

- B. Operating Schedule (Optional)
- | | | | | |
|----|----------|-----------|-----------|------------|
| 1. | Maximum: | Hours/Day | Days/Week | Weeks/Year |
| 2. | Average: | Hours/Day | Days/Week | Weeks/Year |
- C. Bake ovens: Type of oven: _____ For direct fired ovens:
Number of Ovens: _____ () Steam () direct fired Heat input MMBTU/hr _____
() Electric () Other _____ Fuel type _____
5. SPRAY BOOTHS:
- A. Width (ft) _____ Height (ft) _____
Depth (ft) _____ No. Open Sides _____
- B. Operating Schedule
- | | | | | |
|----|----------|-----------|-----------|------------|
| 1. | Maximum: | Hours/Day | Days/Week | Weeks/Year |
| 2. | Average: | Hours/Day | Days/Week | Weeks/Year |
- C. Method of Spray:
() Airless () Air Atomize () Electrostatic () Other:
Overspray _____ %
- D. Exhaust Fan Data:
- | | | |
|-------------|------------------|--------------------|
| No. of Fans | Total Horsepower | Total Volume (cfm) |
|-------------|------------------|--------------------|

PRINTING OPERATIONS (page 1 of 3)**SECTION G**

1. Emission Point No./ Name: _____ NA _____
2. Process Description: _____

3. Was this unit constructed or modified after August 7, 1977? _____ Yes _____ No
If yes please give date and explain. _____

4. Type of Printing Operation:
publication rotogravure _____ web-offset
packaging rotogravure _____ web-offset (non-heatset)
flexographic _____ screen printing
Other (specify) : _____
5. Does this emission point have air pollution control equipment? Yes _____ No _____
If Yes, please complete the applicable Air Pollution Control Data Sheet found in Section L.
6. Operating Schedule (Optional): hrs/day days/wk wks/year _____
7. Stack Data:
A. Height _____ feet
B. Inside diameter _____ feet
C. Exit gas velocity _____ feet/sec
D. Exit gas temperature _____ °F
8. UTM Coordinates:
A. Zone B. North C. East _____
9. Complete the table on the following page.

SECTION H

- Title V Application-Modified / tv5appwp.mod
Page # 36

SOLID WASTE INCINERATORS (page 1 of 2)**SECTION I**

1. Manufacturers Information:
A. Manufacturer Name: NA
B. Model Number: _____
C. Capacity (tons/hour): _____
D. Type and amount of Waste per year: _____
2. Was this unit constructed or modified after August 7, 1977? _____ yes _____ no
If yes please give date and explain. _____
3. Type of Incinerator: Single Chamber _____ Multiple Chamber _____
Other, describe: _____
4. Auxiliary Equipment:
A. Primary Burner:
1. Fuel (Type): _____
2. Btu/hr rating: _____
B. Secondary Burner
1. Fuel (Type): _____
2. Btu/hr rating: _____
C. Give Sulfur Content if Fuel Oil is Burned: _____ %
D. Barometric Damper: _____
E. Guillotine Damper: _____
F. Other, specify: _____
5. Combustion Air: Natural Draft _____ Induced Draft _____
Forced Draft _____ Starved Air _____
Other, specify: _____
6. Waste Feed Method: Flue Fed _____ Chute Fed _____
Continuous Direct _____ Batch Direct _____
7. Operating Schedule (Optional):
A. Hours per Day: _____ Days per week: _____
B. From: _____ To: _____
(time) (time)
C. Circle the applicable days: M T W T F S S
8. Stack Data:
A. Height _____ feet
B. Inside diameter _____ feet
C. Exit gas velocity _____ feet/sec
D. Exit gas temperature _____ °F
9. Percent (%) CO₂ in exit gas _____
10. UTM Coordinates: _____
A. Zone _____ B. North _____ C. East _____

ASPHALT PLANTS (page 1 of 2)

SECTION J

1. Emission Point No./Name: NA
2. Manufacturers Name and Model No.: _____
3. Date Plant Manufactured: _____
4. Was this unit constructed or modified after August 7, 1977? _____ yes _____ no
If yes please give date and explain. _____
5. Type of Plant: Batch Continuous Drum _____
6. Production:
 - A. Capacity of dryer: _____ tons/hour
 - B. Normal maximum rate: _____ tons/hour
 - C. Annual: _____ tons
7. Dryer: Length: _____ feet Diameter: _____ feet
8. Burner:
 - A. Manufacturers name and Model No.: _____
 - B. Capacity: _____ Btu/hour
 - C. Primary fuel
 1. Gas Oil Other (specify): _____
 2. Consumption:
 - a. Gas: _____ ft³/hour
 - b. Oil: _____ gal/hour
 - c. Other (specify units) _____
 3. Heat Value
 - a. Gas: _____ Btu/ ft³
 - b. Oil: _____ Btu/gal
 - c. Other (specify units) _____
 4. Sulfur content: _____ % S
 5. Ash content: _____ % ash
 6. Density of fuel oil (if applicable): _____ lb/gal
 - D. Auxiliary fuel
 1. Gas Oil Other (specify): _____
 2. Consumption:
 - a. Gas: _____ ft³/hour
 - b. Oil: _____ gal/hour
 - c. Other (specify units) _____
 3. Heat Value
 - a. Gas: _____ Btu/ ft³
 - b. Oil: _____ Btu/gal
 - c. Other (specify units) _____
 4. Sulfur content: _____ % S
 5. Ash content: _____ % ash
 6. Density of fuel oil (if applicable): _____ lb/gal
9. Does this emission point have air pollution control equipment? Yes No _____
If Yes, please complete the applicable Air Pollution Control Data Sheet found in Section L.

SECTION K

- | | | | | |
|-----|--|----------------------------|-----------------|--|
| 1. | Emission Point No./Name: | NA | | |
| 2. | Was this unit constructed or modified after August 7, 1977? | _____ yes | _____ no | |
| | If yes please give date and explain. _____ | | | |
| 3. | What type of batching will be accomplished: | | | |
| | _____ Wet (Rotary mixing trucks) | | | |
| | _____ Dry (Flat bed trucks with segregated material compartments) | | | |
| | _____ Central Mix (Batching at plant site) | | | |
| 4. | Plant Production Rate: | _____ yd ³ /hr | | |
| | | _____ tons/hour | | |
| 5. | Will the sand and aggregate be washed before delivery to your facility: | | | |
| | Yes _____ No _____ | | | |
| 6. | Explain the method of moving aggregate from storage piles to storage bins located above aggregate hopper: | _____ | | |
| 7. | Will water sprays be used at the following locations: | | | |
| | A. Stockpiles: | Yes _____ | No _____ | |
| | B. Aggregate Bins | Yes _____ | No _____ | |
| | C. Conveyor Transfer Points | Yes _____ | No _____ | |
| 8. | Cement Silo Information: | | | |
| | A. How many cement silos will this plant use: | _____ | yd ³ | |
| | B. What is the volume of each silo: | _____ | | |
| | C. Explain method of loading cement silo: | _____ | | |
| | D. Is the silo compartmented: Yes _____ No _____ | | | |
| | E. If compartmented, what is the maximum number of cement trucks used to fill one compartment at any one time: | _____ | | |
| | F. If non-compartmented, what is the maximum number of cement trucks used to fill the silo at any one time: | _____ | | |
| | G. What type of dust control device will be used on the silo vent: | _____ | | |
| 9. | The cement hopper will be vented to the: | _____ cement silo | | |
| | | _____ cement silo baghouse | | |
| | | _____ if neither, | | |
| | where: | _____ | | |
| 10. | In-plant roads will be: | _____ paved | | |
| | | _____ oil-coated | | |
| | | _____ water sprinkled | | |
| 11. | Raw materials input to plant: | | | |
| | A. Sand | _____ yd ³ | tons/hour | |
| | B. Rock | _____ yd ³ | tons/hour | |
| | C. Cement | _____ yd ³ | tons/hour | |

Completion of Section M is not required for a complete application. It is presented to merely reflect what may be required by the Enhanced Monitoring and/or the Periodic Monitoring Regulations. Upon promulgation of those regulations, this section will be revised to reflect the actual requirements. Until then, the information in this section should be utilized for planning purposes.

Choose the type of monitoring that is suggested for your source in the "Enhanced Monitoring Guideline". Fill out the appropriate form and attach to the corresponding emission point description pages.

A. Compliance Demonstration by Continuous Emissions Monitoring (CEM).

Sulfur Dioxide(SO ₂)	Nitrogen Oxides (NO _x)	Oxygen (O ₂)
Carbon Dioxide (CO ₂)	Total Reduced Sulfur (TRS)	Opacity
Hydrogen Chloride (HCl)	Carbon Monoxide (CO)	Flow
Hydrogen Sulfide (H ₂ S)	Volatile Organic Compound (VOC)	

B. Compliance Demonstration by Periodic Emission Monitoring using Portable Monitors.

SO ₂	NO _x	O ₂	CO ₂	CO	HCl	H ₂ S	VOC	Flow	Moisture
Combustibles		Combustion Efficiency							

C. Compliance Demonstration by Monitoring Control System Parameters or Operating Parameters of a Process.

Baghouse	Pressure drop across baghouse, Broken bag detector, Opacity.
Mechanical Collectors	Pressure drop across collector, Hopper full detector, Opacity.
Electrostatic Precipitators	Primary and secondary voltage, Primary and secondary currents, Spark Rate, Broken wire detector, Rap cycle frequency, Resistivity measurement, Inlet water flow, Total solids, Opacity.
Thermal Incinerator	Firebox temperature.
Catalytic Incinerator	Catalyst bed temperature.
Flare	Pilot light detector, Temperature after flame zone.
Particulate Scrubber	Pressure drop across scrubber and demister, Scrubber fluid recirculation rate, Pump discharge pressure, Pump motor current.
Absorber for Gases	pH of fluid, Fluid recirculation rate, Air flow, Pressure drop across absorber and demister, Fluid temperature.
Carbon Absorber	Steam mass flow rate per regeneration cycle, Carbon bed temperature.
Condenser	Condenser exit temperature, Amount of solvent recovered daily, Charging rate, Production rate, Hours of operation, Secondary chamber temperature, Kiln or dryer exit temperature, Burner combustion efficiency, Power consumption, Static pressure, Fuel usage rate, Water injection rate.

D. Compliance Demonstration by Monitoring Maintenance Procedures.

Water quality testing	VOC leak testing
Sludge solids testing	Soot blowing frequency
Electrostatic precipitator cleaning frequency	Fugitive dust control measures
Blacklight inspection of baghouses	Control equipment inspection
Sludge mercury testing	frequency
Periodic inspection of process operating parameters	Reid vapor pressure testing
Periodic inspection of process operating parameters	

E. Compliance Demonstration by Stack Testing.

EPA Method 1 & 2 :	Flow (S-type pilot tubes, Hot-wire anemometer)
EPA Method 3 : CO ₂ , O ₂ , CO (Orsat, Fyrite)	
EPA Method 3A :	CO ₂ , O ₂ , (Analyzers)
EPA Method 4 :	Moisture (Wet bulb-Dry bulb, Impingers)
EPA Method 5 : PM	
EPA Method 6 : SO ₂ (Impingers)	
EPA Method 6B :	SO ₂ (24 hour average)
EPA Method 6C :	SO ₂ (Analyzer)
EPA Method 7E :	NO _x (Analyzer)
EPA Method 9 : Opacity (Visible emissions reader)	
EPA Method 10 :	CO (Analyzer)
EPA Method 16 :	TRS (Gas Chromatograph)
EPA Method 16A :	TRS (Impingers)
EPA Method 16B:	TRS (Gas Chromatograph)
EPA Method 18 :	VOC (Gas Chromatograph)
EPA Method 21 :	VOC Leaks (Analyzer)
EPA Method 25A:	VOC (Analyzer with FID)
EPA Method 25B :	VOC (NDIR Analyzer)

F. Compliance Demonstration by Fuel Sampling and Analysis (FSA).

Coal Sampling	Coke sampling	Tire derived fuel sampling
Waste oil sampling	Sewage sludge sampling	Paper sludge sampling
Refuse derived fuel sampling		Landfill gas sampling

G. Compliance Demonstration by Recordkeeping.

Testing and monitoring records	Records of malfunction
Compliance schedule records	As-applied coating & ink records,
Process hours of operation records	Transfer efficiency records
Fuel usage records	Production records
As-applied coating & ink composition records	

COMPLIANCE DEMONSTRATION BY CONTINUOUS EMISSIONS MONITORING (CEM) SECTION M1

An installation plan for each new (i.e. proposed) Continuous Emission Monitoring (CEM) System shall be submitted with the permit application for approval. Fill out one (1) sheet per analyzer.

1. Emission Point No./Name : NA

2. Continuous Emission Monitoring Data:

A. Name of Manufacturer: _____

B. Model number: _____

C. Serial Number: _____

D. Date of installation of CEM: _____

E. Which does the CEM monitor: Pollutant ☐ Diluent ☐
Flow ☐ Opacity ☐

F. Pollutant / Diluent / Flow being monitored: _____

F. Type of analyzer: ☐ In situ ☐ Extractive
☐ Dilution ☐ O₂
☐ CO₂ ☐ Thermal
☐ Differential Pressure
☐ Other (specify): _____

H. Type of analyzer description: _____

I. Backup system (attach other compliance demonstration forms if needed): _____

J. Opacity CEM: _____
How measured: Monitor ☐ Visible Emission Evaluation ☐

K. If CEM is not previously certified, then it shall be submitted for certification within 60 days of startup of the CEM system.

L. State the operating principles of the analyzer: _____

M. Attach a schematic of the CEM system showing the sample acquisition point and location of the monitor and explain any deviations from the siting criteria in Performance Specifications 1, 2, 3, 4, 5, 6 and 7 in 40 CFR Part 60, Appendix B.

COMPLIANCE DEMONSTRATION BY PERIODIC EMISSION MONITORING USING PORTABLE MONITORS

SECTION M2

An monitoring plan for each new (i.e. proposed) Portable Monitoring System shall be submitted with the permit application for approval. Fill out one (1) sheet per monitor.

1. Emission Point No./Name : NA
2. Start-up date : _____
3. Portable Monitor Data:
 - A. Name of Manufacturer: _____
 - B. Model number: _____
 - C. Serial Number: _____
 - D. Is the equipment owned and maintained by the facility? Yes ☐ No ☐
 - E. Which does the Portable Monitor monitor: ☐ Pollutant
☐ Diluent
 - F. Pollutant / Diluent being monitored: _____
 - G. Type of Monitor: ☐ In situ ☐ Extractive ☐ Dilution
☐ Other (specify) : _____
 - H. Type of Monitor description: _____
 - I. Backup system (attach other compliance demonstration forms if needed): _____
 - J. Compliance shall be demonstrated:
☐ Daily ☐ Weekly ☐ Monthly
 - K. If Portable Monitor is not previously certified, then it shall be submitted for certification within 60 days of startup of the CEM system.
 - L. State the operating principles of the monitor:

 - M. How will the monitor be calibrated: _____
 - N. Any test value over the emission limit shall be reported as an excess emission.
 - O. Attach a schematic of the CEM system showing the sample acquisition point and location of the monitor while sampling.

**COMPLIANCE DEMONSTRATION BY MONITORING CONTROL
SYSTEM PARAMETERS OR OPERATING PARAMETERS
OF A PROCESS**

SECTION M3

The monitoring of a control system parameter or a process parameter may be acceptable provided that a correlation between the parameter value and the emission rate of a particular pollutant is established in the form of a curve of emission rate versus parameter values. At least three sets of stack test data, that bracket the emission limit if possible, shall be used to define the emission curve. This data shall constitute the certification of the system and must be attached for approval. If it is not attached, it shall be submitted within 60 days from the date of startup of the system or the date of application, which ever is later.

1. Emission Point No./Name : AA-001 and AA-028
2. Method of monitoring description: Daily documentation of quantity
of Natural Gas and No. 2 Fuel Oil burned in each boiler

Attach separate sheets if needed.

3. Backup system (attach other compliance demonstration forms if needed):
NA
4. The monitoring system shall be subject to appropriate performance specifications, calibration requirements, and quality assurance procedures.
5. If a quality assurance / quality control plan is not attached with the application for approval, it shall be submitted within 60 days from the date of startup of the monitoring program or the date of application, which ever is later.

COMPLIANCE DEMONSTRATION BY MONITORING MAINTENANCE PROCEDURES

SECTION M4

The monitoring of a maintenance procedure shall be acceptable provided that a correlation between the procedure and the emission rate of a particular pollutant is established in the form of a curve of emission rate versus the frequency of the procedure is performed. VOC or fugitive dust control programs are examples of procedures that could be monitored. The correlation shall be established using stack test data (if feasible). This data shall constitute certification of the system and must be attached for approval. If it is not attached, it shall be submitted within 60 days from the date of startup of the system or the date of application, which ever is later.

1. Emission Point No./Name : NA
2. Procedure being monitored: _____
3. Method of monitoring description: _____

Attach separate sheets if needed.

4. Backup system (attach other compliance demonstration forms if needed): _____
5. Frequency of certification: ☐ Daily ☐ Weekly ☐ Monthly
6. Any failure to fulfill a maintenance requirement shall be reported as an excess emission.
7. Is this an existing maintenance procedure: Yes ☐ No ☐
8. The monitoring system shall be subject to appropriate performance specifications, calibration requirements, and quality assurance procedures.
9. If a quality assurance / quality control plan is not attached with the application for approval, it shall be submitted within 60 days from the date of startup of the monitoring program or the date of application, which ever is later.

COMPLIANCE DEMONSTRATION BY STACK TESTING

SECTION M5

Compliance demonstration by stack testing will be carried out in accordance with EPA approved reference methods and the stack test report must be attached.

1. Emission Point No./Name : NA
2. Pollutant being tested for: _____
3. Test Method: _____
4. Compliance shall be demonstrated:
☐ Daily ☐ Weekly ☐ Monthly
☐ Other (specify): _____
5. Any measured emission rate that exceeds an emission limit established by the permit must be reported as an excess emission.
6. Is this an existing method of demonstrating compliance:
Yes ☐ No ☐
7. Backup system (attach other compliance demonstration forms if needed): _____

COMPLIANCE DEMONSTRATION BY FUEL SAMPLING AND ANALYSIS

SECTION M6

An installation plan for each Fuel Sampling Analysis (FSA) System must be submitted with the permit application for approval. Fill out one (1) sheet per analyzer.

1. Emission Point No./Name : NA
2. Date of construction if for existing sources or date of anticipated start-up for new sources:

3. List the ASTM fuel sample collecting and analyzing methods used:

4. Fuel being sampled: _____
5. How will samples be taken: ☐ Automated ☐ Manual
6. Fuel Sampling Data:
 - A. Name of Manufacturer: _____
 - B. Model number: _____
 - C. Serial Number: _____
 - D. Is this an existing FSA system: Yes ☐ No ☐
 - E. How will samples be taken: ☐ Automated ☐ Manual
 - F. Backup system (attach other compliance demonstration forms if needed): _____
 - G. State the method of operating of the sampler: _____
 - H. Attach a schematic of the FSA system showing the sample acquisition point and location of the machine.
 - I. Compliance shall be demonstrated:
☐ Daily ☐ Weekly ☐ Monthly ☐ Quarterly
7. Any composite sample over the emission rate will be reported as an excess emission.
8. If the FSA system certification is not attached for approval, it must be submitted within 60 days from startup of the FSA system or the date of application, which ever is later.

**COMPLIANCE DEMONSTRATION
BY RECORDKEEPING**

SECTION M7

1. Emission Point No./Name : Boilers AA-001 & AA-028 (combined)
2. Pollutant: SO₂
3. Material or parameter being monitored or recorded: 216,000 Gallon/Year No. 2 Fuel Oil.
150MMft³/year Natural gas
4. Method of monitoring and recordkeeping: Daily documentation with recordkeeping of fuel oil
(<216,000 gal/ Year) and natural gas usage(<150 MMft³/year) .
5. List any EPA methods used: NA
6. Compliance shall be demonstrated: ☒ Daily ☐ Weekly ☐ Monthly ☐ Quarterly

MAJOR SOURCE AIR MONITORING NETWORK SECTION M8

1. Emission Point No./Name : NA
2. Air monitoring contact name and title: _____
3. Phone number: _____
4. Type of Air Monitoring Network: ☐ Existing ☐ Proposed
5. Pollutants to be monitored for (indicate all that will be monitored):

6. If conducting PSD Pre construction or PSD post construction, briefly describe reasons for monitoring:

7. Will quality assurance / quality control plans be submitted with permit application:
Yes ☐ No ☐ If No, provide plan within 30 days of permit application date.
8. If plan has already been submitted and previously approved (network is an existing network), provide a copy of the most recent updated plan with any revisions or changes as an attachment to the permit application. Provide date of previous approval by technical secretary.
Date : _____
9. The quality assurance / quality control plan that is submitted must contain sections that specifically address at minimum each of the following areas identified below.
 - A. Selection of analyzers, samples or sampling methods including installation of equipment, preventative and remedial maintenance.
 - B. Training of staff on equipment or methods.
 - C. Calibration procedures, frequency of calibration, control of calibration standards, recertification of standards.
 - D. Zero and span check frequency, adjustment of instrument response.
 - E. Control check frequency, control limits for zero and span response including corrective action.
 - F. Recording, validating and reporting procedures for data including assessment and reporting of precision and accuracy data.
 - G. Procedures to document implementation of plan and any subsequent changes to the plan.
 - H. Procedures to document and report causes of any missed data, violations of Ambient Air Quality Standards including upset conditions or malfunctions that affect or impact analyzers or samplers.
 - I. Siting of analyzers or samplers including topographic map coordinates, photographs of sites, maps with major terrain features, roads, buildings, rivers and proposed or exiting air contaminant sources.

Current Applicable Requirements and Status (page 1 of 2) Revised 8/8/01 **SECTION N**

List applicable state and federal regulations and applicable test methods for determining compliance with each applicable requirement. Clearly identify federal regulations from state requirements. Provide the compliance status as of the day the application is signed.

Emission Point No.	Applicable Requirement	Pollutant	Test Method	Limits	Compliance Status IN / OUT
AA-001 & AA -0028	40 CFR 60.42c	SO ₂	Fuel Certification	No > 0.5% Wt. % Sulfur	In
AA-001 & AA -0028	40 CFR 60.43c	PM	Fuel Certification	20% Opacity	In
EP001, EP006	40 CFR 70.2	VOCs	Measured Data, AP-42, SOCM, Water 8	100 TPY	In
AA-001 & AA -0028	APC-S-1.3(2)(3)	PM/Opacity	Material Balance, AP-42	Narrative	In
AA-001 & AA -0028	APC-S-1.4(1)(a)	SO ₂	Manufactures Specification	Not > 4.8 lb/MMBTU	In
EP001	APC-S-1.8	HAPs	Measured Data, AP-42, SOCM, Water 8	Narrative	In
EP001	40 CFR 63	HAPs	Measured Data, AP-42, SOCM, Water 8	10 TPY Each, 25 TPY Total	In

Future Applicable Requirements and Status (page 2 of 2)

COMPLIANCE CERTIFICATION

SECTION O

1. Emission Point No./Name EP005 & EP005A (Boilers); EP002-004 Cyclones; EP001 (Retort/VacySys)
2. Indicate the source compliance status:
 - A. X Where this source is currently in compliance, we will continue to operate and maintain this source to assure compliance for the duration of the permit.
 - B. The Current Emissions Requirements and Status form (previous page) includes new requirements that apply or will apply to this source during the term of the permit. We will meet such requirements on a timely basis.
 - C. This source is not in compliance. The following statement of corrective action is submitted to describe action which we will take to achieve compliance.
 1. Attached is a brief description of the problem and the proposed solution.
 2. We will achieve compliance according to the following schedule.

Progress reports will be submitted:

Starting date: NA and every six (6) months thereafter

Problem	Action	Deadline
NA		

Appendix A

AP-42 Emission Factors

<http://www.epa.gov/ttn/chief/ap42/ch01>

J. MITSAK & ASSOCIATES, P. C.

Environmental Management Consultants

808 Hatherleigh Road Baltimore, Maryland 21212

Recipient: Nick Boca

Sent By: John C. Mitsak, P.E.

Company: Kerr McGee

Company: J. Mitsak & Associates, P.C.

Fax Number: 1-405-270-2420

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Voice Number: 1-405-270-2394

Voice Number: 410-337-5010

Date: 5/7/01

Time: 3:10:49 PM

Total No. Pages: 15

Subject: Toxics Reporting

Message:

Hi Nick

Here is the handout I received at the EPA seminar for PAHs.

These are doublesided, and will need to be sorted when you receive them. Page numbers are on the bottom.

Hope this info helps.

Regards,
John Mitsak, P.E.

POLYCYCLIC AROMATIC COMPOUNDS

- PACs are coincidentally manufactured during the combustion of fuel
- Default emission factors:
 - 3.15×10^{-5} pounds per million standard cubic feet natural gas burned in a utility boiler (Ref. 3, 4)
 - 3.13×10^{-5} pounds per MM Btu of fuel oil #6 burned in a utility boiler (Ref. 3)
 - 2.506×10^{-8} pounds per MM Btu of fuel oil #2 burned in a utility boiler (Ref. 3)

**EMISSION FACTOR DOCUMENTATION
FOR AP-42 SECTION 1.4 NATURAL GAS COMBUSTION**

Prepared for:

**Office of Air Quality Planning and Standards
U.S. Environmental Protection Agency
Research Triangle Park, NC**

Prepared by:

**Eastern Research Group
1600 Perimeter Park
Morrisville, NC 27560**

March 1998

1. EXTERNAL COMBUSTION SOURCES

External combustion sources include steam/electric generating plants, industrial boilers, and commercial and domestic combustion units. Coal, fuel oil, and natural gas are the major fossil fuels used by these sources. Liquefied petroleum fuels are also used in relatively small quantities. Coal, oil, and natural gas currently supply about 95 percent of the total thermal energy consumed in the United States. Nationwide consumption in 1980 was over 530×10^6 megagrams (585 million tons) of bituminous coal, nearly 3.6×10^6 megagrams (4 million tons) of anthracite coal, 91×10^9 liters (24 billion gallons) of distillate oil, 114×10^9 liters (37 billion gallons) of residual oil, and 57×10^{12} cubic meters (20 trillion cubic feet) of natural gas.

