West Virginia Department of Environmental Protection
Division of Air Quality

Joe Manchin III
Governor

Stephanie R. Timmermeyer
Cabinet Secretary

Permit to Operate

Pursuant to

Title V

of the Clean Air Act

Issued to:

MPM Silicones, LLC

Sistersville Facility

R30-09500001-2006

John A. Benedict
Director

Issued: December 28, 2006 • Effective: January 11, 2007
Expiration: December 28, 2011 • Renewal Application Due: June 28, 2011

Permit Number: **R30-09500001-2006**
Permittee: **MPM Silicones, LLC**
Facility Name: **Sistersville**
Mailing Address: **3500 South State Route 2, Friendly, WV 26146-9720**

This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§ 22-5-1 et seq.) and 45CSR30 — Requirements for Operating Permits. The permittee identified at the above-referenced facility is authorized to operate the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.

Facility Location: Sistersville, Tyler County, West Virginia
Mailing Address: 3500 South State Route 2, Friendly, WV 26146-9720
Telephone Number: (304) 652-8000
Type of Business Entity: L.L.C.
Facility Description: Production of approximately 1000 silicone and silane chemical products and intermediates for industrial and food grade use.
SIC Codes: 2869
UTM Coordinates: 492 km Easting • 4370 km Northing • Zone 17

Permit Writer: Jesse Hanshaw, P.E.

Any person whose interest may be affected, including, but not necessarily limited to, the applicant and any person who participated in the public comment process, by a permit issued, modified or denied by the Secretary may appeal such action of the Secretary to the Air Quality Board pursuant to article one [§§ 22B-1-1 et seq.], Chapter 22B of the Code of West Virginia. West Virginia Code §22-5-14.

Issuance of this Title V Operating Permit does not supersede or invalidate any existing permits under 45CSR13, 14 or 19, although all applicable requirements from such permits governing the facility's operation and compliance have been incorporated into the Title V Operating Permit.

Table of Contents

1.0. Emission Units and Active R13, R14, and R19 Permits 6
1.1. Emission Units 6
1.2. Active R13, R14, and R19 Permits 31
2.0. General Conditions 32
2.1. Definitions 32
2.2. Acronyms 32
2.3. Permit Expiration and Renewal 33
2.4. Permit Actions 33
2.5. Reopening for Cause 33
2.6. Administrative Permit Amendments 34
2.7. Minor Permit Modifications 34
2.8. Significant Permit Modification 34
2.9. Emissions Trading 34
2.10. Off-Permit Changes 34
2.11. Operational Flexibility 35
2.12. Reasonably Anticipated Operating Scenarios 36
2.13. Duty to Comply 36
2.14. Inspection and Entry 36
2.15. Schedule of Compliance 37
2.16. Need to Halt or Reduce Activity not a Defense 37
2.17. Emergency 37
2.18. Federally-Enforceable Requirements 38
2.19. Duty to Provide Information 38
2.20. Duty to Supplement and Correct Information 39
2.21. Permit Shield 39
2.22. Credible Evidence 39
2.23. Severability 39
2.24. Property Rights 40
2.25. Acid Deposition Control 40
3.0. Facility-Wide Requirements 41
3.1. Limitations and Standards 41
3.2. Monitoring Requirements 43
3.3. Testing Requirements 43
3.4. Recordkeeping Requirements 44
3.5. Reporting Requirements 45
3.6. Compliance Plan 47
3.7. Permit Shield 47
4.0. Source-Specific Requirements [Silanes Production] 50
4.1. Limitations and Standards 50
4.2. Monitoring Requirements 54
4.3. Testing Requirements 55
4.4. Recordkeeping Requirements 56
4.5. Reporting Requirements 58
4.6. Compliance Plan 60

5.0 Source-Specific Requirements [Specialties West (Polymers I)] 61
5.1. Limitations and Standards 61
5.2. Monitoring Requirements 63
5.3. Testing Requirements 65
5.4. Recordkeeping Requirements 65
5.5. Reporting Requirements 67
5.6. Compliance Plan 67

6.0 Source-Specific Requirements [Polymers II]…… ……68
6.1. Limitations and Standards 68
6.2. Monitoring Requirements 72
6.3. Testing Requirements 73
6.4. Recordkeeping Requirements 73
6.5. Reporting Requirements 76
6.6. Compliance Plan 76

7.0 Source-Specific Requirements [Specialties East]…….……...77
7.1. Limitations and Standards 77
7.2. Monitoring Requirements 78
7.3. Testing Requirements 79
7.4. Recordkeeping Requirements 79
7.5. Reporting Requirements 80
7.6. Compliance Plan 80

8.0 Source-Specific Requirements [Distribution]……81
8.1. Limitations and Standards 81
8.2. Monitoring Requirements 81
8.3. Testing Requirements 82
8.4. Recordkeeping Requirements 82
8.5. Reporting Requirements 83
8.6. Compliance Plan 83

9.0 Source-Specific Requirements [Environmental Protection]……84
9.1. Limitations and Standards 84
9.2. Monitoring Requirements 84
9.3. Testing Requirements 85
9.4. Recordkeeping Requirements 85
9.5. Reporting Requirements 86
9.6. Compliance Plan 86

10.0 Source-Specific Requirements [Rotary Kiln Incinerator]…….……..….87
10.1. Limitations and Standards 87
10.2. Monitoring Requirements 93
10.3. Testing Requirements 94
10.4. Recordkeeping Requirements 94
10.5. Reporting Requirements 95
10.6. Compliance Plan 95

11.0 Source-Specific Requirements [Boilers]…….…..96
11.1. Limitations and Standards 96
11.2. Monitoring Requirements 99
11.3. Testing Requirements 100
11.4. Recordkeeping Requirements 100
11.5. Reporting Requirements 101
11.6. Compliance Plan 101

ATTACHMENT A "R13-2338 Appendix A" (Parametric Monitoring Table)
ATTACHMENT B "R13-2338 Appendix C" (Monthly Opacity Recordkeeping Form)
ATTACHMENT C "R13-2338 Appendix B" (Toxic Air Pollutants Permitted)
ATTACHMENT D "R13-0952C Appendix A" (Parametric Monitoring)
ATTACHMENT E "R13-0952C Appendix B" (Toxic Air Pollutants Permitted)

1.0 Emission Units and Active R13, R14, and R19 Permits

1.1. Emission Units

(for informational purposes only, not enforceable requirements)

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device	Listed in R13 Permit Section 1.0 list
		Production Area Silanes				
		Emission Group 101 & 102				
T-1083*	1301 or 1302	Tank	1976	20,000 gal	S-196 or S-197	R13-2338
T-1118*	1301 or 1302	Tank	1977	20,000 gal	S-196 or S-197	R13-2338
T-1137*	1302	Tank	1976	<20,000 gal	S-197	R13-2338
T-1241	1001	Tank	1978	< 20,000 gal	S-137	R13-2338
T-1281	1001	Tank	1980	< 20,000 gal	S-137	R13-2338
T-833*	1302	Tank	1970	< 20,000 gal	S-197	R13-2338
H-714	NA	Heat Exchanger	--	--	NONE	R13-2338
K-65	1001 or 1302	Kettle	--	--	S-137 or S-197	R13-2338
		Emission Group 103 & 104				
C-374/501	1003	Vacuum Pump/Booster	--	--	S-174	R13-2338
C-375/502	1003	Vacuum Pump/Booster	--	--	S-174	R13-2338
E-1381	1003	Entrainment Separator	--	--	S-174	R13-2338
E-599	NA	Seal Oil Unit	--	--	NONE	R13-2338
E-601	NA	Refrigeration Unit	--	--	NONE	R13-2338
H-1169	1003	Condenser	--	--	S-174	R13-2338
H-1181	1003	Condenser	--	--	S-174	R13-2338
H-1182	1003	Pre-heater	--	--	S-174	R13-2338
H-1228*	1003,1301, or 1302	Cold Trap Condenser	--	--	S-174, S-196, or S-197	R13-2338
H-1229*	1003,1301, or 1302	Cold Trap Condenser	--	--	S-174, S-196, or S-197	R13-2338
H-501	1003	Evaporator	--	--	S-174	R13-2338
H-502	1003	Evaporator	--	--	S-174	R13-2338
H-503	1003	Condenser	--	--	S-174	R13-2338
H-504	1003	Condenser	--	--	S-174	R13-2338
H-66*	NA	Condenser	--	--	NONE	R13-2338
H-907	1003	Product Cooler	--	--	S-174	R13-2338
H-919	1003	Cold Trap	--	--	S-174	R13-2338
H-920	1003	Cold Trap	--	--	S-174	R13-2338
S-101	1003	Distillation Column	--	--	S-174	R13-2338
S-102	1003	Distillation Column	--	--	S-174	R13-2338
T-1126	1003	Tank	1976	< 20,000 gal	S-174	R13-2338
T-1127	1003	Tank	1976	< 20,000 gal	S-174	R13-2338
T-179	1522	Tank	1954	< 20,000 gal	NONE	R13-2338

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device	Listed in R13 Permit Section 1.0 list
T-22	1017	Tank	1954	< 20,000 gal	NONE	R13-2338
T-773	1003	Dumpster		< 20,000 gal	S-174	R13-2338
T-805	1003	Tank	1968	< 20,000 gal	S-174	R13-2338
T-806	1003	Tank	1968	< 20,000 gal	S-174	R13-2338
T-809	1003	Lights Tank	1968	< 20,000 gal	S-174	R13-2338
T-812	1003	Knock-out Tank	1968	< 20,000 gal	S-174	R13-2338
T-817	1003	Tank	1989	< 20,000 gal	S-174	R13-2338
T-828	1003	Waste Oil Tank	1969	< 20,000 gal	S-174	R13-2338
T-830	1515	Tank	1969	< 20,000 gal	NONE	R13-2338
T-895	1003	Dumpster	1974	< 20,000 gal	S-174	R13-2338
		Emission Group 105				
C-180	1038	Compressor	--	--	S-205, E-1353	R13-2338
C-463	1038	Compressor	--	--	S-205, E-1353	R13-2338
C-465	1038	Compressor	--	--	S-205, E-1353	R13-2338
E-1091	1028	Acetylene Generator	--	--	NONE	R13-2338
E-1277	1005	Purifier	--	--	NONE	R13-2338
E-1278	1005	Purifier	--	--	NONE	R13-2338
E-1321	1038	Surge Bottle	--	--	S-205, E-1353	R13-2338
E-1322	1038	Surge Bottle	--	--	S-205, E-1353	R13-2338
E-1323	NA	Oiler	--	--	NONE	R13-2338
E-1335	1040	Dryer	--	--	NONE	R13-2338
E-1336	1040	Dryer	--	--	NONE	R13-2338
E-1341	NA	Oiler	--	--	NONE	R13-2338
E-1353*	1038	Flare	--	--	NONE	R13-2338
E-1355	1038	Phase Separator	--	--	S-205, E-1353	R13-2338
E-1357	1038	De-gasser	--	--	S-205, E-1353	R13-2338
E-1358	1038	De-gasser	--	--	S-205, E-1353	R13-2338
E-1519	NA	Emergency Gas	--	--	NONE	R13-2338
E-1520	NA	Emergency Gas	--	--	NONE	R13-2338
E-619	1039	Dryer	--	--	NONE	R13-2338
E-620	1039	Dryer	--	--	NONE	R13-2338
E-635	1005	Purifier	--	--	NONE	R13-2338
E-636	1005	Purifier	--	--	NONE	R13-2338
E-709	1038	Phase Separator	--	--	S-205, E-1353	R13-2338
H-1155	1038	After Cooler	--	--	S-205, E-1353	R13-2338
H-1156	1038	After Cooler	--	--	S-205, E-1353	R13-2338
H-1168	NA	Jacket Condenser	--	--	NONE	R13-2338
H-1196	1038	Heat Exchanger	--	--	S-205, E-1353	R13-2338
H-1197	1038	Heat Exchanger	--	--	S-205, E-1353	R13-2338
H-1201	NA	Condenser	--	--	NONE	R13-2338
H-124	1003	Condenser	--	--	S-174	R13-2338
H-125	1003	Heat Exchanger	--	--	S-174	R13-2338
H-571	1038	After Cooler	--	--	S-205, E-1353	R13-2338

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device	Listed in R13 Permit Section 1.0 list
H-572	1038	After Cooler	--	--	S-205, E-1353	R13-2338
H-64	NA	Jacket Condenser	--	--	NONE	R13-2338
H-66*	NA	Condenser	--	--	NONE	R13-2338
R-23	NA	Reactor	--	--	NONE	R13-2338
R-70	NA	Reactor	--	--	NONE	R13-2338
S-22	1003	Distillation Column	--	--	S-174	R13-2338
T-1160	NA	Cooling Jacket Surge Tank	1975	< 20,000 gal	NONE	R13-2338
T-1210	1003	Tank		< 20,000 gal	S-174	R13-2338
T-1240*	1003	Dumpster	1977	< 20,000 gal	S-174	R13-2338
T-1640	1003	Tank	1989	< 20,000 gal	S-174	R13-2338
T-1669	NA	Cooling Jacket Surge Tank	1989	< 20,000 gal	NONE	R13-2338
T-173	1003	Tank	1954	< 20,000 gal	S-174	R13-2338
T-175	1003	Tank	1954	< 20,000 gal	S-174	R13-2338
T-178	1003	Tank	1954	< 20,000 gal	S-174	R13-2338
T-180	1003	Tank	1954	< 20,000 gal	S-174	R13-2338
T-62	1003	Tank	1954	< 20,000 gal	S-174	R13-2338
T-63	1003	Tank	1954	< 20,000 gal	S-174	R13-2338
T-65	NA	Tank	1954	< 20,000 gal	NONE	R13-2338
T-76	1003	Tank	1954	< 20,000 gal	S-174	R13-2338
T-902*	1003	Dumpster	1969	< 20,000 gal	S-174	R13-2338
T-902*	1003	Dumpster	1969	< 20,000 gal	S-174	R13-2338
T-982	1003	Dumpster	1973	< 20,000 gal	S-174	R13-2338
		Emission Group 106				
E-717	NA	Seal Oil Unit	--	--	NONE	R13-2338
K-17	1003	Reactor	--	--	S-174	R13-2338
T-100*	1003	Tank	1956	< 20,000 gal	S-174	R13-2338
T-1246	1003	Tank	1978	< 20,000 gal	S-174	R13-2338
T-1839	1003	Tank	1994	< 20,000 gal	S-174	R13-2338
T-329	1512	Tank	1954	< 20,000 gal	NONE	R13-2338
T-614	1003	Tank	1954	< 20,000 gal	S-174	R13-2338
T-953	1003	Tank	1972	< 20,000 gal	S-174	R13-2338
		Emission Group 107				
E-1067	NA	Seal Oil Unit	--	--	NONE	R13-2338
E-2339	NA	Vaporizer	--	--	NONE	R13-2338
F-458	1006	Filter	--	--	S-171	R13-2338
F-861	NA	Filter	--	--	NONE	R13-2338
F-862	NA	Filter	--	--	NONE	R13-2338
K-45	1006	Reactor	--	--	S-171	R13-2338
S-262	1006	Ammonia Stripper	--	--	S-171	R13-2338
T-1287	1513	Tank	1981	< 20,000 gal	NONE	R13-2338
T-1331	NO VENT	Tank	1950-1960	< 20,000 gal	NONE	R13-2338
T-1337	1006	Tank	1983	< 20,000 gal	S-171	R13-2338
T-304	1006	Knock-out Tank	1955	< 20,000 gal	S-171	R13-2338

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device	Listed in R13 Permit Section 1.0 list
T-475	NO VENT	Tank	1964	< 20,000 gal	NONE	R13-2338
T-575	1006	Knock-out Tank	1985	< 20,000 gal	S-171	R13-2338
T-632	1006	Tank	1966	< 20,000 gal	S-171	R13-2338
T-633	1006	Tank	1967	< 20,000 gal	S-171	R13-2338
T-681	1006	Tank	1967	< 20,000 gal	S-171	R13-2338
T-686	1006	Tank	1997	< 20,000 gal	S-171	R13-2338
		Emission Group 116				
A-420	NA	Agitator Drive	--	--	NONE	R13-2338
A-421	NA	Agitator Drive	--	--	NONE	R13-2338
C-303	1120	Steam Ejector	--	--	Esters HCl Absorption System	R13-2338
C-356	1120	Steam Ejector	--	--	Esters HCl Absorption System	R13-2338
E-2322*	1120	Thermal Oxidizer	2006	2.75 MM Btu/hr	S-270	R13-2338
E-760	1120	Phase Separator	--	--	Esters HCl Absorption System	R13-2338
E-763	1120	Phase Separator	--	--	Esters HCl Absorption System	R13-2338
E-766	1120	Phase Separator	--	--	Esters HCl Absorption System	R13-2338
E-887	NA	Safety Relief Catch Tank	--	--	NONE	R13-2338
F-367	1120	Filter	--	--	Esters HCl Absorption System	R13-2338
F-368	1120	Filter	--	--	Esters HCl Absorption System	R13-2338
F-369	1120	Filter	--	--	Esters HCl Absorption System	R13-2338
F-370	1001	Filter	--	--	S-137	R13-2338
F-371	1001	Filter	--	--	S-137	R13-2338
F-372	1120	Filter	--	--	Esters HCl Absorption System	R13-2338
F-655	1001	Filter	--	--	S-137	R13-2338
F-658	1001	Filter	--	--	S-137	R13-2338
FT-14	1001	Tank	--	--	S-137	R13-2338

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device	Listed in R13 Permit Section 1.0 list
H-1252	NA	Heat Exchanger	--	--	NONE	R13-2338
H-691	1120	Heat Exchanger	--	--	Esters HCl Absorption System	R13-2338
H-692	1120	Heat Exchanger	--	--	Esters HCl Absorption System	R13-2338
H-693	1120	Heat Exchanger	--	--	Esters HCl Absorption System	R13-2338
H-694	1120	Heat Exchanger	--	--	Esters HCl Absorption System	R13-2338
H-695	1120	Heat Exchanger	--	--	Esters HCl Absorption System	R13-2338
H-696	1120	Heat Exchanger	--	--	Esters HCl Absorption System	R13-2338
H-697	1120	Heat Exchanger	--	--	Esters HCl Absorption System	R13-2338
H-699	1001	Heat Exchanger	--	--	S-137	R13-2338
H-728	NA	Heat Exchanger	--	--	NONE	R13-2338
H-729	NA	Heat Exchanger	--	--	NONE	R13-2338
H-732	NA	Heat Exchanger	--	--	NONE	R13-2338
H-733	NA	Heat Exchanger	--	--	NONE	R13-2338
H-734	NA	Heat Exchanger	--	--	NONE	R13-2338
K-62	1001	Kettle	--	--	S-137	R13-2338
K-63	1001	Kettle	--	--	S-137	R13-2338
S-266	1120	Air Stripper	--	--	E-2322	R13-2338
T-1075	1120	Tank	1973	< 20,000 gal	Esters HCl Absorption System	R13-2338
T-1076	1120	Tank	1977	< 20,000 gal	Esters HCl Absorption System	R13-2338
T-1078	1001	Tank	1993	< 20,000 gal	S-137	R13-2338
T-1079	1001	Tank	1976	< 20,000 gal	S-137	R13-2338
T-1080	1001	Tank	1976	< 20,000 gal	S-137	R13-2338
T-1081	1001	Tank	1976	< 20,000 gal	S-137	R13-2338
T-1082	1001	Tank	1976	< 20,000 gal	S-137	R13-2338
T-1097	1001	Tank	1976	< 20,000 gal	S-137	R13-2338
T-1098	1054	Tank	1976	< 20,000 gal	NONE	R13-2338
T-1122	NA	Tank	1976	< 20,000 gal	NONE	R13-2338

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device	Listed in R13 Permit Section 1.0 list
T-1128	1001	Tank	1976	< 20,000 gal	S-137	R13-2338
T-1147	1001	Tank	1976	< 20,000 gal	S-137	R13-2338
T-1148	1001	Tank	1976	< 20,000 gal	S-137	R13-2338
T-1151	1001	Tank	1976	< 20,000 gal	S-137	R13-2338
T-1251	1053	Tank	1978	< 20,000 gal	NONE	R13-2338
T-1998	1001	Tank	2000	< 20,000 gal	S-137	R13-2338
T-2000	1001	Tank	2000	< 20,000 gal	S-137	R13-2338
T-2001	1001	Tank	2000	< 20,000 gal	S-137	R13-2338
		Emission Group 120				
H-114	1003,1301, or 1302	Condenser	--	--	S-174, S-196, or S-197	R13-2338
H-116	1003,1301, or 1302	Heat Exchanger	--	--	S-174, S-196, or S-197	R13-2338
H-122	1003,1301, or 1302	Condenser	--	--	S-174, S-196, or S-197	R13-2338
H-1228*	1003,1301, or 1302	Cold Trap Condenser	--	--	S-174, S-196, or S-197	R13-2338
H-1229*	1003,1301, or 1302	Cold Trap Condenser	--	--	S-174, S-196, or S-197	R13-2338
H-123	1003,1301, or 1302	Heat Exchanger	--	--	S-174, S-196, or S-197	R13-2338
H-1248	1003,1301, or 1302	Cold Trap Condenser	--	--	S-174, S-196, or S-197	R13-2338
S-19	1003,1301, or 1302	Distillation Column	--	--	S-174, S-196, or S-197	R13-2338
S-21	1003,1301, or 1302	Distillation Column	--	--	S-174, S-196, or S-197	R13-2338
T-80	1003,1301, or 1302	Tank	1954	< 20,000 gal	S-174, S-196, or S-197	R13-2338
		Emission Group 126				
H-1207	1003	Heat Exchanger	--	--	S-174	R13-2338
H-1208	1003	Condenser	--	--	S-174	R13-2338
S-219	1003	Distillation Column	--	--	S-174	R13-2338
T-146*	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-147*	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-148*	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-149*	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-1714	Bursting disk	Knock-out Tank for Emergency Relief Devices	1992	< 20,000 gal	NONE	R13-2338
T-192	1003	Tank	1959	< 20,000 gal	S-174	R13-2338
T-903	1003	Tank	1973	< 20,000 gal	S-174	R13-2338
		Emission Group 130				
C-432	1302	Vacuum Pump	--	--	S-197	R13-2338
C-433	1302	Vacuum Pump	--	--	S-197	R13-2338
C-434	1301	Vacuum Pump	--	--	S-196	R13-2338