Power generation, process heating, and space heating are some of the largest fuel combustion sources of sulfur oxides, nitrogen oxides, and particulate emissions. The following sections present emission factor data on the major fossil fuels and others.

Table 1.4-1. EMISSION FACTORS FOR NITROGEN OXIDES (NO_x) AND CARBON MONOXIDE (CO)
FROM NATURAL GAS COMBUSTION^a

Combustor Type (MMBtu/hr Heat Input) [SCC]	NO _x ^b		CO	
	Emission Factor (lb/10 ⁶ scf)	Emission Factor Rating	Emission Factor (lb/10 ⁶ scf)	Emission Factor Rating
Large Wall-Fired Boilers (>100) [1-01-006-01, 1-02-006-01, 1-03-006-01]				
Uncontrolled (Pre-NSPS) ^c	280	A	84	B
Uncontrolled (Post-NSPS) ^c	190	A	84	B
Controlled - Low NO _x burners	140	A	84	B
Controlled - Flue gas recirculation	100	D	84	B
Small Boilers (<100) [1-01-006-02, 1-02-006-02, 1-03-006-02, 1-03-006-03]				
Uncontrolled	100	B	84	B
Controlled - Low NO _x burners	50	D	84	B
Controlled - Low NO _x burners/Flue gas recirculation	32	C	84	B
Tangential-Fired Boilers (All Sizes) [1-01-006-04]				
Uncontrolled	170	A	24	C
Controlled - Flue gas recirculation	76	D	98	D
Residential Furnaces (<0.3) [No SCC]				
Uncontrolled	94	B	40	B

^a Reference 11. Units are in pounds of pollutant per million standard cubic feet of natural gas fired. To convert from lb/10⁶ scf to kg/10⁶ m³, multiply by 16. Emission factors are based on an average natural gas higher heating value of 1,020 Btu/scf. To convert from 1 lb/10⁶ scf to lb/MMBtu, divide by 1,020. The emission factors in this table may be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to this average heating value. SCC = Source Classification Code. ND = no data. NA = not applicable.

^b Expressed as NO_x. For large and small wall fired boilers with SNCR control, apply a 24 percent reduction to the appropriate NO_x emission factor. For tangential-fired boilers with SNCR control, apply a 13 percent reduction to the appropriate NO_x emission factor.

^c NSPS=New Source Performance Standard as defined in 40 CFR 60 Subparts D and Db. Post-NSPS units are boilers with greater than 250 MMBtu/hr of heat input that commenced construction modification, or reconstruction after August 17, 1971, and units with heat input capacities between 100 and 250 MMBtu/hr that commenced construction modification, or reconstruction after June 19, 1984.

TABLE 1.4-2. EMISSION FACTORS FOR CRITERIA POLLUTANTS AND GREENHOUSE GASES FROM NATURAL GAS COMBUSTION^a

Pollutant	Emission Factor (lb/10 ⁶ scf)	Emission Factor Rating
CO ₂ ^b	120,000	A
Lead	0.0005	D
N ₂ O (Uncontrolled)	2.2	E
N ₂ O (Controlled-low-NO _x burner)	0.64	E
PM (Total) ^c	7.6	D
PM (Condensable) ^c	5.7	D
PM (Filterable) ^c	1.9	B
SO ₂ ^d	0.6	A
TOC	11	B
Methane	2.3	B
VOC	5.5	C

^a Reference 11. Units are in pounds of pollutant per million standard cubic feet of natural gas fired. Data are for all natural gas combustion sources. To convert from lb/10⁶ scf to kg/10⁶ m³, multiply by 16. To convert from lb/10⁶ scf to lb/MMBtu, divide by 1,020. The emission factors in this table may be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to this average heating value. TOC = Total Organic Compounds. VOC = Volatile Organic Compounds.

^b Based on approximately 100% conversion of fuel carbon to CO₂. CO₂[lb/10⁶ scf] = (3.67) (CON) (C)(D), where CON = fractional conversion of fuel carbon to CO₂, C = carbon content of fuel by weight (0.76), and D = density of fuel, 4.2x10⁴ lb/10⁶ scf.

^c All PM (total, condensable, and filterable) is assumed to be less than 1.0 micrometer in diameter. Therefore, the PM emission factors presented here may be used to estimate PM₁₀, PM_{2.5} or PM₁ emissions. Total PM is the sum of the filterable PM and condensable PM. Condensable PM is the particulate matter collected using EPA Method 202 (or equivalent). Filterable PM is the particulate matter collected on, or prior to, the filter of an EPA Method 5 (or equivalent) sampling train.

^d Based on 100% conversion of fuel sulfur to SO₂. Assumes sulfur content is natural gas of 2,000 grains/10⁶ scf. The SO₂ emission factor in this table can be converted to other natural gas sulfur contents by multiplying the SO₂ emission factor by the ratio of the site-specific sulfur content (grains/10⁶ scf) to 2,000 grains/10⁶ scf.

Table 1.3-1. CRITERIA POLLUTANT EMISSION FACTORS FOR FUEL OIL COMBUSTION^a

Firing Configuration (SCC) ^a	SO ₂ ^b		SO ₃ ^c		NO _x ^d		CO ^e		Filterable PM ^f	
	Emission Factor (lb/10 ³ gal)	EMISSION FACTOR RATING	Emission Factor (lb/10 ³ gal)	EMISSION FACTOR RATING	Emission Factor (lb/10 ³ gal)	EMISSION FACTOR RATING	Emission Factor (lb/10 ³ gal)	EMISSION FACTOR RATING	Emission Factor (lb/10 ³ gal)	EMISSION FACTOR RATING
Boilers > 100 Million Btu/hr										
No. 6 oil fired, normal firing (1-01-004-01), (1-02-004-01), (1-03-004-01)	157S	A	5.7S	C	47	A	5	A	9.19(S)+3.22	A
No. 6 oil fired, normal firing, low NO _x burner (1-01-004-01), (1-02-004-01)	157S	A	5.7S	C	40	B	5	A	9.19(S)+3.22	A
No. 6 oil fired, tangential firing, (1-01-004-04)	157S	A	5.7S	C	32	A	5	A	9.19(S)+3.22	A
No. 6 oil fired, tangential firing, low NO _x burner (1-01-004-04)	157S	A	5.7S	C	26	E	5	A	9.19(S)+3.22	A
No. 5 oil fired, normal firing (1-01-004-05), (1-02-004-04)	157S	A	5.7S	C	47	B	5	A	10	B
No. 5 oil fired, tangential firing (1-01-004-06)	157S	A	5.7S	C	32	B	5	A	10	B
No. 4 oil fired, normal firing (1-01-005-04), (1-02-005-04)	150S	A	5.7S	C	47	B	5	A	7	B
No. 4 oil fired, tangential firing (1-01-005-05)	150S	A	5.7S	C	32	B	5	A	7	B
No. 2 oil fired (1-01-005-01), (1-02-005-01), (1-03-005-01)	157S	A	5.7S	C	24	D	5	A	2	A
No. 2 oil fired, LNB/FCR, (1-01-005-01), (1-02-005-01), (1-03-005-01)	157S	A	5.7S	A	10	D	5	A	2	A

Table 1.3-1. (cont.)

Firing Configuration (SCC) ^a	SO ₂ ^b		SO ₃ ^c		NO _x ^d		CO ^e		Filterable PM ^f	
	Emission Factor (lb/10 ³ gal)	EMISSION FACTOR RATING	Emission Factor (lb/10 ³ gal)	EMISSION FACTOR RATING	Emission Factor (lb/10 ³ gal)	EMISSION FACTOR RATING	Emission Factor (lb/10 ³ gal)	EMISSION FACTOR RATING	Emission Factor (lb/10 ³ gal)	EMISSION FACTOR RATING
Boilers < 100 Million Btu/hr										
No. 6 oil fired (1-02-004-02/03) (1-03-004-02/03)	157S	A	2S	A	55	A	5	A	10	B
No. 5 oil fired (1-03-004-04)	157S	A	2S	A	55	A	5	A	9.19(S)+3.22	A
No. 4 oil fired (1-03-005-04)	150S	A	2S	A	20	A	5	A	7	B
Distillate oil fired (1-02-005-02/03) (1-03-005-02/03)	142S	A	2S	A	20	A	5	A	2	A
Residential furnace (A2104004/A2104011)	142S	A	2S	A	18	A	5	A	0.4 ^g	B

^a To convert from lb/10³ gal to kg/10³ L, multiply by 0.120. SCC = Source Classification Code.

^b References 1-2,6-9,14,56-60. S indicates that the weight % of sulfur in the oil should be multiplied by the value given. For example, if the fuel is 1% sulfur, then S = 1.

^c References 1-2,6-8,16,57-60. S indicates that the weight % of sulfur in the oil should be multiplied by the value given. For example, if the fuel is 1% sulfur, then S = 1.

^d References 6-7,15,19,22,56-62. Expressed as NO_x. Test results indicate that at least 95% by weight of NO_x is NO for all boiler types except residential furnaces, where about 75% is NO. For utility vertical fired boilers use 105 lb/10³ gal at full load and normal (>15%) excess air. Nitrogen oxides emissions from residual oil combustion in industrial and commercial boilers are related to fuel nitrogen content, estimated by the following empirical relationship: lb NO₂/10³ gal = 20.54 + 104.39(N), where N is the weight % of nitrogen in the oil. For example, if the fuel is 1% nitrogen, then N = 1.

^e References 6-8,14,17-19,56-61. CO emissions may increase by factors of 10 to 100 if the unit is improperly operated or not well maintained.

^f References 6-8,10,13-15,56-60,62-63. Filterable PM is that particulate collected on or prior to the filter of an EPA Method 5 (or equivalent) sampling train. Particulate emission factors for residual oil combustion are, on average, a function of fuel oil sulfur content where S is the weight % of sulfur in oil. For example, if fuel oil is 1% sulfur, then S = 1.

^g Based on data from new burner designs. Pre-1970's burner designs may emit filterable PM as high as 3.0 lb/10³ gal.

$$SO_x = 142(.5) = 71$$

Appendix B
AWPI Model Output
For 100% Green Treatment

Green PTE
Green PTE
Columbus, MS
August 21, 2001

FACILITY AND PROCESS DATA

FACILITY ID OR NAME
FACILITY LOCATION
DATE

21-Aug-01

Suggested Default Values

RETORT CYLINDER LENGTH
RETORT CYLINDER DIAMETER
WOOD VOLUME PER CHARGE

feet
feet
cubic feet

From Plant Data Tab
From Plant Data Tab
From Plant Data Tab

AIR DRY CHARGES
STEAM CONDITIONED CHARGES¹
BOULTON CYCLE TREATMENT CHARGES
PRESERVATIVE PURCHASES

gallons per year

From Annual Report
From Annual Report
From Annual Report
From Annual Report

AMBIENT PRESSURE
MEAN ANNUAL MAXIMUM AMBIENT TEMPERATURE
MEAN ANNUAL MINIMUM AMBIENT TEMPERATURE
DAILY TOTAL SOLAR INSOLATION FACTOR

psia
°F
°F
Btu per square feet per day

From Weather Tab
From Weather Tab
From Weather Tab
Refer to AP-42 Table 7.1-7

I. POINT SOURCE AIR EMISSIONS**A. WORK TANK VENTS**

NUMBER OF WORK TANKS
PVRVs USED:
EQUALIZATION LINES USED

Mark X if applicable
Mark X if applicable

Title V Application

AVERAGE TANK DIAMETER
AVERAGE TANK SHELL HEIGHT
AVERAGE LIQUID HEIGHT
MAXIMUM LIQUID HEIGHT
AVERAGE WORK TANK CAPACITY
ROOF TYPE (MARK WITH AN X)

feet
feet
feet
feet
gallons
Cone
Dome
Flat

From Plant Data Tab
From Plant Data Tab
From Plant Data Tab
From Plant Data Tab
From Plant Data Tab

Title V Application

CONE ROOF

TANK CONE ROOF SLOPE

feet tall per feet radius

DOMED ROOF

TANK DOME RADIUS

feet

Avg. tank diameter

VAPOR PRESSURE AVERAGE
DAILY MINIMUM VAPOR PRESSURE
DAILY MAXIMUM VAPOR PRESSURE
BREATHING VENT PRESSURE SETTING
BREATHING VENT VACUUM SETTING

psia
psia
psia
psig
psig

0.038
0.038
0.038
0 for heated tanks
0 for heated tanks

IF TANK IS HEATED (MARK WITH AN X)
LIQUID BULK TEMPERATURE

°F

180

ROOF PAINT

CONDITION (MARK WITH AN X)

Good
Poor
Aluminum, shiny
Aluminum, matte
Gray, Light
Gray, Medium
Red
White

Title V Application

COLOR (MARK WITH AN X)

Title V Application

SHELL PAINT

CONDITION (MARK WITH AN X)

Good
Poor
Aluminum, shiny
Aluminum, matte
Gray, Light
Gray, Medium
Red
White

Title V Application

COLOR (MARK WITH AN X)

Title V Application

Green PTE
 Green PTE
 Columbus, MS
 August 21, 2001

B. STORAGE TANK VENTS

NUMBER OF STORAGE TANKS
 PVRVs USED
 EQUALIZATION LINES USED

Mark X if applicable
 Mark X if applicable

Title V Application
 Title V Application
 Title V Application

AVERAGE TANK DIAMETER
 AVERAGE TANK SHELL HEIGHT
 AVERAGE LIQUID HEIGHT
 MAXIMUM LIQUID HEIGHT
 AVERAGE STORAGE TANK CAPACITY
 ROOF TYPE (MARK WITH AN X)

feet
 feet
 feet
 feet
 gallons
 Cone
 Dome
 Flat

CONE ROOF

TANK CONE ROOF SLOPE

feet tall per feet radius

DOME ROOF

TANK DOME RADIUS

feet

Avg. tank diameter

VAPOR PRESSURE AVERAGE
 DAILY MINIMUM VAPOR PRESSURE
 DAILY MAXIMUM VAPOR PRESSURE
 BREATHER VENT PRESSURE SETTING
 BREATHER VENT VACUUM SETTING

psia
 psia
 psia
 psig
 psig

0.038
 0.038
 0.038
 0 for heated tanks
 0 for heated tanks

IF TANK IS HEATED (MARK WITH AN X)
 LIQUID BULK TEMPERATURE

°F

180

ROOF PAINT

CONDITION (MARK WITH AN X)

COLOR (MARK WITH AN X)

Good
 Poor
 Aluminum, shiny
 Aluminum, matte
 Gray, Light
 Gray, Medium
 Red
 White

SHELL PAINT

CONDITION (MARK WITH AN X)

COLOR (MARK WITH AN X)

Good
 Poor
 Aluminum, shiny
 Aluminum, matte
 Gray, Light
 Gray, Medium
 Red
 White

C. RETORT VACUUM SYSTEM EXHAUST VENTS

RETORT CHAMBER TEMPERATURE

°F

FULL CELL TREATMENT

FULL CELL TREATMENT

charges per year

AIR DRY CONDITIONED

charges per year

STEAM CONDITIONED

charges per year

BOULTON CYCLE CONDITIONED

charges per year

EMPTY CELL RUEPING

EMPTY CELL RUEPING

charges per year

EMPTY CELL LOWRY

EMPTY CELL LOWRY

charges per year

D. STEAM DRY CONDITIONING PROCESS

TYPE OF STEAM PROCESS (MARK WITH AN X)

LIVE

CLOSED

STEAM FLOW

pounds per hour

HOURS PER CYCLE

hours per cycle

Green PTE
Green PTE
Columbus, MS
August 21, 2001

E. FLASHING PROCESS

TYPE OF STEAM PROCESS (MARK WITH AN X)

LIVE

CLOSED

STEAM FLOW

HOURS PER CYCLE

CYCLES PER YEAR

pounds per hour

hours per cycle

cycles per year

F. DEHYDRATOR

VOLUME OF LIQUID PROCESSED

PERCENT PRESERVATIVE IN LIQUID

gallons

%

Annual Report

G. WASTEWATER TREATMENT SYSTEM

TOTAL NAPHTHALENE AIR EMISSIONS FROM WATER9

pounds per year

Title V Application

II. FUGITIVE (NON-POINT SOURCE) AIR EMISSIONS**A. EQUIPMENT LOSSES**

COMPONENT

PUMP SEALS

VALVES

SAFETY-RELIEF VALVES

OPEN-ENDED LINES

FLANGES

SAMPLING CONNECTIONS

NUMBER

ANNUAL HOURS

8760

8760

8760

8760

8760

8760

B. RETORT DOOR

TEMPERATURE

TIME DOOR IS OPEN

°F

minutes per opening

C. SUMP TANKS

TOTAL NAPHTHALENE AIR EMISSIONS FROM WATER9

pounds per year

Title V Application

D. SAP TANKS

TOTAL NAPHTHALENE AIR EMISSIONS FROM WATER9

pounds per year

None

III. WATER DISCHARGES

WATER DISCHARGES OF NAPHTHALENE FROM WATER9

pounds per year

Title V Application

"Creosote Discharged In Wastewater"

IV. TRANSFERS OFF-SITE

ENTER QUANTITY OF CREOSOTE IN HAZARDOUS

WASTE TRANSFERRED OFF-SITE

pounds

Annual Report

NOTE: I: IF THE CYLINDER IS USED ONLY TO STEAM DRY WOOD, ENTER 0 FOR NUMBER OF CHARGES PER YEAR

100% Green Treatment PTE**August 21, 2001****Controlled Emissions****Green PTE****Columbus, MS**

I. Point Sources	Controlled Emissions (pounds per year)					
	Naphthalene	Dibenzofuran	Quinoline	Biphenyl	Creosote VOC	PAC
Work Tanks	1.9	0.2	0.1	0.1	4.3	0.0
Storage Tanks	0.0	0.0	0.0	0.0	0.0	0.0
Conditioning(Boulton)	76.2	8.7	3.6	3.1	175.0	0.2
Treatment	46.9	5.3	2.2	1.9	107.7	0.1
Flash	0.0	0.0	0.0	0.0	0.0	0.0
Dehydrator	9.1	1.0	0.4	0.4	21.0	0.0
WWT	29.2	3.3	1.4	1.2	67.0	0.1
Sub-Total	163.3	18.6	7.7	6.7	374.9	0.3

Total Point Source HAP Air Emissions
196.3 lb/yr
0.10 ton/yr

II. Fugitives	Controlled Emissions (pounds per year)					
	Naphthalene	Dibenzofuran	Quinoline	Biphenyl	Creosote VOC	PAC
Equipment	705.8	80.3	33.2	29.2	1,620.7	1.5
Retort Door	207.5	23.6	9.8	8.6	476.6	0.4
Sumps	90.0	10.2	4.2	3.7	206.7	0.2
Black Tie Storage	9,102	1,042	430	378	21,670	20
Sub-Total	10,105.4	1,156.2	477.2	419.4	23,973.9	22.4

Total Fugitive (Non-Point) Source HAP Air Emissions
12,158.1 lb/yr
6.1 ton/yr
Total VOC Point Source Emissions
374.9 lb/yr
0.2 ton/yr
Total VOC Emissions
24,348.8 lb/yr
12.2 ton/yr
Total HAP Emissions
12,354.4 lb/yr
6.2 ton/yr

	100% Green Treatment					
	Naphthalene	Dibenzofuran	Quinoline	Biphenyl	Creosote VOC	PAC
	lb/yr	lb/yr	lb/yr	lb/yr	lb/yr	lb/yr
Point Sources	163	19	8	7	375	0
Fugative Sources	10105	1156	477	419	23974	22
Total Sources	10,269	1,175	485	426	24,349	23
Total Sources (TPY)	5.13	0.59	0.24	0.21	12.17	0.01
Title V Threshold	10.00	10.00	10.00	10.00	100.00	NA

RTI ANALYSIS OF INDUSTRY AVERAGE CREOSOTE (P1/P13) - CONTROLLED

CONSTITUENT IDENTITY	MOLECULAR WEIGHT (MW) (lb-mole)	CAS NO.	MEAN WEIGHT (mean fraction)	MASS OF CONSTITUENT (lb)	MOLES OF CONSTITUENT (lb-mole)	MOLES % IN CREOSOTE (% RTI)	CONVERSION TO MW (lb-mole)	PURE VAPOR PRESSURE (PT) Pa @ 100 deg F	PARTIAL PRESSURE Pa @ 100 deg F	COMPONENT MW Pa @ 100	VAPOR MOLES (fraction)	CONTRIBUTION TO VAPOR MW (lb-mole)	VAPOR MASS (fraction)	EMISSIONS (lb/yr)
Naphthalene	128.2	91-20-3	0.0683	6.833	5.302E-02	1.0933E-01	1.4016E-01	1.599E-01	1.481E-02	5.9376E-01	2.241E+00	4.355E+01	0.4355	1.06E+02
2-Methylanthracene	142.2	38899E-02	0.0553	5.530	3.889E-02	1.342E-01	1.342E-01	6.09E-02	4.800E-03	1.831E+01	1.343E+01	3.72E+02	0.1343	3.72E+02
Indene	116.3	91-57-6	0.0078	0.782	2.403E-03	4.929E-01	5.725E-01	5.56E-01	2.397E-01	8.416E+00	3.182E+01	6.184E+00	0.0618	1.51E+03
Dibenzofuran	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Acenaphthene	154.2	83-32-9	0.0748	7.487	4.851E-02	1.534E+01	1.571E-02	1.571E-02	1.564E-03	6.952E+00	2.419E+01	4.690E+00	0.0469	1.1E+03
Indan	118.2	498-11-7	0.0020	0.1958	1.658E-03	3.398E-01	4.016E-01	5.80E-01	1.971E-03	6.172E+00	2.129E+01	3.527E+00	0.0453	1.0E+03
1-Methylanthracene	142.2	90-12-0	0.0168	1.6758	1.178E-02	2.417E-02	3.437E+00	3.71E-02	1.394E-03	5.232E+00	1.982E+01	3.527E+00	0.0385	9.9E+02
1,2-Dimethylanthracene	156.2	575-541-7	0.0132	1.323	8.470E-03	1.737E-02	2.714E+00	4.71E-02	1.411E-04	2.790E+00	1.579E+01	2.350E+00	0.0232	2.4E+02
Quinoline	129.2	91-22-5	0.0082	0.820	6.308E-03	1.293E-02	1.671E+00	6.30E-02	8.132E-04	2.790E+00	1.579E+01	2.350E+00	0.0232	2.4E+02
9H-Fluorene	142.2	92-52-4	0.0148	1.4783	9.387E-03	1.964E-02	3.032E+00	1.03E-02	6.004E-04	2.790E+00	1.579E+01	2.350E+00	0.0232	2.4E+02
Biphenyl (Diphenyl, 1,1'-Biphenyl)	154.2	92-52-4	0.0148	1.4783	9.387E-03	1.964E-02	3.032E+00	1.03E-02	6.004E-04	2.790E+00	1.579E+01	2.350E+00	0.0232	2.4E+02
1-Methylanthracene	142.2	90-12-0	0.0168	1.6758	1.178E-02	2.417E-02	3.437E+00	3.71E-02	1.394E-03	5.232E+00	1.982E+01	3.527E+00	0.0385	9.9E+02
2-Methylanthracene	142.2	90-12-0	0.0168	1.6758	1.178E-02	2.417E-02	3.437E+00	3.71E-02	1.394E-03	5.232E+00	1.982E+01	3.527E+00	0.0385	9.9E+02
2,6-Dimethylanthracene	156.2	575-541-7	0.0132	1.323	8.470E-03	1.293E-02	1.671E+00	6.30E-02	8.132E-04	2.790E+00	1.579E+01	2.350E+00	0.0232	2.4E+02
Benzo(b)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(c)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(k)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(a)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(b)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(c)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(d)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(e)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(f)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(g)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(h)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(i)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(j)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(l)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(m)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(n)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(o)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(p)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(q)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(r)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(s)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(t)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(u)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(v)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(w)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(x)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(y)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(z)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(aa)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(ab)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(ac)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(ad)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(ae)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(af)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(ag)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(ah)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(ai)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(aj)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(ak)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(al)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(am)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(an)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(ao)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(ap)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(aq)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(ar)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(as)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-03	6.755E+00	2.419E+01	1.1E+03	0.0494	1.1E+03
Benzo(at)fluorene	184.3	132-64-9	0.0412	4.123	2.237E-02	4.589E+00	8.453E+00	3.02E-02	1.383E-0					

Appendix C
AWPI Model Output
For 100% Dry Treatment

Dry PTE
 Dry PTE
 Columbus, MS
 August 21, 2001

FACILITY AND PROCESS DATA

FACILITY ID OR NAME
 FACILITY LOCATION
 DATE

21-Aug-01

Suggested Default Values

RETORT CYLINDER LENGTH
 RETORT CYLINDER DIAMETER
 WOOD VOLUME PER CHARGE

feet
 feet
 cubic feet

From Plant Data Tab
 From Plant Data Tab
 From Plant Data Tab

AIR DRY CHARGES
 STEAM CONDITIONED CHARGES¹
 BOULTON CYCLE TREATMENT CHARGES
 PRESERVATIVE PURCHASES

PTE
 PTE
 gallons per year

From Annual Report
 From Annual Report
 From Annual Report
 From Annual Report

AMBIENT PRESSURE
 MEAN ANNUAL MAXIMUM AMBIENT TEMPERATURE
 MEAN ANNUAL MINIMUM AMBIENT TEMPERATURE
 DAILY TOTAL SOLAR INSOLATION FACTOR

psia
 °F
 °F
 Btu per square feet per day

From Weather Tab
 From Weather Tab
 From Weather Tab
 Refer to AP-42 Table 7.1-7

I. POINT SOURCE AIR EMISSIONS

A. WORK TANK VENTS

NUMBER OF WORK TANKS
 PVRVs USED:
 EQUALIZATION LINES USED

Mark X if applicable
 Mark X if applicable

Title V Application

AVERAGE TANK DIAMETER
 AVERAGE TANK SHELL HEIGHT
 AVERAGE LIQUID HEIGHT
 MAXIMUM LIQUID HEIGHT
 AVERAGE WORK TANK CAPACITY
 ROOF TYPE (MARK WITH AN X)

feet
 feet
 feet
 feet
 gallons
 Cone
 Dome
 Flat

From Plant Data Tab
 From Plant Data Tab
 From Plant Data Tab
 From Plant Data Tab
 From Plant Data Tab