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device	Listed in R13 Permit Section 1.0 list
C-435	1301	Vacuum Pump	--	--	S-196	R13-2338
C-436	1302	Blower	--	--	S-197	R13-2338
C-437	1302	Blower	--	--	S-197	R13-2338
C-555	1301	Compressor	--	--	S-196	R13-2338
C-556	1301	Compressor	--	--	S-196	R13-2338
E-1180	1302	Dryer	--	--	S-197	R13-2338
E-1181	1302	Dryer	--	--	S-197	R13-2338
E-1182	1302	Decanter	--	--	S-197	R13-2338
E-1183	NA	Reboiler	--	--	NONE	R13-2338
E-1201	1301	Dryer	--	--	S-196	R13-2338
E-1202	1301	Decanter	--	--	S-196	R13-2338
E-1203	1301	Accumulator	--	--	S-196	R13-2338
E-1223	1302	Demister	--	--	S-197	R13-2338
E-1351	1302	Water Softener	--	--	S-197	R13-2338
E-1496	1302	Water Softener	--	--	S-197	R13-2338
E-1549	1301	Refrigeration System	--	--	S-196	R13-2338
E-2208	NA	Oil Separator	--	--	NONE	R13-2338
E-2209	1301	Air Purger	--	--	S-196	R13-2338
F-801	NA	Oil Filter	--	--	NONE	R13-2338
F-802	NA	Oil Filter	--	--	NONE	R13-2338
H-1022	NA	Heat Exchanger	--	--	NONE	R13-2338
H-1077	1302	Condenser	--	--	S-197	R13-2338
H-1078	1302	Heat Exchanger	--	--	S-197	R13-2338
H-1079	1302	Heat Exchanger	--	--	S-197	R13-2338
H-1080	1302	Heat Exchanger	--	--	S-197	R13-2338
H-1081	1302	Heat Exchanger	--	--	S-197	R13-2338
H-1082	1302	Condenser	--	--	S-197	R13-2338
H-1083	1302	Condenser	--	--	S-197	R13-2338
H-1084	1301	Condenser	--	--	S-196	R13-2338
H-1085	1302	Cooler	--	--	S-197	R13-2338
H-1086	1304	Heat Transfer Fluid Cooler	--	--	NONE	R13-2338
H-1087	1304	Heat Transfer Fluid Heater	--	--	NONE	R13-2338
H-1107	1301	Condenser	--	--	S-196	R13-2338
H-1108	1301	N2 Heater	--	--	S-196	R13-2338
H-1115	NA	Heat Exchanger	--	--	NONE	R13-2338
H-1161	NA	Treatment Cooler	--	--	NONE	R13-2338
H-1276	1301	Heat Exchanger	--	--	S-196	R13-2338
H-1277	1301	Heat Exchanger	--	--	S-196	R13-2338
H-1278	1301	Heat Exchanger	--	--	S-196	R13-2338
H-1279	1301	Heat Exchanger	--	--	S-196	R13-2338
H-1462	NA	Water Chiller	--	--	NONE	R13-2338
R-63	1302	Reactor	--	--	S-197	R13-2338
R-64	1302	Reactor	--	--	S-197	R13-2338

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device	Listed in R13 Permit Section 1.0 list
R-65	1302	Reactor	--	--	S-197	R13-2338
S-193	1302	Distillation Column	--	--	S-197	R13-2338
S-194	1301	Distillation Column	--	--	S-196	R13-2338
T-1472	1302	Tank	1989	< 20,000 gal	S-197	R13-2338
T-1473	1301	Tank	1989	< 20,000 gal	S-196	R13-2338
T-1475	1304	Tank	1989	< 20,000 gal	NONE	R13-2338
T-1476	1301	Tank	1989	< 20,000 gal	S-196	R13-2338
T-1477	1302	Tank	1989	< 20,000 gal	S-197	R13-2338
T-1478	1302	Tank	1989	< 20,000 gal	S-197	R13-2338
T-1523	1302	Tank	1989	< 20,000 gal	S-197	R13-2338
T-1525	1302	Tank	1989	< 20,000 gal	S-197	R13-2338
T-1526	1301	Tank	1980	< 20,000 gal	S-196	R13-2338
T-1527	1302	Tank	1989	< 20,000 gal	S-197	R13-2338
T-1533	1303	Tank	1989	< 20,000 gal	NONE	R13-2338
T-1534	1302	Tank	1989	< 20,000 gal	S-197	R13-2338
T-1644	1302	Tank	1988	< 20,000 gal	S-197	R13-2338
T-1645	1302	Tank	1988	< 20,000 gal	S-197	R13-2338
T-1647	1301	Tank	1988	< 20,000 gal	S-196	R13-2338
T-1655	1302	Tank	1988	< 20,000 gal	S-197	R13-2338
T-1658	1306	Tank	1989	< 20,000 gal	NONE	R13-2338
T-1659	1301	Tank	1988	< 20,000 gal	S-196	R13-2338
T-1660	1301	Tank	1988	< 20,000 gal	S-196	R13-2338
T-1864	1301	Tank	1997	< 20,000 gal	S-196	R13-2338
T-1882	1301	Tank	1997	< 20,000 gal	S-196	R13-2338
T-1883	1301	Tank	1997	< 20,000 gal	S-196	R13-2338
T-1884	NA	Tank	1997	< 20,000 gal	NONE	R13-2338
T-2024	1302	Separator	--	--	S-197	R13-2338
		Emission Group 132				
E-1422	1321	Thin Film Evaporator	--	--	S-224	R13-2338
E-1424	1321	Thin Film Evaporator	--	--	S-224	R13-2338
E-1425	1321	Entrainment Separator	--	--	S-224	R13-2338
E-1438	1324	Seal Oil Circulator	--	--	NONE	R13-2338
E-1439	1321	Refrigeration Unit	--	--	S-224	R13-2338
E-1450	NA	Cooling Tower	--	--	NONE	R13-2338
E-1451	NA	Water Treatment Unit	--	--	NONE	R13-2338
F-698	1321	Filter	--	--	S-224	R13-2338
F-699	1321	Filter	--	--	S-224	R13-2338
H-1202	1321	Cold Trap	--	--	S-224	R13-2338
H-1203	1321	Condenser	--	--	S-224	R13-2338
H-1205	1321	Cold Trap	--	--	S-224	R13-2338
H-1206	1321	Cooler	--	--	S-224	R13-2338
H-1212	1321	Cooler	--	--	S-224	R13-2338
S-215	1321	Distillation Column	--	--	S-224	R13-2338

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device	Listed in R13 Permit Section 1.0 list
S-263	1321	Distillation Column	--	--	S-224	R13-2338
T-1707	1321	Tank	1992	< 20,000 gal	S-224	R13-2338
T-1708	1321	Tank	1992	< 20,000 gal	S-224	R13-2338
T-1709	1321	Tank	1992	< 20,000 gal	S-224	R13-2338
T-1740	1321	Tank	1992	< 20,000 gal	S-224	R13-2338
T-1741	1321	Tank	1992	< 20,000 gal	S-224	R13-2338
T-1742	1321	Tank	1992	< 20,000 gal	S-224	R13-2338
T-1743	1321	Tank	1992	< 20,000 gal	S-224	R13-2338
T-1744	1321	Tank	1992	< 20,000 gal	S-224	R13-2338
T-1749	1321	Tank	1992	< 20,000 gal	S-224	R13-2338
T-1750	NA	Tank	1992	< 20,000 gal	NONE	R13-2338
T-1752	NA	Tank	1992	< 20,000 gal	NONE	R13-2338
T-1754	1321	Tank	1992	< 20,000 gal	S-224	R13-2338
T-1756	1321	Tank	1992	< 20,000 gal	S-224	R13-2338
T-1768	1321	Emergency Relief Tank	1992	< 20,000 gal	S-224	R13-2338
		Emission Group 133 (Note C)				
E-1452	1120 or 1321	Cyclone	--	--	S-223 or S-224	R13-2338
E-1453	1120 or 1321	Cyclone	--	--	S-223 or S-224	R13-2338
E-1454	1120 or 1321	Cyclone	--	--	S-223 or S-224	R13-2338
E-1481	NA	Eductor	--	--	NONE	R13-2338
E-1482	NA	Eductor	--	--	NONE	R13-2338
F-704	NA	Filter	--	--	NONE	R13-2338
F-705	NA	Filter	--	--	NONE	R13-2338
H-1214	NA	Heater	--	--	NONE	R13-2338
H-1215	1120 or 1321	Condenser	--	--	S-223 or S-224	R13-2338
H-1216	1120 or 1321	Condenser	--	--	S-223 or S-224	R13-2338
H-1217	1120 or 1321	Condenser	--	--	S-223 or S-224	R13-2338
H-1218	1120 or 1321	Condenser	--	--	S-223 or S-224	R13-2338
H-1219	NA	Heat Exchanger	--	--	NONE	R13-2338
H-1220	NA	Heat Exchanger	--	--	NONE	R13-2338
H-1221	NA	Cooler	--	--	NONE	R13-2338
H-1222	NA	Heat Exchanger	--	--	NONE	R13-2338
H-1223	NA	Heat Exchanger	--	--	NONE	R13-2338
H-1224	NA	Cooler	--	--	NONE	R13-2338
H-1227	NA	Vaporizer	--	--	NONE	R13-2338
H-1445	NA	Cooler	--	--	NONE	R13-2338
H-1451	NA	Sample Cooler	--	--	NONE	R13-2338
H-1600	NA	Thermal Oxidizer Heat Exchanger	--	--	NONE	R13-2338
R-74	1120 or 1321	Reactor	--	--	S-223 or S-224	R13-2338
R-75	1120 or 1321	Reactor	--	--	S-223 or S-224	R13-2338

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device	Listed in R13 Permit Section 1.0 list
S-220	1120 or 1321	Distillation Column	--	--	S-223 or S-224	R13-2338
S-221	1120 or 1321	Distillation Column	--	--	S-223 or S-224	R13-2338
S-265	1120	Air Stripper	--	--	E-2322	R13-2338
T-1758	1321	Tank	1993	< 20,000 gal	S-224	R13-2338
T-1759	1321	Tank	1994	< 20,000 gal	S-224	R13-2338
T-1761	1321	Tank	1993	< 20,000 gal	S-224	R13-2338
T-1762	1321	Tank	1993	< 20,000 gal	S-224	R13-2338
T-1763	1321	Tank	1993	< 20,000 gal	S-224	R13-2338
T-1765	1321	Tank	1993	< 20,000 gal	S-224	R13-2338
T-1767	1321	Tank	1993	< 20,000 gal	S-224	R13-2338
T-1801	1321	Tank	1994	< 20,000 gal	S-224	R13-2338
T-1804	1321	Dumpster	1994	< 20,000 gal	S-224	R13-2338
T-1805	1321	Dumpster	1994	< 20,000 gal	S-224	R13-2338
T-1806	1321	Dumpster	1994	< 20,000 gal	S-224	R13-2338
T-1807	1321	Dumpster	1994	< 20,000 gal	S-224	R13-2338
T-1808	1321	Dumpster	1994	< 20,000 gal	S-224	R13-2338
T-1809	1321	Dumpster	1994	< 20,000 gal	S-224	R13-2338
T-2052	1120	Tank	2006	<20000	E-2322	R13-2338
T-2056	NA	Knock Out Pot	2006	<20000		R13-2338
		Emission Group 134				
C-570	1340	Steam Ejector	--	--	S-257	R13-2338
C-571	1340	Refrigeration Unit	--	--	S-257	R13-2338
C-575	1340	Vacuum Pump	--	--	S-257	R13-2338
E-2264	1340	Filter	--	--	S-257	R13-2338
E-2265	NA	Filter	--	--	NONE	R13-2338
E-2266	NA	Cooling Tower	--	--	NONE	R13-2338
E-2283	NA	Analyzer	--	--	NONE	R13-2338
E-2284	NA	Analyzer	--	--	NONE	R13-2338
E-2296	1340	Purger	--	--	S-257	R13-2338
F-859	NA	Filter	--	--	NONE	R13-2338
H-1318	1340	Vaporizer	--	--	S-257	R13-2338
H-1319	1340	Partial Condenser	--	--	S-257	R13-2338
H-1320	1341	Condenser	--	--	S-260	R13-2338
H-1321	1341	Refrigerated Condenser	--	--	S-260	R13-2338
H-1322	1341	Reboiler	--	--	S-260	R13-2338
H-1323	1341	Cooler	--	--	S-260	R13-2338
H-1324	1340	Vaporizer	--	--	S-257	R13-2338
H-1325	1340	Partial Condenser	--	--	S-257	R13-2338
H-1326	1340	Condenser	--	--	S-257	R13-2338
H-1328	1340	Reboiler	--	--	S-257	R13-2338
H-1329	1340	Cooler	--	--	S-257	R13-2338
H-1335	1340	Condenser	--	--	S-257	R13-2338
H-1336	1032 or	Cooler	--	--	S-132 or S-257	R13-2338

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device	Listed in R13 Permit Section 1.0 list
	1340					
H-1337	1015 or 1340	Cooler	--	--	S-203 or S-257	R13-2338
H-1338	1340	Heater	--	--	S-257	R13-2338
H-1339	1340	Cooler	--	--	S-257	R13-2338
H-1340	1340	Electric Heater	--	--	S-257	R13-2338
H-1341	NA	Condenser	--	--	NONE	R13-2338
H-1342	NA	Chiller	--	--	NONE	R13-2338
H-1354	1340	Heater/Cooler	--	--	S-257	R13-2338
H-1357	1340	Cooler	--	--	S-257	R13-2338
H-1367	NA	Cooler	--	--	NONE	R13-2338
M-319*	1348	Cartridge Filter	--	--	M-319	R13-2338
M-320*	1349	Baghouse	--	--	M-320	R13-2338
R-100	1340	Reactor	--	--	S-257	R13-2338
R-101	1032 or 1340	Reactor	--	--	S-132 or S-257	R13-2338
R-102	1015 or 1340	Reactor	--	--	S-203 or S-257	R13-2338
R-103	1015 or 1340	Reactor	--	--	S-203 or S-257	R13-2338
R-104	1032 or 1340	Reactor	--	--	S-132 or S-257	R13-2338
R-106	1340	Reactor	--	--	S-257	R13-2338
R-98	1340 or 1341	Reactor	--	--	S-257 or S-260	R13-2338
R-99	1340 or 1341	Reactor	--	--	S-257 or S-260	R13-2338
S-253	1341	Stripper	--	--	S-260	R13-2338
S-254	1340	Product Column	--	--	S-257	R13-2338
T-1944	1340	Tank	2000	< 20,000 gal	S-257	R13-2338
T-1945	1340	Tank	2000	< 20,000 gal	S-257	R13-2338
T-1946	1340	Tank	2000	< 20,000 gal	S-257	R13-2338
T-1947	1340	Tank	2000	< 20,000 gal	S-257	R13-2338
T-1948	1340	Tank	2000	< 20,000 gal	S-257	R13-2338
T-1950	1340	Tank	2000	< 20,000 gal	S-257	R13-2338
T-1951	1340	Tank	2000	< 20,000 gal	S-257	R13-2338
T-1952	1340	Tank	2000	< 20,000 gal	S-257	R13-2338
T-1953	1340	Tank	2000	< 20,000 gal	S-257	R13-2338
T-1954	1340	Tank	2000	< 20,000 gal	S-257	R13-2338
T-1955	1344	Tank	2000	< 20,000 gal	NONE	R13-2338
T-1956	NA	Tank	2000	< 20,000 gal	NONE	R13-2338
T-1958	NA	Tank	2000	< 20,000 gal	NONE	R13-2338
T-1959	1340	Tank	2000	< 20,000 gal	S-257	R13-2338
T-1960	1340	Tank	2000	< 20,000 gal	S-257	R13-2338

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device	Listed in R13 Permit Section 1.0 list
T-1961	1345	Tank	2000	< 20,000 gal	NONE	R13-2338
T-1962	1340	Tank	2000	< 20,000 gal	S-257	R13-2338
T-1963	NA	Tank	2000	< 20,000 gal	NONE	R13-2338
T-1964	NA	Tank	2000	< 20,000 gal	NONE	R13-2338
T-1966	1347	Tank	2000	< 20,000 gal	NONE	R13-2338
T-1993	NA	Tank	2000	< 20,000 gal	NONE	R13-2338
T-2005	1340	Tank	2000	< 20,000 gal	S-257	R13-2338
T-2014	NA	Tank	2000	< 20,000 gal	NONE	R13-2338
T-2021	1340	Tank	2000	< 20,000 gal	S-257	R13-2338
T-2022	1340	Tank	2000	< 20,000 gal	S-257	R13-2338
T-2023	1340	Tank	2000	< 20,000 gal	S-257	R13-2338
		Emission Group 149				
T-1178	NA	Dumpster	1977	< 20,000 gal	NONE	R13-2338
T-1240*	1003	Dumpster	--	--	S-174	R13-2338
T-1245	NA	Dumpster	1978	< 20,000 gal	NONE	R13-2338
		Emission Group 151				
T-1083*	1301 or 1302	Tank	1976	< 20,000 gal	S-196 or S-197	R13-2338
T-1084	1032	Tank	1976	< 20,000 gal	S-132	R13-2338
T-1085	1032	Tank	1976	< 20,000 gal	S-132	R13-2338
T-1086	1301	Tank	1976	< 20,000 gal	S-196	R13-2338
T-1087	1301	Tank	1976	< 20,000 gal	S-196	R13-2338
T-1088	1032	Tank	1976	< 20,000 gal	S-132	R13-2338
T-1089	1032	Tank	1976	< 20,000 gal	S-132	R13-2338
T-1090	1032	Tank	1976	< 20,000 gal	S-132	R13-2338
T-1091	1032	Tank	1976	< 20,000 gal	S-132	R13-2338
T-1092	1032	Tank	1976	< 20,000 gal	S-132	R13-2338
T-1093	1032	Tank	1976	20000 gal	S-132	R13-2338
T-1094	1032	Tank	1976	20000 gal	S-132	R13-2338
T-1095	1032	Tank	1976	< 20,000 gal	S-132	R13-2338
T-1096	1032	Tank	1976	< 20,000 gal	S-132	R13-2338
T-1115	1032	Tank	1976	< 20,000 gal	S-132	R13-2338
T-1116	1032	Tank	1976	< 20,000 gal	S-132	R13-2338
T-1117	1032	Tank	1976	< 20,000 gal	S-132	R13-2338
T-1118*	1301 or 1302	Tank	1977	20000 gal	S-196 or S-197	R13-2338
T-1119	1032	Tank	1976	< 20,000 gal	S-132	R13-2338
T-1120	1032	Tank	1976	20000 gal	S-132	R13-2338
T-1123	1032	Tank	1976	20000 gal	S-132	R13-2338
T-1131	1032	Tank	1976	20000 gal	S-132	R13-2338
T-1132	1032	Tank	1976	20000 gal	S-132	R13-2338
T-1134	1032	Tank	1976	20000 gal	S-132	R13-2338
T-1140	1032 Note D	Tank	1976	20000 gal	S-132 Alt. S-137	R13-2338

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device	Listed in R13 Permit Section 1.0 list
T-1141	1032 Note D	Tank	1976	20000 gal	S-132 Alt. S-137	R13-2338
T-1146	1032	Tank	1976	20000 gal	S-132	R13-2338
T-1760	1032	Tank	1993	20000 gal	S-132	R13-2338
T-1769	1032	Tank	1993	20000 gal	S-132	R13-2338
T-1770	1032	Tank	1993	20000 gal	S-132	R13-2338
		Emission Group 152				
T-100*	1003	Tank	1956	< 20,000 gal	S-174	R13-2338
T-169	1003	Tank	1954	< 20,000 gal	S-174	R13-2338
T-79	1003, 1301, or 1302	Tank	1954	< 20,000 gal	S-174, S-196, or S-197	R13-2338
T-833*	1302	Tank	1970	< 20,000 gal	S-197	R13-2338
T-914	1516	Tank	1975	< 20,000 gal	NONE	R13-2338
T-916	1517	Tank	1975	< 20,000 gal	NONE	R13-2338
T-94	1003	Tank	1954	< 20,000 gal	S-174	R13-2338
T-95	1003	Tank	1954	< 20,000 gal	S-174	R13-2338
T-96	1003	Tank	1954	< 20,000 gal	S-174	R13-2338
T-99	1003	Tank	1954	< 20,000 gal	S-174	R13-2338
		Emission Group 153				
T-1102	1015	Tank	1977	< 20,000 gal	S-203	R13-2338
T-1764	1015	Tank	1993	< 20,000 gal	S-203	R13-2338
T-589	1015	Tank	1966	< 20,000 gal	S-203	R13-2338
T-590	1015	Tank	1966	< 20,000 gal	S-203	R13-2338
T-923	1015	Tank	1975	20000 gal	S-203	R13-2338
T-924	1015	Tank	1975	20000 gal	S-203	R13-2338
		Emission Group 153P1				
T-493	1015	Tank	1966	20000 gal	S-203	R13-2338
T-494	1015	Tank	1966	20000 gal	S-203	R13-2338
T-591	1015	Tank	1966	< 20,000 gal	S-203	R13-2338
T-925	1015	Tank	1975	20000 gal	S-203	R13-2338
		Emission Group 155				
T-101	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-102	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-103	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-104	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-109	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-558	1015	Tank	1963	< 20,000 gal	S-203	R13-2338
T-926	1015	Tank	1975	20000 gal	S-203	R13-2338
T-928	NA	Tank	1975	20000 gal	NONE	R13-2338
		Emission Group 155P1				
T-105	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-106	1015	Tank	1954	< 20,000 gal	S-203	R13-2338

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device	Listed in R13 Permit Section 1.0 list
T-107	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-108	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-927	1015	Tank	1975	20000 gal	S-203	R13-2338
		Emission Group 156				
T-136	1301 or 1302	Tank	1993	< 20,000 gal	S-196 or S-197	R13-2338
T-142	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-143	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-144	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-145	NA	Tank	1954	< 20,000 gal	NONE	R13-2338
T-146*	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-147*	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-148*	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-149*	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-159	1015	Tank	1992	< 20,000 gal	S-203	R13-2338
T-161	1015	Tank	1992	< 20,000 gal	S-203	R13-2338
T-162	1015	Tank	1992	< 20,000 gal	S-203	R13-2338
T-163	1015	Tank	1992	< 20,000 gal	S-203	R13-2338
T-165	1301 or 1302	Tank	1993	< 20,000 gal	S-196 or S-197	R13-2338
T-1789	1301 or 1302	Tank	1993	< 20,000 gal	S-196 or S-197	R13-2338
T-1790	1301 or 1302	Tank	1993	< 20,000 gal	S-196 or S-197	R13-2338
T-1791	1301 or 1302	Tank	1993	< 20,000 gal	S-196 or S-197	R13-2338
T-1797	1301 or 1302	Tank	1993	< 20,000 gal	S-196 or S-197	R13-2338
T-1798	1301 or 1302	Tank	1993	< 20,000 gal	S-196 or S-197	R13-2338
		Emission Group 156P1				
T-158	1015	Tank	1992	< 20,000 gal	S-203	R13-2338
		Emission Group 157				
T-150	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-151	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-152	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-153	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-154	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-155	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-156	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-679	1524	Tank	1966	< 20,000 gal	NONE	R13-2338
T-682	1003	Tank	1966	< 20,000 gal	S-174	R13-2338
T-685	NA	Tank	1966	< 20,000 gal	NONE	R13-2338
T-801	1508	Tank	1968	< 20,000 gal	NONE	R13-2338

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device	Listed in R13 Permit Section 1.0 list
T-803	1519	Tank	1968	< 20,000 gal	NONE	R13-2338
T-804	1520	Tank	1968	< 20,000 gal	NONE	R13-2338
		Emission Group 157 P1				
T-157	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-680	1015	Tank	1966	< 20,000 gal	S-203	R13-2338
		Emission Group 159				
T-1110	1001	Tank	1976	< 20,000 gal	S-137	R13-2338
T-1111	1001	Tank	1976	< 20,000 gal	S-137	R13-2338
T-1112	1001	Tank	1977	< 20,000 gal	S-137	R13-2338
T-1137*	1302	Tank	1976	< 20,000 gal	S-197	R13-2338
T-1138	1001	Tank	1977	< 20,000 gal	S-137	R13-2338
T-1139	1001	Tank	1976	< 20,000 gal	S-137	R13-2338
S-267	1120	Esters Sump	--	--	E-2322	R13-2338
		Emission Group 252SIL				
T-1023	2511	Tank	1975	20000 gal	NONE	R13-2338
		Emission Group 431				
E-1511	4310	Cyclone	--	--	S-237	R13-2338
H-1465	NA	Reboiler	--	--	NONE	R13-2338
H-1466	NA	Reboiler	--	--	NONE	R13-2338
H-1467	NA	Product Cooler	--	--	NONE	R13-2338
H-1468	NA	Water Condenser	--	--	NONE	R13-2338
H-1469	NA	Vent Condenser	--	--	NONE	R13-2338
H-1470	NA	Water Condenser	--	--	NONE	R13-2338
H-1471	NA	Vent Condenser	--	--	NONE	R13-2338
H-1472	NA	Mixing Tee	--	--	NONE	R13-2338
H-1478	NA	Product Cooler	--	--	NONE	R13-2338
R-81	4310	Reactor	--	--	S-237	R13-2338
S-235	4310	Reactor Column	--	--	S-237	R13-2338
S-236	4310	Stripping Column	--	--	S-237	R13-2338
T-1835/T-1836	4310	Tanks	1996	< 20,000 gal	S-237	R13-2338
T-1837	NA	Tank	1995	< 20,000 gal	NONE	R13-2338
		Distribution				
	5082	Esters Drum Filler	--	--	NONE	R13-2338
		Silanes Area Control Devices				
Control Device ID	**Emission Point ID**	**Control Device Description**	**Year Installed**	**Design Capacity**	**Next Control Device in Series**	**Listed in R13 Permit Section 1.0 list**
S-137	1001	Scrubber	--	--	NONE	R13-2338
S-174	1003	Area Scrubber	--	--	NONE	R13-2338
S-171	1006	Scrubber	--	--	NONE	R13-2338
S-203	1015	Scrubber	--	--	NONE	R13-2338
S-42 (Note A)	1015	Scrubber	--	--	NONE	R13-2338
S-132	1032	Scrubber	--	--	NONE	R13-2338

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device	Listed in R13 Permit Section 1.0 list
S-205	1038	Scrubber	--	--	E-1353	R13-2338
E-1353*	1038	Flare	--	--	NONE	R13-2338
S-125, S-127, S-128, and S-145	1120 (Note B)	Esters HCl Absorption System	--	--	E-2322	R13-2338
S-223	1120 (Note B)	Water Scrubber	--	--	E-2322	R13-2338
E-2322*	1120 (Note B)	Thermal Oxidizer	2006	2.75 MM Btu/hr	S-270	R13-2338
S-270	1120 (Note B)	Caustic Scrubber	--	--	NONE	R13-2338
S-196	1301	Scrubber	--	--	NONE	R13-2338
S-197	1302	Scrubber	--	--	NONE	R13-2338
S-224	1321	Vent Scrubber	--	--	NONE	R13-2338
S-257	1340	Scrubber	--	--	NONE	R13-2338
S-260	1341	Scrubber	--	--	NONE	R13-2338
M-319*	1348	Cartridge Filter	--	--	M-319	R13-2338
M-320*	1349	Baghouse	--	--	M-320	R13-2338
S-237	4310	HCl Water Scrubber	--	--	NONE	
		Specialties West (formerly Polymers I)				
		Emission Group 201				
C-177	2001	Vacuum Jet	--	--	C-196/K-1 Sump	
C-514	2001	Fan	--	--	NONE	
F-295	2051	Vertical Filter	--	--	S-240	
H-415	2001	Condenser	--	--	C-196/K-1 Sump	
K-1	2001	Kettle	--	--	C-196/K-1 Sump	
S-166	2001	Distillation Column	--	--	C-196/K-1 Sump	
T-202	2052	Tank	1954	< 20,000 gal	NONE	
T-205	2005	Tank	1954	< 20,000 gal	C-406/K-3 Sump	
T-573	2051	Dumpster	1963	< 20,000 gal	S-240	
T-793	2001	Tank	1984	< 20,000 gal	C-196/K-1 Sump	
		Emission Group 204				
C-47	2001	Vacuum Jet	--	--	K-1 Sump	
F-16	2024	Plate & Frame Filter	--	--	NONE	
K-2	2001	Kettle	--	--	C-49/K-1 Sump	
T-1601	2001	Tank	1988	< 20,000 gal	C-49/K-1 Sump	
T-208	2024	Tank	1954	< 20,000 gal	NONE	
T-209	2024	Tank	1954	< 20,000 gal	NONE	
T-213	2005	Tank	1954	< 20,000 gal	C-406/ K-3 Sump	
		Emission Group 206				
C-115	2005	Vacuum Jet	--	--	K-3 Sump	
F-17	2054	Filter	--	--	NONE	
H-1025	2005	Condenser	--	--	C-406	

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device	Listed in R13 Permit Section 1.0 list
H-1026	2005	Condenser	--	--	C-406	
K-3	2005	Kettle	--	--	C-406/K-3 Sump	
T-1399	2005	Tank	1986	< 20,000 gal	C-406/K-3 Sump	
T-1400	2005	Tank	1986	< 20,000 gal	C-406/K-3 Sump	
T-1841	2005	Tank	1995	< 20,000 gal	C-406/K-3 Sump	
T-215	2054	Tank	1954	< 20,000 gal	NONE	
T-216	2054	Tank	1954	< 20,000 gal	NONE	
T-217	2038	Tank	1954	< 20,000 gal	NONE	
T-218	2005	Tank	1954	< 20,000 gal	C-406/K-3 Sump	
T-394	2005	Tank	1960	< 20,000 gal	C-406/K-3 Sump	
		Emission Group 207				
C-494	2005	Vacuum Jets	--	--	K-3 Sump	
E-1199	2020	Centrifuge	--	--	C-363	
K-4	2005	Kettle	--	--	C-370/K-3 Sump	
S-233	2005	Distillation Column	--	--	C-370/K-3 Sump	
T-1323	2005	Knockout Tank	1984	< 20,000 gal	C-370/K-3 Sump	
T-1531	2020	Tank	1988	< 20,000 gal	C-363	
T-1663	2521	Tank	1989	< 20,000 gal	S-240	
T-224	2020/2005	Tank	1954	< 20,000 gal	C-363 or C-406/K-3 Sump	
T-230	2020	Tank	1954	< 20,000 gal	C-363	
		Emission Group 225				
C-390	2005	Vacuum Jets	--	--	K-3 Sump	
K-5	2005	Kettle	--	--	K-3 Sump	
T-223	2005	Tank	1954	< 20,000 gal	K-3 Sump	
		Emission Group 235				
K-600	2020	Kettle	--	--	C-363	
T-482	2005	Tank	1965	< 20,000 gal	K-3 Sump	
		Emission Group 240				
C-538	2401	Vacuum Pump	--	--	C-589	R13-1649B
H-1603	NA	Condenser	--	--	NONE	R13-1649B
H-1241	NA	Reboiler	--	--	NONE	R13-1649B
H-1602	NA	Condenser	--		NONE	R13-1649B
H-1604	NA	Reboiler	--		NONE	R13-1649B
H-1605	NA	Heat Exchanger	--	--	NONE	R13-1649B
F-751	2401	Carbon Packed Bed	--	--	C-589	R13-1649B
F-755	2401	Carbon Packed Bed	--	--	C-589	R13-1649B
R-77	2401	Reactor	--	--	C-589	R13-1649B
R-78	2401	Reactor	--	--	C-589	R13-1649B
S-225	2401	Distillation Column	--	--	C-589	R13-1649B
S-271	2401	Distillation Column	--	--	C-589	R13-1649B
S-226	2401	Distillation Column	--	--	C-589	R13-1649B
		Emission Group 245				

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device	Listed in R13 Permit Section 1.0 list
C-557	2402	Vacuum Pump	--	--	NONE	
R-88	2402	Reactor	--	--	NONE	
R-89	2402	Reactor	--	--	NONE	
S-259	2402	Distillation Column	--	--	NONE	
		Emission Group 249				
C-573	NA	Compressor	--	--	NONE	
C-574	2020	Compressor	--	--	C-363	
E-2288	2020	Autopurger	--	--	C-363	
T-56	2006	Tank	1999	< 20,000 gal	NONE	
		Emission Group 252				
T-1022	2520	Tank	1975	< 20,000 gal	NONE	
T-272	2514	Tank	1954	< 20,000 gal	NONE	
T-273	2526	Tank	1954	< 20,000 gal	NONE	
T-397	2041	Tank	1960	< 20,000 gal	NONE	
T-463	2531	Tank	1954	< 20,000 gal	NONE	
T-495	2019	Tank	1965	< 20,000 gal	NONE	
T-496	2524	Tank	1965	< 20,000 gal	NONE	
T-512	2525	Tank	1965	< 20,000 gal	NONE	
T-596	2527	Tank	1966	20000 gal	NONE	
T-788	6501	Tank	1967	< 20,000 gal	NONE	
T-991*	2037	Tank	1973	< 20,000 gal	NONE	
T-991*	2037	Tank	1973	< 20,000 gal	NONE	
		Emission Group 253				
T-1191	2009	Tank	1978	20000 gal	NONE	
T-1211	2518	Tank	1978	20000 gal	NONE	
T-1212	2519	Tank	1978	20000 gal	NONE	
T-1213	2010	Tank	1978	20000 gal	NONE	R13-1649B
T-821	2011 or 2541	Tank	1969	< 20,000 gal	NONE	R13-1649B
T-822	2515	Tank	1969	< 20,000 gal	NONE	R13-1649B
T-823-B	2012/2013	Tank	1969	< 20,000 gal	NONE	R13-1649B
T-823-T	2012/2014	Tank	1969	< 20,000 gal	NONE	R13-1649B
T-824	2516	Tank	1969	20000 gal	NONE	R13-1649B
T-825	2517	Tank	1969	20000 gal	NONE	
T-997	3528	Tank	1974	20000 gal	NONE	
T-998 B	2014	Tank	1974	< 20,000 gal	NONE	
T-998 T	2015	Tank	1974	< 20,000 gal	NONE	
		Emission Group 254				
T-1171	2016	Tank	1977	< 20,000 gal	NONE	
T-449 [T-1]	2018	Tank	1954	< 20,000 gal	NONE	
T-450 [T-3]	2509	Tank	1954	< 20,000 gal	S-157	
T-53	2508	Tank	1955	< 20,000 gal	NONE	
		Emission Group 256				

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device	Listed in R13 Permit Section 1.0 list
T-210	2512	Tank	1954	< 20,000 gal	NONE	
T-297	2513	Tank	1954	< 20,000 gal	S-240	
T-298	2513	Tank	1954	< 20,000 gal	S-240	
T-577	2513	Tank	1964	< 20,000 gal	S-240	
		Emission Group 310 & 312				
C-462	3029	Vacuum Jets	--	--	NONE	
H-1116	3029	Condenser	--	--	Vacuum jet C-462	
K-56	None	Kettle	--	--	NONE	
T-1461	3029	Tank	1987	< 20,000 gal	NONE	
T-1715	2540	Dumpster	1991	< 20,000 gal	NONE	
T-546	3057	Tank	1962	< 20,000 gal	NONE	
TK-7	3028	Tank	1966	< 20,000 gal	NONE	
		Specialties West Control Devices				
Control Device ID	**Emission Point ID**	**Control Device Description**	**Year Installed**	**Design Capacity**	**Next Control Device in Series**	**Listed in R13 Permit Section 1.0 list**
C-196	2001	Scrubber	--	--	K-1 Sump	
K-1 Sump	2001	Sump	--	--	NONE	
C-49	2001	Scrubber	--	--	K-1 Sump	
C-370	2005	Scrubber	--	--	K-3 Sump	
C-406	2005	Scrubber	--	--	NONE	
K-3 Sump	2005	K-3 Sump	--	--	Sump	
C-363	2020	Scrubber	--	--	NONE	
S-240	2051	Scrubber	--	--	NONE	
C-589	2401	Scrubber	--	--	NONE	R13-1649B
S-157	2509	Scrubber	--	--	NONE	
		Production Unit Polymers II	--	--		
		Emission Group 301				
C-179	3001	Draft Jet	--	--	NONE	
K-51	3001	Kettle	--	--	NONE	
		Emission Group 306				
C-181	3012	Vacuum Pump	--	--	NONE	
E-477	3012	HVO LUWA	--	--	NONE	
K-12	3012	Kettle	--	--	NONE	
		Emission Group 307				
A-277	3020	Agitated Reactor	--	--	E-2229; S-248	
A-515	3020	Agitated Reactor	--	--	E-2229; S-248	
C-116	3020	Vacuum Pump	--	--	E-2229; S-248	
C-558	3020	Vacuum Pump	--	--	E-2229; S-248	
E-1455	3020	Coalescer	--	--	E-2229; S-248	
E-2229*	3020	Thermal Oxidizer	--	--	S-248	
E-531	3020	Wiped Film Evaporator	--	--	E-2229; S-248	
E-572	3020	Wiped Film Evaporator	--	--	E-2229; S-248	

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device	Listed in R13 Permit Section 1.0 list
H-494	3020	Heat Exchanger	--	--	E-2229; S-248	
T-1300	3020	Tank	1982	< 20,000 gal	E-2229; S-248	
T-1322	3058	Tank	1983	< 20,000 gal	NONE	
T-1726	3020	Tank	1997	< 20,000 gal	E-2229; S-248	
T-483	3051	Tank	1965	< 20,000 gal	NONE	
T-485	3052	Tank	1965	< 20,000 gal	NONE	
T-500	3054	Tank	1966	< 20,000 gal	NONE	
T-677	3059	Tank	1967	< 20,000 gal	NONE	
T-965	3060	Tank	1973	< 20,000 gal	NONE	
T-966	3061	Tank	1973	< 20,000 gal	NONE	
		Emission Group 308				
C-131	3027	Vacuum Jet	--	--	T-658	
K-83	3043 or 3026	Kettle	--	--	C-426 or NONE	
		Emission Group 313				
C-252	3033	Vacuum Jet	--	--	E-1442	
E-1104	3033 or 3030	Accumulator	--	--	E-1442 or NONE	
E-691	3033 or 3030	Entrainment Separator	--	--	E-1442 or NONE	
K-57	3033 or 3030	Kettle	--	--	E-1442 or NONE	
T-962	3070	Tank	1973	< 20,000 gal	NONE	
T-963	3071	Tank	1973	< 20,000 gal	NONE	
		Emission Group 315				
C-130	3037	Vacuum Jet	--	--	K-81 Sump	
K-81	3037 or 3034	Kettle	--	--	K-81 Sump or NONE	
T-640	3080	Tank	1966	< 20,000 gal	NONE	
T-641	3081	Tank	1966	< 20,000 gal	NONE	
		Emission Group 337				
R-32	3042	Reactor	--	--	NONE	
R-33	3042	Reactor	--	--	NONE	
T-654	3042	Tank	1966	< 20,000 gal	NONE	
		Emission Group 341				
C-422	3402	Vacuum Jet	--	--	S-192	R13-952
E-1146	NA	Decanter	--	--	NONE	R13-952
F-482	3406	Filter Press	--	--	NONE	R13-952
F-507	NA	Filter	--	--	NONE	R13-952
H-1061	NA	Heat Exchanger	--	--	NONE	R13-952
H-1062	3402	Condenser	--	--	S-192	R13-952
K-84	3402	Kettle	--	--	S-192	R13-952
LR44	3425	Loading Rack	--	--	NONE	R13-952

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device	Listed in R13 Permit Section 1.0 list
T-1436	3404	Tank	1981	< 20,000 gal	NONE	R13-952
T-1437	3405	Tank	1987	< 20,000 gal	NONE	R13-952
T-1438	3407	Tank	1987	< 20,000 gal	NONE	R13-952
		Emission Group 344				
A-632	NAp	Static Mixer	--	--	NONE	R13-1748
F-759	NAp	Bag Filter	--	--	NONE	R13-1748
F-760	NAp	Bag Filter	--	--	NONE	R13-1748
R-79	3412	Reactor	1995	--	NONE	R13-1748
R-80	3412	Carbon Bed	--	--	NONE	R13-1748
T-1447	3412	Tank	1981	< 20,000 gal	NONE	R13-1748
T-1823	NAp	Tank	1994	< 20,000 gal	NONE	R13-1748
		Emission Group 345				
C-552	3431	Vacuum Pump	--	--	NONE	
E-1554	3431	Plate Stripper	--	--	E-1281	
R-85	3431	Polyether Capper	--	--	E-1281	
R-86	3431	Anhydride Converter	--	--	E-1281	
		Emission Group 348				
E-1070	NA	LUWA	--	--	NONE	
E-1198	NA	Esters Drum Filler	--	--	NONE	
		Emission Group 352				
T-1257-B	3530	Tank	1979	21000 gal	NONE	
T-1257-T	3529	Tank	1979	23000 gal	NONE	
T-1653	3426	Tank	1981	< 20,000 gal	NONE	
T-1662	3513	Tank	1989	< 20,000 gal	NONE	
T-622	3501	Tank	1966	< 20,000 gal	NONE	
T-623	3511	Tank	1966	< 20,000 gal	NONE	
T-626	3523	Tank	1966	< 20,000 gal	NONE	
T-627	3524	Tank	1966	< 20,000 gal	NONE	
T-875	3527	Tank	1973	20000 gal	NONE	
T-967	3502	Tank	1973	20000 gal	NONE	
		Emission Group 353				
T-1236	3082	Tank	1978	20000 gal	NONE	
T-1237	3083	Tank	1978	20000 gal	NONE	
T-642	3514	Tank	1966	< 20,000 gal	NONE	
T-643	3515	Tank	1966	< 20,000 gal	NONE	
T-644	3528	Tank	1966	< 20,000 gal	NONE	
T-645	3516	Tank	1966	< 20,000 gal	NONE	
T-652	3525	Tank	1966	< 20,000 gal	NONE	
T-661	3503	Tank	1966	< 20,000 gal	NONE	
T-662	3518	Tank	1966	< 20,000 gal	NONE	
T-723	3532	Tank	1968	20000 gal	NONE	
T-725	3504	Tank	1968	20000 gal	NONE	
T-728	3526	Tank	1968	< 20,000 gal	NONE	