Title V Application

CONE ROOF

TANK CONE ROOF SLOPE

feet tall per feet radius

DOME ROOF

TANK DOME RADIUS

feet

Avg. tank diameter

VAPOR PRESSURE AVERAGE
 DAILY MINIMUM VAPOR PRESSURE
 DAILY MAXIMUM VAPOR PRESSURE
 BREATHER VENT PRESSURE SETTING
 BREATHER VENT VACUUM SETTING

psia
 psia
 psia
 psig
 psig

0.038
 0.038
 0.038
 0 for heated tanks
 0 for heated tanks

IF TANK IS HEATED (MARK WITH AN X)
 LIQUID BULK TEMPERATURE

°F

180

ROOF PAINT

CONDITION (MARK WITH AN X)

Good
 Poor
 Aluminum, shiny
 Aluminum, matte
 Gray, Light
 Gray, Medium
 Red
 White

Title V Application

COLOR (MARK WITH AN X)

Title V Application

SHELL PAINT

CONDITION (MARK WITH AN X)

Good
 Poor
 Aluminum, shiny
 Aluminum, matte
 Gray, Light
 Gray, Medium
 Red
 White

Title V Application

COLOR (MARK WITH AN X)

Title V Application

Dry PTE
 Dry PTE
 Columbus, MS
 August 21, 2001

B. STORAGE TANK VENTS

NUMBER OF STORAGE TANKS
 PVRVs USED
 EQUALIZATION LINES USED

Mark X if applicable
 Mark X if applicable

Title V Application
 Title V Application
 Title V Application

AVERAGE TANK DIAMETER
 AVERAGE TANK SHELL HEIGHT
 AVERAGE LIQUID HEIGHT
 MAXIMUM LIQUID HEIGHT
 AVERAGE STORAGE TANK CAPACITY
 ROOF TYPE (MARK WITH AN X)

feet
 feet
 feet
 feet
 gallons
 Cone
 Dome
 Flat

CONE ROOF

TANK CONE ROOF SLOPE

feet tall per feet radius

DOME ROOF

TANK DOME RADIUS

feet

Avg. tank diameter

VAPOR PRESSURE AVERAGE
 DAILY MINIMUM VAPOR PRESSURE
 DAILY MAXIMUM VAPOR PRESSURE
 BREATHER VENT PRESSURE SETTING
 BREATHER VENT VACUUM SETTING

psia
 psia
 psia
 psig
 psig

0.038
 0.038
 0.038
 0 for heated tanks
 0 for heated tanks

IF TANK IS HEATED (MARK WITH AN X)
 LIQUID BULK TEMPERATURE

°F

180

ROOF PAINT

CONDITION (MARK WITH AN X)

COLOR (MARK WITH AN X)

Good
 Poor
 Aluminum, shiny
 Aluminum, matte
 Gray, Light
 Gray, Medium
 Red
 White

SHELL PAINT

CONDITION (MARK WITH AN X)

COLOR (MARK WITH AN X)

Good
 Poor
 Aluminum, shiny
 Aluminum, matte
 Gray, Light
 Gray, Medium
 Red
 White

C. RETORT VACUUM SYSTEM EXHAUST VENTS

RETORT CHAMBER TEMPERATURE

°F

FULL CELL TREATMENT

FULL CELL TREATMENT

charges per year

AIR DRY CONDITIONED

charges per year

STEAM CONDITIONED

charges per year

BOULTON CYCLE CONDITIONED

charges per year

EMPTY CELL RUEPING

EMPTY CELL RUEPING

charges per year

EMPTY CELL LOWRY

EMPTY CELL LOWRY

charges per year

D. STEAM DRY CONDITIONING PROCESS

TYPE OF STEAM PROCESS (MARK WITH AN X)

LIVE

CLOSED

STEAM FLOW

pounds per hour

HOURS PER CYCLE

hours per cycle

Dry PTE
 Dry PTE
 Columbus, MS
 August 21, 2001

E. FLASHING PROCESS

TYPE OF STEAM PROCESS (MARK WITH AN X)

LIVE
 CLOSED

STEAM FLOW
 HOURS PER CYCLE
 CYCLES PER YEAR

pounds per hour
 hours per cycle
 cycles per year

F. DEHYDRATOR

VOLUME OF LIQUID PROCESSED
 PERCENT PRESERVATIVE IN LIQUID

gallons
 %

Annual Report

G. WASTEWATER TREATMENT SYSTEM

TOTAL NAPHTHALENE AIR EMISSIONS FROM WATER9

pounds per year

Title V Application

II. FUGITIVE (NON-POINT SOURCE) AIR EMISSIONS**A. EQUIPMENT LOSSES**

COMPONENT
 PUMP SEALS
 VALVES
 SAFETY-RELIEF VALVES
 OPEN-ENDED LINES
 FLANGES
 SAMPLING CONNECTIONS

NUMBER ANNUAL HOURS

8760
 8760
 8760
 8760
 8760
 8760

B. RETORT DOOR

TEMPERATURE
 TIME DOOR IS OPEN

°F
 minutes per opening

C. SUMP TANKS

TOTAL NAPHTHALENE AIR EMISSIONS FROM WATER9

pounds per year

Title V Application

D. SAP TANKS

TOTAL NAPHTHALENE AIR EMISSIONS FROM WATER9

pounds per year

None

III. WATER DISCHARGES

WATER DISCHARGES OF NAPHTHALENE FROM WATER9
 "Creosote Discharged in Wastewater"

pounds per year

Title V Application

IV. TRANSFERS OFF-SITE

ENTER QUANTITY OF CREOSOTE IN HAZARDOUS
 WASTE TRANSFERRED OFF-SITE

pounds

Annual Report

NOTE: 1: IF THE CYLINDER IS USED ONLY TO STEAM DRY WOOD, ENTER 0 FOR NUMBER OF CHARGES
 PER YEAR

100% Dry Treatment PTE**August 21, 2001****Controlled Emissions****Dry PTE****Columbus, MS**

I. Point Sources	Controlled Emissions (pounds per year)					
	Naphthalene	Dibenzofuran	Quinoline	Biphenyl	Creosote VOC	PAC
Work Tanks	2.1	0.2	0.1	0.1	4.9	0.0
Storage Tanks	0.0	0.0	0.0	0.0	0.0	0.0
Conditioning(Boulton)	0.0	0.0	0.0	0.0	0.0	0.0
Treatment	926.4	105.4	43.5	38.3	2,127.3	2.0
Flash	0.0	0.0	0.0	0.0	0.0	0.0
Dehydrator	9.1	1.0	0.4	0.4	21.0	0.0
WWT	29.2	3.3	1.4	1.2	67.0	0.1
Sub-Total	966.9	110.0	45.4	39.9	2,220.1	2.1

Total Point Source HAP Air Emissions**1,162.3 lb/yr****0.58 ton/yr**

II. Fugitives	Controlled Emissions (pounds per year)					
	Naphthalene	Dibenzofuran	Quinoline	Biphenyl	Creosote VOC	PAC
Equipment	705.8	80.3	33.2	29.2	1,620.7	1.5
Retort Door	469.4	53.4	22.1	19.4	1,077.9	1.0
Sumps	90.0	10.2	4.2	3.7	206.7	0.2
Black Tie Storage(Model)	9,102	1,042	430	378	21,670	20
Sub-Total	10,367.2	1,186.0	489.5	430.3	24,575.2	22.9

Total Fugitive (Non-Point) Source HAP Air Emissions**12,473 lb/yr****6.24 ton/yr****Total VOC Point Source Emissions****2,220.1 lb/yr****1.1 ton/yr****Total VOC Emissions****26,795.4 lb/yr****13.4 ton/yr****Total HAP Emissions****13,635.2 lb/yr****6.8 ton/yr**

	100% Dry PTE					
	Naphthalene	Dibenzofuran	Quinoline	Biphenyl	Creosote VOC	PAC
	lb/yr	lb/yr	lb/yr	lb/yr	lb/yr	lb/yr
Point Sources	967	110	45	40	2220	2
Fugative Sources	10367	1186	489	430	24575	23
Total Sources	11,334	1,296	535	470	26,795	25
Total Sources (TPY)	5.67	0.65	0.27	0.24	13.40	0.01
Title V Threshold	10.00	10.00	10.00	10.00	100.00	NA

CONSTITUENT IDENTITY	MOLECULAR WEIGHT (MW) (lb-mole)	CLAS. NO.	MEAN WEIGHT (mean fraction)	MAJOR OF CONSTITUENT (wt)	MOLES OF CONSTITUENT (lb-mole)	MOLES % IN CONSTITUENT (%) (wt)	CONTRIBUTION TO HW (lb-ft-mole)	PURE VAPOR PRESSURE (P) P@ 100 deg F (psia)	PARTIAL PRESSURE P@ 100 deg F (psia)	COMPONENT MW P@ 100	VAPOR MOLES (fraction)	CONTRIBUTION TO VAPOR HW (lb-ft-mole)	VAPOR MASS (fraction)	EMISSIONS (lb/yr)
128.2	91-20-3	6.333	5.302E-02	1.093E-01	1.401E-01	1.093E-01	1.401E-01	1.599E-01	1.491E-02	5.917E+01	2.2411E-01	4.3551E-01	0.4355	1.72E+04
142.2	91-57-6	0.553	3.899E-02	1.743E-01	1.142E-01	1.743E-01	1.142E-01	1.696E-02	4.960E-03	1.811E+01	6.911E-01	1.343E-01	0.1343	3.60E+04
166.2	95-11-6	0.028	2.402E-02	1.719E-01	5.719E-01	1.719E-01	5.719E-01	5.56E-03	2.719E-03	6.431E+00	3.182E-01	6.184E-01	0.0618	1.66E+04
184.3	132-64-9	0.0412	4.123E-02	4.539E-01	8.453E-01	4.539E-01	8.453E-01	3.02E-03	1.815E-03	6.256E+00	2.509E-01	4.9551E-01	0.0496	1.31E+03
154.2	83-32-9	0.0412	4.517E-02	9.917E-01	1.541E-01	9.917E-01	1.541E-01	1.371E-03	6.339E-04	6.139E+00	2.4138E-01	4.6907E-01	0.0469	1.26E+03
118.2	98-11-7	0.198	1.658E-02	3.383E-01	1.016E-01	3.383E-01	1.016E-01	5.000E-03	1.9710E-03	6.177E+00	2.3397E-01	4.5777E-01	0.0457	1.21E+03
142.2	90-12-0	0.0168	1.795E-02	2.317E-01	3.437E-01	2.317E-01	3.437E-01	3.77E-03	1.394E-03	5.257E+00	1.9826E-01	3.8537E-01	0.0385	1.03E+03
156.2	8410E-03	0.0122	8.410E-03	1.712E-01	2.712E-01	1.712E-01	2.712E-01	4.21E-03	7.411E-04	3.067E+00	1.519E-01	2.2901E-01	0.0225	6.03E+02
179.2	97-22-5	0.0062	6.390E-03	1.624E-01	1.616E-01	1.624E-01	1.616E-01	6.301E-03	8.154E-04	2.790E+00	1.0533E-01	2.0468E-01	0.0062	5.48E+02
154.2	92-52-4	0.1478	3.281E-03	1.033E-01	1.033E-01	1.033E-01	1.033E-01	6.577E-03	6.004E-04	2.457E+00	9.257E-02	1.798E-01	0.0180	4.83E+02
166.2	86-73-7	0.0603	2.628E-02	7.411E-01	1.246E-01	7.411E-01	1.246E-01	6.177E-03	4.245E-04	1.839E+00	2.889E-02	1.5127E-01	0.0153	4.11E+02
132.2	86-53-3	0.0024	0.450E-02	3.113E-01	4.924E-01	3.113E-01	4.924E-01	1.410E-03	4.511E-04	1.819E+00	6.940E-02	1.348E-01	0.0135	3.61E+02
156.2	581-42-0	0.0048	3.003E-03	6.101E-02	6.101E-02	6.101E-02	6.101E-02	4.037E-03	3.840E-04	3.519E+00	5.837E-01	1.183E-01	0.0114	3.05E+02
142.2	1310E-03	0.0018	2.637E-01	3.696E-01	3.696E-01	3.696E-01	3.696E-01	5.431E-02	1.621E-02	3.696E+00	1.621E-02	1.0041E-01	0.0100	2.69E+02
179.2	1117E-03	0.0039	3.000E-03	2.294E-01	2.294E-01	2.294E-01	2.294E-01	1.49E-02	3.319E-04	1.811E+00	4.438E-02	9.0245E-01	0.0087	2.42E+02
154.2	194E-03	0.0013	3.114E-03	3.114E-03	3.114E-03	3.114E-03	3.114E-03	6.31E-02	2.260E-04	1.215E+00	4.231E-02	8.2261E-01	0.0082	2.20E+02
179.2	85-02-9	0.390	1.644E-03	3.740E-01	6.119E-01	3.740E-01	6.119E-01	3.20E-02	2.669E-04	1.049E+00	4.1703E-02	1.740E-01	0.0081	2.08E+02
156.2	1127E-03	0.0035	3.593E-03	1.520E-01	2.819E-01	1.520E-01	2.819E-01	1.414E-03	1.237E-04	1.0563E-01	3.986E-02	7.7475E-01	0.0077	1.77E+02
184.3	85-01-8	0.1275	1.714E-02	1.532E-01	5.669E-01	1.532E-01	5.669E-01	6.209E-03	1.890E-04	8.997E-01	3.396E-02	6.5997E-01	0.0066	1.62E+02
204.2	290-94-6	0.0027	1.49E-03	6.318E-01	6.318E-01	6.318E-01	6.318E-01	5.000E-02	2.576E-04	8.264E-01	6.0617E-01	5.5787E-01	0.0061	1.49E+02
179.2	180-72-9	0.0039	3.003E-03	6.101E-02	6.101E-02	6.101E-02	6.101E-02	4.037E-03	3.840E-04	3.519E+00	5.837E-01	1.183E-01	0.0114	3.05E+02
142.2	60-30-7	0.0014	0.147E-02	8.514E-04	2.914E-01	2.914E-01	2.914E-01	5.000E-02	8.1071E-03	4.307E-01	1.6562E-02	3.2183E-01	0.0032	8.62E+01
156.2	60-30-7	0.0016	0.157E-02	9.361E-04	1.920E-01	1.920E-01	1.920E-01	3.0121E-02	7.0193E-03	2.663E-01	1.0051E-02	2.8897E-01	0.0029	7.4E+01
184.3	130-42-7	0.0046	4.946E-04	1.744E-01	1.452E-01	1.744E-01	1.452E-01	6.31E-02	8.1071E-03	4.307E-01	1.6562E-02	3.2183E-01	0.0032	8.62E+01
156.2	60-30-7	0.0016	0.157E-02	9.361E-04	1.920E-01	1.920E-01	1.920E-01	3.0121E-02	7.0193E-03	2.663E-01	1.0051E-02	2.8897E-01	0.0029	7.4E+01
184.3	130-42-7	0.0046	4.946E-04	1.744E-01	1.452E-01	1.744E-01	1.452E-01	6.31E-02	8.1071E-03	4.307E-01	1.6562E-02	3.2183E-01	0.0032	8.62E+01
204.2	290-94-6	0.0027	1.49E-03	6.318E-01	6.318E-01	6.318E-01	6.318E-01	5.000E-02	2.576E-04	8.264E-01	6.0617E-01	5.5787E-01	0.0061	1.49E+02
142.2	60-30-7	0.0016	0.157E-02	9.361E-04	1.920E-01	1.920E-01	1.920E-01	3.0121E-02	7.0193E-03	2.663E-01	1.0051E-02	2.8897E-01	0.0029	7.4E+01
184.3	130-42-7	0.0046	4.946E-04	1.744E-01	1.452E-01	1.744E-01	1.452E-01	6.31E-02	8.1071E-03	4.307E-01	1.6562E-02	3.2183E-01	0.0032	8.62E+01
204.2	290-94-6	0.0027	1.49E-03	6.318E-01	6.318E-01	6.318E-01	6.318E-01	5.000E-02	2.576E-04	8.264E-01	6.0617E-01	5.5787E-01	0.0061	1.49E+02
142.2	60-30-7	0.0016	0.157E-02	9.361E-04	1.920E-01	1.920E-01	1.920E-01	3.0121E-02	7.0193E-03	2.663E-01	1.0051E-02	2.8897E-01	0.0029	7.4E+01
184.3	130-42-7	0.0046	4.946E-04	1.744E-01	1.452E-01	1.744E-01	1.452E-01	6.31E-02	8.1071E-03	4.307E-01	1.6562E-02	3.2183E-01	0.0032	8.62E+01
204.2	290-94-6	0.0027	1.49E-03	6.318E-01	6.318E-01	6.318E-01	6.318E-01	5.000E-02	2.576E-04	8.264E-01	6.0617E-01	5.5787E-01	0.0061	1.49E+02
142.2	60-30-7	0.0016	0.157E-02	9.361E-04	1.920E-01	1.920E-01	1.920E-01	3.0121E-02	7.0193E-03	2.663E-01	1.0051E-02	2.8897E-01	0.0029	7.4E+01
184.3	130-42-7	0.0046	4.946E-04	1.744E-01	1.452E-01	1.744E-01	1.452E-01	6.31E-02	8.1071E-03	4.307E-01	1.6562E-02	3.2183E-01	0.0032	8.62E+01
204.2	290-94-6	0.0027	1.49E-03	6.318E-01	6.318E-01	6.318E-01	6.318E-01	5.000E-02	2.576E-04	8.264E-01	6.0617E-01	5.5787E-01	0.0061	1.49E+02
142.2	60-30-7	0.0016	0.157E-02	9.361E-04	1.920E-01	1.920E-01	1.920E-01	3.0121E-02	7.0193E-03	2.663E-01	1.0051E-02	2.8897E-01	0.0029	7.4E+01
184.3	130-42-7	0.0046	4.946E-04	1.744E-01	1.452E-01	1.744E-01	1.452E-01	6.31E-02	8.1071E-03	4.307E-01	1.6562E-02	3.2183E-01	0.0032	8.62E+01
204.2	290-94-6	0.0027	1.49E-03	6.318E-01	6.318E-01	6.318E-01	6.318E-01	5.000E-02	2.576E-04	8.264E-01	6.0617E-01	5.5787E-01	0.0061	1.49E+02
142.2	60-30-7	0.0016	0.157E-02	9.361E-04	1.920E-01	1.920E-01	1.920E-01	3.0121E-02	7.0193E-03	2.663E-01	1.0051E-02	2.8897E-01	0.0029	7.4E+01
184.3	130-42-7	0.0046	4.946E-04	1.744E-01	1.452E-01	1.744E-01	1.452E-01	6.31E-02	8.1071E-03	4.307E-01	1.6562E-02	3.2183E-01	0.0032	8.62E+01
204.2	290-94-6	0.0027	1.49E-03	6.318E-01	6.318E-01	6.318E-01	6.318E-01	5.000E-02	2.576E-04	8.264E-01	6.0617E-01	5.5787E-01	0.0061	1.49E+02
142.2	60-30-7	0.0016	0.157E-02	9.361E-04	1.920E-01	1.920E-01	1.920E-01	3.0121E-02	7.0193E-03	2.663E-01	1.0051E-02	2.8897E-01	0.0029	7.4E+01
184.3	130-42-7	0.0046	4.946E-04	1.744E-01	1.452E-01	1.744E-01	1.452E-01	6.31E-02	8.1071E-03	4.307E-01	1.6562E-02	3.2183E-01	0.0032	8.62E+01
204.2	290-94-6	0.0027	1.49E-03	6.318E-01	6.318E-01	6.318E-01	6.318E-01	5.000E-02	2.576E-04	8.264E-01	6.0617E-01	5.5787E-01	0.0061	1.49E+02
142.2	60-30-7	0.0016	0.157E-02	9.361E-04	1.920E-01	1.920E-01	1.920E-01	3.0121E-02	7.0193E-03	2.663E-01	1.0051E-02	2.8897E-01	0.0029	7.4E+01
184.3	130-42-7	0.0046	4.946E-04	1.744E-01	1.452E-01	1.744E-01	1.452E-01	6.31E-02	8.1071E-03	4.307E-01	1.6562E-02	3.2183E-01	0.0032	8.62E+01
204.2	290-94-6	0.0027	1.49E-03	6.318E-01	6.318E-01	6.318E-01	6.318E-01	5.000E-02	2.576E-04	8.264E-01	6.0617E-01	5.5787E-01	0.0061	1.49E+02
142.2	60-30-7	0.0016	0.157E-02	9.361E-04	1.920E-01	1.920E-01	1.920E-01	3.0121E-02	7.0193E-03	2.663E-01	1.0051E-02	2.8897E-01	0.0029	7.4E+01
184.3	130-42-7	0.0046	4.946E-04	1.744E-01	1.452E-01	1.744E-01	1.452E-01	6.31E-02	8.1071E-03	4.307E-01	1.6562E-02	3.2183E-01	0.0032	8.62E+01
204.2	290-94-6	0.0027	1.49E-03	6.318E-01	6.318E-01	6.318E-01	6.318E-01	5.000E-02	2.576E-04	8.264E-01	6.0617E-01	5.5787E-01	0.0061	1.49E+02
142.2	60-30-7	0.0016	0.157E-02	9.361E-04	1.920E-01	1.920E-01	1.920E-01	3.0121E-02	7.0193E-03	2.663E-01	1.0051E-02	2.8897E-01	0.0029	7.4E+01
184.3	130-42-7	0.0046	4.946E-04	1.744E-01	1.452E-01	1.744E-01	1.452E-01	6.31E-02	8.1071E-03	4.307E-01	1.6562E-02	3.2183E-01	0.0032	8.62E+01
204.2	290-94-6	0.0027	1.49E-03	6.318E-01	6.318E-01	6.318E-01	6.318E-01	5.000E-02	2.576E-04	8.264E-01	6.0617E-01	5.5787E-01	0.0061	1.49E+02
142.2	60-30-7	0.0016	0.157E-02	9.361E-04	1.920E-01	1.920E-01	1.920E-01	3.0121E-02	7.0193E-03	2.663E-01	1.0051E-02	2.8897E-01	0.0029	7.4E+01
184.3	130-42-7	0.0046	4.946E-04	1.744E-01	1.452E-01	1.744E-01	1.452E-01	6.31E-02	8.1071E-03	4.307E-01	1.6562E-02	3.2183E-01	0.0032	8.62E+01
204.2	290-94-6	0.0027	1.49E-03	6.318E-01	6.318E-01	6.318E-01	6.318E-01	5.000E-02	2.576E-04	8.264E-01	6.0617E-01	5.5787E-01	0.0061	1.49E+02
142.2	60-30-7	0.0016	0.157E-02	9.361E-04	1.920E-01	1.920E-01	1.920E-01	3.0121E-02	7.0193E-03	2.663E-01	1.0051E-02	2.8897E-01	0.0029	7.4E+01
184.3	130-42-7	0.0046	4.946E-04	1.744E-01	1.452E-01	1.744E-01	1.452E-01	6.31E-02	8.1071E-03	4.307E-01	1.6562E-02	3.2183E-01	0.0032	8.62E+01
204.2	290-94-6	0.0027	1.49E-03	6.318E-01	6.318E-01	6.318E-01	6.318E-01	5.000E-02						

NOTE:
Recommended that PAHs greater than 1 percent as marked by bold line be analyzed.

Appendix D
AWPI Emission Model
June 2001

**TOXIC RELEASE INVENTORY
(TRI) CALCULATION PROGRAM
FOR CREOSOTE
EXCEL SPREADSHEETS**

**Form R Version
&
Title V Version**

**Provided by the
AMERICAN WOOD PRESERVERS INSTITUTE**

**Prepared By:
AquAeTer, Inc.
215 Jamestown Park, Suite 100
Brentwood, TN 37027
(615) 373-8532**

Reporting Year 2000

AWPI EMISSIONS MODEL FOR CREOSOTE

Differences between the American Wood Preservers Institute (AWPI) Form R and Title V workbooks:

- ◆ AWPI Form R workbook
 - ◆ Includes point and fugitive creosote and polycyclic aromatic compound (PAC) release quantity estimates
 - ◆ Does not include emissions from black tie and black pole storage
 - ◆ Includes transfers off-site
- ◆ AWPI Title V workbook
 - ◆ Includes point and fugitive volatile organic compound (VOC) and hazardous air pollutant (HAP) air emissions estimates
 - ◆ Includes emissions from black tie and black pole storage
 - ◆ Does not include transfers off-site

To open the program:

- ◆ Copy the two files, Final AWPI Form R Release Quantity Estimate.xls and Final AWPI Title V.xls from the disk to the computer hard drive (C:) in the folder of choice
- ◆ Open Microsoft Excel97™ or an updated version of Excel
- ◆ Under the File menu, select Open
- ◆ Select the file AWPI Title V and hit the Open button
- ◆ Before beginning to use the program, save it under another file name. To do this, hit File, then Save As. It is recommended to add the date at the end of the file. For example, AWPI Title V.xls would become AWPI Title V 5_7_01.xls

The following describes the use of the file Final AWPI Title V. If the user wants to use the file Final AWPI Form R Release Quantity Estimate.xls, follow the same basic steps given below, except there will not be tabs for Black Tie Storage and Black Pole Storage. There will be an additional step under the Plant Data tab concerning off-site transfers.

Using the program:

If the user does not wish to print each tab separately, the user can choose to print the entire workbook at one time. To do this, hit File, then Print. When the print menu comes up, choose the option under Print What of Entire Workbook.