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device	Listed in R13 Permit Section 1.0 list
T-729	3519	Tank	1968	< 20,000 gal	NONE	
T-734	3520	Tank	1968	20000 gal	NONE	
T-735	3505	Tank	1968	< 20,000 gal	NONE	
T-755	3521	Tank	1969	20000 gal	NONE	
		Emission Group 354				
T-969	3506	Tank	1973	20000 gal	NONE	
T-970	3507	Tank	1973	20000 gal	NONE	
T-971	3508	Tank	1973	20000 gal	NONE	
T-972	3509	Tank	1973	20000 gal	NONE	
T-975	3510	Tank	1973	20000 gal	NONE	
		Emission Group 355				
T-1439	3408	Tank	1981	< 20,000 gal	NONE	R13-952
T-1449	3415	Tank	1981	< 20,000 gal	NONE	R13-952
T-1450	3416	Tank	1981	< 20,000 gal	NONE	R13-952
T-1451	3417	Tank	1981	< 20,000 gal	NONE	R13-952
T-1452	3418	Tank	1981	< 20,000 gal	NONE	R13-952
T-1453	3419	Tank	1987	50000 gal	NONE	R13-952
T-1454	3420	Tank	1987	50000 gal	NONE	R13-952
T-1455	3421	Tank	1987	50000 gal	NONE	R13-952
T-1463	3423	Tank	1981	< 20,000 gal	NONE	R13-952
T-1464	3424	Tank	1981	24000 gal	NONE	R13-952
		Emission Group 356				
T-1847	3433	Tank	1996	20000 gal	NONE	
T-1849	3435	Tank	1996	< 20,000 gal	E-1537	
T-1850	3435	Tank	1996	< 20,000 gal	E-1537	
T-1852B	3436	Tank	1996	< 20,000 gal	NONE	
T-1852T	3437	Tank	1996	< 20,000 gal	NONE	
T-1854	3438	Tank	1996	50000 gal	NONE	
		Polymers II Control Devices				
Control Device ID	**Emission Point ID**	**Control Device Description**	**Year Installed**	**Design Capacity**	**Next Control Device in Series**	**Listed in R13 Permit Section 1.0 list**
E-2229*	3020	Thermal Oxidizer	--	--	S-248	
S-248	3020	Scrubber	--	--	NONE	
K-81 Sump	3037	Sump	--	--	NONE	
E-1442	3033	Barometric Condenser/scrubber	--	--	NONE	
C-426	3043 or 3027	Scrubber	--	--	NONE or T-658	
S-192	3402	Scrubber	--	--	NONE	R13-952
E-1281	3431	Water Scrubber	--	--	NONE	
E-1537	3435	Venturi Water Scrubber	--	--	NONE	
		Production Unit Specialties East (Formerly New Product Development)				

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device	Listed in R13 Permit Section 1.0 list
		Emission Group 405				
C-67	4001	Vacuum Ejectors	--	--	NONE	
H-382	4001	Water Condenser	--	--	C-65	
H-524	4001	Brine Condenser	--	--	C-65	
K-18	4001	Reactor	--	--	C-65	
S-36	4001	Distillation Column	--	--	C-65	
T-358	4001	Tank	1957	< 20,000 gal	C-65	
T-365*	4002	Tank	1952	< 20,000 gal	S-75	
T-373	4001	Tank	1950	< 20,000 gal	C-65	
T-1693*	4002	Tank	1989	< 20,000 gal	S-75	
T-1693*	4002	Tank	1989	< 20,000 gal	S-75	
		Emission Group 409				
C-106	4004	Vacuum Ejectors	--	--	C-448	
K-19	4004	Strip receiver/feed tank	--	--	C-448	
K-36	4004	Reactor	--	--	C-448	
K-36 Sump	NA	Sump	--	--	NONE	
S-37	4004	Distillation Column	--	--	C-448	
T-1693*	4002	Tank	1989	< 20,000 gal	S-75	
T-365*	4002	Tank	1952	< 20,000 gal	S-75	
T-565	4004	Tank	1964	< 20,000 gal	C-448	
		Emission Group 412				
C-68	4006	Vacuum Ejectors	--	--	NONE	
K-21	4006	Reactor	--	--	C-80	
T-1794	4002	Tank	1993	< 20,000 gal	S-75	
T-365*	4002	Tank	1952	< 20,000 gal	S-75	
T-501	4006	Tank	1959	< 20,000 gal	C-80	
T-507	4006	Tank	1959	< 20,000 gal	C-80	
		Emission Group 415				
E-463	4008	Evaporator	--	--	S-247	
T-1676/T-1677	4008	Dumpster	1989	< 20,000 gal	S-247	
T-1889	4008	Tank	1999	< 20,000 gal	S-247	
T-370	4008	Tank	1950	< 20,000 gal	S-247	
T-683	4011	Tank	1967	< 20,000 gal	NONE	
T-789	4008	Tank	1969	< 20,000 gal	S-247	
		Emission Group 416				
C-76	4009	Vacuum Pump	--	--	NONE	
H-255	4009	Condenser	--	--	NONE	
K-13	4009	Tank		< 20,000 gal	NONE	
K-13-X	4009	Tank		< 20,000 gal	NONE	

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device	Listed in R13 Permit Section 1.0 list
		Emission Group 417				
H-1366	4320	Feed vaporizer	--	--	S-241	
K-20	4320	Kettle	--	--	S-241	
T-2018	4320	Tank	2001	< 20,000 gal	S-241	
T-502	4320	Tank	1959	< 20,000 gal	S-241	
T-800	4320	Tank	1968	< 20,000 gal	S-241	
		Emission Group 418				
C-66	4015	Vacuum Ejectors	--	--	NONE	
T-357	4015	Tank	1956	< 20,000 gal	NONE	
		Emission Group 432				
R-107	4008	Reactor	--	--	S-210	
R-93	4008	Tank	--	--	S-210	
T-1923	4008	Tank	1998	< 20,000 gal	S-210	
T-1967	4008	Tank	1998	< 20,000 gal	S-210	
		Specialties East Control Devices				
Control Device ID	**Emission Point ID**	**Control Device Description**	**Year Installed**	**Design Capacity**	**Next Control Device in Series**	**Listed in R13 Permit Section 1.0 list**
K-18 Sump	4001	K-18 Sump	--	--	C-65	
C-65	4001	Water Scrubber	--	--	NONE	
S-75	4002	Scrubber	--	--	NONE	
C-448	4004	Water Scrubber	--	--	NONE	
C-80	4006	Water Scrubber	--	--	NONE	
K-21 Sump	4006	K-21 Sump	--	--	NONE	
S-210	4008	Caustic Scrubber	--	--	NONE	
S-247	4008	Water Scrubber	--	--	NONE	
S-241	4320	Water Scrubber	--	--	NONE	
		Environmental Protection				
		Emission Group 601				
C - 339	6001	Blower	--	--	NONE	
Drum Flush Unit	6001	Drum Flush Unit	--	--	S-158	
Filter Cake Treatment	6056	Filter Cake Treatment	--	--	NONE	
Primary Clarifiers	6057	WWTU	--	--	NONE	
R-72	6004	Hydrolysis Reactor	--	--	S-209	
S-229	6011	Air Stripper	--	--	NONE	R13-1746
S-230	6012	Air Stripper	--	--	NONE	R13-1746
Settling Basin and Panic Pond	6063; 6058	WWTU	--	--	NONE	

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device	Listed in R13 Permit Section 1.0 list
T-1414	6064	Tank	1987	75000 gal	NONE	
T-1415	6065	Tank	1987	75000 gal	NONE	
UNOX Reactors	6052, 6053, 6054, 6055	WWTU	--	--	NONE	
		Emission Group 649				
E-915	6491	Diesel Generator	--	--	NONE	
P-2139	6491	Diesel Engine	--	--	NONE	
		Emission Group 651				
T-10004	6507	Tank	1973	< 20,000 gal	NONE	
T-1259	6511	Tank	1978	< 20,000 gal	NONE	
T-1650	6509	Tank	1986	< 20,000 gal	C-417	
T-768	6004	Tank	1966	< 20,000 gal	S-209	
T-769	6004	Tank	1966	< 20,000 gal	S-209	
T-872	6503	Tank	1974	< 20,000 gal	NONE	
T-873	6004	Tank	1973	< 20,000 gal	S-209	
T-874	6004	Tank	1973	< 20,000 gal	S-209	
		Emission Group 901	--	--		
C-357	9001	Induced Draft Fan	--	--	NONE	
D-1003	9001	Water Quench	--	--	Rotary Kiln scrubber System	
D-1608	9001	Stack	--	--	NONE	
T-10008	9001	Tank	--	--	Rotary Kiln scrubber System	
E-10032	9001	Kiln	--	--	Rotary Kiln scrubber System	
		Emission Group 949				
E-429	9491	Generator	--	--	NONE	
E-676	9491	Generator	--	--	NONE	
T-1319	9063	Tank		< 20,000 gal	NONE	
T-1354	9063	Tank		< 20,000 gal	NONE	
T-1355	9063	Tank	1984	< 20,000 gal	NONE	
T-1356	9063	Tank		< 20,000 gal	NONE	
T-1357	9063	Tank	1980	< 20,000 gal	NONE	
		Emission Group 950				
T-1698	9064	Tank	1990	< 20,000 gal	NONE	
T-992	9063	Tank	1973	< 20,000 gal	NONE	
		Environmental Protection Control Devices				
Control Device ID	**Emission Point ID**	**Control Device Description**	**Year Installed**	**Design Capacity**	**Next Control Device in Series**	**Listed in R13 Permit Section 1.0 list**

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device	Listed in R13 Permit Section 1.0 list
C-417	6509	Scrubber	--	--	NONE	
S - 158	6001	Scrubber	--	--	NONE	
S - 209	6004	Scrubber	--	--	NONE	
	9001	*Rotary Kiln Emission Control System*	--	--		
S-10001	9001	Packed Tower	--	--	S-10003	
S-10003	9001	Scrubber	--	--	S-10005	
S-10005	9001	Scrubber	--	--	S-162	
S-162	9001	Ionizer Wet Scrubber #1	--	--	S-163	
S-163	9001	Ionizer Wet Scrubber #2	--	--	S-164	
S-164	9001	Ionizer Wet Scrubber #3	--	--	NONE	
		Energy Systems - Emission Groups 951, 952 & 953				
#1 Boiler	9051	#1 Boiler	1955	70 MMBtu/hr	NONE	
#2 Boiler	9052	#2 Boiler	1955	70 MMBtu/hr	NONE	
#3 Boiler	9053	#3 Boiler	1964	150 MMBtu/hr	NONE	
955	9055	#5 Boiler	2009	<99MMBtu/hr	Low NO_x Burner	R13-2806

*Equipment is listed in two or more emission groups.
Note A – Scrubber S-42 is not normally used; it is available as a backup to Scrubber S-203. Scrubber S-42 vents through emission point 1015.
Note B – In the event that the thermal oxidizer is out of service, by-pass vent 1121 will be used.
Note C – Emission Group 133, CEU unit will vent to the E-2322 Thermal Oxidizer or oxidizer bypass during production of products subject to the MON MACT (40 C.F.R. 63, Subpart FFFF) Group 1 Process Vent Emission Standards, but may vent to Scrubber S-224 (Emission Point 1321) instead during production of products which are not subject to those MON standards.
Note D – Tanks 1140 and 1141 routinely vent to control device S-132, Emission Point 1032. However they may also vent to S-137, Emission Point 1001.

1.2. Active R13, R14, and R19 Permits

The underlying authority for any conditions from R13, R14, and/or R19 permits contained in this operating permit is cited using the original permit number (e.g. R13-1234). The current applicable version of such permit(s) is listed below.

Permit Number	Date of Issuance
R13-16	8/16/1973
R13-50	4/18/1974
R13-530	11/1/1979
R13-657	4/15/1982
R13-952C	6/30/2005
R13-1107	6/19/1989
R13-1649B	10/31/2006

R13-1746B	12/15/2006
R13-1748A	1/05/2006
R13-2030A	10/12/1999
R13-2180C	4/24/2009
R13-2338H	2/27/2009
R13-2806	10/5/2009

2.0. General Conditions

2.1. Definitions

2.1.1. All references to the "West Virginia Air Pollution Control Act" or the "Air Pollution Control Act" mean those provisions contained in W.Va. Code §§ 22-5-1 to 22-5-18.

2.1.2. The "Clean Air Act" means those provisions contained in 42 U.S.C. §§ 7401 to 7671q, and regulations promulgated thereunder.

2.1.3. "Secretary" means the Secretary of the Department of Environmental Protection or such other person to whom the Secretary has delegated authority or duties pursuant to W.Va. Code §§ 22-1-6 or 22-1-8 (45CSR§30-2.12.). The Director of the Division of Air Quality is the Secretary's designated representative for the purposes of this permit.

2.1.4. Unless otherwise specified in a permit condition or underlying rule or regulation, all references to a “rolling yearly total” shall mean the sum of the data, values or parameters being measured, monitored, or recorded, at any given time for the previous twelve (12) consecutive calendar months.

2.2. Acronyms

CAAA	Clean Air Act Amendments
CBI	Confidential Business Information
CEM	Continuous Emission Monitor
CES	Certified Emission Statement
C.F.R. *or* C.F.R.	Code of Federal Regulations
CO	Carbon Monoxide
C.S.R. *or* CSR	Codes of State Rules
DAQ	Division of Air Quality
DEP	Department of Environmental Protection
FOIA	Freedom of Information Act
HAP	Hazardous Air Pollutant
HON	Hazardous Organic NESHAP
HP	Horsepower
lbs/hr *or* lb/hr	Pounds per Hour
LDAR	Leak Detection and Repair
M	Thousand
MACT	Maximum Achievable Control Technology
MM	Million
MMBtu/hr *or* mmbtu/hr	Million British Thermal Units per Hour
MMCF/hr *or* mmcf/hr	Million Cubic Feet Burned per Hour
NA	Not Applicable
NAAQS	National Ambient Air Quality Standards
NESHAPS	National Emissions Standards for Hazardous Air Pollutants
NO_x	Nitrogen Oxides

NSPS	New Source Performance Standards	**TPY**	Tons per Year
PM	Particulate Matter	**TRS**	Total Reduced Sulfur
PM_{10}	Particulate Matter less than 10μm in diameter	**TSP**	Total Suspended Particulate
pph	Pounds per Hour	**USEPA**	United States Environmental Protection Agency
ppm	Parts per Million		
PSD	Prevention of Significant Deterioration	**UTM**	Universal Transverse Mercator
psi	Pounds per Square Inch	**VEE**	Visual Emissions Evaluation
SIC	Standard Industrial Classification		
SIP	State Implementation Plan	**VOC**	Volatile Organic Compounds
SO_2	Sulfur Dioxide		
TAP	Toxic Air Pollutant		

2.3. Permit Expiration and Renewal

2.3.1. Permit duration. This permit is issued for a fixed term of five (5) years and shall expire on the date specified on the cover of this permit, except as provided in 45CSR§30-6.3.b. and 45CSR§30-6.3.c.
[45CSR§30-5.1.b.]

2.3.2. A permit renewal application is timely if it is submitted at least six (6) months prior to the date of permit expiration.
[45CSR§30-4.1.a.3.]

2.3.3. Permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted consistent with 45CSR§30-6.2. and 45CSR§30-4.1.a.3.
[45CSR§30-6.3.b.]

2.3.4. If the Secretary fails to take final action to deny or approve a timely and complete permit application before the end of the term of the previous permit, the permit shall not expire until the renewal permit has been issued or denied, and any permit shield granted for the permit shall continue in effect during that time.
[45CSR§30-6.3.c.]

2.4. Permit Actions

2.4.1. This permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
[45CSR§30-5.1.f.3.]

2.5. Reopening for Cause

2.5.1. This permit shall be reopened and revised under any of the following circumstances:

a. Additional applicable requirements under the Clean Air Act or the Secretary's legislative rules become applicable to a major source with a remaining permit term of three (3) or more years. Such a reopening shall be completed not later than eighteen (18) months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 45CSR§§30-6.6.a.1.A. or B.

b. Additional requirements (including excess emissions requirements) become applicable to an affected source under Title IV of the Clean Air Act (Acid Deposition Control) or other legislative rules of the Secretary. Upon approval by U.S. EPA, excess emissions offset plans shall be incorporated into the permit.

c. The Secretary or U.S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.

d. The Secretary or U.S. EPA determines that the permit must be revised or revoked and reissued to assure compliance with the applicable requirements.

[45CSR§30-6.6.a.]

2.6. Administrative Permit Amendments

2.6.1. The permittee may request an administrative permit amendment as defined in and according to the procedures specified in 45CSR§30-6.4.
[45CSR§30-6.4.]

2.7. Minor Permit Modifications

2.7.1. The permittee may request a minor permit modification as defined in and according to the procedures specified in 45CSR§30-6.5.a.
[45CSR§30-6.5.a.]

2.8. Significant Permit Modification

2.8.1. The permittee may request a significant permit modification, in accordance with 45CSR§30-6.5.b., for permit modifications that do not qualify for minor permit modifications or as administrative amendments.
[45CSR§30-6.5.b.]

2.9. Emissions Trading

2.9.1. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in the permit and that are in accordance with all applicable requirements.
[45CSR§30-5.1.h.]

2.10. Off-Permit Changes

2.10.1. Except as provided below, a facility may make any change in its operations or emissions that is not addressed nor prohibited in its permit and which is not considered to be construction nor modification under any rule promulgated by the Secretary without obtaining an amendment or modification of its permit. Such changes shall be subject to the following requirements and restrictions:

a. The change must meet all applicable requirements and may not violate any existing permit term or condition.

b. The permittee must provide a written notice of the change to the Secretary and to U.S. EPA within two (2) business days following the date of the change. Such written notice shall describe each such change, including the date, any change in emissions, pollutants emitted, and any applicable requirement that would apply as a result of the change.

c. The change shall not qualify for the permit shield.

d. The permittee shall keep records describing all changes made at the source that result in emissions of regulated air pollutants, but not otherwise regulated under the permit, and the emissions resulting from those changes.

e. No permittee may make any change subject to any requirement under Title IV of the Clean Air Act (Acid Deposition Control) pursuant to the provisions of 45CSR§30-5.9.

f. No permittee may make any changes which would require preconstruction review under any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) pursuant to the provisions of 45CSR§30-5.9.

[45CSR§30-5.9.]

2.11. Operational Flexibility

2.11.1. The permittee may make changes within the facility as provided by § 502(b)(10) of the Clean Air Act. Such operational flexibility shall be provided in the permit in conformance with the permit application and applicable requirements. No such changes shall be a modification under any rule or any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) promulgated by the Secretary in accordance with Title I of the Clean Air Act and the change shall not result in a level of emissions exceeding the emissions allowable under the permit.
[45CSR§30-5.8]

2.11.2. Before making a change under 45CSR§30-5.8., the permittee shall provide advance written notice to the Secretary and to U.S. EPA, describing the change to be made, the date on which the change will occur, any changes in emissions, and any permit terms and conditions that are affected. The permittee shall thereafter maintain a copy of the notice with the permit, and the Secretary shall place a copy with the permit in the public file. The written notice shall be provided to the Secretary and U.S. EPA at least seven (7) days prior to the date that the change is to be made, except that this period may be shortened or eliminated as necessary for a change that must be implemented more quickly to address unanticipated conditions posing a significant health, safety, or environmental hazard. If less than seven (7) days notice is provided because of a need to respond more quickly to such unanticipated conditions, the permittee shall provide notice to the Secretary and U.S. EPA as soon as possible after learning of the need to make the change.
[45CSR§30-5.8.a.]

2.11.3. The permit shield shall not apply to changes made under 45CSR§30-5.8., except those provided for in 45CSR§30-5.8.d. However, the protection of the permit shield will continue to apply to operations and emissions that are not affected by the change, provided that the permittee complies with the terms and conditions of the permit applicable to such operations and emissions. The permit shield may be reinstated for emissions and operations affected by the change:

a. If subsequent changes cause the facility's operations and emissions to revert to those authorized in the permit and the permittee resumes compliance with the terms and conditions of the permit, or

b. If the permittee obtains final approval of a significant modification to the permit to incorporate the change in the permit.

[45CSR§30-5.8.c.]

2.11.4. "Section 502(b)(10) changes" are changes that contravene an express permit term. Such changes do not include changes that would violate applicable requirements or contravene enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.

[45CSR§30-2.39]

2.12. Reasonably Anticipated Operating Scenarios

2.12.1. The following are terms and conditions for reasonably anticipated operating scenarios identified in this permit.

a. Contemporaneously with making a change from one operating scenario to another, the permittee shall record in a log at the permitted facility a record of the scenario under which it is operating and to document the change in reports submitted pursuant to the terms of this permit and 45CSR30.

b. The permit shield shall extend to all terms and conditions under each such operating scenario; and

c. The terms and conditions of each such alternative scenario shall meet all applicable requirements and the requirements of 45CSR30.

[45CSR§30-5.1.i.]

2.13. Duty to Comply

2.13.1. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the West Virginia Code and the Clean Air Act and is grounds for enforcement action by the Secretary or USEPA; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

[45CSR§30-5.1.f.1.]

2.14. Inspection and Entry

2.14.1. The permittee shall allow any authorized representative of the Secretary, upon the presentation of credentials and other documents as may be required by law, to perform the following:

a. At all reasonable times (including all times in which the facility is in operation) enter upon the permittee's premises where a source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect at reasonable times (including all times in which the facility is in operation) any facilities, equipment (including monitoring and air pollution Control equipment), practices, or operations regulated or required under the permit;

d. Sample or monitor at reasonable times substances or parameters to determine compliance with the permit or applicable requirements or ascertain the amounts and types of air pollutants discharged.

[45CSR§30-5.3.b.]

2.15. Schedule of Compliance

2.15.1. For sources subject to a compliance schedule, certified progress reports shall be submitted consistent with the applicable schedule of compliance set forth in this permit and 45CSR§30-4.3.h., but at least every six (6) months, and no greater than once a month, and shall include the following:

a. Dates for achieving the activities, milestones, or compliance required in the schedule of compliance, and dates when such activities, milestones or compliance were achieved; and

b. An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventative or corrective measure adopted.

[45CSR§30-5.3.d.]

2.16. Need to Halt or Reduce Activity not a Defense

2.16.1. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. However, nothing in this paragraph shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in determining penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continued operations.
[45CSR§30-5.1.f.2.]

2.17. Emergency

2.17.1. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.
[45CSR§30-5.7.a.]

2.17.2. Effect of any emergency. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions of 45CSR§30-5.7.c. are met.
[45CSR§30-5.7.b.]

2.17.3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;

b. The permitted facility was at the time being properly operated;

c. During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and

d. Subject to the requirements of 45CSR§30-5.1.c.3.C.1, the permittee submitted notice of the emergency to the Secretary within one (1) working day of the time when emission limitations were exceeded due to the emergency and made a request for variance, as applicable rules provide. This notice, report, and variance request fulfills the requirement of 45CSR§30-5.1.c.3.B. This notice must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

[45CSR§30-5.7.c.]