- ◆ Under the worksheet tab "Step 1-Black Ties", fill in the shaded areas with the appropriate data. Make sure that the data entered are in the required units. Some default values are given in Column E. If the cell in Column B directs the user to "(Mark with an X)", type an X as appropriate. For example, if black ties are stored in a rectangular geometry, Cell C14 would be marked with an X. Once the shaded areas are completely filled, the black tie storage emissions will be calculated. To print the results, under the file menu, hit Print Preview to make sure two pages will be printed. The first page represents the data input by the user. The second page presents emissions estimate results. Once the pages are setup as desired, hit Print. When the Print menu comes up, hit OK to print.
- ◆ Follow the same procedure for the worksheet tab "Step 2-Black Poles".
- ◆ Under the worksheet tab "Step 3-Plant Data", fill in the shaded areas with the appropriate data. Make sure that the data entered are in the required units. Some default values are given in Column E. As mentioned above, when a cell in Column B directs the user to "(Mark with an X)", it will be necessary to mark an X where it is applicable. However, in this data sheet, there are a few places where it is necessary to choose between some listed choices. For example, tank roof paint condition and color require user input. If the roof paint of the facility tank is in good condition, the user will mark Cell C55 with an X. The appropriate roof paint color must also be marked with an X. Follow the same steps as before to print the data entered. A total of four pages should be produced.
- ◆ Under the worksheet tab "Step 4-Control Devices", mark with an X the control devices that apply to the facility and enter appropriate efficiencies. The efficiency must be expressed as a fraction. For example, if the facility operates a packed bed scrubber that is 80 percent efficient, mark an X in the appropriate cell and type in 0.80. Follow the same procedure as listed above to print. This tab will only print out one page.
- ◆ Now emissions estimates should be calculated. The tabs "Uncontrolled Emissions Results" and "Controlled Emissions Results" should be complete. If there is an error message such as "#Value!" in any of the cells, not all of the required information has been entered. Please review the first four

worksheet tabs to review input data. If no error messages are present, print out the results following the same procedure as before. Each tab will print one page.

- ◆ The next four tabs labeled, "Uncontrolled Constituent", "Controlled Constituent", "Uncontrolled PAC", and "Controlled PAC" show the emissions estimates for individual creosote constituents. If the facility does not operate control devices, the numbers will be the same for each constituent.
- ◆ The final worksheet tab, "Final RTI Data", presents the individual creosote constituents that comprise the majority of vapor emissions from creosote.

Table E-2. Summary of Emission References and Factors

SOURCE	REFERENCE
Primary Boiler	AP-42
Stand-By Secondary Boiler	AP-42
Exhaust and Corresponding Vacuum System	Test Data
Exhaust Door	Test Data
Mill Cyclone	Manufacturers Specifications/Engineering Estimate
Mill Cyclone	Manufacturers Specifications/Engineering Estimate
Secondary Oil/Water Separator	USEPA Water 8 Model
Equalization Tank	USEPA Water 8 Model
Biological Treatment	USEPA Water 8 Model
Polishing Tank	USEPA Water 8 Model
Work Tanks (5)	AP-42/USEPA Tanks 2.0 Program
Storage Tanks (6)	AP-42/USEPA Tanks 2.0 Program
Valves	SOCMI/10
Flanges	SOCMI/10
Jump Seals	SOCMI/10
Pumps (Process Drains)	AP42
Strip Pad	USEPA Water 8 Model
Bank Farm Containment Field	USEPA Water 8 Model
Black Tie Storage Yard	Test Data/Engineering Estimate
Low Volatility Creosote Product Factor (a)	Test Data

a) Based on partial pressures and existing data.

Appendix E
Emission Estimates For
Diesel Oil Storage
November 8, 1995

Col
AIR 95

**ADDITIONAL INFORMATION FOR THE SYNTHETIC
MINOR OPERATING PERMIT**

Submitted to:

Bobby Hall
Environmental Engineer
State of Mississippi
Department of Environmental Quality
Office of Pollution Control
Air Facilities Branch

November 8, 1995

TABLE 1. SYNTHETIC MINOR OPERATING PERMIT AIR EMISSION SUMMARY

SOURCE	VOCs (tons/yr)	NAPHTHALENE (tons/yr)	HAPs (tons/yr)
Additional Sources (previously insignificant)	1.84E-02	7.75E-03	1.00E-02
Groundwater Oil/Water Separator Lift Station	2.60E-02	1.09E-02	1.41E-02
WWTF Scrubber Recycle Tank	6.81E-02	NA	1.12E-03
Fuel Tanks (4 @ 25,000 gals)	6.81E-04	NA	1.12E-05
Fuel Tank (1 @1,000 gals)	1.03E-03	NA	NA
Space Heaters			
SUBTOTAL	1.14E-01	1.87E-02	2.52E-02
Permitted Point Sources	7.23	1.92	2.67
Fugitive Sources	1.21	2.81	3.66
TOTAL	8.55	4.75	6.36

NOTE:

1. The facility remains below Title V thresholds for criteria pollutants (VOCs) with the inclusion of additional sources (previously insignificant).
2. The facility remains below Title V thresholds for HAPs with the inclusion of additional sources (previously insignificant).
3. The air emissions from the additional sources (previously insignificant) are negligible.

TANK SUMMARY (page 1 of 2)

SECTION H

1. Emission Point No./Name: EP014 - Fuel Tanks (4- 25,000 gals)
2. Was this tank constructed or modified after August 7, 1977? yes X no
If yes please give date and explain. _____
3. Product Stored: No. 2 Fuel Oil
If more than one product is stored, provide the information in 4.A-E for each product.
4. Tank Data:
- A. True Vapor Pressure at storage temperature: 0.0074 psia/°F
- B. Reid Vapor Pressure at storage temperature: NA psia/°F
- C. Density of product at storage temperature: 7.1 lb/gal
- D. Molecular Weight of product vapor at storage temperature: 130 lb/lbmol
- E. Throughput for most recent calendar year: 48,400 gal/yr
- F. Tank Capacity: 25,348 gal
- G. Tank Diameter: 12 feet
- H. Tank Height / Length: 30 feet
- I. Average Vapor Space Height: 3 feet
- J. Tank Orientation: V Vertical or Horizontal
- K. Type of Roof: D Dome or Cone
- L. Is the Tank Equipped with a Vapor Recovery System? Yes X No
If Yes, describe on separate sheet of paper and attach. Indicate efficiency.
- M. Check the Type of Tank:
- X Fixed Roof External Floating Roof
- Pressure Internal Floating Roof
- Variable Vapor Space
- Other, describe: _____
- N. Check the Closest City:
- X Jackson, MS Birmingham, AL
- Memphis, TN Montgomery, AL
- New Orleans, LA Baton Rouge, LA
- O. Check the Tank Paint Color:
- Aluminum Specular Gray Light
- Aluminum Diffuse Gray Medium
- X Red White
- Other, describe: Black _____
- P. Tank Paint Condition: G Good or Poor
- Q. Check Type of Tank Loading
1. Trucks and Rail Cars
- Submerged Loading of clean cargo tank
- X Submerged Loading : Dedicated Normal Service
- Submerged Loading : Dedicated Vapor Balance Service
- Splash Loading of clean cargo tank
- Splash Loading : Dedicated Normal Service
- Splash Loading : Dedicated Vapor Balance Service
2. Marine Vessels N/A
- Submerged Loading: Ships
- Submerged Loading: Barges

TANK SUMMARY (page 2 of 2)

SECTION H

R. For External Floating Roof Tanks NA

1. Check the Type of Tank Seal:

Mechanical Shoe

☐ Primary Seal Only☐ With Shoe-Mounted Secondary Seal☐ With Rim-Mounted Secondary Seal

Liquid Mounted Resilient Seal

☐ Primary Seal Only☐ With Shoe-Mounted Secondary Seal☐ With Rim-Mounted Secondary Seal

Vapor Mounted Resilient Seal

☐ Primary Seal Only☐ With Shoe-Mounted Secondary Seal☐ With Rim-Mounted Secondary Seal

2. Type of External Floating Roof: ☐ Pontoon
☐ Double-Deck

S. For Internal Floating Roof Tanks NA

1. Check the Type of Tank Seal:

Liquid Mounted Resilient Seal

☐ Primary Seal Only☐ With Rim-Mounted Secondary Seal

Vapor Mounted Resilient Seal

☐ Primary Seal Only☐ With Rim-Mounted Secondary Seal

2. Number of Roof Columns: ☐
3. Length of Deck Seam ☐ feet:
4. Area of Deck: ☐ feet²
5. Effective Column Diameter: ☐ feet
6. Check the Type of Tank:
☐ Bolted with Column Supported Roof
☐ Welded with Column Supported Roof
☐ Bolted with Self-Supported Roof
☐ Welded with Self-Supported Roof

5. Emissions Summary

1. Breathing Loss: 4.19×10^{-3} ✓ HAPs - Negligible VOCs - 0.26 lb/day ✓
2. Working Loss: 1.93×10^{-3} ✓ HAPs - Negligible VOCs - 0.12 lb/day ✓
3. Total Emissions: 6.12×10^{-3} ✓ HAPs - Negligible VOCs - 0.38 lb/day

6. UTM Coordinates:

A. Zone 16 EastB. NorthC. East

TANK SUMMARY (page 1 of 2)

SECTION H

1. Emission Point No./Name: EP015 - Fuel Tank (1 - 1,000 gals)
2. Was this tank constructed or modified after August 7, 1977? yes ☒ no
If yes please give date and explain. _____
3. Product Stored: No. 2 Fuel Oil
If more than one product is stored, provide the information in 4.A-E for each product.
4. Tank Data:
- A. True Vapor Pressure at storage temperature: 0.0074 psia/°F
- B. Reid Vapor Pressure at storage temperature: NA psia/°F
- C. Density of product at storage temperature: 7.1 lb/gal
- D. Molecular Weight of product vapor at storage temperature: 130 lb/lbmol
- E. Throughput for most recent calendar year: 48,400 gal/yr
- F. Tank Capacity: 1,000 gal
- G. Tank Diameter: 4 feet
- H. Tank Height / Length: 10.5 feet
- I. Average Vapor Space Height: 1 feet
- J. Tank Orientation: H Vertical or Horizontal
- K. Type of Roof: D Dome or Cone
- L. Is the Tank Equipped with a Vapor Recovery System? Yes ☒ No
If Yes, describe on separate sheet of paper and attach. Indicate efficiency.
- M. Check the Type of Tank:
- X Fixed Roof External Floating Roof
- Pressure Internal Floating Roof
- Variable Vapor Space
- Other, describe: _____
- N. Check the Closest City:
- X Jackson, MS Birmingham, AL
- Memphis, TN Montgomery, AL
- New Orleans, LA Baton Rouge, LA
- O. Check the Tank Paint Color:
- Aluminum Specular Gray Light
- Aluminum Diffuse Gray Medium
- X Red White
- Other, describe: Black _____
- P. Tank Paint Condition: G Good or Poor
- Q. Check Type of Tank Loading
1. Trucks and Rail Cars
- Submerged Loading of clean cargo tank
- X Submerged Loading : Dedicated Normal Service
- Submerged Loading : Dedicated Vapor Balance Service
- Splash Loading of clean cargo tank
- Splash Loading : Dedicated Normal Service
- Splash Loading : Dedicated Vapor Balance Service
2. Marine Vessels N/A
- Submerged Loading: Ships
- Submerged Loading: Barges

TANK SUMMARY (page 2 of 2)

SECTION H

R. For External Floating Roof Tanks NA

1. Check the Type of Tank Seal:

Mechanical Shoe

_____ Primary Seal Only

_____ With Shoe-Mounted Secondary Seal

_____ With Rim-Mounted Secondary Seal

Liquid Mounted Resilient Seal

_____ Primary Seal Only

_____ With Shoe-Mounted Secondary Seal

_____ With Rim-Mounted Secondary Seal

Vapor Mounted Resilient Seal

_____ Primary Seal Only

_____ With Shoe-Mounted Secondary Seal

_____ With Rim-Mounted Secondary Seal

2. Type of External Floating Roof: _____ Pontoon
_____ Double-Deck

S. For Internal Floating Roof Tanks NA

1. Check the Type of Tank Seal:

Liquid Mounted Resilient Seal

_____ Primary Seal Only

_____ With Rim-Mounted Secondary Seal

Vapor Mounted Resilient Seal

_____ Primary Seal Only

_____ With Rim-Mounted Secondary Seal

2. Number of Roof Columns: _____
3. Length of Deck Seam: _____ feet:
4. Area of Deck: _____ feet²
5. Effective Column Diameter: _____ feet
6. Check the Type of Tank:
- _____ Bolted with Column Supported Roof
- _____ Welded with Column Supported Roof
- _____ Bolted with Self-Supported Roof
- _____ Welded with Self-Supported Roof

5. Emissions Summary

1. Breathing Loss: 4.19×10^{-5} HAPs - Negligible VOCs - 2.55×10^{-3} ✓
2. Working Loss: 1.93×10^{-5} HAPs - Negligible VOCs - 1.18×10^{-3} ✓
3. Total Emissions: 6.12×10^{-5} HAPs - Negligible VOCs - 3.73×10^{-3} ✓

6. UTM Coordinates:

A. Zone 16 East

B. North

C. East

SUPPORT CALCULATIONS

JOB 0168/3
SHEET NO. 1 OF
CALCULATED BY STM DATE 11-02-95
CHECKED BY SLK DATE 11-02-95
SCALE



215 Jamestown Park, Suite 204
Brentwood, TN 37027
(615) 373-8532 FAX (615) 373-8512

KMCC COLUMBUS
EMISSIONS CALCULATIONS

▷ FUEL TANKS

4 @ 25,000 gals

$$LB: \frac{23.29 \text{ lbs VOC}}{\text{year}} \times \frac{1 \text{ year}}{365 \text{ days}} \times 4 \text{ tanks} = 2.55 \times 10^{-1} \text{ lbs/day}$$

$$LW: \frac{10.75 \text{ lbs VOC}}{\text{year}} \times \frac{1 \text{ year}}{365 \text{ days}} \times 4 \text{ tanks} = 1.18 \times 10^{-1} \text{ lbs/day}$$

Therefore,

$$2.55 \times 10^{-1} \text{ lbs VOC/day} \times 0.0164 (\% \text{ Benzene}) = 4.18 \times 10^{-3} \text{ lbs/day}$$

$$1.18 \times 10^{-1} \text{ lbs VOC/day} \times 0.0164 (\% \text{ Benzene}) = 1.94 \times 10^{-3} \text{ lbs/day}$$

1 @ 1,000

$$LB: \frac{23.29 \text{ lbs VOC}}{\text{year}} \times \frac{1 \text{ year}}{365 \text{ days}} \times \frac{1,000 \text{ gals}}{25,000 \text{ gals}} = 2.55 \times 10^{-3} \text{ lbs/day}$$

$$LW: \frac{10.75 \text{ lbs VOC}}{\text{year}} \times \frac{1 \text{ year}}{365 \text{ days}} \times \frac{1,000 \text{ gals}}{25,000 \text{ gals}} = 1.18 \times 10^{-3} \text{ lbs/day}$$

Therefore,

$$2.55 \times 10^{-3} \text{ lbs VOC/day} \times 0.0164 (\% \text{ Benzene}) = 4.18 \times 10^{-5} \text{ lbs/day}$$

$$1.18 \times 10^{-3} \text{ lbs VOC/day} \times 0.0164 (\% \text{ Benzene}) = 1.94 \times 10^{-5} \text{ lbs/day}$$

COLUMBUS

Fuel Tank (25,000 gals) - VOC Emissions

Breathing Loss, Lb. Emissions

	<u>Unit</u>	<u>Symbol</u>
1. Molecular Weight of Vapor	130.00 lb/lb mole	Mv
2. Average Atmospheric Pressure	14.58 psia	Pa
3. True Vapor Pressure at Bulk Liquid Conditions	0.0120 psia	P
4. Tank Diameter	12.00 ft	D
5. Average Vapor Space Height	3.00 ft	H
6. Average Ambient Diurnal Temperature Change	23.70 °F	T
7. Paint Factor	1.58 NA	Fp
8. Adjustment Factor for Small Tanks	1.00 NA	C
9. Product Factor	1.00 NA	Kc

$$Lb \text{ (lb/yr)} = (2.26 \times 10^{-2}) \times (Mv) \times ((P/Pa - P)^{0.68}) \times (D^{1.73}) \times (H^{0.51}) \times (T^{0.50}) \times Fp \times C \times Kc$$

Therefore, the Lb for the Fuel Tank = 23.29 lb/yr
0.0116 ton/yr

Working Loss, Lw. Emissions

	<u>Unit</u>	<u>Symbol</u>
1. Molecular Weight of Vapor	130.00 lb/lb mole	Mv
2. True Vapor Pressure at Bulk Liquid Conditions	0.0120 psia	P
3. Tank Capacity	25,000 gal	V
4. Number of Turnovers per Year	11.48 NA	N
5. Turnover Factor	1.00 NA	Kn
6. Product Factor	1.00 NA	Kc

$$Lw \text{ (lb/yr)} = (2.40 \times 10^{-5}) \times Mv \times P \times V \times N \times Kn \times Kc$$

Therefore, the Lw for the Fuel Tank = 10.75 lb/yr
0.0054 ton/yr

Assumptions

1. Evaporative emissions as loading losses are incorporated into the breathing and working losses for large storage tanks. (Section 4.4, Transportation and Marketing of Petroleum Liquids, refers to Section 4.3, Storage of Organic Liquids, for large storage tanks).

References

1. AP-42 4.3

F:\DATA\0168\COLUMBUS\FUEL_TK.WK3
01-Nov-95
11:32 AM

$$Lb = 23.29 \text{ lbs VOC/yr} \therefore \text{Benzene (HAPS)} = 23.29 \text{ lb/yr} \times 0.016 = 0.3820 \text{ lb/yr}$$

$$Lw = 10.75 \text{ lbs VOC/yr} \therefore \text{Benzene (HAPS)} = 10.75 \text{ lb/yr} \times 0.016 = 0.1763 \text{ lb/yr}$$

APPLICATION RECEIPT DATE: _____

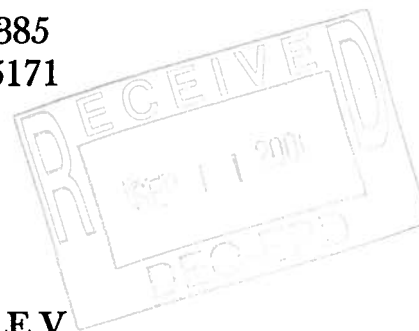
APPLICATION NO.: _____

FOR MODIFICATION: _____

MINOR _____

SIGNIFICANT _____

STATE OF MISSISSIPPI
DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF POLLUTION CONTROL
AIR DIVISION
P.O. BOX 10385
JACKSON, MS. 39289-0385
PHONE NO.: (601) 961 - 5171



APPLICATION FOR TITLE V
AIR POLLUTION CONTROL PERMIT
TO OPERATE AIR EMISSIONS EQUIPMENT

PERMITTING ACTIVITY:

- ☐ INITIAL APPLICATION
☒ MODIFICATION
☐ RENEWAL OF OPERATING PERMIT

NAME: Kerr McGee Chemical LLC.

CITY: Columbus, MS

COUNTY: Lowndes

FACILITY No. (if known): 1680-00020

Owners Information

Section B

1. Name, Address & Contact for the Owner/Applicant

A. Company Name: Kerr McGee Chemical LLC.

B. Mailing Address: 2300 14th Ave. North

1. Street Address or P.O. Box:

2. City: Columbus

3. State: MS

4. Zip Code: 39701

5. Telephone No.: (662) 328-7551

C. Contact:

1. Name: Ron Murphey

2. Title: Plant Manger

2. Name, Address, Location and Contact for the Facility:

A. Name: Ron Murphey

B. Mailing Address:

1. Street Address or P.O. Box: 2300 14th Ave. North

2. City: Columbus

3. State: MS

4. Zip Code: 39701

5. Telephone No.: (662) 328-7551

C. Site Location:

1. Street: 2300 14th Ave. North

2. City: Columbus

3. State: MS

4. County: Lowndes

5. Zip Code: 39701

6. Telephone No.: (662) 328-7551

Note: If the facility is located outside of the City limits, please attach a sketch or description to this application showing the approximate location of the site.

D. Contact:

1. Name: Ron Murphey

2. Title: Plant Manager

3. SIC Code(s)(including any associated with alternate operating scenarios): 2491

4. Number of Employees: 41

5. Principal Product(s): Railroad Products/Utility Poles/Piling
6. Principal Raw Materials: Wood; Creosote
7. Principal Process(es): Wood Preserving
8. Maximum amount of principal product produced or raw material consumed per day:
21300 cubic feet of treated wood per day for dry treatment

check this out

9. Facility Operating Schedule (Optional):
- A. Specify maximum hours per day the operation will occur: 24
- B. Specify maximum days per week the operation will occur: 7
- C. Specify maximum weeks per year the operation will occur: 52
- D. Specify the months the operation will occur: 12
10. Is this facility a small business as defined by the Small Business Act? (Optional) No
11. **EACH APPLICATION MUST BE SIGNED BY THE APPLICANT.**

The application must be signed by a responsible official as defined in Regulation APC-S-6, Section I.A.26.

I certify that to the best of my knowledge and belief formed after reasonable inquiry, the statements and information in this application are true, complete, and accurate, and that, as a responsible official, my signature shall constitute an agreement that the applicant assumes the responsibility for any alteration, additions, or changes in operation that may be necessary to achieve and maintain compliance with all applicable Rules and Regulations.

R.P. Michel
Printed Name of Responsible Official

Vice President
Title

9-11-01
Date Application Signed


Signature of Applicants Responsible Official

SECTION C

For the sections listed below indicate the number that have been completed for each section as part of this application.

Section B ☒

Section L1 ☐

Section M1 ☐

Section C ☒

Section L2 ☐

Section M2 ☐

Section D ☒

Section L3 ☐

Section M3 ☒

Section E ☐

Section L4 ☐

Section M4 ☐

Section F ☐

Section L5 ☐

Section M5 ☐

Section G ☐

Section L6 ☐

Section M6 ☐

Section H ☐

Section L7 ☐

Section M7 ☒

Section I ☐

Section M8 ☐

Section J ☐

Section N ☒

Section K ☐

Section O ☒

As a minimum, sections B, C, M, N and O must be completed for the application to be considered complete.

Please list below all insignificant activities required by APC-S-6, Section VII.B that apply to your facility.

Steam Vents and Leeks; Dearator Vents; Process Water Tanks; Effluent Neutralization;

Fuel Oil Storage Tanks; Natual Gas Space Heaters; Wood Waste Storage and Handling;

RISK MANAGEMENT PLANS

If the source is required to develop and register a risk management plan pursuant to Section 112(r) of the Title III of the Clean Air Act, the permittee need only specify that it will comply with the requirement to register such a plan. The content of the risk management plan need not itself be incorporated as a permit term.

Please answer the following questions:

- I. Are you required to develop and register a risk management plan pursuant to Section 112(r)?

Yes ☐

No ☒

Only if "yes", answer questions II., III., and/or IV.

- II. Have you submitted the risk management plan to the appropriate agency (i.e. Mississippi Emergency Management Agency (MEMA), Federal Emergency Management Agency (FEMA), etc.)?

Yes ☐

No ☐

- III. If yes, give agency name and date submitted. _____

- IV. If no, provide a schedule for developing and submitting the risk management plan to the appropriate agency and providing our agency with certification that this submittal was made.

FUEL BURNING EQUIPMENT (page 1 of 2)

(Second Boiler Hurst)

SECTION D

1. Emission Point No. / Name: Emission Point AA-028; Boiler (New Boiler 2001)

2. Equipment Description: Hurst Series 400, 350 HP Hurst Boiler

Both the Voit Boiler and CB 55-350 are no longer in service and have been decommissioned

3. Was this unit constructed or modified after August 7, 1977? Yes ☒ No ☐
If yes please give date and explain. Application for a new boiler in September of 2001

4. Capacity: 14.7 MMBTU/hr 5. Type of burner: Forced Draft Gas; Atomizing Oil

6. Usage Type (i.e. Space Heat, Process, etc.): Boiler, Steam

7. Complete the following table, identifying each type of fuel and the amount used. Specify the units for heat content, hourly usage, and yearly usage.

FUEL TYPE	HEAT CONTENT	% SULFUR	% ASH	MAXIMUM HOURLY USAGE	ACTUAL YEARLY USAGE
-----------	--------------	----------	-------	----------------------	---------------------

Natural Gas	1000/cuft	<0.2	<0.05	14.7 MMBTU/hr	129 MMFt ³ /year Maximum
Standby No. 2 Fuel Oil	140,000/gal	<0.5	<0.01	105 Gal/hr	919,800 gal/year Maximum

8. Please list any fuel components that are hazardous air pollutants and the percentage in the fuel.
N/A

9. Operating Schedule: (Optional) 24 hours/day 7 days/week 52 weeks/year

10. Stack Data:

A. Height: 40 Feet C. Exit gas velocity: 40 ft/sec
B. Inside diameter: 20 inches D. Exit gas temperature: 450 °F

11. UTM Coordinates:

A. ☒ Zone 16 East B. ☒ North 1397885.60 C. ☒ East 629281.99

FUEL BURNING EQUIPMENT (page 2 of 2)

SECTION D

12. POLLUTANT EMISSIONS:

Example emission rate calculations, monitoring data, or stack test data must be attached in accordance with Operating Permit Application Requirements, pp. 3-5.

EMISSION POINT NO.	POLLUTANT (note 1)	CONTROL EQUIPMENT		ACTUAL EMISSION RATE (in accordance with Operating Permit Application Requirements, pp. 3-5)			PROPOSED ALLOWABLE EMISSION RATE (Optional)		
		yes/no	effic.	note 2	lb/hr	tn/yr	note 2	lb/hr	tn/yr
AA-028	SO _x	No	NA	lb/MMBTU	7.5 (b)	36.7 (b)	lb/MMBTU	7.5 (c)	40.4 (c)
AA-028	NO _x	No	NA	lb/MMBTU	1.47 (a)	6.4 (a)	lb/MMBTU	3.4 (c)	21.3 (c)
AA-028	CO	No	NA	lb/MMBTU	1.23 (a)	5.4 (a)	lb/MMBTU	2.9 (c)	12.5 (c)
AA-028	PM	No	NA	lb/MMBTU	0.2 (b)	0.92 (b)	lb/MMBTU	0.21 (c)	1.35 (c)
AA-028	PM-10	No	NA	lb/MMBTU	0.2 (b)	0.92 (b)	lb/MMBTU	0.21 (c)	1.35 (c)
AA-028	VOCs	No	NA	lb/MMBTU	0.1 (a)	0.35 (a)	lb/MMBTU	0.19 (c)	1.17 (c)

1. All regulated air pollutants including hazardous air pollutants emitted from this source should be listed. A list of regulated air pollutants has been provided in Section A.

2. Provide emission rate in units of applicable emission standard, e.g. lb/MMBtu, gr/dscf, etc. This may not apply to every emission point or every pollutant from an emission point.

If yes, attach appropriate Air Pollution Control Data Sheet from Section L or manufacturers specifications if other.

See Table 1, Table 2, and Table 3

(a) Emission rates are based on 12 months operation with Natural Gas or maximum emission rates.

(b) Emission Rates are based on 12 months operation with No. 2 Fuel

(c) Emission Rates are based on Table 8 (Maximum emission rate combination)

(d) These emission rates are based on existing Air Operating Permit 1680-0020.

COMPLIANCE DEMONSTRATION (page 1 of 2)**SECTION M**

Completion of Section M is not required for a complete application. It is presented to merely reflect what may be required by the Enhanced Monitoring and/or the Periodic Monitoring Regulations. Upon promulgation of those regulations, this section will be revised to reflect the actual requirements. Until then, the information in this section should be utilized for planning purposes.

Choose the type of monitoring that is suggested for your source in the "Enhanced Monitoring Guideline". Fill out the appropriate form and attach to the corresponding emission point description pages.

A. Compliance Demonstration by Continuous Emissions Monitoring (CEM).

Sulfur Dioxide(SO ₂)	Nitrogen Oxides (NO _x)	Oxygen (O ₂)
Carbon Dioxide (CO ₂)	Total Reduced Sulfur (TRS)	Opacity
Hydrogen Chloride (Hcl)	Carbon Monoxide (CO)	Flow
Hydrogen Sulfide (H ₂ S)	Volatile Organic Compound (VOC)	

B. Compliance Demonstration by Periodic Emission Monitoring using Portable Monitors.

SO ₂	NO _x	O ₂	CO ₂	CO	HCl	H ₂ S	VOC	Flow	Moisture
Combustibles		Combustion Efficiency							

C. Compliance Demonstration by Monitoring Control System Parameters or Operating Parameters of a Process.

Baghouse	Pressure drop across baghouse, Broken bag detector, Opacity.
Mechanical Collectors	Pressure drop across collector, Hopper full detector, Opacity.
Electrostatic Precipitators	Primary and secondary voltage, Primary and secondary currents, Spark Rate, Broken wire detector, Rap cycle frequency, Resistivity measurement, Inlet water flow, Total solids, Opacity.
Thermal Incinerator	Firebox temperature.
Catalytic Incinerator	Catalyst bed temperature.
Flare	Pilot light detector, Temperature after flame zone.
Particulate Scrubber	Pressure drop across scrubber and demister, Scrubber fluid recirculation rate, Pump discharge pressure, Pump motor current.
Absorber for Gases	pH of fluid, Fluid recirculation rate, Air flow, Pressure drop across absorber and demister, Fluid temperature.
Carbon Absorber	Steam mass flow rate per regeneration cycle, Carbon bed temperature.
Condenser	Condenser exit temperature, Amount of solvent recovered daily, Charging rate, Production rate, Hours of operation, Secondary chamber temperature, Kiln or dryer exit temperature, Burner combustion efficiency, Power consumption, Static pressure, Fuel usage rate, Water injection rate.

D. Compliance Demonstration by Monitoring Maintenance Procedures.

Water quality testing	VOC leak testing
Sludge solids testing	Soot blowing frequency
Electrostatic precipitator cleaning frequency	Fugitive dust control measures
Blacklight inspection of baghouses	Control equipment inspection
Sludge mercury testing	frequency
Periodic inspection of process operating parameters	Reid vapor pressure testing
Periodic inspection of process operating parameters	

E. Compliance Demonstration by Stack Testing.

EPA Method 1 & 2 : Flow (S-type pilot tubes, Hot-wire anemometer)
 EPA Method 3 : CO₂, O₂, CO (Orsat, Fyrite)
 EPA Method 3A : CO₂, O₂, (Analyzers)
 EPA Method 4 : Moisture (Wet bulb-Dry bulb, Impingers)
 EPA Method 5 : PM
 EPA Method 6 : SO₂ (Impingers)
 EPA Method 6B : SO₂ (24 hour average)
 EPA Method 6C : SO₂ (Analyzer)
 EPA Method 7E : NO_x (Analyzer)
 EPA Method 9 : Opacity (Visible emissions reader)
 EPA Method 10 : CO (Analyzer)
 EPA Method 16 : TRS (Gas Chromatograph)
 EPA Method 16A : TRS (Impingers)
 EPA Method 16B: TRS (Gas Chromatograph)
 EPA Method 18 : VOC (Gas Chromatograph)
 EPA Method 21 : VOC Leaks (Analyzer)
 EPA Method 25A: VOC (Analyzer with FID)
 EPA Method 25B : VOC (NDIR Analyzer)

F. Compliance Demonstration by Fuel Sampling and Analysis (FSA).

Coal Sampling	Coke sampling	Tire derived fuel sampling
Waste oil sampling	Sewage sludge sampling	Paper sludge sampling
Refuse derived fuel sampling		Landfill gas sampling

G. Compliance Demonstration by Recordkeeping.

Testing and monitoring records	Records of malfunction
Compliance schedule records	As-applied coating & ink records,
Process hours of operation records	Transfer efficiency records
Fuel usage records	Production records
As-applied coating & ink composition records	

COMPLIANCE DEMONSTRATION BY CONTINUOUS EMISSIONS MONITORING (CEM) SECTION M1

An installation plan for each new (i.e. proposed) Continuous Emission Monitoring (CEM) System shall be submitted with the permit application for approval. Fill out one (1) sheet per analyzer.

1. Emission Point No./Name : NA

2. Continuous Emission Monitoring Data:

A. Name of Manufacturer: _____

B. Model number: _____

C. Serial Number: _____

D. Date of installation of CEM: _____

E. Which does the CEM monitor: Pollutant ☐ Diluent ☐
Flow ☐ Opacity ☐

F. Pollutant / Diluent / Flow being monitored: _____

F. Type of analyzer: ☐ In situ ☐ Extractive
☐ Dilution ☐ O₂
☐ CO₂ ☐ Thermal
☐ Differential Pressure
☐ Other (specify): _____

H. Type of analyzer description: _____

I. Backup system (attach other compliance demonstration forms if needed): _____

J. Opacity CEM: _____
How measured: Monitor ☐ Visible Emission Evaluation ☐

K. If CEM is not previously certified, then it shall be submitted for certification within 60 days of startup of the CEM system.

L. State the operating principles of the analyzer: _____

M. Attach a schematic of the CEM system showing the sample acquisition point and location of the monitor and explain any deviations from the siting criteria in Performance Specifications 1, 2, 3, 4, 5, 6 and 7 in 40 CFR Part 60, Appendix B.

COMPLIANCE DEMONSTRATION BY PERIODIC EMISSION MONITORING USING PORTABLE MONITORS

SECTION M2

An monitoring plan for each new (i.e. proposed) Portable Monitoring System shall be submitted with the permit application for approval. Fill out one (1) sheet per monitor.

1. Emission Point No./Name : NA
2. Start-up date : _____
3. Portable Monitor Data:
 - A. Name of Manufacturer: _____
 - B. Model number: _____
 - C. Serial Number: _____
 - D. Is the equipment owned and maintained by the facility? Yes ☐ No ☐
 - E. Which does the Portable Monitor monitor: ☐ Pollutant
☐ Diluent
 - F. Pollutant / Diluent being monitored: _____
 - G. Type of Monitor: ☐ In situ ☐ Extractive ☐ Dilution
☐ Other (specify) : _____
 - H. Type of Monitor description: _____
 - I. Backup system (attach other compliance demonstration forms if needed): _____
- J. Compliance shall be demonstrated:
☐ Daily ☐ Weekly ☐ Monthly
- K. If Portable Monitor is not previously certified, then it shall be submitted for certification within 60 days of startup of the CEM system.
- L. State the operating principles of the monitor:

- M. How will the monitor be calibrated: _____

- N. Any test value over the emission limit shall be reported as an excess emission.
- O. Attach a schematic of the CEM system showing the sample acquisition point and location of the monitor while sampling.

**COMPLIANCE DEMONSTRATION BY MONITORING CONTROL
SYSTEM PARAMETERS OR OPERATING PARAMETERS
OF A PROCESS**

SECTION M3

The monitoring of a control system parameter or a process parameter may be acceptable provided that a correlation between the parameter value and the emission rate of a particular pollutant is established in the form of a curve of emission rate versus parameter values. At least three sets of stack test data, that bracket the emission limit if possible, shall be used to define the emission curve. This data shall constitute the certification of the system and must be attached for approval. If it is not attached, it shall be submitted within 60 days from the date of startup of the system or the date of application, which ever is later.

1. Emission Point No./Name : AA-001 and AA-028
2. Method of monitoring description: Daily documentation of quantity
of Natural Gas and No. 2 Fuel Oil burned in each boiler

Attach separate sheets if needed.

3. Backup system (attach other compliance demonstration forms if needed):
NA
4. The monitoring system shall be subject to appropriate performance specifications, calibration requirements, and quality assurance procedures.
5. If a quality assurance / quality control plan is not attached with the application for approval, it shall be submitted within 60 days from the date of startup of the monitoring program or the date of application, which ever is later.

COMPLIANCE DEMONSTRATION BY MONITORING MAINTENANCE PROCEDURES

SECTION M4

The monitoring of a maintenance procedure shall be acceptable provided that a correlation between the procedure and the emission rate of a particular pollutant is established in the form of a curve of emission rate versus the frequency of the procedure is performed. VOC or fugitive dust control programs are examples of procedures that could be monitored. The correlation shall be established using stack test data (if feasible). This data shall constitute certification of the system and must be attached for approval. If it is not attached, it shall be submitted within 60 days from the date of startup of the system or the date of application, whichever is later.

1. Emission Point No./Name : NA
2. Procedure being monitored: _____
3. Method of monitoring description: _____

Attach separate sheets if needed.

4. Backup system (attach other compliance demonstration forms if needed): _____
5. Frequency of certification: ☐ Daily ☐ Weekly ☐ Monthly
6. Any failure to fulfill a maintenance requirement shall be reported as an excess emission.
7. Is this an existing maintenance procedure: Yes ☐ No ☐
8. The monitoring system shall be subject to appropriate performance specifications, calibration requirements, and quality assurance procedures.
9. If a quality assurance / quality control plan is not attached with the application for approval, it shall be submitted within 60 days from the date of startup of the monitoring program or the date of application, whichever is later.

COMPLIANCE DEMONSTRATION BY STACK TESTING

SECTION M5

Compliance demonstration by stack testing will be carried out in accordance with EPA approved reference methods and the stack test report must be attached.

1. Emission Point No./Name : NA
2. Pollutant being tested for: _____
3. Test Method: _____
4. Compliance shall be demonstrated:
☐ Daily ☐ Weekly ☐ Monthly
☐ Other (specify): _____
5. Any measured emission rate that exceeds an emission limit established by the permit must be reported as an excess emission.
6. Is this an existing method of demonstrating compliance:
Yes ☐ No ☐
7. Backup system (attach other compliance demonstration forms if needed): _____

COMPLIANCE DEMONSTRATION BY FUEL SAMPLING AND ANALYSIS

SECTION M6

An installation plan for each Fuel Sampling Analysis (FSA) System must be submitted with the permit application for approval. Fill out one (1) sheet per analyzer.

1. Emission Point No./Name : NA
2. Date of construction if for existing sources or date of anticipated start-up for new sources:

3. List the ASTM fuel sample collecting and analyzing methods used:

4. Fuel being sampled: _____
5. How will samples be taken: ☐ Automated ☐ Manual
6. Fuel Sampling Data:
 - A. Name of Manufacturer: _____
 - B. Model number: _____
 - C. Serial Number: _____
 - D. Is this an existing FSA system: Yes ☐ No ☐
 - E. How will samples be taken: ☐ Automated ☐ Manual
 - F. Backup system (attach other compliance demonstration forms if needed): _____

 - G. State the method of operating of the sampler: _____

 - H. Attach a schematic of the FSA system showing the sample acquisition point and location of the machine.
 - I. Compliance shall be demonstrated:
☐ Daily ☐ Weekly ☐ Monthly ☐ Quarterly
7. Any composite sample over the emission rate will be reported as an excess emission.
8. If the FSA system certification is not attached for approval, it must be submitted within 60 days from startup of the FSA system or the date of application, which ever is later.

**COMPLIANCE DEMONSTRATION
BY RECORDKEEPING**

SECTION M7

1. Emission Point No./Name : Boilers AA-001
2. Pollutant: SO₂
3. Material or parameter being monitored or recorded: 216,000 Gallon/Year No. 2 Fuel Oil.
4. Method of monitoring and recordkeeping: Daily documentation with recordkeeping of fuel oil usage each day

5. List any EPA methods used: NA

6. Compliance shall be demonstrated:
☒ Daily ☐ Weekly ☐ Monthly ☐ Quarterly

MAJOR SOURCE AIR MONITORING NETWORK SECTION M8

1. Emission Point No./Name : NA
2. Air monitoring contact name and title: _____
3. Phone number: _____
4. Type of Air Monitoring Network: ☐ Existing ☐ Proposed
5. Pollutants to be monitored for (indicate all that will be monitored):

6. If conducting PSD Pre construction or PSD post construction, briefly describe reasons for monitoring:

7. Will quality assurance / quality control plans be submitted with permit application:
Yes ☐ No ☐ If No, provide plan within 30 days of permit application date.
8. If plan has already been submitted and previously approved (network is an existing network), provide a copy of the most recent updated plan with any revisions or changes as an attachment to the permit application. Provide date of previous approval by technical secretary.
Date : _____
9. The quality assurance / quality control plan that is submitted must contain sections that specifically address at minimum each of the following areas identified below.
 - A. Selection of analyzers, samples or sampling methods including installation of equipment, preventative and remedial maintenance.
 - B. Training of staff on equipment or methods.
 - C. Calibration procedures, frequency of calibration, control of calibration standards, recertification of standards.
 - D. Zero and span check frequency, adjustment of instrument response.
 - E. Control check frequency, control limits for zero and span response including corrective action.
 - F. Recording, validating and reporting procedures for data including assessment and reporting of precision and accuracy data.
 - G. Procedures to document implementation of plan and any subsequent changes to the plan.
 - H. Procedures to document and report causes of any missed data, violations of Ambient Air Quality Standards including upset conditions or malfunctions that affect or impact analyzers or samplers.
 - I. Siting of analyzers or samplers including topographic map coordinates, photographs of sites, maps with major terrain features, roads, buildings, rivers and proposed or existing air contaminant sources.

Current Applicable Requirements and Status (page 1 of 2) **Revised 8/8/01** **SECTION N**

List applicable state and federal regulations and applicable test methods for determining compliance with each applicable requirement. Clearly identify federal regulations from state requirements. Provide the compliance status as of the day the application is signed.

Emission Point No.	Applicable Requirement	Pollutant	Test Method	Limits	Compliance Status IN / OUT
AA-001 & AA -0028	40 CFR 60.42c	SO ₂	Fuel Certification	No > 0.5% Wt. % Sulfur	In
AA-001 & AA -0028	40 CFR 60.43c	PM	Fuel Certification	20% Opacity	In
EP001, EP006	40 CFR 70.2	VOCs	Measured Data, AP-42, SOCM, Water 8	100 TPY	In
AA-001 & AA -0028	APC-S-1.3(2)(3)	PM/Opacity	Material Balance, AP-42	Narrative	In
AA-001 & AA -0028	APC-S-1.4(1)(a)	SO ₂	Manufactures Specification	Not > 4.8 lb/MMBTU	In
EP001	APC-S-1.8	HAPs	Measured Data, AP-42, SOCM, Water 8	Narrative	In
EP001	40 CFR 63	HAPs	Measured Data, AP-42, SOCM, Water 8	10 TPY Each, 25 TPY Total	In

Future Applicable Requirements and Status (page 2 of 2)

List applicable state and federal regulations and applicable test methods for determining compliance with each applicable requirement. Clearly identify federal regulations from state requirements. Provide the compliance status as of the day the application is signed.

[illegible]

COMPLIANCE CERTIFICATION

SECTION O

1. Emission Point No./Name AA-001 & Aa-028 (Boilers); EP002-004 Cyclones; EP001 (Retort/VacySys)
2. Indicate the source compliance status:
 - A. ☒ Where this source is currently in compliance, we will continue to operate and maintain this source to assure compliance for the duration of the permit.
 - B. ☐ The Current Emissions Requirements and Status form (previous page) includes new requirements that apply or will apply to this source during the term of the permit. We will meet such requirements on a timely basis.
 - C. ☐ This source is not in compliance. The following statement of corrective action is submitted to describe action which we will take to achieve compliance.
 1. ☐ Attached is a brief description of the problem and the proposed solution.
 2. ☐ We will achieve compliance according to the following schedule.

Progress reports will be submitted:

Starting date: NA and every six (6) months thereafter

Problem	Action	Deadline
NA		

**STATE OF MISSISSIPPI
DEPT. OF ENVIRONMENTAL QUALITY
OFFICE OF POLLUTION CONTROL
P.O. BOX 10385
JACKSON, MS 39289-0385
(601) 961-5171**

**APPLICATION ADDENDUM
FOR A
SYNTHETIC MINOR OPERATING PERMIT**

NOTE: This addendum may be affixed to the front of the Application for Title V Air Pollution Control Permit to Operate Air Emissions Equipment. If the addendum is used, all air emission sources, pollutants, and emission rates must be included in the application. There are no insignificant or trivial activities.

A Synthetic Minor Source is defined in Regulation APC-S-2 as: Any facility which would otherwise constitute a major source under Commission Regulation APC-S-6, "Air Emissions Operating Permit Regulations for the Purposes of Title V of the Federal Clean Air Act", except that the owner or operator of the facility elects for federally enforceable emissions limitations which may include permit conditions restricting hours of operation, or type or amount of material stored, combusted or processed, or establishing more stringent air pollution control efficiency requirements to lower allowable emissions for air pollutants in the State Permit to Operate below applicability thresholds for a Title V major source.

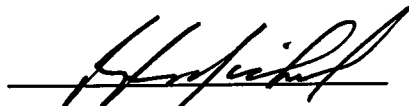
Facility Name	<u>Kerr McGee Chemical LLC, Columbus, MS</u>
Facility Number (If Known)	<u>1680-00020</u>
City: <u>Columbus, MS</u>	County: <u>Lowndes</u>

List the limitations/restrictions you are proposing to make your facility a synthetic minor source and the proposed methods of demonstrating compliance with those limitations/restrictions. If necessary, use a separate page for each Emission Point.

1. Fuel Oil with a maximum sulfur content of 0.5%.
2. Fuel Oil usage shall be limited to 216,000 gallons in any consecutive 12 month period for the 34 MMBTU/Hr Cleaver Brooks D-6 Primary Boiler
3. Fuel Oil usage shall be monitored and documented with recordkeeping calculated daily the total fuel oil usage of the current calendar year.

R. P. Michel, Vice President

Printed/Typed Name



*Signature

9-11-01

Date

*Signature should be the same as on the application form.



KERR-McGEE CHEMICAL LLC
KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

FedEx
Overnight

September 7, 2001

Mr. John Taylor, P.E., R.P.G.
Office of Air Pollution Control
20380 Highway 80 West
Jackson, MS 39204



RE: Operating Permit 1680-0002, Permit Modification
Installation of a Hurst Steam Boiler
Kerr-McGee Chemical LLC, Columbus, Mississippi

Dear Mr. Taylor:

Kerr McGee Chemical LLC (KMCLLC) desires to modify operating permit 1680-0002 by installing a new steam boiler (Hurst Boiler) at emission point AA-028 (page 14 of 16). With the exception of a Clever Brooks Boiler CB D-6 at emission point AA-001, all other boilers have been removed from service and decommissioned.

The existing 350 horsepower Clever Brook CB 655-350 boiler had reached the end of its useful life. This boiler is being replaced with a Series 400, 350 horsepower, Hurst Boiler. Upon state approval, the replacement boiler (Hurst Boiler) will be installed in the same location as the Clever Brooks boiler. The following Table compares relevant sizes of the replacement Cleaver Brooks and the new Hurst boiler:

Boiler Size/Characteristic	Cleaver Brooks Boiler	Hurst Boiler
Rated Capacity Natural Gas	Natural Gas- 11.72 MMBTU/hr	Natural Gas- 14.7 MMBTU/hr
Rated Capacity No. 2 Fuel Oil	No. 2 Fuel Oil- 97.6 GPH	No. 2 Fuel Oil- 105 GPH
Boiler Horsepower	350	350
Boiler Age	Rebuild early 1990's	New
Boiler Design	Natural Gas/Fuel Oil	Natural Gas/Fuel Oil
Emissions	See Table 1 & 2 & 3	See Table 1 & 2 & 3



Mr. Taylor
September 7, 2001
Page 2

Facility Application

A permit application with sections B, C, N, M and O has been completed for your review. In addition, the application for an addendum for a synthetic minor operating permit has been completed.

Natural Gas Firing (Table 1)

1. Emission estimates for both boilers fired with natural gas at maximum capacity are shown in Table 1.
2. The source of the emission factors listed in the various tables is on EPA Website at <http://www.epa.gov/ttn/chief/ap42/ch01>

Firing with No. 2 Fuel Oil (Table 2)

1. Permit 1680-00020 limits annual fuel oil usage to 216,000 gallon per year, within any consecutive twelve-month period for the boiler the Clever Brooks boiler at EP AA-001.
2. Emission estimates for the new Hurst boiler have been calculated at 105 gallons/hour for 8760 hours per year.
3. The source of the emission factors listed in the various tables is on EPA Website at <http://www.epa.gov/ttn/chief/ap42/ch01>

Potential To Emit For The Boilers (Table 3)

Table 3 summarizes Tables 1 & 2 and determines the PTE for the boilers with the natural gas and fuel. NO_x, VOC's and CO potential to emit emissions are based upon burning of natural gas, whereas particulate, PM-10 and SO_x potential to emit emissions are based upon burning of fuel oil. These tables demonstrate that facility potential emissions are below major thresholds.

Facility Potential To Emit (Table 8)

Emissions from all sources are summed in Table 8. These values were used to complete section C of the permit application. The green tie particulate matter estimations were developed in the 1995 Title V application and incorporated into our current permit. These estimates remained the same.

Mr. Taylor
September 7, 2001
Page 3

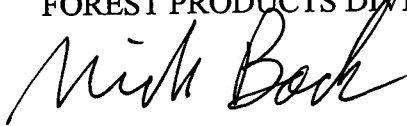
VOC estimates from the wood preserving process were developed in the 1995 Title V application and incorporated into our current permit. These estimates remained the same. However, hazardous air pollutant (HAP) have been included in Table 8. Table 8 demonstrates that the facility is below all major source thresholds without the necessity of additional controls or operating restrictions.

KMCLLC has compared the States emission inventory with our current permit levels and emission estimates calculated in this application. This comparison is shown in Table 9.

The new Hurst boiler is scheduled to be delivered during the week of September 10, 2001. Therefore, we are seeking your prompt action regarding this application. Should you have questions or require additional information, please telephone me at (405) 270-2394.

Sincerely,

Kerr-McGee CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION



Nicholas E. Bock
Manager - Environmental Affairs and Regulatory Compliance

Attachment

cc: R. Murphey, Plant Manager
R. P. Michel, VP

Table 2

Emission Estimates of Current and Replacement Boiler

Number 2 Fuel Oil

Kerr-McGee Chemical LLC

Columbus, MS

Revised September 6, 2001

Hurst Series 400, 350 HP Boiler-No. 2 Fuel Oil Application: June 2001 Emission Point AA-028								
Regulated Air Pollutants	Emission Factor* (lb)/1000gal	Conversion Factor (per 1000gal)	Fuel Value (Gal/hr)	Hourly Emission (lb/hr)	Hours Per Year (hours/yr)	Conversion Factor (lb/ton)	Annual Emissions (Ton/year)	Hurst PTE (Ton/year)
Particulate	2	0.001	105	0.21	8760	2000	0.92	0.92
PM-10	2	0.001	105	0.21	8760	2000	0.92	0.92
SOx (.5% Sulfur)	71	0.001	105	7.46	8760	2000	32.65	32.65
NOx (.03% Nitrogen)	20	0.001	105	2.10	8760	2000	9.20	9.20
CO	5	0.001	105	0.53	8760	2000	2.30	2.30
VOC's	0.2	0.001	105	0.02	8760	2000	0.09	0.09
PAC lb/MMBTU	2.51E-08			0.000	8760		0.000	0.00

Cleaver Brooks Model CB D-6 Existing Boiler (Has Fuel Oil Limitation) Emission Point AA-001								
Regulated Air Pollutants	Emission Factor* (lb)	Conversion Factor (per 1000gal)	Fuel Value (Gal/hr)	Hourly Emission (lb/hr)	Limit ¹ 216,000 (gal/yr)	Conversion Factor (lb/ton)	Annual Emissions (Ton/year)	CB D-6 PTE (Ton/year)
Particulate	2	0.001	100	0.20	2160	2000	0.22	0.88
PM-10	2	0.001	100	0.20	2160	2000	0.22	0.88
SOx (.5% Sulfur)	71	0.001	100	7.1	2160	2000	7.67	31.10
NOx (.03% Nitrogen)	20	0.001	100	2.00	2160	2000	2.16	8.76
CO	5	0.001	100	0.50	2160	2000	0.54	2.19
VOC's	0.2	0.001	100	0.02	2160	2000	0.02	0.09
PAC lb/MMBTU	2.51E-08			0.000			0.000	0.00

Maximum Emissions

* All Emission Factors are based on AP-42 Factors: Table 1.3-1, Distillate oil fired

Limit¹ Operating Permit Limits annual fuel oil usage to 216,000 gallons
in any 12 consecutive months Permit 1680-0002

Table 3
Emission Estimates of Current and Replacement Boiler
Potential To Emit Summary (Permit Limit)
 Kerr-McGee Chemical LLC
 Columbus, MS
 Revised September 6, 2001

Regulated Air Pollutants	Short Term Permit Limit (lb/hr)						
	See Table_	Boiler Fuel	Boiler Fuel	Hurst Boiler	CB D-6 Boiler	Two Boiler Sum	Short Term Allowable lb/hr
Particulate	Table 2	No. 2 Fuel Oil	No. 2 Fuel Oil	0.21	0.20	0.41	0.41
PM-10	Table 2	No. 2 Fuel Oil	No. 2 Fuel Oil	0.21	0.20	0.41	0.41
SOx	Table 2	No. 2 Fuel Oil	No. 2 Fuel Oil	7.46	7.10	14.56	14.56
NOx	Table 1	Natural Gas	Natural Gas	1.47	3.40	4.87	4.87
CO	Table 1	Natural Gas	Natural Gas	1.23	2.86	4.09	4.09
VOC's	Table 1	Natural Gas	Natural Gas	0.08	0.19	24.34	24.34

PAC is NA

Allowable
 Based on the greatest emission level using either natural gas or No. 2 fuel oil

Regulated Air Pollutants	Long Term Permit Limit (TPY)						
	See Table_	Boiler Fuel	Hurst Boiler	CB D-6 12 Mon. Gas	CB D-6 3 Mons. Oil	CB D-6 9 Mons. Gas	Long Term Allowable TPY*
Particulate	Table 2	No. 2 Fuel Oil	0.92	0.28	0.22	0.21	1.35
PM-10	Table 2	No. 2 Fuel Oil	0.92	0.28	0.22	0.21	1.35
SOx	Table 2	No. 2 Fuel Oil	32.65	0.09	7.67	0.07	40.39
NOx	Table 1	Natural Gas	6.44	14.89			21.33
CO	Table 1	Natural Gas	5.41	12.51			12.51
VOC's	Table 1	Natural Gas	0.35	0.82			1.17

Permit Value PAC is NA

All Emission Factors are based on AP-42 Factors

Allowable TPY* Operating Permit Limits annual fuel oil usage to 216,000 gallons
 in any 12 consecutive months for CB D-6 Boiler

Based on higher of 12 months natural gas usage or 3 months oil/9months natural gas usage.