2.17.4. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.
[45CSR§30-5.7.d.]

2.17.5. This provision is in addition to any emergency or upset provision contained in any applicable requirement.
[45CSR§30-5.7.e.]

2.18. Federally-Enforceable Requirements

2.18.1. All terms and conditions in this permit, including any provisions designed to limit a source's potential to emit and excepting those provisions that are specifically designated in the permit as "State-enforceable only", are enforceable by the Secretary, USEPA, and citizens under the Clean Air Act.
[45CSR§30-5.2.a.]

2.18.2. Those provisions specifically designated in the permit as “State-enforceable only” shall become “Federally-enforceable” requirements upon SIP approval by the USEPA.

2.19. Duty to Provide Information

2.19.1. The permittee shall furnish to the Secretary within a reasonable time any information the Secretary may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Secretary copies of records required to be kept by the permittee. For information claimed to be confidential, the permittee shall furnish such records to the Secretary along with a claim of confidentiality in accordance with 45CSR31. If confidential information is to be sent to USEPA, the permittee shall

directly provide such information to USEPA along with a claim of confidentiality in accordance with 40 C.F.R. Part 2.
[45CSR§30-5.1.f.5.]

2.20. Duty to Supplement and Correct Information

2.20.1. Upon becoming aware of a failure to submit any relevant facts or a submittal of incorrect information in any permit (renewal or revision) application, the permittee shall promptly submit to the Secretary such supplemental facts or corrected information.
[45CSR§30-4.2.]

2.21. Permit Shield

2.21.1. Compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance provided that such applicable requirements are included and are specifically identified in this permit or the Secretary has determined that other requirements specifically identified are not applicable to the source and this permit includes such a determination or a concise summary thereof.
[45CSR§30-5.6.a.]

2.21.2. Nothing in this permit shall alter or affect the following:

a. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance; or

b. The applicable requirements of the Code of West Virginia and Title IV of the Clean Air Act (Acid Deposition Control), consistent with § 408 (a) of the Clean Air Act.

c. The authority of the Administrator of U.S. EPA to require information under § 114 of the Clean Air Act or to issue emergency orders under § 303 of the Clean Air Act.
[45CSR§30-5.6.c.]

2.22. Credible Evidence

2.22.1. Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defenses otherwise available to the permittee including but not limited to any challenge to the credible evidence rule in the context of any future proceeding.
[45CSR§30-5.3.e.3.B. and 45CSR38]

2.23. Severability

2.23.1. The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid by a court of competent jurisdiction, the remaining permit terms and conditions or their application to other circumstances shall remain in full force and effect.
[45CSR§30-5.1.e.]

2.24. Property Rights

2.24.1. This permit does not convey any property rights of any sort or any exclusive privilege.
[45CSR§30-5.1.f.4]

2.25. Acid Deposition Control

2.25.1. Emissions shall not exceed any allowances that the source lawfully holds under Title IV of the Clean Air Act (Acid Deposition Control) or rules of the Secretary promulgated thereunder.

a. No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to the acid deposition control program, provided that such increases do not require a permit revision under any other applicable requirement.

b. No limit shall be placed on the number of allowances held by the source. The source may not, however, use allowances as a defense to noncompliance with any other applicable requirement.

c. Any such allowance shall be accounted for according to the procedures established in rules promulgated under Title IV of the Clean Air Act.

[45CSR§30-5.1.d.]

2.25.2. Where applicable requirements of the Clean Air Act are more stringent than any applicable requirement of regulations promulgated under Title IV of the Clean Air Act (Acid Deposition Control), both provisions shall be incorporated into the permit and shall be enforceable by the Secretary and U. S. EPA.
[45CSR§30-5.1.a.2.]

3.0. Facility-Wide Requirements

3.1. Limitations and Standards

3.1.1. **Open burning.** The open burning of refuse by any person, firm, corporation, association or public agency is prohibited except as noted in 45CSR§6-3.1.
[45CSR§6-3.1.]

3.1.2. **Open burning exemptions.** The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause, suffer, allow or permit any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible.
[45CSR§6-3.2.]

3.1.3. **Asbestos.** The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. § 61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee, owner, or operator must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 C.F.R. § 61.145(b)(3)(i). A copy of this notice is required to be sent to the USEPA, the Division of Waste Management and the Bureau for Public Health - Environmental Health.
[40 C.F.R. 61 and 45CSR15]

3.1.4. **Odor.** No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public.
[45CSR§4-3.1 State-Enforceable only.]

3.1.5. **Standby plan for reducing emissions.** When requested by the Secretary, the permittee shall prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45CSR11.
[45CSR§11-5.2]

3.1.6. **Emission inventory.** The permittee is responsible for submitting, on an annual basis, an emission inventory in accordance with the submittal requirements of the Division of Air Quality.
[W.Va. Code § 22-5-4(a)(14)]

3.1.7. **Ozone-depleting substances.** For those facilities performing maintenance, service, repair or disposal of appliances, the permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 C.F.R. Part 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:

a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the prohibitions and required practices pursuant to 40 C.F.R. §§ 82.154 and 82.156.

b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 C.F.R. § 82.158.

c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 C.F.R. § 82.161.

[40 C.F.R. 82, Subpart F]

3.1.8. **Risk Management Plan.** This stationary source, as defined in 40 C.F.R. § 68.3, is subject to Part 68. The stationary source has submitted a risk management plan (RMP) by the date specified in 40 C.F.R. Part 68.10. The source shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by 40 C.F.R. Part 70 or 71.
[40 C.F.R. 68]

3.1.9. During stack sampling pursuant to 45CSR§7-8.1, any stack serving any process source operation or air pollution control equipment on any process source operation that emits particulate matter and is subject to stack testing shall contain flow straightening devices or a vertical run of sufficient length to establish flow patterns consistent with acceptable stack sampling procedures.
[45CSR§7-4.12]

3.1.10. No person shall cause, suffer, allow, or permit any manufacturing process generating fugitive particulate matter to operate that is not equipped with a system to minimize the emissions of fugitive particulate matter. To minimize means that a particulate capture or suppression system shall be installed to ensure the lowest fugitive particulate emissions reasonably achievable.
[45CSR§7-5.1.]

3.1.11. The owner or operator of a plant shall maintain particulate matter control of the plant premises, and plant owned, leased, or controlled access roads, by paving, application of asphalt, chemical dust suppressants, or other suitable dust control measures. Good operating practices shall be implemented and when necessary dust (particulate matter) suppressants shall be applied in relation to stockpiling and general material handling to prevent dust generation (minimize particulate matter) and atmospheric entrainment.
[45CSR§7-5.2]

3.1.12. Due to unavoidable malfunction of equipment, emissions exceeding those set forth in 45CSR7 may be permitted by the Director for periods not to exceed ten (10) days upon specific application to the Director. Such application shall be made within twenty-four (24) hours of the malfunction. In cases of major equipment failure, additional time periods may be granted by the Director provided a corrective program has been submitted by the owner or operator and approved by the Director.
[45CSR§7-9.1]

3.1.13. **Benzene Waste Operations**. The permittee is subject to the Benzene Waste Operations NESHAP (40 C.F.R. Part 61, Subpart FF) because the permittee owns and operates a "chemical manufacturing plant" as defined in 40 C.F.R. §61.341. The chemical manufacturing plant does not manufacture benzene, but does use a raw material in its manufacturing operations that contains benzene as a contaminant. Total Annual Benzene (TAB) quantity is less than 1 Megagram/year (Mg/yr). Pursuant to 40 C.F.R. §61.355(a)(5), the permittee shall:

a. Comply with the following record keeping requirements specified in 40 C.F.R. §§61.356(a) and (b)(1):
   i. Maintain records of the quantity of each raw material received, by shipment that is known to contain benzene.
   ii. Maintain records of the benzene concentration in each shipment of each such raw material (either

by (1) analyzing, using an EPA-approved method, a representative sample of each shipment, or (2) using a supplier's analysis for the shipment, or (3) using the contractual specification of the maximum benzene level allowed in the raw material).

iii. Calculate the total benzene received in a calendar year in all such raw materials to demonstrate that this total is less than 1 Mg and maintain a record of this calculation.

iv. Maintain each record shall be maintained in a readily accessible location at the facility site for a period not less than 2 years from the date the information is recorded unless otherwise specified.

b. Submit to the WV DAQ, in accordance with 40 C.F.R. §61.357(b), a report that updates the information listed in paragraphs (a)(1) through (a)(3) of 40 C.F.R. §61.357 whenever there is a change in the process generating the waste stream that could cause the TAB quantity from facility waste to increase to 1 Mg/yr or more.

c. Repeat the determination of TAB quantity from facility waste, in accordance with 40 C.F.R. §61.355(a)(5)(ii), whenever there is a change in the process generating the waste that could cause the TAB quantity from facility waste to increase to 1 Mg/yr or more.
[45CSR15 and 40 C.F.R. 61, Subpart FF]

3.1.14. **New applicable requirements.** If any applicable requirement becomes effective during the term of this permit, the permittee will meet such requirements on a timely basis, or in accordance with a more detailed schedule if required by the applicable requirement.
[45CSR§30-4.3.h.1.B.]

3.1.15. **MON MACT.** The permittee shall comply with the applicable sections of the general requirements for emission limits, work practice standards and compliance requirements as specified by §63.2450.
[40 C.F.R. §63.2450, 45CSR34]

3.1.16 **MON MACT.** The permitee shall comply with the applicable general provisions of 40 C.F.R.63 Subpart A as specified by 40 C.F.R. §63.2540 and Table 12 of Subpart FFFF.
[40 C.F.R. §63.2540; 40 C.F.R. 63,Table 12 to Subpart FFFF, 45CSR34]

3.1.17 **OLD MACT.** The permittee is subject to applicable requirements for transfers in from rail cars or tank trucks as specified by section §63.2338(b)(2) and §63.2343(c).
[40 C.F.R. §63.2338(b)(2), §63.2343(c), 45CSR34]

3.1.18. **Site Remediation MACT.** In the event the Permittee conducts a site remediation that is not exempt from 40 C.F.R. 63, Subpart GGGGG pursuant to 40 C.F.R. §63.7881(b), the Permittee shall comply with the applicable requirements in Subpart GGGGG with respect to such site remediation. **[40 C.F.R. 63, Subpart GGGGG]**

3.2. Monitoring Requirements

3.2.1. No facility-wide monitoring requirements are applicable to the facility.

3.3. Testing Requirements

3.3.1. **Stack testing.** As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may

at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:

a. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63, if applicable, in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit will be revised in accordance with 45CSR§30-6.4. or 45CSR§30-6.5 as applicable.

b. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section 3.3.1.a. of this permit. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit will be revised in accordance with 45CSR§30-6.4. or 45CSR§30-6.5 as applicable.

c. All periodic tests to determine mass emission limits from or air pollutant concentrations in discharge stacks and such other tests as specified in this permit shall be conducted in accordance with an approved test protocol. Unless previously approved, such protocols shall be submitted to the Secretary in writing at least thirty (30) days prior to any testing and shall contain the information set forth by the Secretary. In addition, the permittee shall notify the Secretary at least fifteen (15) days prior to any testing so the Secretary may have the opportunity to observe such tests. This notification shall include the actual date and time during which the test will be conducted and, if appropriate, verification that the tests will fully conform to a referenced protocol previously approved by the Secretary.

[WV Code § 22-5-4(a)(15) and 45CSR13]

3.4. Recordkeeping Requirements

3.4.1. **Monitoring information.** The permittee shall keep records of monitoring information that include the following:

a. The date, place as defined in this permit and time of sampling or measurements;

b. The date(s) analyses were performed;

c. The company or entity that performed the analyses;

d. The analytical techniques or methods used;

e. The results of the analyses; and

f. The operating conditions existing at the time of sampling or measurement.

[45CSR§30-5.1.c.2.A., 45CSR13, Permit Number R13-0952, Condition 4.4.1, 45CSR13 Permit Number R13-1649, Condition 4.4.1, 45CSR13 Permit Number R13-1748, Condition 4.4.1, 45CSR13 Permit Number R13-2338, Condition 4.4.1, and 45CSR13 Permit Number R13-2806, Condition 4.3.1]

3.4.2. **Retention of records.** The permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of monitoring sample, measurement, report, application, or record creation date. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Where appropriate, records may be maintained in computerized form in lieu of the above records.
[45CSR§30-5.1.c.2.B.]

3.4.3. **Odors.** For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received, any investigation performed in response to such a complaint, and any responsive action(s) taken.
[45CSR§30-5.1.c. State-Enforceable only.]

3.4.4. **Fugitives**. The permittee shall monitor all fugitive particulate emission sources regulated by 3.1.11. to ensure that a system to minimize fugitive emissions has been installed or implemented. Records shall be maintained on site for a period of no less than five (5) years stating the types of fugitive particulate capture and/or suppression systems used, the times these systems were inoperable, and the corrective actions taken to repair these systems.
[45CSR§30-5.1.c.]

3.4.5. **Fugitives**. The permittee shall maintain records indicating the use of any dust suppressants or any other suitable dust control measures as required by 3.1.12. to be applied at the facility. These records shall be maintained on site or accessible electronically at the site for a period of no less than five (5) years.
[45CSR§30-5.1.c.]

3.4.6. **MON MACT.** The permittee shall maintain the applicable records for MON MACT compliance as specified by 40 C.F.R. §63.2525.
[40C.F.R.§63.2525, 45CSR34]

3.4.7. **OLD MACT**. The permittee shall maintain the applicable records for OLD MACT transfer racks as specified by 40 C.F.R. §63.2343(c).
[40C.F.R.§63.2343(c), 45CSR34]

3.5. Reporting Requirements

3.5.1. **Responsible official.** Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.
[45CSR§§30-4.4. *and* 5.1.c.3.D.]

3.5.2. A permittee may request confidential treatment for the submission of reporting required under 45CSR§30-5.1.c.3. pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31.
[45CSR§30-5.1.c.3.E.]

3.5.3. Except in the case of the electronic submittal requirement in 3.5.5, all notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, or mailed first class with postage prepaid to the address(es) set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

If to the DAQ:	**If to the US EPA:**
Director WVDEP Division of Air Quality 601 57th Street SE Charleston, WV 25304 Phone: 304/926-0475 FAX: 304/926-0478	Associate Director Office of Enforcement and Permits Review (3AP12) U. S. Environmental Protection Agency Region III 1650 Arch Street Philadelphia, PA 19103-2029

3.5.4. **Certified emissions statement.** The permittee shall submit a certified emissions statement and pay fees on an annual basis in accordance with the submittal requirements of the Division of Air Quality. Proof of payment of the appropriate fee shall be maintained at the site, and shall be made available for inspection by the Secretary or his/her duly authorized representative.
[45CSR§30-8.]

3.5.5. **Compliance certification.** The permittee shall certify compliance with the conditions of this permit on the forms provided by the DAQ. In addition to the annual compliance certification, the permittee may be required to submit certifications more frequently under an applicable requirement of this permit. The annual certification shall be submitted to the DAQ and USEPA on or before March 15 of each year, and shall certify compliance for the period ending December 31. The annual certification submitted to USEPA shall be forwarded by e-mail only to: R3_APD_Permits@epa.gov. The permittee shall maintain a copy of the certification on site, or accessible electronically at the site, for five (5) years from submittal of the certification.
[45CSR§30-5.3.e.]

3.5.6. **Semi-annual monitoring reports.** The permittee shall submit reports of any required monitoring on or before September 15 for the reporting period January 1 to June 30 and March 15 for the reporting period July 1 to December 31. All instances of deviation from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official consistent with 45CSR§30-4.4.
[45CSR§30-5.1.c.3.A.]

3.5.7. **Emergencies.** For reporting emergency situations, refer to Section 2.17 of this permit.

3.5.8. **Deviations.**

a. In addition to monitoring reports required by this permit, the permittee shall promptly submit supplemental reports and notices in accordance with the following:

1. Any deviation resulting from an emergency or upset condition, as defined in 45CSR§30-5.7., shall be reported by telephone or telefax within one (1) working day of the date on which the permittee becomes aware of the deviation, if the permittee desires to assert the affirmative defense in accordance with 45CSR§30-5.7. A written report of such deviation, which shall include the probable cause of such deviations, and any corrective actions or preventative measures taken, shall be submitted and certified by a responsible official within ten (10) days of the deviation.

2. Any deviation that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to the Secretary immediately by telephone or telefax. A written report of such deviation, which shall include the probable cause of such deviation, and any corrective actions or preventative measures taken, shall be submitted by the responsible official within ten (10) days of the deviation.

3. Deviations for which more frequent reporting is required under this permit shall be reported on the more frequent basis.

4. All reports of deviations shall identify the probable cause of the deviation and any corrective actions or preventative measures taken.
[45CSR§30-5.1.c.3.C.]

b. The permittee shall, in the reporting of deviations from permit requirements, including those attributable to upset conditions as defined in this permit, report the probable cause of such deviations and any corrective actions or preventive measures taken in accordance with any rules of the Secretary.
[45CSR§30-5.1.c.3.B.]

3.5.9. **MON MACT.** The permittee shall comply with the applicable notification requirements of the MON (40 C.F.R. §63, Subpart FFFF) in accordance with 40 C.F.R. §63.2515.
[40 C.F.R. §63.2515]

3.5.10. **MON MACT.** The permittee shall comply with the applicable reporting requirement of the MON (40 C.F.R. §63, Subpart FFFF) in accordance with 40 C.F.R. §63.2520.
[40 C.F.R. §63.2520]

3.6. Compliance Plan

3.6.1. None

3.7. Permit Shield

3.7.1. The permittee is hereby granted a permit shield in accordance with 45CSR§30-5.6. The permit shield applies provided the permittee operates in accordance with the information contained within this permit.

3.7.2. The following requirements specifically identified are not applicable to the source based on the determinations set forth below. The permit shield shall apply to the following requirements provided the conditions of the determinations are met.

40 C.F.R. §§60.1 – 60.19 NSPS Subpart A	NSPS General Provisions – is not applicable as the facility is not subject to any NSPS standards.
40 C.F.R. §§60.40-60.48 NSPS Subpart D (August 17, 1971)	Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction Is Commenced After 8/17/71. Boilers #1 & #2 started up Sept. 1955, #3 in Dec. 1964; Current capacities are essentially as built; maintenance & capital work on boilers have been routine maintenance, repair & replacement, and not "modifications"
40 C.F.R. §§60.40b-60.49b NSPS Subpart Db (June 19, 1984)	Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units. Boiler #3 (150 MM Btu/hr) started up in Dec. 1964; Current capacities are essentially as built; maintenance & capital work on boilers have been routine maintenance, repair & replacement, and not "modifications"
40 C.F.R. §§60.110-113 NSPS Subpart K (June 11, 1973)	Standards of Performance for Storage Vessels for Petroleum Liquids For Which Construction, Reconstruction, or Modification Commenced after June 11, 1973 and prior to May 19, 1978. Petroleum liquid storage vessels have capacities less than 40,000 gallons.
40 C.F.R. §§60.110a-115a NSPS Subpart Ka (May 19, 1978)	Standards of Performance for Storage Vessels for Petroleum Liquids For Which Construction, Reconstruction, or Modification Commenced after May 18, 1978 and prior to July 23, 1984. Petroleum liquid storage vessels have capacities less than 40,000 gallons.
40 C.F.R. §§60.110b-60.117b NSPS Subpart Kb (July 23, 1984)	All tanks were found not to be subject to NSPS Kb since all: 1) Were built before July 23, 1984, and no physical modifications or reconstructions were performed since July 23, 1984 and/or 2) Are of capacity less than 19,813 gallons and/or 3) Are of a capacity greater than 39,890 gallons, and have a maximum true vapor pressure of 0.51 psia or less and/or 4) Are of a capacity between 19,818 gallons and 39,890 gallons and have a maximum true vapor pressure of 2.2 psia or less.
40 C.F.R. §§60.150-60.156 NSPS Subpart O	Standards of Performance for Sewage Treatment Plants. The Permittee does not operate a municipal treatment plant.
40 C.F.R. §§60.610-60.618 NSPS Subpart III (October 21, 1983)	Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Process. This facility does not produce any of the listed chemicals as a product, co-product, by-product, or intermediate.
40 C.F.R. §§60.700-60.708 NSPS Subpart RRR (6/29/1990)	Standards of Performance for Volatile Organic Compound Emissions form Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes. This facility does not produce any of the listed chemicals as a product, co-product, by-product, or intermediate.
40 C.F.R. §§ 60-480-60.489 NSPS Subpart VV (1/5/1981)	Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry. This facility does not produce final or intermediate products as defined in §§ 60.489.

40 C.F.R. §§ 63.100-63.107 Subpart F	National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry is not applicable to the facility. The facility does not produce any of the listed chemicals as a primary product.
40 C.F.R. §§ 63.110-63.153 Subpart G	National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Tanks, Transfer Operations, and Wastewater is not applicable to the facility. The facility does not produce any of the listed chemicals as a primary product.
40 C.F.R. §§63.160-63.183 Subpart H	National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Equipment Leaks is not applicable to the facility. The facility does not produce any of the listed chemicals as a primary product.
40 C.F.R.§§63.40-63.44 Subpart B	Requirements for Control Technology Determinations for Major Sources in Accordance with Clean Air Act Sections, Sections 112 (g) and 112(j) is currently not applicable to the facility.
40 C.F.R. §§63. 7880-63.7957 Subpart GGGGG	National Emission Standards for Site Remediation is not currently applicable to any remediation activities being conducted at the facility. There are no existing sources at the facility subject to this MACT.
45 C.S.R.§ 7-4.2	Emission Points 2001, 2005, 2020, 4001, 4002, and 4006 are exempt from the mineral acid (sulphuric acid) requirements as a result of 45CSR§7-10.6
40 C.S.R. 10A	Testing, Monitoring, Record Keeping, and Reporting Requirements under 45CSR10 section 8 are not applicable to the facility since its fuel burning units only combust natural gas. This exemption is provided within 45CSR§10.3.
45 C.S.R. 21	Regulation to Prevent and Control Air Pollution from the Emissions of Volatile Organic Compounds. This regulation applies to sources located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County.
45 C.S.R 29	Emission statements for VOCs are not applicable to Tyler County facilities.