Table 8
June 2001 Title V Application
 Revised August 20, 2001
 PTE - Emission Summary - Columbus, MS

Pollutant	Maximum Emission Rate (PTE To Emission Summary Section C)																		Data Source															
	Particulate			PM10			SOx			NOx			CO			VOC				Naphthalene			Dibenzofuran			Quinoline			Biphenyl			PAC		
	Short (lb/hr)	Long TPY		Short (lb/hr)	Long TPY		Short (lb/hr)	Long TPY		Short (lb/hr)	Long TPY		Short (lb/hr)	Long TPY		Short (lb/hr)	Long TPY			Short (lb/hr)	Long TPY		Short (lb/hr)	Long TPY		Short (lb/hr)	Long TPY		Short (lb/hr)	Long TPY				
Particulate - Boilers (Fuel Oil/Table 3)	0.41	1.35		0.41	1.35																										Table 3*			
PM10 - Boilers(Fuel Oil/Table 3)																															Table 3			
Particulate - Framing Mill (Title V App.)**	0.73	3.20		0.37	1.60																										1995 Title V			
PM10 - Framing Mill (Title V App.)**																															1995 Title V			
Particulate - Switch Tie Unloader (Title V App.)**	0.21	0.93		0.11	0.47																										1995 Title V			
PM10 - Switch Tie Unloader (Title V App.)**																															1995 Title V			
Particulate -Cross Tie Unloader (Title V App.)**	0.38	1.67		0.19	0.84																										1995 Title V			
PM10 - Cross Tie Unloader (Title V App.)**																															1995 Title V			
SOx Boilers (Table 3)				14.56	40.39					4.87	21.33		4.09	12.51																	Table 3*			
NOx - Boilers (Natural Gas/Table 3)																															Table 3*			
CO - Boilers (Natural Gas/Table 3)																															Table 3*			
VOC's - Boilers Natural Gas/Table 3)																															Table 3*			
Wood Preserving VOC																															1995 Title V			
Wood Preserving Naphthalene (43.6% VOC)																															1995 Title V			
Wood Preserving Dibenzofuran (4.96% VOC)																															1995 Title V			
Wood Preserving Quinoline (2.05% VOC)																															1995 Title V			
Wood Preserving Biphenyl (1.80% VOC)																															1995 Title V			
Wood Preserving Process PAC (9.52% VOC)																															1995 Title V			
Total Maximum	1.73	7.15	1.07	4.26	14.56	40.39	4.87	21.33	4.09	12.51	24.51	1.68	0.08	0.22	0.01	0.03	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.02	0.05	0.02	0.05	0.05				

Based on Tables 1 & 2

** Point Source PM and PM-10 emissions are based on estimated provided to DEQ on 11/1/96 in Additional Information Number 5

Table 9
Revised September 6, 2001
Comparison of Emissions Inventory, Permit Application and Current Permit

Emission	Emission Point	Emission Unit	6/4/1998	Boiler	6/12/1998	Difference	Potential Reasons For Differences
			MDEQ-EI TPY	Permit App. TPY	Permit Limit TPY	(Charge) TPY	
			DEQ-EI	Table 3	Pg 4 of 16		
PM	CB Boiler	AA-001	0.50	0.28	0.50	-0.22	
PM	Vogt Boiler	AA-002	0.16	Demolished		NA	Boiler Replaced
PM	Framing Mill	AA-003	3.20	3.20	3.20	0.00	3 Boilers Included in 1998 PTE Estimate
PM	SW Unloader	AA-008	0.93	0.93	0.93	0.00	
PM	Tie Unloader	AA-009	1.67	1.67	1.67	0.00	
PM	Fuel Storage	AA-020	0.85	0.85		0.00	
PM	Hurst Boiler	AA-028	0.85	0.92	New 2001	0.07	
PM	Total		8.17	7.85		-0.32	See Table 3
PM-10	CB Boiler	AA-001	0.50	0.28	0.50	-0.22	
PM-10	Vogt Boiler	AA-002	0.16	Demolished		NA	Boiler Replaced
PM-10	Framing Mill	AA-003	1.60	1.60	1.6	0.00	3 Boilers Included in 1998 PTE Estimate
PM-10	SW Unloader	AA-008	0.47	0.47	0.47	0.00	
PM-10	Tie Unloader	AA-009	0.84	0.84	0.41	0.00	
PM-10	Fuel Storage	AA-020	0.85	0.85		0.00	
PM-10	Hurst Boiler	AA-028	0.85	0.92	New 2001	0.07	
PM-10	Total		5.27	4.96		-0.31	See Table 3
SO2	Boiler		70.34	40.39	7.84	-29.95	2001 Based on Table 3
	(2 Boilers)						3 Boilers Included in PTE Estimate
NOx	Boiler		46.69	21.33	NA	-25.36	2001 Based on 3 Months Oil/ 9 Months Natural Gas. See Table 8
	(2 Boilers)						Emission Factor Decreased From 140 to 100 lb/MMft3
							Hurst boiler annual gas consumption higher than Cleaver Brooks
							3 Boilers Included in 1998 PTE Estimate
CO	Boiler		11.68	12.51	NA	0.83	2001 Based on 3 Months Oil/ 9 Months Natural Gas. See Table 8
	(2 Boilers)						Emission Factor Increased From 35 to 84 lb MMft3
							Hurst boiler annual gas consumption higher than Cleaver Brooks
							3 Boilers Included in 1998 PTE Estimate
VOC	(2 Boilers)		0.75	1.17	0.75	0.43	2001 Based on 3 Months Oil/ 9 Months Natural Gas. See Table 8
A004			0.11	0.11	0.11	0.00	Emission Factor Increased From 2.8 to 5.5 lb MMft3
A005			0.11	0.11	0.11	0.00	Hurst boiler annual gas consumption higher than Cleaver Brooks
A006			0.11	0.11	0.11	0.00	3 Boilers Included in 1998 PTE Estimate
A007			0.04	0.04	0.04	0.00	
A020			0.14	0.14	0.14	0.00	
Total			1.26	1.68	0.51	0.43	Wood Preserving Fugitives not Included in Estimate

Table 1

Emission Estimates of Current and Replacement Boiler Natural Gas

Kerr-McGee Chemical LLC

Columbus, MS

Revised September 6, 2001

Hurst Series 400, 350 HP Boiler-Natural Gas								
Application: June 2001								
Emission Point AA-028								
Regulated Air Pollutants	Emission Factor* (lb/MMft ³)	Fuel Value (BTU/ft ³)	Firing Rate (MMBTU/hr)	Hourly Emission (lb/hr)	Hours Per Year (hours/yr)	Conversion Factor (lb/ton)	Annual Emissions (Ton/year)	Hurst Boiler PTE (Ton/year)
Particulate	1.9	1000	14.7	0.03	8760	2000	0.12	0.12
PM-10	1.9	1000	14.7	0.03	8760	2000	0.12	0.12
SO ₂	0.6	1000	14.7	0.01	8760	2000	0.04	0.04
NOx	100	1000	14.7	1.47	8760	2000	6.44	6.44
CO	84	1000	14.7	1.23	8760	2000	5.41	5.41
VOC's	5.5	1000	14.7	0.08	8760	2000	0.35	0.35
PAC (lb/MMBTU)	3.15E-05	1000	14.7	0.00	8760	2000	0.00	0.00

Hurst Series 400, 350 HP Boiler-Natural Gas has the maximum capacity of 129 MMft³/year

Cleaver Brooks Model CB D-6								
Existing Boiler								
Emission Point AA-001								
Regulated Air Pollutants	Emission Factor* (lb/MMft ³)	Fuel Value (BTU/ft ³)	Firing Rate (MMBTU/hr)	Hourly Emission (lb/hr)	Hours Per Year (hours/yr)	Conversion Factor (lb/ton)	Annual Emissions (Ton/year)	CB-D-6 Boiler PTE (Ton/year)
Particulate	1.9	1000	34	0.06	8760	2000	0.28	0.28
PM-10	1.9	1000	34	0.06	8760	2000	0.28	0.28
SO ₂	0.6	1000	34	0.02	8760	2000	0.09	0.09
NOx	100	1000	34	3.40	8760	2000	14.89	14.89
CO	84	1000	34	2.86	8760	2000	12.51	12.51
VOC's	5.5	1000	34	0.19	8760	2000	0.82	0.82
PAC (lb/MMBTU)	3.15E-05	1000	34	0.00	8760	2000	0.00	0.00

Maximum Emission From Oil or Gas

* All Emission Factors are based on AP-42 Factors: Table 1.4-1/2, 7/98

PAC (lb/MMBTU) Emission Factor From EPA Seminar

Clever Brooks Boiler-Natural Gas has the maximum capacity of 298 MMft³/year

FACILITY No. (if known): 1680-00020

COUNTY: Lowndes

CITY: Columbus, MS

NAME: Kerr McGee Chemical LLC.

☐ INITIAL APPLICATION
☒ MODIFICATION
☐ RENEWAL OF OPERATING PERMIT

PERMITTING ACTIVITY:

APPLICATION FOR TITLE V
 AIR POLLUTION CONTROL PERMIT
 TO OPERATE AIR EMISSIONS EQUIPMENT

STATE OF MISSISSIPPI
 DEPARTMENT OF ENVIRONMENTAL QUALITY
 OFFICE OF POLLUTION CONTROL
 AIR DIVISION
 P.O. BOX 10385
 JACKSON, MS. 39289-0385
 PHONE NO.: (601) 961 - 5171

APPLICATION RECEIPT DATE: _____
 APPLICATION NO.: _____
 FOR MODIFICATION: _____
 MINOR _____
 SIGNIFICANT _____
 FOR OFFICIAL USE ONLY

Owners Information

Section B

1. Name, Address & Contact for the Owner/Applicant

A. Company Name: Kerr McGee Chemical LLC.

B. Mailing Address: 2300 14th Ave. North

1. Street Address or P.O. Box:
2. City: Columbus
3. State: MS
4. Zip Code: 39701
5. Telephone No.: (662) 328-7551

C. Contact:

1. Name: Ron Murphey
2. Title: Plant Manager

2. Name, Address, Location and Contact for the Facility:

A. Name: Ron Murphey

B. Mailing Address:
1. Street Address or P.O. Box: 2300 14th Ave. North
2. City: Columbus
3. State: MS
4. Zip Code: 39701
5. Telephone No.: (662) 328-7551

C. Site Location:

1. Street: 2300 14th Ave. North
2. City: Columbus
3. State: MS
4. County: Lowndes
5. Zip Code: 39701
6. Telephone No.: (662) 328-7551

Note: If the facility is located outside of the City limits, please attach a sketch or description to this application showing the approximate location of the site.

D. Contact:

1. Name: Ron Murphey
2. Title: Plant Manager

3. SIC Code(s)(including any associated with alternate operating scenarios): 2491

4. Number of Employees: 41

5. Principal Product(s): Railroad Products/Utility Poles/Piling

6. Principal Raw Materials: Wood; Creosote

7. Principal Process(es): Wood Preserving

8. Maximum amount of principal product produced or raw material consumed per day:
21300 cubic feet of treated wood per day for dry treatment

check this out

9. Facility Operating Schedule (Optional):

A. Specify maximum hours per day the operation will occur: 24

B. Specify maximum days per week the operation will occur: 7

C. Specify maximum weeks per year the operation will occur: 52

D. Specify the months the operation will occur: 12

10. Is this facility a small business as defined by the Small Business Act? (Optional) No

11. EACH APPLICATION MUST BE SIGNED BY THE APPLICANT.

The application must be signed by a responsible official as defined in Regulation APC-S-6, Section I.A.26.

I certify that to the best of my knowledge and belief formed after reasonable inquiry, the statements and information in this application are true, complete, and accurate, and that, as a responsible official, my signature shall constitute an agreement that the applicant assumes the responsibility for any alteration, additions, or changes in operation that may be necessary to achieve and maintain compliance with all applicable Rules and Regulations.

R.P. Michel
Printed Name of Responsible Official

Title

Vice President

9-11-01
Date Application Signed

Signature of Applicants Responsible Official

SECTION C

For the sections listed below indicate the number that have been completed for each section as part of this application.

Section B	☒	Section L1	☐	Section M1	☐
Section C	☒	Section L2	☐	Section M2	☐
Section D	☒	Section L3	☐	Section M3	☒
Section E	☐	Section L4	☐	Section M4	☐
Section F	☐	Section L5	☐	Section M5	☐
Section G	☐	Section L6	☐	Section M6	☐
Section H	☐	Section L7	☐	Section M7	☒
Section I	☐	Section M8	☐		
Section J	☐	Section N	☒		
Section K	☐	Section O	☒		

As a minimum, sections B, C, M, N and O must be completed for the application to be considered complete.

Please list below all insignificant activities required by APC-S-6, Section VII.B that apply to your facility.

Steam Vents and Leaks; Decator Vents; Process Water Tanks; Effluent Neutralization;

Fuel Oil Storage Tanks; Natural Gas Space Heaters; Wood Waste Storage and Handling;

SECTION C

RISK MANAGEMENT PLANS

If the source is required to develop and register a risk management plan pursuant to Section 112(r) of the Title III of the Clean Air Act, the permittee need only specify that it will comply with the requirement to register such a plan. The content of the risk management plan need not itself be incorporated as a permit term.

Please answer the following questions:

I. Are you required to develop and register a risk management plan pursuant to Section 112(r)?

Yes ☐ No ☒

Only if "yes", answer questions II., III., and/or IV.

II. Have you submitted the risk management plan to the appropriate agency (i.e. Mississippi Emergency Management Agency (MEMA), Federal Emergency Management Agency (FEMA), etc.)?

Yes ☐ No ☐

III. If yes, give agency name and date submitted.

IV. If no, provide a schedule for developing and submitting the risk management plan to the appropriate agency and providing our agency with certification that this submittal was made.

FUEL BURNING EQUIPMENT (page 1 of 2) (Second Boiler Hurst)

SECTION D

1. Emission Point No. / Name: Emission Point AA-028; Boiler (New Boiler 2001)

2. Equipment Description: Hurst Series 400, 350 HP Hurst Boiler

Both the Vot Boiler and CB 55-350 are no longer in service and have been decommissioned

3. Was this unit constructed or modified after August 7, 1972? Yes ☒ No ☐
If yes please give date and explain. Application for a new boiler in September of 2001

4. Capacity: 14.7 MMBTU/hr 5. Type of burner: Forced Draft Gas; Atomizing Oil

6. Usage Type (i.e. Space Heat, Process, etc.): Boiler, Steam

7. Complete the following table, identifying each type of fuel and the amount used. Specify the units for heat content, hourly usage, and yearly usage.

FUEL TYPE	HEAT CONTENT	% SULFUR	% ASH	MAXIMUM HOURLY USAGE	ACTUAL YEARLY USAGE
-----------	--------------	----------	-------	----------------------	---------------------

Natural Gas	1000/cuft	<0.2	<0.05	14.7 MMBTU/hr	129 MMBtu/year Maximum
Standby No. 2 Fuel Oil	140,000/gal	<0.5	<0.01	105 Gal/hr	919,800 gal/year Maximum

8. Please list any fuel components that are hazardous air pollutants and the percentage in the fuel. N/A

9. Operating Schedule: (Optional) 24 hours/day 7 days/week 52 weeks/year

10. Stack Data:
A. Height: 40 Feet
B. Inside diameter: 20 inches
C. Exit gas velocity: 40 ft/sec
D. Exit gas temperature: 450 F

11. UTM Coordinates:
A. ☒ Zone 16 East
B. ☒ North 1397885.60
C. ☒ East 629281.99

FUEL BURNING EQUIPMENT (page 2 of 2)

SECTION D

12. POLLUTANT EMISSIONS:

Example emission rate calculations, monitoring data, or stack test data must be attached in accordance with Operating Permit Application Requirements, pp. 3-5.

EMISSION POINT NO.	POLLUTANT (note 1)	CONTROL EQUIPMENT		ACTUAL EMISSION RATE (in accordance with Operating Permit Application Requirements, pp. 3-5)	PROPOSED ALLOWABLE EMISSION RATE (Optional)				
		yes/no	effic.		note 2	lb/hr	tn/yr		
AA-028	SOx	No	NA	lb/MMBTU	7.5 (b)	36.7 (b)	lb/MMBTU	7.5(c)	40.4 (c)
AA-028	NOx	No	NA	lb/MMBTU	1.47 (a)	6.4 (a)	lb/MMBTU	3.4 (c)	21.3 (c)
AA-028	CO	No	NA	lb/MMBTU	1.23 (a)	5.4 (a)	lb/MMBTU	2.9 (c)	12.5 (c)
AA-028	PM	No	NA	lb/MMBTU	0.2 (b)	0.92 (b)	lb/MMBTU	0.21 (c)	1.35 (c)
AA-028	PM-10	No	NA	lb/MMBTU	0.2 (b)	0.92 (b)	lb/MMBTU	0.21 (c)	1.35 (c)
AA-028	VOCs	No	NA	lb/MMBTU	0.1(a)	0.35 (a)	lb/MMBTU	0.19 (c)	1.17 (c)

1. All regulated air pollutants including hazardous air pollutants emitted from this source should be listed. A list of regulated air pollutants has been provided in Section A.
2. Provide emission rate in units of applicable emission standard, e.g. lb/MMBtu, gr/dscf, etc. This may not apply to every emission point or every pollutant from an emission point.

If yes, attach appropriate Air Pollution Control Data Sheet from Section L, or manufacturers specifications if other.

See Table 1, Table 2, and Table 3

- (a) Emission rates are based on 12 months operation with Natural Gas or maximum emission rates.
- (b) Emission Rates are based on 12 months operation with No. 2 Fuel
- (c) Emission Rates are based on Table 8 (Maximum emission rate combination)
- (d) These emission rates are based on existing Air Operating Permit 1680-0020.

COMPLIANCE DEMONSTRATION (page 1 of 2) SECTION M

Completion of Section M is not required for a complete application. It is presented to merely reflect what may be required by the Enhanced Monitoring and/or the Periodic Monitoring Regulations. Upon promulgation of those regulations, this section will be revised to reflect the actual requirements. Until then, the information in this section should be utilized for planning purposes.

Choose the type of monitoring that is suggested for your source in the "Enhanced Monitoring Guideline". Fill out the appropriate form and attach to the corresponding emission point description pages.

- A. Compliance Demonstration by Continuous Emissions Monitoring (CEM).
- Sulfur Dioxide(SO₂)
Nitrogen Oxides (NO_x)
Oxygen (O₂)
Carbon Dioxide (CO₂)
Total Reduced Sulfur (TRS)
Opacity
- Hydrogen Chloride (Hcl)Carbon Monoxide (CO)
Flow
Hydrogen Sulfide (H₂S) Volatile Organic Compound (VOC)
- B. Compliance Demonstration by Periodic Emission Monitoring using Portable Monitors.

- SO₂ NO_x O₂ CO₂ CO HCl H₂S VOC Flow Moisture
Combustibles
Combustion Efficiency

- C. Compliance Demonstration by Monitoring Control System Parameters or Operating Parameters of a Process.

- Baghouse
Pressure drop across baghouse, Broken bag detector, Opacity.
- Mechanical Collectors
Pressure drop across collector, Hopper full detector, Opacity.
- Electrostatic Precipitators
Primary and secondary voltage,Primary and secondary currents, Spark Rate, Broken wire detector, Rap cycle frequency, Resistivity measurement, Inlet water flow, Total solids, Opacity.
- Thermal Incinerator
Firebox temperature.
- Catalytic Incinerator
Catalyst bed temperature.
- Pilot light detector, Temperature after flame zone.
- Particulate Scrubber
Pressure drop across scrubber and demister, Scrubber fluid recirculation rate, Pump discharge pressure, Pump motor current.
- Absorber for Gases
pH of fluid, Fluid recirculation rate, Air flow, Pressure drop across absorber and demister, Fluid temperature.
- Carbon Absorber
Steam mass flow rate per regeneration cycle, Carbon bed temperature.
- Condenser
Condenser exit temperature, Amount of solvent recovered daily,Charging rate, Production rate, Hours of operation, Secondary chamber temperature, Kiln or dryer exit temperature, Burner combustion efficiency, Power consumption, Static pressure, Fuel usage rate, Water injection rate.

COMPLIANCE DEMONSTRATION (page 2 of 2)

SECTION M

D. Compliance Demonstration by Monitoring Maintenance Procedures.

Water quality testing
Sludge solids testing
Electrostatic precipitator cleaning frequency Fugitive dust control measures
Blacklight inspection of baghouses
Sludge mercury testing
Periodic inspection of process operating parameters
Periodic inspection of process operating parameters

E. Compliance Demonstration by Stack Testing.

EPA Method 1 & 2 : Flow (S-type pilot tubes, Hot-wire anemometer)
EPA Method 3 : CO₂, O₂, CO (Orsat, Fyrite)
EPA Method 3A : CO₂, O₂ (Analyzers)
EPA Method 4 : Moisture (Wet bulb-Dry bulb, Impingers)
EPA Method 5 : PM
EPA Method 6 : SO₂ (Impingers)
EPA Method 6B : SO₂ (24 hour average)
EPA Method 6C : SO₂ (Analyzer)
EPA Method 7E : NO_x (Analyzer)
EPA Method 9 : Opacity (Visible emissions reader)
EPA Method 10 : CO (Analyzer)
EPA Method 16 : TRS (Gas Chromatograph)
EPA Method 16A : TRS (Impingers)
EPA Method 16B : TRS (Gas Chromatograph)
EPA Method 18 : VOC (Gas Chromatograph)
EPA Method 21 : VOC Leaks (Analyzer)
EPA Method 25A : VOC (Analyzer with FID)
EPA Method 25B : VOC (NDIR Analyzer)

F. Compliance Demonstration by Fuel Sampling and Analysis (FSA).

Coal Sampling
Waste oil sampling
Coke sampling
Sewage sludge sampling
Paper sludge sampling
Tire derived fuel sampling
Landfill gas sampling
Refuse derived fuel sampling

G. Compliance Demonstration by Recordkeeping.

Testing and monitoring records
Records of malfunction
As-applied coating & ink records,
Transfer efficiency records
Process hours of operation records
Fuel usage records
As-applied coating & ink composition records

CONTINUOUS EMISSIONS MONITORING (CEM) SECTION MI

submitted with the permit application for approval. Fill out one (1) sheet per analyzer.

1. NA Emission Point No./Name :

Continuous Emission Monitoring Data:

- A. Name of Manufacturer:**

- C. Serial Number:

- D. Date of installation of CEM:**

- E. Which does the CEM monitor: Pollutant Flow**

- F. Pollutant / Diluent / Flow being monitored:**

- F. Type of analyzer:**
- | | |
|--|--|
| ☐ In situ | ☐ Other (specify): |
| ☐ Dilution | ☐ Differential Pressure |
| ☐ CO ₂ | ☐ Thermal |
| ☐ O ₂ | |
| ☐ Extractive | |

- H. Type of analyzer description:**

- J. Opacity CEM:**

- K.** If CEM is not previously certified, the days of startup of the CEM system.

- M. Attach a schematic of the CEM system showing the sample acquisition of the monitor and explain any deviations from the siting criteria. Specifications 1, 2, 3, 4, 5, 6 and 7 in 40 CFR Part 60, Appendix B.

COMPLIANCE DEMONSTRATION BY PERIODIC EMISSION MONITORING USING PORTABLE MONITORS

SECTION M2

An monitoring plan for each new (i.e. proposed) Portable Monitoring System shall be submitted with the permit application for approval. Fill out one (1) sheet per monitor.

1. Emission Point No./Name : NA
2. Start-up date : _____
3. Portable Monitor Data: _____

A. Name of Manufacturer: _____

B. Model number: _____

C. Serial Number: _____

D. Is the equipment owned and maintained by the facility? Yes ☐ No ☐

E. Which does the Portable Monitor monitor: ☐ Pollutant ☐ Diluent

F. Pollutant / Diluent being monitored: _____

G. Type of Monitor: ☐ In situ ☐ Extractive ☐ Dilution
Type of Monitor description: _____

H. Backup system (attach other compliance demonstration forms if needed): _____

J. Compliance shall be demonstrated: ☐ Daily ☐ Weekly ☐ Monthly

K. If Portable Monitor is not previously certified, then it shall be submitted for certification within 60 days of startup of the CEM system.

L. State the operating principles of the monitor: _____

M. How will the monitor be calibrated: _____

N. Any test value over the emission limit shall be reported as an excess emission.

O. Attach a schematic of the CEM system showing the sample acquisition point and location of the monitor while sampling.

COMPLIANCE DEMONSTRATION BY MONITORING CONTROL SYSTEM PARAMETERS OR OPERATING PARAMETERS OF A PROCESS SECTION M3

The monitoring of a control system parameter or a process parameter may be acceptable provided that a correlation between the parameter value and the emission rate of a particular pollutant is established in the form of a curve of emission rate versus parameter values. At least three sets of stack test data, that bracket the emission limit if possible, shall be used to define the emission curve. This data shall constitute the certification of the system and must be attached for approval. If it is not attached, it shall be submitted within 60 days from the date of startup of the system or the date of application, which ever is later.

1. Emission Point No./Name : AA-001 and AA-028

2. Method of monitoring description: Daily documentation of quantity of Natural Gas and No. 2 Fuel Oil burned in each boiler

Attach separate sheets if needed.

3. Backup system (attach other compliance demonstration forms if needed): NA

4. The monitoring system shall be subject to appropriate performance specifications, calibration requirements, and quality assurance procedures.

5. If a quality assurance / quality control plan is not attached with the application for approval, it shall be submitted within 60 days from the date of startup of the monitoring program or the date of application, which ever is later.

SECTION M4

1.	Emission Point No./Name :	NA
2.	Procedure being monitored:	
3.	Method of monitoring description:	
4.	Backup system (attach other compliance demonstration forms if needed):	
5.	Frequency of certification:	☐ Daily ☐ Weekly ☐ Monthly
6.	Any failure to fulfill a maintenance requirement shall be reported as an excess emission.	
7.	Is this an existing maintenance procedure:	☐ Yes ☐ No
8.	The monitoring system shall be subject to appropriate performance specifications, calibration requirements, and quality assurance procedures.	
9.	If a quality assurance / quality control plan is not attached with the application for approval, it shall be submitted within 60 days from the date of startup of the monitoring program or the date of application, which ever is later.	

COMPLIANCE DEMONSTRATION BY
STACK TESTING

SECTION M5

Compliance demonstration by stack testing will be carried out in accordance with EPA approved reference methods and the stack test report must be attached.

1. Emission Point No./Name : NA

2. Pollutant being tested for:

3. Test Method:

4. Compliance shall be demonstrated:
☐ Daily ☐ Weekly ☐ Monthly ☐ Other (specify):

5. Any measured emission rate that exceeds an emission limit established by the permit must be reported as an excess emission.

6. Is this an existing method of demonstrating compliance:
Yes ☐ No ☐

7. Backup system (attach other compliance demonstration forms if needed):

COMPLIANCE DEMONSTRATION BY FUEL SAMPLING AND ANALYSIS

SECTION M6

An installation plan for each Fuel Sampling Analysis (FSA) System must be submitted with the permit application for approval. Fill out one (1) sheet per analyzer.

1. Emission Point No./Name : NA

2. Date of construction if for existing sources or date of anticipated start-up for new sources:

3. List the ASTM fuel sample collecting and analyzing methods used:

4. Fuel being sampled:

5. How will samples be taken: ☐ Automated ☐ Manual

6. Fuel Sampling Data:

A. Name of Manufacturer:

B. Model number:

C. Serial Number:

D. Is this an existing FSA system: Yes ☐ No ☐

E. How will samples be taken: ☐ Automated ☐ Manual

F. Backup system (attach other compliance demonstration forms if needed):

G. State the method of operating of the sampler:

H. Attach a schematic of the FSA system showing the sample acquisition point and location of the machine.

I. Compliance shall be demonstrated:

☐ Daily ☐ Weekly ☐ Monthly ☐ Quarterly

7. Any composite sample over the emission rate will be reported as an excess emission.

8. If the FSA system certification is not attached for approval, it must be submitted within 60 days from startup of the FSA system or the date of application, whichever is later.

COMPLIANCE DEMONSTRATION
BY RECORDKEEPING

SECTION M7

1. Emission Point No./Name : Boilers AA-001
2. Pollutant: SO₂
3. Material or parameter being monitored or recorded: 216,000 Gallon/Year No. 2 Fuel Oil.
4. Method of monitoring and recordkeeping: Daily documentation with recordkeeping of fuel oil usage each day

5. List any EPA methods used: NA

6. Compliance shall be demonstrated: ☒ Daily ☐ Weekly ☐ Monthly ☐ Quarterly

MAJOR SOURCE AIR MONITORING NETWORK

SECTION M8

1.	Emission Point No./Name :	NA
2.	Air monitoring contact name and title:	
3.	Phone number:	
4.	Type of Air Monitoring Network:	☐ Existing ☐ Proposed
5.	Pollutants to be monitored for (indicate all that will be monitored):	
6.	If conducting PSD Pre construction or PSD post construction, briefly describe reasons for monitoring:	
7.	Will quality assurance / quality control plans be submitted with permit application:	Yes ☐ No ☐ If No, provide plan within 30 days of permit application date.
8.	If plan has already been submitted and previously approved (network is an existing network), provide a copy of the most recent updated plan with any revisions or changes as an attachment to the permit application. Provide date of previous approval by technical secretary.	
9.	The quality assurance / quality control plan that is submitted must contain sections that specifically address at minimum each of the following areas identified below.	
A.	Selection of analyzers, samples or sampling methods including installation of equipment, preventative and remedial maintenance.	
B.	Training of staff on equipment or methods.	
C.	Calibration procedures, frequency of calibration, control of calibration standards, recertification of standards.	
D.	Zero and span check frequency, adjustment of instrument response.	
E.	Control check frequency, control limits for zero and span response including corrective action.	
F.	Recording, validating and reporting procedures for data including assessment and reporting of precision and accuracy data.	
G.	Procedures to document implementation of plan and any subsequent changes to the plan.	
H.	Procedures to document and report causes of any missed data, violations of Ambient Air Quality Standards including upset conditions or malfunctions that affect or impact analyzers or samplers.	
I.	Siting of analyzers or samplers including topographic map coordinates, photographs of sites, maps with major terrain features, roads, buildings, rivers and proposed or existing air contaminant sources.	

Future Applicable Requirements and Status (page 2 of 2)

COMPLIANCE CERTIFICATION

SECTION O

1. Emission Point No./Name AA-001 & Aa-028 (Boilers); EP002-004 Cyclones; EP001 (Retort/VacSys) _____
2. Indicate the source compliance status:

- A. ☒ Where this source is currently in compliance, we will continue to operate and maintain this source to assure compliance for the duration of the permit.
- B. ☐ The Current Emissions Requirements and Status form (previous page) includes new requirements that apply to this source during the term of the permit. We will meet such requirements on a timely basis.
- C. ☐ This source is not in compliance. The following statement of corrective action is submitted to describe action which we will take to achieve compliance.
1. ☐ Attached is a brief description of the problem and the proposed solution.
2. ☐ We will achieve compliance according to the following schedule.

Progress reports will be submitted:

Starting date: NA and every six (6) months thereafter

Problem	Action	Deadline
---------	--------	----------

NA		

STATE OF MISSISSIPPI
DEPT. OF ENVIRONMENTAL QUALITY
OFFICE OF POLLUTION CONTROL
P.O. BOX 10385
JACKSON, MS 39289-0385
(601) 961-5171

APPLICATION ADDENDUM
FOR A
SYNTHETIC MINOR OPERATING PERMIT

NOTE: This addendum may be affixed to the front of the Application for Title V Air Pollution Control Permit to Operate Air Emissions Equipment. If the addendum is used, all air emission sources, pollutants, and emission rates must be included in the application. There are no insignificant or trivial activities.

A Synthetic Minor Source is defined in Regulation APC-S-2 as: Any facility which would otherwise constitute a major source under Commission Regulation APC-S-6, "Air Emissions Operating Permit Regulations for the Purposes of Title V of the Federal Clean Air Act", except that the owner or operator of the facility elects for federally enforceable emissions limitations which may include permit conditions restricting hours of operation, or type or amount of material stored, combusted or processed, or establishing more stringent air pollution control efficiency requirements to lower allowable emissions for air pollutants in the State Permit to Operate below applicability thresholds for a Title V major source.

Facility Name Kerr McGee Chemical LLC, Columbus, MS
Facility Number (If Known) 1680-00020
City: Columbus, MS
County: Lowndes

List the limitations/restrictions you are proposing to make your facility a synthetic minor source and the proposed methods of demonstrating compliance with those limitations/restrictions. If necessary, use a separate page for each Emission Point.

1. Fuel Oil with a maximum sulfur content of 0.5%.

2. Fuel Oil usage shall be limited to 216,000 gallons in any consecutive 12 month period

for the 34 MMBTU/Hr Cleaver Brooks D-6 Primary Boiler

3. Fuel Oil usage shall be monitored and documented with recordkeeping calculated daily the total fuel oil usage of the current calendar year.

R. P. Michel, Vice President

Printed/Typed Name

*Signature
Date 9-11-01

*Signature should be the same as on the application form.

STATE OF MISSISSIPPI
DEPT. OF ENVIRONMENTAL QUALITY
OFFICE OF POLLUTION CONTROL
P.O. BOX 10385
JACKSON, MS 39289-0385
(601) 961-5171

APPLICATION FOR
AIR POLLUTION CONTROL PERMIT
TO CONSTRUCT AND/OR OPERATE
AIR EMISSIONS EQUIPMENT

TYPE OF PERMIT

☐ New Source
☒ Modification
☐ Renewal of Operating Permit
☐ Existing Source Operating Permit



Name Kerr-McGee Chemical LLC
Location: City Columbus County Lowndes
Facility No. (if known) 1680-00020

APPLICATION FOR PERMIT TO CONSTRUCT
AND/OR OPERATE AIR EMISSIONS EQUIPMENT
GENERAL FORM

1. Name, Address & Contact for the Owner/Applicant

A. Name Kerr-McGee Chemical LLC

B. Mailing Address

1. Street Address or P.O. Box 2300 14th Ave & 20th Street N.

2. City Columbus

3. State Mississippi

4. Zip Code 39703

5. Telephone No. (601) 328-7551

C. Contact

1. Name Ron Murphey

2. Title Plant Manager

2. Name, Address, Location and Contact for the Facility

A. Name Kerr-McGee Chemical LLC

B. Mailing Address

1. Street Address or P.O. Box 2300 14th Ave & 20th Street N.

2. City Columbus

3. State Mississippi

4. Zip Code 39703

5. Telephone No. (601) 328-7551

C. Site Location

1. Street 2300 14th Ave & 20th Street N.

2. City Columbus

3. County Lowndes

4. State Mississippi

5. Zip Code 39703

Note: If the facility is located outside the City limits, please attach a sketch or description showing the approximate location to this application.

D. Contact

1. Name Ron Murphey

2. Title Plant Manager

3. SIC Code 2491

4. Number of Employees 85

5. Principal Process(es) Wood Preserving

6. Principal Product(s) and maximum amount produced per day 12,000 cubic feet/day

7. Principal Raw Materials and maximum amount consumed per day Creosote - 6,000 gallons/day

PLEASE COMPLETE THE FOLLOWING PAGES WHERE APPLICABLE

Signature of Applicant
Title
Vice President

Date Application Signed
Printed Name of Person Signing
R.P. Michel
4/23/98

I certify that I am familiar with the information contained in the application and that to the best of my knowledge and belief such information is true, complete, and accurate, and that, as an appropriate representative of the applicant, my signature shall constitute an agreement that the applicant assumes the responsibility for any alterations, additions or changes in operation that may be necessary to achieve and maintain compliance with all applicable Rules and Regulations.

If the applicant is a corporation, it must be signed by a corporate officer as defined in Regulation APC-S-2. If the applicant is a partnership, it must be signed by a partner with authority to bind the partnership. In the case of a governmental agency, the application must be signed by the facility manager or senior staff officer responsible for the installation's or facility's environmental compliance.

EACH APPLICATION MUST BE SIGNED BY THE APPLICANT.

13. none known
12. Please list the dates of any modifications or emissions increases since August 7, 1977.
11. If after August 7, 1977, provide the date operation began. September 15, 1998
10. If after August 7, 1977, provide the date construction commenced. June 15, 1998

9. Only if this application is for Operating Permit renewal, has the facility been modified in any way (including production rate, fuel, and/or raw material changes) during period covered by the Operating Permit? Yes No If yes, give year(s) in which modification(s) occurred and explain.

- A. Specify maximum hours per day the operation will occur: 24
- B. Specify maximum days per week the operation will occur: 7
- C. Specify maximum weeks per year the operation will occur: 52
- D. Specify the months the operation will occur: 12

8. Operating Schedule

GENERAL INFORMATION & INSTRUCTIONS

- 1) The application is designed to obtain information to allow evaluation of a number of different types of air emission facilities. If the space provided in the application is not adequate or does not fit your air emissions equipment, you may use a separate sheet(s) to provide the necessary information.
- 2) Permits will be valid only for those operations, pollutants, and pollutant emission rates identified in the application. As a minimum, the application must identify the following:

- A. All operations or equipment having air emissions. For each, specify the maximum schedule, the maximum operating rate and the expected operating rate, if different from the maximum.

- B. Emission rates (in units of the applicable emission standard as well as lbs/hr and tons/year) for each air pollutant subject to regulation under the Federal Act that can be reasonably expected to be emitted from each independent emission point. The following emission rates shall be provided in the EMISSIONS SUMMARY

SECTION:

1. Potential Uncontrolled Emissions - this emission rate is defined in Regulation APC-S-2, amended December 9, 1993.
2. Proposed Emission Rate - the maximum emission rate at which the applicant proposes to operate the emission point.

EMISSION RATE CALCULATIONS MUST BE PROVIDED.

- C. The exhaust or stack parameters for each emission source (height, velocity, diameter, and temperature) shall be provided in the EMISSIONS SUMMARY

SECTION.

**APPLICATION FOR AIR POLLUTION CONTROL PERMIT
ADDITIONAL INFORMATION REQUIRED FOR MODIFICATIONS,
EXISTING SOURCE OPERATING PERMITS,
AND/OR APPROVAL TO CONSTRUCT**

The following additional information must be submitted in duplicate. Failure to submit any of the additional information or to conform to the instructions may result in initial rejection of the application.

- 1) Design Calculations and Specifications - all data and calculations used in selecting or designing process and control equipment.

- 2) Site Drawings - the drawing(s) or sketch(es) must be to scale and show at least the following:

See title V application dated March 1995

- A. The property involved with dimensions, clearly defining restricted entry boundaries and, if different, the total property boundaries.

- B. Location and identification of all existing and/or proposed buildings, structures, and/or equipment, including points of discharge of air contaminants to the atmosphere, drawn to scale and in proper orientation.

- C. The dimensions (length, width) of all buildings, structures, and/or equipment, including emission points.

- D. The elevation of all buildings, structures, and/or equipment, including emission points, showing heights, grade baseline, and grade baseline height above mean sea level.

- E. Primary compass direction indicator.

ALL ENGINEERING PLANS AND SPECIFICATIONS MUST BEAR THE SIGNATURE, REGISTRATION NUMBER, AND SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF MISSISSIPPI.

Additional information may be required as is necessary to evaluate the design adequacy of the facility or to comply with the requirements of the Prevention of Significant Deterioration (PSD) regulations.

5) Block Flow Diagram - a drawing showing the steps of the process and the flow of materials through the process and any control devices.

4) Description of Process and Control Equipment - a written description of each process to be carried out in the facility and the function of the equipment used in the process. The descriptions must be complete and particular attention must be given to explaining all stages in the process where the discharge of any materials might contribute in any way to air pollution. Control procedures must be described in sufficient detail to show the extent of control of air contaminants anticipated in the design, specifying the expected efficiencies of the capture systems and the control devices. All obtainable data must be supplied concerning the nature, volumes, particle size, weights, chemical composition and concentrations of all types of air contaminants.

NOTE: Structural design calculations and details are not required.

A. Size and shape of equipment. Show exterior and interior dimensions and features.
B. Locations, sizes, and shape details of all features which may affect the production, collection, conveying or control of air contaminants of any kind; location, size and shape details concerning all materials handling equipment.

3) Construction Drawings (See Note Below) - an assembly drawing, dimensioned and to scale, in as many sections as are needed to show clearly the design and operation of the equipment and the means by which air contaminants are controlled. The following must be shown:

F. Location of streets and all adjacent properties. Show location of all buildings outside the property that are within 150 feet of the equipment involved in the application. Identify all such buildings (as a residence, apartment, warehouse, etc.), specifying number of stories or approximate height, and indicate the prevailing wind direction.

PART I

STACK PARAMETERS

PART II

Reference Number	Pollutant	PROPOSED EMISSION RATE	See Footnote (1)	(lbs/hr)	(TPY)	POTENTIAL UNCONTROLLED EMISSIONS	(lbs/hr)	(TPY)
------------------	-----------	------------------------	------------------	----------	-------	----------------------------------	----------	-------

- Provide emission rate in units of applicable emission standard, e.g., lb/MMBTU, gr/dscf at 12% CO₂, etc. This may not apply to every emission point or every pollutant from an emission point.

EMISSIONS SUMMARY SECTION PART III

CAS NO.	HAP	Proposed Emission Rate lbs/hr TPY	Potential Uncontrolled Emission Rate lbs/hr TPY
75070	Acetaldehyde		
60355	Acetamide		
75058	Acetonitrile		
98862	Acetophenone		
53963	Acetylaminofluorene(2)		
107028	Acrolein		
79061	Acrylamide		
79107	Acrylic Acid		
107131	Acrylonitrile		
107051	Allyl Chloride		
92671	Aminodiphenyl(4)		
62533	Aniline		
90040	Anisidine(o)		
7440360	Antimony Compounds		
7440382	Arsenic Compounds (inorganic including arsine)		
1332214	Asbestos		
71432	Benzene		
92875	Benzidine		

CAS NO.	HAP	Proposed Emission Rate lbs/hr TPY	Potential Uncontrolled Emission Rate lbs/hr TPY
98077	Benzonitrilchloride		
100447	Benzyl Chloride		
7440417	Beryllium Compounds		
192524	Biphenyl		
117817	Bis(2-ethylhexyl)phthalate (DEHP) (Diocyl Phthalate)		
542881	Bis(chloromethyl)ether		
75252	Bromoform		
106990	Butadiene(1,3)		
7440439	Cadmium Compounds		
156627	Calcium Cyanamide		
105602	Caprolactam		
133062	Capran		
63252	Carbaryl		
75150	Carbon Disulfide		
56235	Carbon Tetrachloride		
463581	Carbonyl Sulfide		
120809	Catechol		
133904	Chloramphen		
57749	Chlordane		

CAS NO.	HAP	Proposed Emission Rate lbs/hr TPY	Potential Uncontrolled Emission Rate lbs/hr TPY
7782505	Chlorine		
79118	Chloroacetic Acid		
532274	Chloroacetophenone(2)		
108907	Chlorobenzene		
510156	Chlorobenzonitrile		
67663	Chloroform		
107302	Chloromethyl methyl ether		
126998	Chloroprene (Neoprene: 2-Chloro-1,3-Butadiene)		
7440473	Chromium Compounds (IV)		
10210681	Cobalt Carbonyl (as Co)		
7440484	Cobalt Compounds (metal, dust, and fumes as Co)		
16842038	Cobalt Hydroxycarbonyl (as Co)		
65996818A	Coke Oven Emissions		
1319773	Cresols/Cresylic acid		
108394	Cresol(m)		
95487	Cresol(o)		
106445	Cresol(p)		
98828	Cumene (Isopropylbenzene)		

CAS NO.	HAP	Proposed Emission Rate lbs/hr TPY	Potential Uncontrolled Emission Rate lbs/hr TPY
1582098	Trifluralin		
540841	Trimethylpentane(2,2,4)		
75014	Vinyl Chloride		
108054	Vinyl Acetate		
593602	Vinyl Bromide		
75354	Vinylidene chloride (1,1-Dichloroethylene)		
1330207	Xylenes (mixed)		
108383	Xylene(m)		
95476	Xylene(o)		
106423	Xylene(p)		

NOTE # 1: X_nCN_n where X = H⁺ or any other group where a formal dissociation may occur, for example: KCN or Ca(CN)₂.

NOTE # 2: Includes mono- and di-ethers of ethylene glycol, diethylene glycol and triethylene glycol R-(OCH₂CH₂)_n-OR' where:

n = 1,2,3
R = alkyl or aryl groups
R' = R, H, or group which, when removed, yield glycols
ethers with the structure: R-(OCH₂CH₂)_n-OH. Polymers are excluded from the glycol category

NOTE # 3: Includes glass microfibers, glass wool fibers, rock wool fibers, and slag wool fibers, each characterized as "respirable" (fiber diameter less than 3.5 micrometers) and possessing an aspect ratio (fiber length divided by fiber diameter) greater than 3.

NOTE # 4: A type of atom which spontaneously undergoes radioactive decay.

NOTE # 5: Includes organic compounds with more than one benzene ring, and which have a boiling point greater than or equal to 100 Celsius.

CAS NO.	HAP	Proposed Emission Rate lbs/hr TPY	Potential Uncontrolled Emission Rate lbs/hr TPY
7782492	Selenium Compounds		
100425	Styrene		
96093	Styrene oxide		
1746016	Tetrachlorodibenzo-p-dioxin(2,3,7,8) (TCDD) (Dioxin)		
79345	Tetrachloroethane(1,1,2,2)		
127184	Tetrachloroethylene (Perchloroethylene)		
7550450	Titanium Tetrachloride		
108883	Toluene		
95807	Toluene diamine(2,4) (2,4-diaminotoluene)		
584849	Toluene diisocyanate(2,4)		
95534	Toluidine(o)		
8001352	Toxaphene (Chlorinated camphene)		
120821	Trichlorobenzene(1,2,4)		
79005	Trichloroethane(1,1,2)		
79016	Trichloroethylene		
95954	Trichlorophenol(2,4,5)		
88062	Trichlorophenol(2,4,6)		
121448	Triethylamine		

CAS NO.	HAP	Proposed Emission Rate lbs/hr TPY	Potential Uncontrolled Emission Rate lbs/hr TPY
---	Cyanide Compounds (NOTE # 1)		
3547044	DDE		
334883	Diazomethane		
132649	Dibenzofurans		
96128	Dibromo-3-chloropropane(1,2)		
84742	Dibutylphthalate		
106467	Dichlorobenzene(1,4)(p)		
91941	Dichlorobenzene(3,3)		
111444	Dichloroethyl ether (Bis(2-chloroethyl)ether)		
542756	Dichloropropene(1,3)		
62737	Dichlorvos		
111422	Diethanolamine		
121697	Diethyl aniline (N,N) (dimethylaniline (N,N))		
64675	Diethyl Sulfate		
119904	Dimethoxybenzidine(3,3')		
60117	4 - Dimethyl aminoazobenzene		
119937	Dimethyl benzidine (3,3')		
79447	Dimethyl carbamoyl chloride		
68122	Dimethyl formamide		

CAS NO.	HAP	Proposed Emission Rate lbs/hr TPY	Potential Uncontrolled Emission Rate lbs/hr TPY
57147	Dimethyl hydrazine(1,1)		
13113	Dimethyl phthalate		
77781	Dimethyl sulfate		
534521	Dinitro-o-cresol(4,6). and salts		
51285	Dinitrophenol(2,4)		
121142	Dinitrotoluene(2,4)		
123911	Dioxane(1,4) (1,4-diethylenedioxi)		
122667	Diphenylhydrazine(1,2)		
94757	d(2,4), salts and esters		
106898	Epichlorohydrin (Chloro-2,3-epoxypropane(1))		
106887	Epoxybutane(1,2) (1,2-Butylene oxide)		
140885	Ethyl acrylate		
100414	Ethyl benzene		
51796	Ethyl carbamate (Urethane)		
75003	Ethyl chloride (Chloroethane)		
106934	Ethylene dibromide (1,2-Dibromoethane)		
107062	Ethylene dichloride (1,2-Dichloroethane)		
107211	Ethylene glycol		

CAS NO.	HAP	Proposed Emission Rate lbs/hr TPY	Potential Uncontrolled Emission Rate lbs/hr TPY
151564	Ethylene imine (Aziridine)		
75218	Ethylene oxide		
96457	Ethylene thiourea		
75343	Ethylene dichloride (1,1-Dichloroethane)		
50000	Formaldehyde		
---	Glycol ethers (NOTE #2)		
76448	Heptachlor		
118741	Hexachlorobenzene		
87683	Hexachlorocyclopentadiene		
67721	Hexachloroethane		
822060	Hexamethylene-1,6-diisocyanate		
680319	Hexamethylphosphoramide		
110543	Hexane		
302012	Hydrazine		
7647010	Hydrochloric acid		
7664393	Hydrogen Fluoride (Hydrofluoric acid)		
123319	Hydroquinone		
78591	Isothorone		
7439921	Lead Compounds		

CAS NO.	HAP	Proposed Emission Rate lbs/hr TPY	Potential Uncontrolled Emission Rate lbs/hr TPY
58899	Lindane (all isomers)		
108316	Maleic anhydride		
7439965	Manganese Compounds		
7439976	Mercury Compounds		
67561	Methanol		
72435	Methoxychlor		
74839	Methyl bromide (Bromomethane)		
74873	Methyl chloride (Chloromethane)		
71556	Methyl chloroform (1,1,1-Trichloroethane)		
78933	Methyl ethyl ketone (2-Butanone) (MEK)		
60344	Methyl hydrazine		
74884	Methyl iodide (Iodomethane)		
108101	Methyl isobutyl ketone (Hexone)		
624839	Methyl isocyanate		
80626	Methyl methacrylate		
1634044	Methyl tert butyl ether		
101144	Methylene bis(2-chloroaniline)(4,4) (MOCA)		

CAS NO.	HAP	Proposed Emission Rate lbs/hr TPY	Potential Uncontrolled Emission Rate lbs/hr TPY
75092	Methylene chloride (Dichloromethane)		
101688	Methylene diphenyl diisocyanate (MDI)		
101779	Methylenedianiline(4,4')		
---	Mineral fibers (NOTE #3)		
91203	Naphthalene		
7440020	Nickel Compounds		
7440020	Nickel, refinery dust		
12035722	Nickel, subsulfide		
98953	Nitrobenzene		
92933	Nitrodiphenyl(4)		
100027	Nitrophenol(4)		
79469	Nitropropane(2)		
62759	Nitrosodimethylamine(N) (Dimethylnitrosamine)		
59892	Nitrosomorpholine(N)		
684935	Nitroso-N-methylurea(N)		
56382	Parathion		
82688	Pentachloronitrobenzene (Quinobenzene)		
87865	Pentachlorophenol		

CAS NO.	HAP	Proposed Emission Rate lbs/hr TPY	Potential Uncontrolled Emission Rate lbs/hr TPY
108952	Phenol		
106503	Phenylenediamine(p)		
75445	Phosgene		
7803512	Phosphine		
7723140	Phosphorus		
85449	Phthalic anhydride		
1336363	Polychlorinated biphenyls (Aroclors)		
---	Polyyclic Organic Matter (NOTE #5)		
1120714	Propane sulfone(1,3)		
57578	Propiolactone(beta)		
123386	Propionaldehyde		
114261	Propoxur (Baygon)		
78875	Propylene dichloride (1,2 dichloropropane)		
75558	Propylene imine(1,2) (2-methyl aziridine)		
75569	Propylene oxide		
91225	Quinoline		
106514	Quinone (1,4-Cyclohexadienedione)		
---	Radionuclides (including radon) (NOTE #4)		

APPLICATION SUMMARY SECTION

Indicate below which sections have been completed as part of this application. Where applicable, also indicate the number of each section completed.