4.0 Source-Specific Requirements [Silanes Production]; Emission Group(s): (101-107, 116, 120, 126, 130, 132, 133, 134, 149, 151, 152, 153, 153P1, 155, 155P1, 156, 156P1, 157, 157P1, 159, 253, 252SIL, and 577)

4.1. Limitations and Standards

4.1.1 Vent emissions to the atmosphere from the Silanes Manufacturing Unit, which consists of the equipment listed in Section 1.0, and identified as permitted in R13-2338, shall not exceed the emission limitations set forth in Table 4.1.1.

Table 4.1.1. Emission Limits for Silanes Manufacturing Unit

Pollutant	Emission Limit (TPY)
NO_X	4.2
PM_{10}	9.5
VOC	95.8
THAP	77.10
Ethyl Chloride*	57.83
Toluene*	57.83

* Hazardous Air Pollutant (HAP)

[45CSR13, Permit R13-2338, (Condition 4.1.1.), Emission Point ID (See Section 1.0 R13-2338 emission points)]

4.1.2 Emissions to the atmosphere from the Flare, Equipment ID No. E-1353, shall not exceed the emission limitations set forth in Table 4.1.2.

Table 4.1.2. Emission Limits for E-1353 (Flare)

Pollutant	Emission Limit (lb/hr)
PM_{10}	0.04
Opacity	20%

[45CSR13, Permit R13-2338, (Condition 4.1.2.), 45CSR§§6-4.1 and 4.3, Emission Point ID (1038)]

4.1.3 Emissions to the atmosphere from the Thermal Oxidizer, Equipment ID No. E-2322, shall not exceed the emission limitations set forth in Table 4.1.3.

Table 4.1.3. Emission Limits for E-2322 (Thermal Oxidizer)

Pollutant	Emission Limit (lb/hr)
PM_{10}	0.34
Opacity	20%

[45CSR13, Permit R13-2338, (Condition 4.1.3.), 45CSR§§6-3.4. and 4.1, Emission Point ID (1120)]

4.1.4 During all periods of normal operations, process vent air emissions from the emission sources and equipment listed in Section 1.0 and identified as permitted in R13-2338 shall be routed to and controlled by their associated control devices prior to venting emissions to the atmosphere.

[45CSR13, Permit R13-2338, (Condition 4.1.4.), Emission Point ID (Section 1.0 R13-2338 emission points)]

4.1.5 Sources encompassed by this permit subject to 45CSR27 - To Prevent and Control the Emissions of Toxic Air Pollutants" include, but are not limited to those identified in Table 4.1.5. Emissions to the atmosphere of acrylonitrile from the following sources shall not exceed the emission limitations set forth in Table 4.1.5. It has been determined by R13-2338 that compliance with the emission limitations and work practice standards set forth in R13-2338 satisfies the requirements of BAT under 45CSR27.

Table 4.1.5. Acrylonitrile Emissions

Source Description	Emissions Limit		Determination Method
	pph	tpy	
Acrylonitrile Water Scrubber (S-197)	0.05	0.015	Engineering Calculations

[45CSR13, Permit R13-2338, (Condition 4.1.5.), Equipment ID (S-197) State Enforceable Only]

4.1.6 Reserved.

4.1.7 Compliance with the emission limits set forth in Sections 4.1.1, shall be demonstrated by calculating emissions for every product in the Silanes Manufacturing Unit using ChemCAD®, Essential EHS (formally known as PlantWare®), or Emission Master®, emission modeling software, or other appropriate emission estimation models or calculation methodologies (e.g., USEPA's TANKS 4.0, WATER9, etc.). When these emissions are calculated, each emission point listed in Section 1.0 and identified as permitted in R13-2338 with emissions of regulated air pollutants listed in Section 4.1.1 shall be included in the calculations and accounted for in the emission estimates. The emission models and other calculation methods shall be maintained current for all processes, process modifications and new product variants. The Director of the Division of Air Quality may specify or may approve other valid methods for compliance determination when he or she deems it appropriate and necessary.

[45CSR13, Permit R13-2338, (Condition 4.1.7.), Emission Point ID (Section 1.0 R13-2338 emission points)

4.1.8 Emissions to the atmosphere from the following emission sources subject to 45CSR7 – "To Prevent and Control Particulate Matter Air Pollution from Manufacturing Processes and Associated Operations" shall not exceed the emission limitations set forth in Table 4.1.8.

Table 4.1.8 45CSR7 Sources Emission Limits

Source Description	Pollutant	Emission Limit
M-319	PM_{10} Opacity	6.7 pph 20%
M-320	PM_{10} Opacity	6.7 pph 20%
S-137	HCl Opacity	210 mg/m^3 20%
S-174	HCl Opacity	210 mg/m^3 20%

S-203	HCl Opacity	210 mg/m^3 20%
S-132	HCl Opacity	210 mg/m^3 20%
E-1353	HCl	210 mg/m^3 20%
S-196	HCl Opacity	210 mg/m^3 20%
S-197	HCl Opacity	210 mg/m^3 20%
S-270	HCl	210 mg/m^3
S-237	HCl Opacity	210 mg/m^3 20%
Thermal Oxidizer By-pass Vent [1]	HCl Opacity	210 mg/m^3 20%

[1] Will only apply to Emission Point 1121 when venting through the by-pass, around the Thermal Oxidizer System.**[Compliance with this streamlined condition shall insure compliance with 45CSR§§7-3.1, -4.1, and -4.2]**

[45CSR§7-3.1, 4.1, 4.2., 45CSR13, Permit R13-2338, (Condition 4.1.8.), Equipment or Emission Point ID (Listed above)]

4.1.9 The control devices listed in Section 1.0 shall be inspected and maintained–in accordance with the Inspection & Preventive Maintenance schedules listed in Appendix A of R13-2338, which is incorporated herein as Attachment A.

[45CSR13, Permit R13-2338, (Condition 4.1.9.), Emission Point ID (See Attachment A)]

4.1.10 In order to demonstrate compliance with the Group 1 control requirements of the MON incorporated within 4.1.20 – 4.1.23, the permittee shall monitor, record, and abide by the operating parameter limitations summarized within attachment A of this permit.

[40 C.F.R. §63.2450(e), 45CSR34; 45CSR13, R13-2338 condition 4.1.22., Control Equipment IDs (S-132, S-137, S-171, S-197, S-223, S-260, S-270, E-2322]

4.1.11 The opacity provisions of Section 4.1.2 and 4.1.3 shall not apply to smoke which is less than forty (40) percent opacity, for a period or periods aggregating no more than eight (8) minutes per start-up, or six (6) minutes in any sixty (60) minute period for stoking operations.

[45CSR13, Permit R13-2338, 45CSR§6-4.4, (Condition 4.1.11.), Emission Point ID (1038, 1120)]

4.1.12 The opacity provisions of Section 4.1.8 shall not apply to smoke and/or particulate matter emitted from any process source operation which is less than forty (40) percent opacity for any period or periods aggregating no more than five (5) minutes in any sixty (60) minute period.
[45CSR13, Permit R13-2338, (Condition 4.1.12.), 45CSR§7-3.2, Emission Point ID (Table 4.1.~~7~~ 8.)]

4.1.13 The following equipment, listed in Table 4.1.13 in the Silanes Manufacturing Unit is used on an as-needed basis and may not be operated for extended periods of time. Written notification shall be provided to the Director in the event of permanent shutdown of this equipment.

Table 4.1.13 Intermittent Use Equipment

Equipment ID	Source Description
Reserved	*Reserved*

[45CSR13, Permit R13-2338, (Condition 4.1.15.), Emission Point ID (Table 4.1.15.)]

4.1.14 Operation and Maintenance of Air Pollution Control Equipment. The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and identified as permitted in R13-2338 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.

[45CSR13, Permit R13-2338, (Condition 4.1.16.), Emission Point ID (Section 1.0 R13-2338 emission points)]

4.1.15. **NSPS NNN SPCEU (Emission Group 431).** The SPCEU process unit design capacity for production of all chemicals listed in 40 C.F.R. §60.667 is less than 1 gigagram/yr and therefore is exempt from all provisions of NSPS, Subpart NNN except for the recordkeeping and reporting requirements in section 4.4.10, 4.5.6, and 4.5.7.
[45CSR16, 40 C.F.R. §60.660(c)(5) and 45CSR13, Permit R13-2338 Condition 4.1.17; Emission Group 431]

4.1.16. **NSPS NNN CEU (Emission Group 133).** The CEU process unit is subject to NSPS, Subpart NNN while producing any chemicals listed in 40 C.F.R. §60.667.
**[45CSR16, 40 C.F.R. §60.660(a) and 45CSR13, Permit R13-2338 Condition 4.1.18;
Emission Group 133]**

4.1.17. **NSPS NNN CEU (Emission Group 133).** The owner or operator shall maintain a TRE index value greater than 1.0 without use of VOC emission control devices for each vent stream in the CEU unit.
[45CSR16, 40C.F.R.§60.662(c) and 45CSR13, Permit R13-2338 Cond. 4.1.19;Emission Group 133]

4.1.18. **NSPS NNN CEU (Emission Group 133).** The permittee shall comply with the standards and maintenance requirements of NSPS General Requirements §60.11 unless specifically exempted by NSPS subpart NNN.
[45CSR16, 40 C.F.R. §60.11 and 45CSR13, Permit R13-2338 Condition 4.1.20; Emission Group 133]

4.1.19. **NSPS NNN CEU (Emission Group 133)**. Each affected facility that has a total resource effectiveness (TRE) index value greater than 8.0 is exempt from terms 4.2.4, 4.2.5, 4.3.5, 4.4.11, and 4,4.12.
[45CSR16, 40 C.F.R. §60.660(c)(4) and 45CSR13, Permit R13-2338, Condition 4.1.21; Emission Group 133]

4.1.20. **MON MACT.** The permittee shall comply with the applicable continuous process vent standards of the MON MACT as specified by 40 C.F.R. §63.2455.
[40 C.F.R. §63.2455, 45CSR34, Emission Groups 116, 133]

4.1.21. **MON MACT.** The permittee shall comply with the applicable batch process vent standards of the MON MACT as specified by 40 C.F.R. §63.2460.
[40 C.F.R. §63.2460, 45CSR34, Emission Groups 107, 134]

4.1.22. **MON MACT.** The permittee shall comply with the applicable process vent standards for sources that emit hydrogen halide and halogen HAP or HAP metals of the MON MACT as specified by 40 C.F.R. §63.2465.
[40 C.F.R. §63.2465, 45CSR34, Emission Group 133]

4.1.23. **MON MACT.** The permittee shall comply with the applicable storage tank standards of the MON MACT as specified by 40 C.F.R. §63.2470.
[40 C.F.R. §63.2470, 45CSR34, Emission Groups 130, 151, 152]

4.1.24. **MON MACT.** The permittee shall comply with the applicable equipment leak standards of the MON MACT as specified by 40 C.F.R. §63.2480.
[40 C.F.R. §63.2480, 45CSR34]

4.1.25. **MON MACT.** The permittee shall comply with the applicable wastewater streams and liquid streams in open systems within an MCPU standards of the MON MACT as specified by 40 C.F.R. §63.2485.
[40 C.F.R. §63.2485, 45CSR34]

4.1.26. **MON MACT.** The permittee shall comply with the applicable heat exchange system standards of the MON MACT as specified by 40 C.F.R. §63.2490.
[40 C.F.R. §63.2490, 45CSR34, Emission Groups 104, 116, 134, 132]

4.2. Monitoring Requirements

4.2.1 The permittee shall perform monitoring of all equipment parameters listed in Attachment A – (Appendix A of R13-2338) per the minimum data collection frequency and per the data averaging period as indicated.

[45CSR13, Permit R13-2338, (Condition 4.2.1), Equipment ID (See Attachment A)]

4.2.2 For the purpose of determining compliance with the opacity limits of 45CSR§§7-3.1 and -3.2, and 45CSR§6-4.3, the permittee shall conduct visible emission checks and/or opacity monitoring and recordkeeping for all emission sources subject to an opacity limit.

The visible emission check shall determine the presence or absence of visible emissions. At a minimum, the observer must be trained and knowledgeable regarding the effects of background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water (condensing water vapor) on the visibility of emissions. This training may be obtained from written materials found in the References 1 and 2 from 40 C.F.R. Part 60, Appendix A, Method 22 or from the lecture portion of the 40 C.F.R. Part 60, Appendix A, Method 9 certification course.

Visible emission checks shall be conducted at least once per calendar month with a maximum of forty-five (45) days between consecutive readings. These checks shall be performed at each source (stack, transfer point, fugitive emission source, etc.) for a sufficient time interval, but no less than one (1) minute, to determine if any visible emissions are present. Visible emission checks shall be performed during periods of normal facility operation and appropriate weather conditions.

If visible emissions are present at a source(s) for three (3) consecutive monthly checks, the permittee shall conduct an opacity reading at that source(s) using the procedures and requirements of Method 9 or 45CSR§7A as soon a practicable, but within seventy-two (72) hours of the final visual emission check. A Method 9 or 45CSR§7A observation at a source(s) restarts the count of the number of consecutive readings with the presence of visible emissions.

[45CSR13, Permit R13-2338, (Condition 4.2.2.), Emission Point ID (Table 4.1.2, 4.1.3, and 4.1.8)]

4.2.3. Reserved.

4.2.4. **NSPS NNN CEU (Emission Group 133)**. The permitee shall monitor the CEU process unit in accordance with 40 C.F.R. §60.663(e) while producing any chemicals listed in 40 C.F.R. §60.667.

[45CSR16, 40C.F.R.§60.663(e) and 45CSR13, Permit R13-2338 Cond., 4.2.4; Emission Group 133]

4.2.5. **NSPS NNN CEU (Emission Group 133).** The permittee shall comply with the monitoring requirements of NSPS General Requirements §60.13 unless specifically exempt by NSPS subpart NNN.

[45CSR16, 40 C.F.R. §60.13 and 45CSR13, Permit R13-2338 Condition 4.2.5; Emission Group 133]

4.3. Testing Requirements

4.3.1 Upon the Director's request, the permittee shall submit to the Director a detailed plan and test protocol for approval of methods to demonstrate compliance with the emission limits set forth in Section 4.1.5. The Director reserves the right to require the application of any specific valid test or emissions monitoring methods for the determination of compliance of TAP emissions from any source.

[45CSR13, Permit R13-2338, (Condition 4.3.1.), Equipment ID (S-197), State Enforceable Only 45CSR§27-10.1]

4.3.2 **NSPS NNN CEU (Emission Group 133).** The permittee shall run at full operating conditions and flow rates during any performance test required under Section 4.3.3.
[45CSR16, 40C.F.R.§60.664(a) and 45CSR13, Permit R13-2338 Cond., 4.3.2; Emission Group 133]

4.3.3 **NSPS NNN CEU (Emission Group 133).** The permittee shall determine the net heating value for calculating the TRE index value specified by 40 C.F.R. §60.664(e).
[45CSR16, 40C.F.R.§60.664(e), 45CSR13, Permit R13-2338 Condition 4.3.3; Emission Group 133]

4.3.4 **NSPS NNN CEU (Emission Group 133).** The permittee shall calculate the TRE index value of the vent stream as specified by 40 C.F.R. §60.664(f).
[45CSR16, 40C.F.R.§60.664(f), 45CSR13, Permit R13-2338 Condition 4.3.4; Emission Group 133]

4.3.5 **NSPS NNN CEU (Emission Group 133).** The permittee shall recalculate the TRE index value of the vent stream as specified in 40 C.F.R. §60.664(g).
[45CSR16, 40C.F.R.§60.664(g), 45CSR13, Permit R13-2338 Condition 4.3.5; Emission Group 133]

4.3.6 **NSPS NNN CEU (Emission Group 133).** The permittee shall comply with the performance test requirements of the NSPS General Requirements §60.8 unless specifically exempt by NSPS Subpart NNN.
[45CSR16, 40C.F.R.§60.8, 45CSR13, Permit R13-2338 Condition 4.3.6; Emission Group 133]

4.4. Recordkeeping Requirements

4.4.1 *Record of Maintenance of Air Pollution Control Equipment.* For all pollution control equipment listed in Section 1.0 and identified as permitted in R13-2338, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.

[45CSR13, Permit R13-2338, (Condition 4.4.2.), Equipment ID (See Section 1.0 R13-2338 emission points)]

4.4.2 Record of Malfunctions of Air Pollution Control Equipment. For all air pollution control equipment listed in Section 1.0 and identified as permitted in R13-2338, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:

a. The equipment involved.

b. Steps taken to minimize emissions during the event.

c. The duration of the event.

d. The estimated increase in emissions during the event.

For each such case associated with an equipment malfunction, the additional information shall also be recorded:

e. The cause of the malfunction.

f. Steps taken to correct the malfunction.

g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.

[45CSR13, Permit R13-2338, (Condition 4.4.3.), Equipment ID (See Section 1.0 R13-2338 emission points)]

4.4.3 The emission estimation models and calculation methodologies developed in Section 4.1.7, as well as production records for each calendar month shall be maintained onsite or readily accessible from the site for a period of five (5) years. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request. **[45CSR13, Permit R13-2338, (Condition 4.4.4.), Equipment ID (See Section 1.0 R13-2338 emission points)]**

4.4.4 The permittee shall maintain onsite for a period of five (5) years a tabulation of actual emissions generated using those methods specified in Section 4.1.7, over a continuous rolling twelve (12)-month period, showing emission totals for the regulated air pollutants listed in Section 4.1.1. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.**[45CSR13, Permit R13-2338, (Condition 4.4.5.), Equipment ID (See Section 1.0 R13-2338 emission points)]**

4.4.5 Records of all monitoring data required by Section 4.2.1 shall be maintained onsite or readily accessible from the site as follows:

a. All monitoring data required by Section 4.2.1, as specified in Attachment A – (R13-2338 Appendix A), shall be maintained onsite for a period of no less than five (5) years. Such records may include strip charts, electronic data system records, and hand-written data forms. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

b. An out-of-range occurrence of a monitoring parameter value specified in Appendix A shall not by itself be considered a deviation. However, for each out-of-range occurrence of a monitoring parameter value for the averaging period specified in Appendix A, records stating the starting date/time and duration of the control device's out-of-range alarm or reading, the cause of the out-of-range parameter, and any corrective actions taken, shall be maintained onsite for a period of no less than five (5) years from the date of monitoring, sampling, or measurement. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

c. Missed readings for a monitoring parameter data element specified in Attachment A – (R13-2338 Appendix A), shall not exceed 5% of the total readings in a rolling consecutive twelve (12) month period, for each monitoring parameter data element. A twelve (12) month tabulation of missing readings for each monitoring parameter element shall be maintained onsite for a period of no less than five (5) years. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

d. In the event that an applicable rule or regulation (such as the MON MACT) requires monitoring more stringent than that required by Section 4.2.1, the more stringent provisions shall apply. Any such required monitoring data shall be maintained onsite for a period of no less than five (5) years. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

[45CSR13, Permit R13-2338, (Condition 4.4.6.), Equipment ID (See Attachment A)]

4.4.6. The permittee shall maintain records of all opacity monitoring data required by Section 4.2.2 documenting the date and time of each visible emission check, the emission point or equipment/source identification number, the name or means of identification of the observer, the results of the check(s), whether the visible emissions are normal for the process, and if applicable, all corrective measures taken or planned. The permittee shall also record the general weather conditions (i.e. sunny, approximately 80F, 6-10 mph NE wind) during the visual emission check(s). An example form is supplied as Attachment B within this Title V Permit. Should a visible emission observation be required to be performed per the requirements specified in Method 9 or 45CSR7A, the data records of each observation shall be maintained per the requirements of Method 9 or 45CSR7A. For an emission unit out of service during the normal monthly evaluation, the record of observation may note "out of service" (O/S) or equivalent.

[45CSR13, Permit R13-2338, (Condition 4.4.7.), Emission Point ID (1001, 1003, 1015, 1032, 1038, 1120, 1121, 1301, 1302, 1348, 1349, 4310)]

4.4.7. Compliance with Sections 4.4.1 and 4.4.2 may be shown by keeping similar records required by the requirements of the Startup, Shutdown, and Malfunction Plan as contained in 40 C.F.R. 63 Subpart A and as may be amended by specific MACT subpart requirements.

[45CSR13, Permit R13-2338, (Condition 4.4.8.), Equipment ID (See Section 1.0 R13-2338 emission points)]

4.4.8 Reserved

4.4.9 Reserved.

4.4.10 **NSPS NNN SPCEU (Emission Group 431).** The facility shall keep up to date, readily accessible records of any change in equipment or process operation in SPCEU (Emission Group 431) that increases the design production capacity of the process unit to produce any chemical listed in 40 C.F.R. §60.667.

[45CSR16, 40 C.F.R. §60.665(j) and 45CSR13, Permit R13-2338 Cond. 4.4.11; Emission Group 431]

4.4.11 **NSPS NNN CEU (Emission Group 133).** The permittee shall maintain the data from the performance test as specified by 40 C.F.R. §60.665(b).

[45CSR16, 40 C.F.R. §60.665(b) and 45CSR13, Permit R13-2338 Cond. 4.4.12; Emission Group 133]

4.4.12 **NSPS NNN CEU (Emission Group 133).** The permittee shall maintain monitoring records under section 4.2.4 as specified by 40 C.F.R. 60.665(g).

[45CSR16, 40 C.F.R. §60.665(g) and 45CSR13, Permit R13-2338 Cond. 4.4.13; Emission Group 133]

4.4.13 **NSPS NNN CEU (Emission Group 133).** In order to demonstrate compliance with 40 C.F.R. §60.662(c), the permittee shall keep up-to-date, readily accessible records of any changes in production capacity, feedstock type, or catalyst type, or of any replacement, removal or addition of recovery equipment or a distillation unit as specified by 40 C.F.R. §665(h)(1).

[45CSR16, 40C.F.R.§60.665(h)(1) & 45CSR13, Permit R13-2338 Cond. 4.4.14; Emission Group 133]

4.4.14. **NSPS NNN CEU (Emission Group 133).** In order to demonstrate compliance with §60.662(c), the permittee shall keep up-to-date readily accessible TRE calculation records as specified by §60.665(h)(2).

[45CSR16, 40C.F.R.§60.665(h)(2) & 45CSR13, Permit R13-2338 Cond. 4.4.15; Emission Group 133]

4.4.15 **NSPS NNN CEU (Emission Group 133).** The permittee shall comply with the record keeping requirements of the NSPS General provisions 60.7 unless exempt by NSPS subpart NNN.
[45CSR16, 40 C.F.R. §60.7 and 45CSR13, Permit R13-2338 Condition 4.4.16; Emission Group 133]

4.5. Reporting Requirements

4.5.1 If the permittee emits any HAPs or TAPs other than those listed in Attachment C from the Silanes Manufacturing Unit, at an estimated annual emission rate of 50 ppy or greater, the permittee shall provide written notification to the Director of the Division of Air Quality within thirty (30) days of knowledge of such emission. This written notification shall include the potential to emit (in pph and tpy) for each new HAP or TAP species from each of the newly identified emission points or existing emission points listed in Section 1.0 and identified as permitted in R13-2338 that emit the new HAP or TAP species. This condition in no way limits or restricts the reporting requirements of Section 4.5.3.

If the potential to emit for the TAP is greater than the threshold levels of 45CSR27 Table A a compliance program to bring the TAP emissions below threshold levels shall be submitted to the Director within 60 days of notification.

Upon approval by the Director of the proposed compliance program, the permittee shall apply for a modification of permit number R13-2338 to incorporate the changes. This condition shall not be construed to limit the Director's ability to initiate any enforcement action prescribed by the Code as a result of deficiencies, errors, or emissions in the prior compliance plan submitted by the permittee.
[45CSR13, Permit R13-2338, (Condition 4.5.1.), Equipment ID (See Section 1.0 R13-2338 emission points) State Enforceable Only]

4.5.2 Reserved.

4.5.3 The emission to the air of any TAP resulting from an abnormal release or spill in excess of the following amounts shall be reported to the Director or his authorized representative not later than 24-hours after the permittee has knowledge of such emission:

a. For ethylene oxide and vinyl chloride, one (1) pound;

b. For acrylonitrile and butadiene, ten (10) pounds;

c. For all other toxic air pollutants, fifty (50) pounds.

The permittee shall file a written report with the Director stating the details of all such incidents resulting in the emission of more than fifty (50) pounds of any toxic air pollutant within seven (7) days of the occurrence. The owner/operator shall submit to the Director, at his request, records of all abnormal toxic air pollutant discharges to the air.**[45CSR13, Permit R13-2338, (Condition 4.5.3.), Equipment ID (See Section 1.0 R13-2338 emission points) State Enforceable Only]**

4.5.4 Any violation(s) of the allowable visible emission requirement for any emission source discovered during observations using [40 C.F.R. Part 60, Appendix A, Method 9 or 45CSR7A] must be reported in writing to the Director of the Division of Air Quality as soon as practicable, but within ten (10) calendar days, of the occurrence and shall include, at a minimum, the following information: the results of the visible determination of opacity of emissions, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.

[45CSR13, Permit R13-2338, (Condition 4.5.4.), Equipment ID (See Section 1.0 R13-2338 emission points)]

4.5.5 A change in the equipment listed in Section 1.0, and identified as permitted in R13-2338, shall not, by itself, constitute a change to a permit condition for the purposes of determining whether an administrative update is required. Provided a change to this equipment list does not otherwise result in a change to a permit condition necessitating an administrative update or a permit modification, written notification of any revisions to this permit's Section 1.0 list of equipment/emission units or emission points, shall be submitted to the Director of the Division of Air Quality within thirty (30) days of the end of this calendar quarter in which the revision occurred. This section does not limit the permittee's ability to request a permit administrative update or modification pursuant to 45CSR13 Section 2.8., 2.9., or 2.10., and in no way limits the permittee's responsibility to obtain a modification of this permit pursuant to 45CSR§13-5 prior to activities that would constitute a modification or major modification as defined under 45CSR13, 45CSR14, or 45 CSR19 (whichever is appropriate). **[45CSR13, Permit R13-2338, (Condition 4.5.5.), Equipment ID (See Section 1.0 R13-2338 emission points)]**

4.5.6 **NSPS NNN (Emission Group 431).** The owner or operator that seeks to demonstrate compliance with the low capacity exemption level in Section 4.1.15 must submit to the Administrator an initial report detailing the design production capacity of the process unit.

[45CSR16, 40 C.F.R. §60.665(n) and 45CSR13 permit R13-2338 Condition 4.5.6; Emission Group 431]

4.5.7. **NSPS NNN (Emission Group 431).** In accordance with 40 C.F.R. §60.665(l)(6), any change in equipment or process operation that increases the design production capacity above the low capacity exemption level in Section 4.1.15 for the SPCEU process unit, must be reported no later than 180 days after the change.

[45CSR16, 40C.F.R.§60.665(l)(6) & 45CSR13 permit R13-2338 Condition 4.5.7; Emission Group 431]

4.5.8 **NSPS NNN (Emission Group 133).** The permittee subject to 40 C.F.R. §60.662 shall notify the Administrator of the specific provisions of 60.662 with which the owner or operator has elected to comply. Notification shall be submitted with the notification of initial start-up required by 40 C.F.R. §60.7(a)(3). If an owner or operator elects at a later date to use an alternative provision of 40 C.F.R. §60.662 with which he or she will comply then the Administrator shall be notified by the owner or operator 90 days before implementing a change, and upon implementing the change, a performance test shall be conducted as specified by 40 C.F.R.§ 60.664 within 180 days.

[45CSR16, 40 C.F.R. §60.665(a) and 45CSR13 permit R13-2338 Condition 4.5.8; Emission Group 133]

4.5.9 **NSPS NNN (Emission Group 133).** The permittee subject to NSPS, Subpart NNN is exempt from the quarterly reporting requirements contained in 40 C.F.R. §60.7(c).

[**45CSR16, 40 C.F.R. §60.665(k) and 45CSR13 permit R13-2338 Condition 4.5.9; Emission Group 133]**

4.5.10 **NSPS NNN (Emission Group 133).** The permittee shall submit semiannual reports as specified by 40 C.F.R. §60.665(l).

[**45CSR16, 40C.F.R. §60.665(l) and 45CSR13 permit R13-2338 Condition 4.5.10; Emission Group 133]**

4.5.11 **NSPS NNN (Emission Group 133).** The permittee shall comply with the notification requirements of the NSPS General Provisions within 40 C.F.R. §60.7 unless specifically exempted by the standard.

[**45CSR16, 40 C.F.R. §60.7 and 45CSR13 permit R13-2338 Condition 4.5.11; Emission Group 133]**

4.6 Compliance Plan

4.6.1. None

5.0 Source-Specific Requirements [Specialties West (Polymers I)] Emission Group IDs (201, 202, 204, 205, 206, 207, 208, 220, 222, 225, 231, 240, 245, 249, 252, 253, 254, 256, 310, and 312)

5.1. Limitations and Standards

5.1.1 Scrubber C-589 shall be functioning during all periods of operation of the D-Unit when regulated air pollutants are being vented to the atmosphere through emission point 2401.
[45CSR13, Permit R13-1649B, (Condition 4.1.1.), Emission Point ID (2401)]

5.1.2 Emissions released into the atmosphere from C-589 shall be vented through emission point 2401.
[45CSR13, Permit R13-1649B, (Condition 4.1.2.), Emission Point ID (2401)]

5.1.3 Emissions released through emission point 2401 shall be limited to the sources, pollutants and associated emission rates shown in Table 5.1.3. of this permit.

Table 5.1.3.

Emission Source(s)	Control Device	Pollutant	Emission Rates	
			Hourly (pph)	Annual[1] (tpy)
C-538 F-751 F-755 R-77 R-78 S-225 S-271	C-589	n-Hexane	0.03	0.12
		HCl	0.01	0.01
		VOC	1.7	7.0

1 – Annual emission limits shall be based on a 12-month rolling total.

[45CSR13, Permit R13-1649B, (Condition 4.1.3.), Emission Point ID (2541)]

5.1.4 The hydrochloric acid emissions released through emission point 2401 shall be limited in accordance to the applicable requirements set forth in 45CSR7 – "To Prevent and Control Particulate Matter Air Pollution from Manufacturing Processes and Associated Operations". Such emissions shall not exceed the maximum limits identified in Table 5.1.4. of this permit.

Table 5.1.4.

Emission Point	Pollutant	Maximum Limit
2401	HCl	210 mg/dscm
	Opacity	20%

[45CSR13, Permit R13-1649B, (Condition 4.1.4.), Emission Point ID (2441)]

5.1.5 Compliance with the emission and concentration limits set forth in Sections 5.1.3 and 5.1.4. of this permit shall be demonstrated by calculating emissions for every product/process in the D-Unit using ChemCAD®, Essential EHS (formally known as PlantWare®, or Emission Master® emission modeling software, or other appropriate emission estimation models or calculation methodologies (e.g., USEPA's TANKS 4.0, WATER9, etc.). When these emissions are calculated, each emission point listed in Section 1.0 and identified as permitted in R13-1649 of this permit with emissions of regulated air pollutants listed in Sections 5.1.3. and 5.1.4., shall be included in the calculation(s) and accounted for in the emissions record. The calculations shall be maintained current for all processes, process modifications and new variants. The Director of the Division of Air Quality may specify or may approve other valid methods for compliance determination when he/she deems it appropriate and necessary.
[45CSR13, Permit R13-1649B, (Condition 4.1.5.)]

5.1.6 **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and identified as permitted in R13-1649and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.
[45CSR13, Permit R13-1649B, (Condition 4.1.6)]

5.1.7 Except as authorized by or pursuant to 45 CSR 7, emissions to the atmosphere from the following emission points subject to 45CSR7 – "To Prevent and Control Particulate Matter Air Pollution from Manufacturing Processes and Associated Operations" shall not exceed the emission limitations set forth in Table 7.1.1.

Table 5.1.7.

Emission Point ID	Pollutant	Emission Limit
2001	HCl Opacity	420 mg/m^3 20%
2005	HCl Opacity	420 mg/m^3 20%
2509	HCl Opacity	420 mg/m^3 20%
2402	HCl Opacity	210 mg/m^3 20%

[45CSR§7-3.1, 4.2., Emission Point ID(s) 2001, 2005, 2509, and 2402]

5.1.8 Compliance with the concentration standards for HCl shall be demonstrated by calculating emissions from the emission points listed in Table 5.1.7 above, using ChemCAD®, Essential EHS (formerly known as PlantWare®), or Emission Master®, emission modeling software, or other appropriate emission estimation models or calculation methodologies (e.g., USEPA's TANKS 4.0, WATER9, etc.). The emission models and other calculation methods shall be maintained current for all processes, process modifications and new product variants. The Director of the Division of Air Quality may specify or may approve other valid methods for compliance determination when he or she deems it appropriate and necessary.
[45CSR§30-5.1.c., Emission Point ID(s) 2001, 2005, 2509, and 2402]

5.1.9 MON MACT. The permittee shall comply with the applicable continuous process vent standards of Subpart FFFF, as specified by 40 C.F.R. §63.2455.
[40 C.F.R. §63.2455, 45CSR34]

5.1.10 MON MACT. The permittee shall comply with the applicable batch process vent standards of Subpart FFFF, as specified by 40 C.F.R. §63.2460.
[40 C.F.R. §63.2460, 45CSR34]

5.1.11 MON MACT. The permittee shall comply with the applicable process vent standards for sources that emit hydrogen halide and halogen HAP or HAP metals of Subpart FFFF, as specified by 40 C.F.R. §63.2465.
[40 C.F.R. §63.2465, 45CSR34, Emission Groups (204, 206, 207)]

5.1.12 MON MACT. The permittee shall comply with the applicable storage tank standards of Subpart FFFF, as specified by 40 C.F.R. §63.2470.
[40 C.F.R. §63.2470, 45CSR34, Emission Group (252)]

5.1.13 MON MACT. The permittee shall comply with the equipment leak standards of Subpart FFFF, as specified by 40 C.F.R. §63.2480.
[40 C.F.R. §63.2480, 45CSR34]

5.1.14 MON MACT. The permittee shall comply with the applicable wastewater streams and liquid streams in open systems within an MCPU standards of Subpart FFFF as specified by 40 C.F.R. §63.2485.
[40 C.F.R. §63.2485, 45CSR34]

5.2 Monitoring Requirements

5.2.1. For the purpose of demonstrating compliance with Section 5.1.1. of this permit, the permittee shall maintain a low flow alarm on scrubber water flow to C-589 during all periods of operation of the D-Unit.
[45CSR13, Permit R13-1649B, (Condition 4.2.1.), Equipment ID (C-589)]

5.2.2. The permittee shall conduct an inspection of C-589 at least once every two years of operation.
[45CSR13, Permit R13-1649B, (Condition 4.2.2.), Equipment ID (C-589)]

5.2.3. For the purpose of determining compliance with the opacity limits set forth in Section 5.1.4. of this permit, the permittee shall conduct opacity monitoring for all emission points and equipment subject to an opacity limit under 45CSR7, including, but not limited to, the emission points listed in Section 5.1.4 of this permit.

Monitoring shall be conducted at least once per month with a maximum of forty-five (45) days between consecutive readings. After three consecutive monthly readings in which no visible emissions are observed from any of the subject emission points, those emission points will be allowed to conduct visible emission checks or opacity monitoring once per calendar quarter. If visible emissions or opacity are observed during a quarterly monitoring from an emission point(s), or at any other time, then that emission point(s) with observed emissions or opacity shall be required to revert to monthly monitoring. Any emission point that has reverted to monthly monitoring shall be allowed to again conduct quarterly visible emission checks or opacity monitoring only after three consecutive monthly readings in which no visible emissions are observed from the subject emission point.

These checks shall be conducted by personnel trained in the practices and limitations of 40 C.F.R. 60, Appendix A, Method 22, during periods of normal operation of emission sources that vent from the referenced emission points for a sufficient time interval to determine if there is a visible emission.

If visible emissions are identified during the visible emission check, or at any other time regardless of operations, the permittee shall conduct an opacity reading using the procedures and requirements of 45CSR7A within three (3) days of the first sign of visible emissions. A 45CSR7A evaluation shall not be required if the visible emission condition is corrected within seventy-two (72) hours after the visible emission and the sources are operating at normal conditions.
[45CSR13, Permit R13-1649B, (Condition 4.2.3.), Emission Point ID (2401)]

5.2.4. The permittee will conduct inspection and/or preventive maintenance of the control devices **C-49, C-196, C-370, C-406, and S-157** once every two years.
[45CSR§30-5.1.c., Emission Unit ID (C-49, C-196, C-370, C-406, and S-157)]

5.2.5. For the purpose of determining compliance with the opacity limits of 45CSR§§7-3.1, the permittee shall conduct visible emission checks and/or opacity monitoring and recordkeeping for all emission sources subject to an opacity limit. The opacity monitoring shall include visual emission checks, as described below, for all emission points subject to an opacity limit contained within this section.

Monitoring shall be conducted at least once per month, with a maximum of forty-five (45) days between consecutive readings. After three consecutive monthly readings in which no visible emissions are observed from an emission point subject to an opacity standard, Permittee may conduct visible emission checks or opacity monitoring once per calendar quarter for that emission point. If visible emissions or opacity are observed during a quarterly monitoring from an emission point(s), or at any other time, then that emission point(s) with observed emissions or opacity shall be required to revert to monthly monitoring. Any emission point that has reverted to monthly monitoring shall be allowed to again conduct quarterly visible emission checks or opacity monitoring only after three consecutive monthly readings in which no visible emissions are observed from the subject emission point.

These checks shall be conducted by personnel trained in the practices and limitations of 40 C.F.R. 60, Appendix A, Method 22, during periods of normal operation of emission sources that vent from the referenced emission points for a sufficient time interval, but no less than one (1) minute, to determine if there is a visible emission

If visible emissions are identified during the visible emission check, or at any other time regardless of operations, the permittee shall conduct an opacity reading using the procedures and requirements of 45CSR7A or Method 9 within three (3) days of the first sign of visible emissions. A 45CSR7A or Method 9 evaluation shall not be required if the visible emission condition is corrected within three (3) days after the visible emission and the sources are operating at normal conditions.
[45CSR§30-5.1.c. Excludes Emission Point listed in Section 5.2.3.]

5.2.6. In order to demonstrate compliance with MON control requirements for hydrogen halide and halogen vents within 5.1.11, the permittee shall, when required per 5.1.11, monitor and record the following parameters and maintain scrubber flows above the minimum operating limits:

Emission Group	Control Equipment ID	Operating Limit Scrubber water flow gallons per min – (gpm)
204	K-2 Scrubber	>23
206	K-3 Scrubber	>40
207	K-4 Scrubber	>36

The operating limits summarized above were defined within the permittee's notification of compliance status report dated October 6, 2008. Upon submittal of a notification of process change as specified within §63.2520(e)(10) and a subsequent finding of compliance is made by the WVDAQ, the operating limits listed above may be revised as allowed under the Federal Regulation.
[40 C.F.R. §63.2465, 45CSR34]

5.2.7. In order to demonstrate compliance with MON control requirements for storage tanks within 5.1.12, the permittee shall, when required per 5.1.12, monitor and record the following parameters and maintain scrubber flows above the minimum operating limits:

Emission Group / Tank ID(s)	Control Equipment ID	Operating Limit Scrubber Water Flow gallons per min – (gpm)
252 / T-596	S-272 Scrubber	> 0.30

The operating limits summarized above were defined within the permittee's notification of compliance status report dated October 6, 2008. Upon submittal of a notification of process change as specified within §63.2520(e)(10) and a subsequent finding of compliance is made by the WVDAQ, the operating limits listed above may be revised as allowed under the Federal Regulation.
[40 C.F.R. §63.2470, 45CSR34]

5.3 Testing Requirements

5.3.1 Stack testing will be performed upon the request of the Director per 45CSR§7-8.1.
[45CSR§7-8.1.]

5.4 Recordkeeping Requirements

5.4.1. R*ecord of Maintenance of Air Pollution Control Equipment.* For all pollution control equipment listed in Section 1.0 and identified as permitted in R13-1649B, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.
[45CSR13, Permit R13-1649B, (Condition 4.4.2)]

5.4.2. *Record of Malfunctions of Air Pollution Control Equipment.* For all air pollution control equipment listed in Section 1.0 and identified as permitted in R13-1649B, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:

a. The equipment involved.

b. Steps taken to minimize emissions during the event.
c. The duration of the event.
d. The estimated increase in emissions during the event.

For each such case associated with an equipment malfunction, the additional information shall also be recorded:

e. The cause of the malfunction.
f. Steps taken to correct the malfunction.
g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.

[45CSR13, Permit R13-1649B, (Condition 4.4.3)]

5.4.3. The emission estimation models and calculation methodologies developed in Section 5.1.5, as well as production records for each calendar month, shall be maintained on-site, or readily accessible to the site, for a period of five (5) years. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.
[45CSR13, Permit R13-1649B, (Condition 4.4.4)]

5.4.4. Reserved.

5.4.5. The permittee shall maintain all records on-site, or readily accessible to the site, for a period of five (5) years, including quarterly emissions reports of emissions calculated by the method described in section 5.1.5. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his/her duly authorized representative upon request.
[45CSR13, Permit R13-1649B, (Condition 4.4.5)]

5.4.6 **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 5.2.4, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.
[45CSR§30-5.1.c., Emission Unit ID (C-49, C-196, C-370, C-406 and S-157)]

5.4.7 **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in Section 5.2.4, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment that results in emissions of an air pollutant in excess of an applicable standard. For each such case, the following information shall be recorded:

a. The equipment involved.

b. Steps taken to minimize emissions during the event.

c. The estimated duration of the event.

d. The estimated increase in emissions during the event.