Administrative Information	X
Emission Summary Section	X
Part I	X
Part II	X
Part III	X
Fuel Burning Equipment	X
Manufacturing Process Operations	X
Refuse Disposal	X
Tank Section	X
Incineration Section	X
Asphalt Plant Section	X
Concrete Plant Section	X
Air Pollution Control Devices	X
Baghouse	X
Cyclone	X
Adsorption	X
Afterburner	X
Scrubber	X
Electrostatic Precipitator	X
Other Air Pollution Control Equipment/Devices	X

II. Please list any other attachments.

Cover Letter

Tables 1 & 2

Page 1

COMPANY NAME		ADDRESS		For Agency Use Only
FACILITY NUMBER		Information for Calendar Year		
		19 ____		

[illegible]

- **Specify Units of Measure Used**

FOR ALL APPLICANTS

FUEL BURNING EQUIPMENT

(Except for Refuse Disposal)

This form has 3 pages: each is a continuation of the equipment information from the page before. Please fill in as completely as possible, listing all fuel burning equipment. Reasons should be given explaining any data not filled in.

PAGE 1

1. Fill in company name and address, plus year for which data is given (if existing facility) at top of page. Use data for most recent calendar year available.

2. Reference Number. Use an identifying number for each boiler, furnace, kiln, etc., and use the same reference number on each of the three pages to identify information for the same unit.

3. Manufacturer and Model Number. Nameplate data for boiler, furnace, kiln, etc. Waste gas flares and stationary internal combustion engines should also be included on this form.

4. Rated Capacity in Millions of BTU per hour.

5. Type of Burner Unit. Use Codes (1*) at bottom of form. If not listed put (11) and specify.

6. Usage. Type of fuel burning equipment. Use codes (2*) at bottom of form. If not listed put (5) and specify.

7. Heat Usage. Percent of heat used for process and percent for space heating.

PAGE 2

8. Reference Number. Continue reference numbers from Page 1, using same number to identify information for same unit.

9. Fuel Data

Fuel Type: Coal, Gas, #2 Oil, #6 Oil, etc.

Maximum Capacity burned per hour. Gallons, pounds, cubic feet, etc.

Specify. Average amount burned per year. Gallons, tons, million cubic feet, etc.

Specify. Heat Content of Fuel. BTU per gallon, pound, cubic foot, etc.

Specify. Average Percent Sulfur Content.

Specify. Average Percent Ash Content

(If percent sulfur and percent ash are not known, list fuel type and supplier's name at bottom of page in spaces provided so that information may be obtained.)

PAGE 3

10. Reference Number. Use same numbers as on Pages 1 and 2 to identify information for same unit.

11. Air Pollution Control Equipment.

Manufacturer and Model Number. Information from nameplate. Type. Use Table 1. Efficiency. Percent design control on pollutants and actual percent control if known.

FUEL BURNING EQUIPMENT

Page 1

1. FACILITY NAME		ADDRESS		For Agency Use Only		
Kerr McGee Chemical LLC		2300 14th Ave & 20th St. Columbus, MS 39703		N.		
FACILITY NUMBER		Information for Calendar Year		DATE		
		19 98				
2	3	4	5	6	7	
Reference Number	Manufacturer & Model Number	Rated Capacity 10 ³ BTU/hr	Type of Burner Unit (Use Code 1*)	Usage (Use Code 2*)	Most Usage	
					% Process	% Space Heat
AA-002	Cleaver Brooks CB 655-350	11.7	6/7	1	100%	0

1. BURNER CODES

1. Cyclone Furnace
2. Pulverized Coal
3. Spreader Stoker
4. Hand Fired
5. Other Stoker (Specify)
6. Multiple Purn Gas
7. Forced Draft Gas
8. Atomizing Oil (Air)
9. Atomizing Oil (Mechanical)
10. Rotary Cup Oil
11. Others (Specify)

2. USAGE CODES

1. Boiler, Steam
2. Boiler, Other (Specify)
3. Air Heating for Space Heating
4. Air Heating for Process Usage
5. Others (Specify)

Page 2

[illegible]

You must complete the appropriate page in the Air Pollution Control Devices Section.

[illegible]

MANUFACTURING PROCESS OPERATIONS

Page 1

1. Company Name and Address, plus year for which information is given (if existing facility) at top of page. Use data for most recent calendar year available.

2. Reference Number. Use an identifying number for each manufacturing process which emits matter to the air and use the same number of all three pages of this form to identify information for the same operation.

3. Process or Unit Operation Name. Identify the unit or process section for which information is given by name.

4. Rated Process Capacity. Give in tons per hour and the maximum rated capacity of the process or unit identified, wet weight.

5. Feed Input. Process rate in wet tons per hour and wet tons per year of materials fed to the operation.

6. Number of Emission Points to Air. Number of stacks, vents, etc., which emit materials to air.

7. Product Output. Product rate in wet tons per hour and wet tons per year from the operation.

Page 2

8. Reference Number. Use same number as on Page 1 of form to identify information for same process or operation.

9. Air Pollution Control Equipment Manufacturer and Model Number. Nameplate Data. Type. Use Table 1. Collection efficiency. Design and actual collection efficiency if known.

Page 2

Reference Number

Type (Use
Table 1)

Actual

You must complete the appropriate page in the Air Pollution Control Devices Section.

FOR ALL APPLICANTS
REFUSE DISPOSAL

- A. Company Name & Address plus year for which information is given if for renewal of permit, at top of page.
- B. Type Waste. Describe type of waste materials (paper, garbage, wood crates, sawdust, coal refuse, etc.).
- C. Maximum amount per day in pounds.
- D. Average amount per year in tons.
- E. Method of Disposal. Use codes at bottom of Form (1°).

[illegible]

1. Landfill on site

- DATE: 11-11-68

SECTION H

TANK SUMMARY (page 1 of 2)

1. Emission Point No./Name: _____

2. Was this tank constructed or modified after August 7, 1977? _____ yes _____ no

If yes please give date and explain _____

3. Product Stored: _____
If more than one product is stored, provide the information in 4 A-E for each product.

4. Tank Data:

A. True Vapor Pressure at storage temperature: _____
B. Reid Vapor Pressure at storage temperature: _____
C. Density of product at storage temperature: _____
D. Molecular Weight of product vapor at storage temperature: _____
E. Throughput for most recent calendar year: _____ gal/yr
F. Tank Capacity: _____ gal
G. Tank Diameter: _____ feet
H. Tank Height / Length: _____ feet
I. Average Vapor Space Height: _____ feet
J. Tank Orientation: _____
K. Type of Roof: _____
L. Is the Tank Equipped with a Vapor Recovery System? _____ Yes _____ No
M. Check the Type of Tank: _____
Fixed Roof _____
Pressure _____
Variable Vapor Space _____
Other, describe: _____
N. Check the Closest City: _____
Jackson, Ms. _____
Memphis, Tn. _____
New Orleans, La. _____
O. Check the Tank Paint Color: _____
Aluminum Specular _____
Aluminum Diffuse _____
Red _____
Other, describe: _____
P. Tank Paint Condition: _____
Good or Poor _____
Q. Check Type of Tank Loading _____
Trucks and Rail Cars _____

2. Marine Vessels _____
Submerged Loading: Ships _____
Submerged Loading: Barges _____
Submerged Loading of clean cargo tank _____
Submerged Loading : Dedicated Normal Service _____
Submerged Loading : Dedicated Vapor Balance Service _____
Splash Loading of clean cargo tank _____
Splash Loading : Dedicated Normal Service _____
Splash Loading : Dedicated Vapor Balance Service _____

SECTION H

Mechanical Shoe

With Shoe-Mounted Secondary Seal _____
With Rim-Mounted Secondary Seal _____

Primary Seal Only _____

Vapor Mounted Resilient Seal

With Rim-Mounted Secondary Seal

Double-Deck

Liquid Mounted Resilient Seal

With Rilm-Mounted Secondary Seal
Vapor Mounted Resilient Seal

With KIM-Mounted Secondary Seal of Roof Columns:

Area of Deck:

Check the Type of Tank: — Bolted with

_____ Bolted with Self-Supported Roof
_____ Welded with Self-Supported Roof

1990/91 ————— 1990/91

Breathing Loss:

LOCAL FINISHERS:

B. NORTH

ib/hr
ib/hr
ib/hr

SOLID WASTE INCINERATORS (page 1 of 1) SECTION I

1. Manufacturer's Information:
 - A. Manufacturer Name: _____
 - B. Model Number: _____
 - C. Rated Capacity (tons/hour): _____
 - D. Type and amount of Waste per year: _____
2. Was this unit constructed or modified after August 7, 1977? ☐ yes ☐ no
 If yes please give date and explain: _____
3. Type of Incinerator: _____
 Single Chamber _____
 Other, describe: _____ Multiple Chamber _____
4. Auxiliary Equipment: _____
5. Combustion Air: _____
 Natural Draft _____
 Forced Draft _____
 Other, specify: _____
 Induced Draft _____
 Starved Air _____
6. Waste Feed Method: _____
 Flue Fed _____
 Continuous Direct _____
 Chute Fed _____
 Batch Direct _____
7. Operating Schedule: _____
 Hours per Day: _____
 Days per week: _____
 From: _____ (time)
 To: _____ (time)
 Circle the applicable days: M T W T F S S
8. Percent (%) CO₂ in exit gas: _____
9. Does this emission point have air pollution control equipment? ☐ Yes ☐ No
 If Yes, please complete the applicable Air Pollution Control Data Sheet found in Section L.

SECTION J

ASPHALT PLANTS (page 1 of 2)

1. Emission Point No./Name: _____
2. Manufacturer's Name and Model No.: _____
3. Date Plant Manufactured: _____
4. Was this unit constructed or modified after August 7, 1977? ☐ yes ☐ no
If yes please give date and explain _____
5. Type of Plant: _____ Batch _____ Continuous _____ Drum _____
6. Production:
 - A. Rated capacity of dryer: _____ tons/hour
 - B. Normal maximum rate: _____ tons/hour
 - C. Annual: _____ tons
7. Dryer: Length: _____ feet Diameter: _____ feet
 8. Burner:
 - A. Manufacturer's name and Model No.: _____
 - B. Rated capacity: _____ Btu/hour
 - C. Primary fuel _____

1. Gas _____ Oil _____ Other (specify): _____
 2. Consumption:
 - a. Gas: _____ ft³/hour
 - b. Oil: _____ gal/hour
 - c. Other (specify units): _____
 3. Heat Value
 - a. Gas: _____ Btu/ft³
 - b. Oil: _____ Btu/gal
 - c. Other (specify units): _____
 4. Sulfur content: _____ % S
 5. Ash content: _____ % ash
 6. Density of fuel oil (if applicable): _____ lb/ft³
- D. Auxiliary fuel
1. Gas _____ Oil _____ Other (specify): _____
 2. Consumption:
 - a. Gas: _____ ft³/hour
 - b. Oil: _____ gal/hour
 - c. Other (specify units): _____
 3. Heat Value
 - a. Gas: _____ Btu/ft³
 - b. Oil: _____ Btu/gal
 - c. Other (specify units): _____
 4. Sulfur content: _____ % S
 5. Ash content: _____ % ash
 6. Density of fuel oil (if applicable): _____ lb/ft³

9. Does this emission point have air pollution control equipment? ☐ Yes ☐ No
If Yes, please complete the applicable Air Pollution Control Data Sheet found in Section L.

SECTION J

ASPHALT PLANTS (page 2 of 2)

10. Miscellaneous:
- A. Are the shaker screens hooded and vented to air emission control systems: Yes / No
 - B. Are the hot elevator and bins vented to the air emission control system: Yes / No
 - C. Are in-plant roads:
 - Water-sprinkled _____
 - Oiled _____
 - Paved _____
 - Other, describe: _____

11. Does this facility operate a rockcrusher? _____ Yes _____ No
- If yes, attach a diagram of the operation and list the capacity and date of construction for each crusher, screener, and conveyor.

SECTION K

CONCRETE PLANTS (page 1 of 2)

1. Emission Point No./Name: _____
2. Was this unit constructed or modified after August 7, 1977? _____ yes _____ no
If yes please give date and explain _____
3. What type of batching will be accomplished:
_____ Wet (Rotary mixing trucks)
_____ Dry (Flat bed trucks with segregated material compartments)
_____ Central Mix (Batching at plant site)
Plant Production Rate: _____ yd³/hr _____ tons/hour
5. Will the sand and aggregate be washed before delivery to your facility: _____ Yes _____ No
6. Explain the method of moving aggregate from storage piles to storage bins located above aggregate hopper: _____
7. Will water sprays be used at the following locations:
Stockpiles: _____ Yes _____ No
Aggregate Bins _____ Yes _____ No
Conveyor Transfer Points _____ Yes _____ No
8. Cement Silo Information:
A. How many cement silos will this plant use: _____
B. What is the volume of each silo: _____ yd³
C. Explain method of loading cement silo: _____
Is the silo compartmented: _____ Yes _____ No
If compartmented, what is the maximum number of cement trucks used to fill one compartment at any one time: _____
If non-compartmented, what is the maximum number of cement trucks used to fill the silo at any one time: _____
What type of dust control device will be used on the silo vent: _____
9. The cement hopper will be vented to the: _____
_____ cement silo
_____ cement silo baghouse
_____ if neither, where: _____
10. In-plant roads will be: _____
_____ paved
_____ oil-coated
_____ water sprinkled
11. Raw materials input to plant:
A. Sand _____ yd³ _____ tons/hour
B. Rock _____ yd³ _____ tons/hour
C. Cement _____ yd³ _____ tons/hour

SECTION K

CONCRETE PLANTS (page 2 of 2)

12. Will the batch drop point to the truck or central mixer be controlled to prevent dust emissions?

Yes _____
No _____

A. If a shroud with exhaust air suction is to be used, submit the following:

1. Manufacturer Name & Model No.: _____

2. Shroud area: _____

3. CFM associated with suction pick-up of dust: _____ cfm

4. Attach baghouse air pollution control form in Section L. _____

B. If other type of control device is used, explain in detail: _____

13. If your facility has an air pollution control device, please complete the applicable Air Pollution Control Data Sheet found in Section L.

AIR POLLUTION CONTROL DEVICES

SECTION 1

1. If the air pollution control device is different from the attached forms, then submit drawings, specifications, manufacturers data, etc.
2. Fill out one form for each air pollution control device and attach to the appropriate emission point description form.

BAGHOUSES

SECTION LI

1. Emission Point No. / Name : _____
2. Manufacturers Name & Model No.: _____
3. Date of construction for existing sources, or date of anticipated start-up for new sources: _____
4. Baghouse Data:
 - a) Cloth area: _____ ft²
 - b) Air to cloth ratio: _____ acfm/ft²
 - c) Type of bag: _____ Woven _____ Membrane _____ Felted _____ Other: _____
 - d) Bag material: _____
 - e) No. of bags: _____
 - f) No. of compartments: _____
 - g) Bag length: _____ ft
 - h) Bag diameter: _____ ft
 - i) Pressure drop: _____ inches H₂O
 - j) Pressure measurement device installed: _____ Yes _____ No
 - k) Air flow: _____ acfm @ _____ %
 - l) Efficiency: _____ %
 - m) Dirty air on: _____ inside _____ outside of bag
 - n) Time between bag cleaning: _____ sec., min., hrs.
 - o) Method of bag cleaning: _____ Shaking _____ Pulse Jet _____ Reverse Air _____ Other: _____
 - p) Are extra bags readily available: _____ Yes _____ No _____ How Many? _____
 - q) How is the collected dust stored, handled, disposed of? _____
5. Which process(es) does the baghouse control emissions from? _____

SECTION L2

CYCLONES

1. Emission Point No. / Name: _____
2. Manufacturer's Name and Model No.: _____
3. Date of construction for existing sources or date of anticipated start-up for new sources: _____

4. Cyclone Data: _____
 Cyclone type (if more than 1, put total number): _____
 a) _____
 Simple _____
 High Efficiency _____
 Potbellied _____
 Multiclone _____

b) Efficiency: _____ %

c) Pollutant viscosity: _____ poise

d) Flow Rate: _____ acfm

e) Pollutant size entering cyclone: _____ microns

f) Pressure drop: _____ inches H₂O

g) Baffles or Louvers (specify): _____

h) Cyclone dimensions: _____
 Inlet: _____ ft
 Outlet: _____ ft
 Body diameter: _____ ft
 Body height: _____ ft
 Cone height: _____ ft

i) Wet spray: _____

1. _____

No. of Nozzles: _____

Type of liquid used: _____

Flow rate: _____ gpm

Make-up rate: _____ gpm

% recycled: _____ %

j) Fan location: _____

1. _____

Downstream: _____

Upstream: _____

Direct emission _____
 Auxiliary Stack _____
 No cap (vertical emissions) _____
 Fixed cap (diffuse emissions) _____
 Wind respondent cap (horizontal emissions) _____

5. Which process(es) does the cyclone(s) control emissions from? _____

6. Attach a diagram of the cyclone(s) used. _____

SECTION L3

ADSORPTION

1. Emission Point No. / Name: _____
2. Manufacturer Name and Model No.: _____
3. Date of construction for existing sources or date of anticipated start-up for new sources: _____
4. Adsorption Data: _____
- a) Type of Adsorption: _____
 One-pass regenerative _____
 Recticulating _____
- b) Regenerative method: _____
 Discarded _____
 Thermal (Dry heat) _____
 Other: _____
- c) Adsorption material: _____
 Activated carbon _____
 Hydrous silicate _____
 Other: _____
- d) Efficiency: _____ %
- e) Flow Rate: _____ acfm
- f) Pressure Drop: _____ inches H₂O
- g) Inlet temperature: _____ ° F
- h) No. of compartments: _____
- i) Size of adsorbent bed: _____
 1. Length: _____ ft
 2. Width: _____ ft
 3. Height: _____ ft
 4. Diameter: _____ ft
- j) Regenerative schedule: _____
 1. Maximum time for desorption: _____ sec., min., hrs.
 2. Length of time to maximum saturation: _____ sec., min., hrs.
- k) How are emissions controlled during regeneration? _____
5. Which process(es) does the adsorber control emissions from? _____

AFTERBURNER

SECTION L4

1. Emission Point No. / Name: _____
2. Manufacturers Name and Model No.: _____
3. Date of construction for existing sources or date of anticipated start-up for new sources: _____

4. Afterburner Data:

- a) Type of afterburner: _____
 1) _____
 2) Catalytic _____
 3) Other: _____

b) Efficiency: _____ %

c) Flow Rate: _____ acfm

d) Maximum burner rating: _____ MMBtu / hr

e) Combustion chamber temperature: _____ ° F

f) Retention time: _____ seconds

g) Combustion chamber dimensions: _____
 1) Length: _____ ft
 2) Width: _____ ft
 3) Diameter: _____ ft

h) Fuel type: _____

i) If fuel oil is burned: _____ % SO₂

j) Fuel usage rate: _____ gals / hr, cfm, etc.

5. Which process(es) does the afterburner control emissions from? _____

1. Emission Point No. / Name: _____
2. Manufacturers Name and Model No.: _____
3. Date of construction for existing sources or date of anticipated start-up for new sources: _____

4. Scrubber Data:

- a) Scrubber type: _____
 Venturi _____
 Packed Tower _____
 Cyclonic _____
 Mist Eliminator _____
 Gravity Tower _____
 Condenser _____
 Impingement Plate _____
 Other: _____

b) Liquid injection rates:

- 1) Design maximum: _____ gpm @ _____ psia
- 2) Expected average: _____ gpm @ _____ psia

c) Pressure drop: _____ inches H₂O

d) Scrubbing liquid:

- 1) _____
- 2) If recycled: _____ gpm make - up rate
- 3) If water, describe settling basin: _____
- 4) Solution / Reactant systems: _____
- a) Chemical make - up: _____
- b) How is discharge handled, treated? _____

e) Gas flow:

- 1) Flow rate: _____ acfm
- 2) Inlet Temperature: _____ °F

f) Venturi Data:

- 1) Inlet Area: _____ ft²
- 2) Throat Area: _____ ft²
- 3) Throat velocity: _____ ft / sec
- 4) Fixed throat _____
- Variable throat _____

g) Packed or Plate Tower Data:

- 1) Surface Area: _____ ft²
- 2) Packing depth: _____ ft
- 3) Type of packing: _____
- 4) No. of plates: _____
- 5) Type of plates: _____

Rings _____
 Other: _____

Saddles _____

h) Demisting Data: 1) Mist eliminator filter area: _____ ft²
 2) Type: _____ Cyclone _____ Vane _____ Pad
 _____ Other: _____

i) Efficiency: _____ %

j) Are extra nozzles readily available? _____ Yes _____ No

How many? _____

k) Pressure measurement devices installed? _____ Yes _____ No

S. Which process(es) does the scrubber control emissions from? _____

ELECTROSTATIC PRECIPITATORS (Page 1 of 2) SECTION L6

1. Emission Point No. / Name: _____
2. Manufacturers Name and Model No.: _____
3. Date of construction for existing sources or date of anticipated start-up for new sources: _____

4. Precipitator Data:
 - a) Precipitator Type:

Single Stage

Two Stage

Other: _____

Low Voltage

High Voltage

Hot Side

Cold Side

- b) Efficiency: _____ %
- c) Flow rate: _____ acfm
- d) Pressure drop: _____ inches H₂O
- e) Inlet temperature: _____ ° F
- f) Total collection plate area: _____ ft²
- g) Gas viscosity: _____ poise
- h) Resistivity of pollutant: _____ ohm - cm
- i) Charging field strength: _____ volts
- j) Collecting field strength: _____ volts
- k) No. of compartments: _____
- l) No. of electrically separate fields: _____
- n) Fan is: _____ Upstream _____ Downstream of precipitator
- o) Cleaning Method:

Plate Rapping

Plate Vibrating

None

Washing

Other: _____

SECTION 16

(d

Manual

(b

(2)

(U)

AMPERAGE (mA)

VOLTAGE (KV)

FIELD NO.

5.

**OTHER AIR POLLUTION CONTROL
EQUIPMENT / DEVICES**

SECTION L7

If air pollution control equipment/device(s) are different from the previous sections descriptions or new technology, then explain below and attach manufacturers specifications including efficiency.

TABLE I

CODE NUMBERS FOR CONTROL DEVICES

00	GROUP - CONTROL BY COMBUSTION	50 GROUP - ELECTRICAL PRECIPITATORS
01	Catalytic Combustion	50 Single Stage
02	Furnace Combustion	51 Double Stage
03	Boiler Firebox	52 Precipitation
04	Steam Injection Flare	GROUP
05	Venturi Flare	60
06	Direct Flame Combustion (Afterburner)	60 Counteractant
10	GROUP - ADSORBERS	60
10	Activated Carbon - Nonregenerative	70 GROUP - SPECIAL
11	Activated Carbon - Regenerative	71 Jet Exhausters (Air Dilution)
12	Silica Gel - Nonregenerative	72 Mist Eliminators
13	Silica Gel - Regenerative	80 GROUP - Other
14	Lithium Chloride	Specify
15	Activated Alumina	
16	Activated Bauxite	
20	GROUP - ABSORBERS	
20	Sieve Plate Tower	
21	Bubble - Cap Tower	
22	Packed Tower	
	Particulate Matter -	
	Liquid Mist Control Equipment	
30	GROUP - DRY SEPARATORS & FILTERS	
30	Simple Cyclones	
31	High Efficiency Cyclones	
32	Settling Chamber	
33	Simple Filters	
34	Baghouse (Shaking)	
35	Baghouse (Reverse Jet)	
36	Dry Collector (Dynamic)	
40	GROUP - WET COLLECTORS	
40	Spray Chamber - No Baffles	
41	Spray Chamber - With Baffles	
42	Wet Cyclones - Rotoclon	
43	Wet Dynamic Precipitator	
44	Venturi Scrubber	
45	Spray Tower (Not Absorption - Scrubbers)	
46	Packed Tower (Not Absorption - Scrubbers)	
47	Condensers (Tube and Shell) air	
48	Barometric Condenser with hot wells	