For each such case associated with an equipment malfunction, the additional information shall also be recorded:

e. The cause of the malfunction.

f. Steps taken to correct the malfunction.

g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of malfunction.
[45CSR§30-5.1.c., Emission Unit ID (C-49, C-196, C-370, C-406 and S-157)]

5.4.8 The emission estimation models and calculation methodologies developed in Section 5.1.8, as well as production records for each calendar month shall be maintained onsite or readily accessible to the site for a period of five (5) years. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.
[45CSR§30-5.1.c, 45CSR§7-3.1, 4.2., Emission Point ID (2001, 2005, 2509)]

5.4.9 The permittee shall maintain onsite or readily accessible to the site for a period of five (5) years a tabulation of actual emissions generated using those methods specified in Section 5.1.8., over a calendar year period. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request
[45CSR§30-5.1.c, 45CSR§7-3.1, 4.2., Emission Point ID (2001, 2005, 2509)]

5.5 Reporting Requirements

5.5.1. None

5.6 Compliance Plan

5.6.1. None

6.0 Source-Specific Requirements [Polymers II] – Emission Groups (301, 303, 306, 307, 308, 313, 315, 331, 337, 339, 341, 344, 345, 346, 349, 352, 353, 354, 355, 356)

6.1 Limitations and Standards

6.1.1 **Acetoxy Capper** Maximum emissions of volatile organic compounds from Emission Point Identification Number 3431 shall not exceed 0.127 pounds per hour or 0.556 tons per year.
[45CSR13, Permit R13-2030, (Condition A.1.), Emission Point ID (3431)]

6.1.2 **Acetoxy Capper** Maximum emissions of Hazardous Air Pollutants (HAPs), from Emission Point Identification Number 3431 shall not exceed 0.124 pounds per hour or 0.541 tons per year.
This total HAP limit streamlines compliance with the NSR propionaldehyde limitation since the values are equivalent.
[45CSR13, Permit R13-2030, (Condition A.2.), 45CSR§30-12.7, Emission Point ID (3431)]

6.1.3 **Acetoxy Capper** Maximum emissions of volatile organic compounds from Emission Point Identification Number 3435 shall not exceed 0.151 pounds per hour or 0.032 tons per year.
[45CSR13, Permit R13-2030, (Condition A.3.), Emission Point ID (3435)]

6.1.4 **R-79** Emissions of volatile organic chemicals from emission point ID 3412 shall not exceed 1.77 tons per year.
[45CSR13, Permit R13-1748, (Condition 4.1.1.), Emission Point ID (3412)]

6.1.5. **R-79** Compliance with the emission limits set forth in 6.1.4 shall be demonstrated by calculating emissions from the Continuous SiH process using ChemCAD®, Essential EHS (formerly known as PlantWare®), or Emission Master®, emission modeling software, or other appropriate emission estimation models or calculation methodologies (e.g., USEPA's TANKS 4.0, WATER9, etc.). When these emissions are calculated, each emission point listed in Section 1.0 and identified as permitted in R13-1748 with emissions of regulated air pollutants listed in Section 6.1.4 shall be included in the calculations and accounted for in the emission estimates. The emission models and other calculation methods shall be maintained current for all processes, process modifications and new product variants. The Director of the Division of Air Quality may specify or may approve other valid methods for compliance determination when he or she deems it appropriate and necessary.
[45CSR13, Permit R13-1748, (Condition 4.1.2.), Emission Point ID (3412)]

6.1.6 **Methyl Capper Oxidizer** The emissions to the atmosphere from Emission Point ID No. 3020 shall not exceed the following:

Emission Point ID No.	Equipment ID No.	Pollutant	Allowable Emissions	
			pph	Tpy
3020	S-248-A	HCl	0.1	0.2
		Cl_2	0.12	0.6
		NO_X	0.1	0.2
		CO	0.1	0.2
		PM_{10}	0.01	0.01
		PM_{Total}	0.01	0.01
		VOC	1	4.6

[45CSR13, Permit R13-2180, (Condition 4.1.1.), Emission Point ID (3020)]

6.1.7 MON MACT. The permittee shall comply with the applicable control device standards of Subpart FFFF, as specified by 40 C.F.R. §63.2450(e).
[40 CFR §63.2450(e), 45CSR34, Permit R13-2180, Condition 4.1.3., Control Equipment ID: E-2229-A, S-248]

6.1.8 **K-84** Vent emissions to the atmosphere from the K-84 Production Unit, shall not exceed the emission limitations set forth in Table 6.1.8.

Table 6.1.8. Emission Limits for the K-84 Production Unit

Pollutant	Emission Limit	
	pph	Tpy
VOC	6.8	0.32
THAP	4.18	0.223

[45CSR13, Permit R13-0952C, (Condition 4.1.1.), Emission Point ID(s) (See Section 1.0 R13-0952C emission points)]

6.1.9 **K-84** During all periods of normal operations, process vent air emissions from the K-84 unit shall be routed to and controlled by their associated control devices prior to venting emissions to the atmosphere.
[45CSR13, Permit R13-0952C, (Condition 4.1.2.), Emission Point ID(s) (See Section 1.0 R13-0952C emission points)]

6.1.10 **K-84** Compliance with the emission limits set forth in 6.1.8. shall be demonstrated by calculating emissions for every product in the K-84 Production Unit using ChemCAD®, Essential EHS (formally known as PlantWare®), or Emission Master®, emission modeling software, or other appropriate emission estimation models or calculation methodologies (e.g., USEPA's TANKS 4.0, WATER9, etc.). When these emissions

are calculated, each emission point listed in Section 1.0 and identified as permitted in R13-925C with emissions of regulated air pollutants listed in 6.1.8 shall be included in the calculations and accounted for in the emission estimates. The emission models and other calculation methods shall be maintained current for all processes, process modifications and new product variants. The Director of the Division of Air Quality may specify or may approve other valid methods for compliance determination when he or she deems it appropriate and necessary.
[45CSR13, Permit R13-0952C, (Condition 4.1.3.), Emission Point ID(s) (See Section 1.0 R13-0952C emission points)]

6.1.11 **K-84** *Operation and Maintenance of Air Pollution Control Equipment.* The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and identified as permitted in R13-0952C, and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.
[45CSR13, Permit R13-0952C, (Condition 4.1.4.), Emission Unit ID(s) (S-192), Emission Point ID (3402)]

6.1.12 **MON MACT**. In order to demonstrate compliance with the continuous process vent standards of the MON, the permittee shall operate the thermal incinerator at or above 1840°F which was the minimum temperature established during the performance test of December 2007 or a minimum temperature established by the most recent performance test that documented compliance with emission limits.
[40 C.F.R. §63.2450(e), 45CSR34, 45CSR13, Permit R13-2180, Condition 4.1.4, Emission Point ID **(3020)]**

6.1.13 **MON MACT.** In order to demonstrate compliance with the applicable continuous process vent standards of Subpart FFFF, the permittee shall operate the water scrubber with a minimum makeup water flow rate at or above 7.9 gpm, which was the water flow rate established during the December 5, 2007 MON performance test or a minimum makeup water flow rate established by the most recent performance test that documented compliance with emission limits.
[40 C.F.R. §63.2450(e), 45CSR34, 45CSR13, Permit R13-2180, Condition 4.1.5, Emission Unit ID (S-248)]

6.1.14. **Methyl Capper Oxidizer** Emissions to the atmosphere from the Methyl Capper Thermal Oxidizer, Equipment ID No. E-2229 shall not exceed the emission limitations set forth in Table 6.1.14.

Table 6.1.14. Emission Limits for E-2229 (Methyl Capper Thermal Oxidizer)

Pollutant	Emission Limit lb/hr
PM_{10}	0.20
Opacity	20%

[45CSR§§6-4.1 and 4.3, 45CSR13, Permit R13-2180, Condition 4.1.7, Emission Unit (E-2229)]

6.1.15. **45CSR7** Except as authorized by or pursuant to 45 CSR 7, emissions to the atmosphere from the following emission points subject to 45CSR7 – "To Prevent and Control Particulate Matter Air Pollution from Manufacturing Processes and Associated Operations" shall not exceed the emission limitations set forth in Table 6.1.15.

Table 6.1.15.

Emission Point ID	Pollutant	Emission Limit
3020	HCl	210 mg/m^3
3027	HCl Opacity	420 mg/m^3 20%
3030	HCl Opacity	210 mg/m^3 20%
3033	HCl Opacity	210 mg/m^3 20%
3034	HCl Opacity	420 mg/m^3 20%
3037	HCl Opacity	420 mg/m^3 20%
3043	HCl Opacity	420 mg/m^3 20%
3402	HCl Opacity	210 mg/m^3 20%

[45CSR§7-3.1, 4.2., Emission Point ID(s) (3020, 3027, 3030, 3033, 3034, 3037, 3043 and 3402)]
[45CSR13, Permit R13-2180, condition 4.1.8, Emission Point ID (3020)]

6.1.16 **45CSR7** Compliance with the concentration standards for HCl shall be demonstrated by calculating emissions from the emission points listed in Table 6.1.15 ~~18~~ above, using ChemCAD®, Essential EHS (formerly known as PlantWare®), or Emission Master®, emission modeling software, or other appropriate emission estimation models or calculation methodologies (e.g., USEPA's TANKS 4.0, WATER9, etc.). The emission models and other calculation methods shall be maintained current for all processes, process modifications and new product variants. The Director of the Division of Air Quality may specify or may approve other valid methods for compliance determination when he or she deems it appropriate and necessary.
[45CSR§30-5.1.c., Emission Point ID(s) 3020, 3027, 3030, 3033, 3034, 3037, 3043, and 3402]

6.1.17 MON MACT. The permittee shall comply with the applicable continuous process vent standards of Subpart FFFF, as specified by 40 C.F.R. §63.2455.
[40 CFR §63.2455, 45CSR34, 45CSR13, Permit R13-2180, Condition 4.1.2., Emission Point 3020]

6.1.18 MON MACT. The permittee shall comply with the applicable batch process vent standards of Subpart FFFF, as specified by 40 C.F.R. §63.2460.
[40 C.F.R. §63.2460, 45CSR34]

6.1.19 MON MACT. The permittee shall comply with the applicable process vent standards for sources that emit hydrogen halide and halogen HAP or HAP metals of Subpart FFFF, as specified by 40 C.F.R. §63.2465.
[40 C.F.R. §63.2465, 45CSR34]

6.1.20 MON MACT. The permittee shall comply with the applicable transfer rack standards of Subpart FFFF, as specified by 40 C.F.R. §63.2475.
[40 C.F.R. §63.2475, 45CSR34]

6.1.21 MON MACT. The permittee shall comply with the applicable storage tank standards of Subpart FFFF, as specified by 40 C.F.R. §63.2470.
[40 C.F.R. §63.2470, 45CSR34, Emission Group 312]

6.1.22 MON MACT. The permittee shall comply with the equipment leak standards of Subpart FFFF, as specified by 40 C.F.R. §63.2480.
[40 C.F.R. §63.2480, 45CSR34]

6.1.23 MON MACT. The permittee shall comply with the applicable wastewater streams and liquid streams in open systems within an MCPU standards of Subpart FFFF as specified by 40 C.F.R. §63.2485.
[40 C.F.R. §63.2485, 45CSR34]

6.1.24. MON MACT. The permittee shall comply with Startup, Shutdown and Malfunction Plan requirements as specified by 40 C.F.R. 63.6, 40 C.F.R.§63.2450(a), and 40 C.F.R.§63.2525(j).
[40 C.F.R. §63.6, 40 C.F.R.§63.2450(a), and 40 C.F.R.§63.2525(j), 45CSR34, Permit R13-2180, Condition 4.1.6.]

6.2 Monitoring Requirements

6.2.1 **K-84** The permittee shall perform monitoring of all equipment parameters listed in Attachment D per the minimum data collection frequency and per the data averaging period as indicated.
[45CSR13, Permit R13-0952C, (Condition 4.2.1.), Emission Point ID (3402)]

6.2.2 Reserved

6.2.3 For the purpose of determining compliance with the opacity limits of 45CSR§§7-3.1 and 45CSR§6-4.3, the permittee shall conduct visible emission checks and/or opacity monitoring and recordkeeping for all emission sources subject to an opacity limit. The opacity monitoring shall include visual emission checks, as described below, for all emission points subject to an opacity limit contained within this section.

Monitoring shall be conducted at least once per month with a maximum of forty-five (45) days between consecutive readings. After three consecutive monthly readings point in which no visible emissions are observed from an emission point subject to an opacity standard, permittee may conduct visible emission checks or opacity monitoring once per calendar quarter. If visible emissions or opacity are observed during a quarterly monitoring from an emission point(s), or at any other time, then that emission point(s) with observed emissions or opacity shall be required to revert to monthly monitoring. Any emission point that has reverted to monthly monitoring shall be allowed to again conduct quarterly visible emission checks or opacity monitoring only after three consecutive monthly readings in which no visible emissions are observed from the subject emission point.

These checks shall be conducted by personnel trained in the practices and limitations of 40 C.F.R. 60, Appendix A, Method 22, during periods of normal operation of emission sources that vent from the referenced emission points for a sufficient time interval, but no less than one (1) minute, to determine if there is a visible emission.

If visible emissions are identified during the visible emission check, or at any other time regardless of operations, the permittee shall conduct an opacity reading using the procedures and requirements of 45CSR7A or Method 9 within three (3) days of the first sign of visible emissions. A 45CSR7A or Method 9 evaluation shall not be required if the visible emission condition is corrected within three (3) days after the visible emission and the sources are operating at normal conditions.
[45CSR§30-5.1.c.)]

6.2.4 The permittee will conduct inspection and/or preventive maintenance of the control devices C-426, E-1442, K81 sump, S-192, S-248, and T-658 once every two years.
[45CSR§30-5.1.c., Emission Unit ID (C-426, E-1442, K81 sump, S-192, S-248, and T-658)]

6.2.5 **MON MACT.** The permittee shall comply with the applicable monitoring requirements of the MON MACT as specified by 40 C.F.R. §63.2450(e).
[40 C.F.R. §63.2450(e), 40 C.F.R. 63 Subpart SS, 45CSR34, 45CSR13, permit R13-2180, 4.2.1.]

6.2.6. **MON MACT.** The permittee shall continuously monitor the thermal incinerator temperature and scrubber water flow rate specified in Sections 6.1.12 and 6.1.13. Data values are to be measured at least once every 15 minutes as specified by 40 C.F.R. §63 Subpart SS.
[40 C.F.R. §63.2450(e), 40 C.F.R. 63 Subpart SS, 45CSR34, 45CSR13, permit R13-2180, 4.2.2.]

6.3 Testing Requirements

6.3.1 Stack testing will be performed upon the request of the Director per 45CSR§7-8.1.
[45CSR§7-8.1.]

6.3.2. **MON MACT.** The permittee shall comply with the applicable performance test requirements of the MON MACT as specified by 40 C.F.R. §63.2450(e).
[40 C.F.R. §63.2450(e), 40 C.F.R. 63 Subpart SS, 45CSR34, 45CSR13, permit R13-2180, 4.3.1.]

6.4 Recordkeeping Requirements

6.4.1 **K-84** The emission estimation models and calculation methodologies developed in Section 6.1.10, as well as production records for each calendar month shall be maintained onsite for a period of five (5) years. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.
[45CSR13, Permit R13-0952C, (Condition 4.4.4.), Emission Point ID (See Section 1.0 R13-0952C emission points)]

6.4.2 **K-84** The permittee shall maintain onsite for a period of five (5) years a tabulation of actual emissions generated using those methods specified in Section 6.1.10., over a calendar year period, showing emission totals for all regulated air pollutants. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.
[45CSR13, Permit R13-0952C, (Condition 4.4.5.), 45CSR§30-5.1.c., Emission Point ID (See Section 1.0 R13-0952C Emission Points)]

6.4.3 **K-84** Records of all monitoring data required by Section 6.2.1 shall be maintained onsite as follows:

a. All monitoring data required by Section 6.2.1, as specified in Attachment D, shall be maintained onsite for a period of no less than five (5) years. Such records may include strip charts, electronic data system records, and hand-written data forms. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

b. For each out-of-range occurrence of a monitoring parameter value for the averaging period specified in Attachment D, records stating the starting date/time and duration of the control device's out-of-range alarm or reading, the cause of the out-of-range parameter, and any corrective actions taken, shall be maintained onsite for a period of no less than five (5) years from the date of monitoring, sampling, or measurement. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

c. Missed readings for a monitoring parameter data element specified in Attachment D shall not exceed 5% of the total readings in a rolling consecutive twelve (12) month period, for each monitoring parameter data element. A twelve (12) month tabulation of missing readings for each monitoring parameter element shall be maintained onsite for a period of no less than five (5) years. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

d. In the event that an applicable rule or regulation (such as the MON MACT) requires monitoring more stringent than that required by Section 6.2.1, the more stringent provisions shall apply. Any such required monitoring data shall be maintained onsite for a period of no less than five (5) years. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

[45CSR13, Permit R13-0952C, (Condition 4.4.6.), Equipment ID (S-192), Emission Point ID (3402)]

6.4.4 **K-84** The permittee shall keep and maintain accurate records stating the date of each control device's inspection and/or preventative maintenance activity, the results of the inspection and/or preventative maintenance activity, and any corrective actions taken. These records shall be maintained onsite for a period of no less than five (5) years. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.
[45CSR13, Permit R13-0952C, (Condition 4.4.4.), Equipment ID (S-192)]

6.4.5. **R-79** The emission/discharge estimation models and calculation methodologies developed in Section 6.1.5., as well as production records for each calendar month shall be maintained on site for a period of five (5) years. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.
[45CSR13, Permit R13-1748, (Condition 4.4.4.), Equipment ID (Section 1.0 R13-1748 equipment)]

6.4.6. **R-79** The permittee shall maintain on site for a period of five (5) years a tabulation of actual emissions generated using those methods specified in Section 6.1.5 over a calendar year period, showing emission totals for the regulated air pollutants listed in Section 6.1.4. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.
[45CSR13, Permit R13-1748, (Condition 4.4.5.), 45CSR§30-5.1.c., Emission Point ID (3412)]

6.4.7. **K-84** *Record of Maintenance of Air Pollution Control Equipment.* For all pollution control equipment listed in Section 1.0 and identified as permitted in R13-0952C, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.
[45CSR13, Permit R13-0952C, (Condition 4.4.2.)]

6.4.8. **K-84** *Record of Malfunctions of Air Pollution Control Equipment.* For all air pollution control equipment listed in Section 1.0 and identified as permitted in R13-0952C, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:

a. The equipment involved.

b. Steps taken to minimize emissions during the event.

c. The duration of the event.

d. The estimated increase in emissions during the event.

For each such case associated with an equipment malfunction, the additional information shall also be recorded:

e. The cause of the malfunction.

f. Steps taken to correct the malfunction.

g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.
[45CSR13, Permit R13-0952C, (Condition 4.4.3.)]

6.4.9. **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 6.2.3, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.
[45CSR§30-5.1.c., Emission Unit ID (C-426, E-1442, K81 sump, S-192, S-248, and T-658)]

6.4.10 **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in Section 6.2.3, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment that results in emissions of an air pollutant in excess of an applicable standard. For each such case, the following information shall be recorded:
a. The equipment involved.
b. Steps taken to minimize emissions during the event.
c. The estimated duration of the event.
d. The estimated increase in emissions during the event.

For each such case associated with an equipment malfunction, the additional information shall also be recorded:
e. The cause of the malfunction.
f. Steps taken to correct the malfunction.

g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of malfunction.
[45CSR§30-5.1.c., Emission Unit ID (C-426, E-1442, K81 sump, S-192, S-248, and T-658)]

6.4.11 The emission estimation models and calculation methodologies developed in Section 6.1.16, as well as production records for each calendar month shall be maintained onsite or readily accessible to the site for a period of five (5) years. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.
[45CSR§30-5.1.c, 45CSR§7-3.1, 4.2., Emission Point ID (3020, 3027, 3030, 3033, 3034, 3037, 3043, and 3402)]

6.4.12 The permittee shall maintain onsite or readily accessible to the site for a period of five (5) years a tabulation of actual emissions generated using those methods specified in Section 6.1.16, over a calendar year period. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request
[45CSR§30-5.1.c, 45CSR§7-3.1, 4.2., Emission Point ID (3020, 3027, 3030, 3033, 3034, 3037, 3043, and 3402)]

6.4.13. **MON MACT.** The permittee shall maintain the applicable records for MON MACT compliance as specified by 40 C.F.R. §63.2525.
[40 C.F.R. §63.2525, 40 C.F.R. §63.998, 45CSR34, 45CSR13, permit R13-2180, 4.4.4.]

6.4.14. **MON MACT.** The permittee shall maintain the applicable continuous records and daily averages for the thermal incinerator and water scrubber specified in sections 6.1.12 and 6.1.13, and as specified by 40 C.F.R. §63.998.
[40 C.F.R. §63.2525, 40 C.F.R. §63.998, 45CSR34, 45CSR13, permit R13-2180, 4.4.5.]

6.4.15. **MON MACT.** The permittee shall maintain records to demonstrate compliance with Startup, Shutdown and Malfunction Plan requirements set forth in Section 6.1.24.
[40 C.F.R. §63.6, 40 C.F.R.§63.2450(a), and 40 C.F.R.§63.2525(j), 45CSR34, 45CSR13, permit R13-2180, 4.4.6.]

6.5 Reporting Requirements

6.5.1 **K-84** If the permittee emits any HAPs other than those listed in Attachment E from the K-84 Production Unit, at an estimated annual emission rate of 50 ppy or greater, the permittee shall provide written notification to the Director of the Division of Air Quality within thirty (30) days of knowledge of such emission. This written notification shall include the potential to emit (in pph and tpy) for each new HAP species from each of the newly identified emission points or existing emission points listed in, Section 1.0 and identified as permitted in R13-0952C, that emit HAP species.
[45CSR13, Permit R13-0952C, (Condition 4.5.1.), Emission Point ID (See Section 1.0 R13-0952C emission points)]

6.5.2. **MON MACT.** The permittee shall comply with reporting requirements as specified by 40 C.F.R. §63.2520.
[40C.F.R.§63.2520, 45CSR34, 45CSR13, permit R13-2180, 4.5.1.]

6.6 Compliance Plan

None

7.0. Source-Specific Requirements [Specialties East] Emission Groups (405, 409, 412, 415, 416, 417, 418, 431, 432, 449)

7.1. Limitations and Standards

7.1.1. Except as authorized by or pursuant to 45 CSR 7, emissions to the atmosphere from the following emission points subject to 45CSR7 – "To Prevent and Control Particulate Matter Air Pollution from Manufacturing Processes and Associated Operations" shall not exceed the emission limitations set forth in Table 7.1.1.

Table 7.1.1.

Emission Point ID	Pollutant	Emission Limit
4001	HCl Opacity	420 mg/m^3 20%
4002	HCl Opacity	420 mg/m^3 20%
4004	HCl Opacity	420 mg/m^3 20%
4006	HCl Opacity	420 mg/m^3 20%

[45CSR§7-3.1, 4.2., Emission Point ID(s) 4001, 4002, 4004 and 4006]

7.1.2. Compliance with the concentration standards for HCl shall be demonstrated by calculating emissions from the emission points listed in Table 7.1.1 above, using ChemCAD®, Essential EHS (formerly known as PlantWare®), or Emission Master®, emission modeling software, or other appropriate emission estimation models or calculation methodologies (e.g., USEPA's TANKS 4.0, WATER9, etc.). The emission models and other calculation methods shall be maintained current for all processes, process modifications and new product variants. The Director of the Division of Air Quality may specify or may approve other valid methods for compliance determination when he or she deems it appropriate and necessary.
[45CSR§30-5.1.c., Emission Point ID(s) 4001, 4002, 4004 and 4006]

7.1.3. MON MACT. The permittee shall comply with the applicable continuous process vent standards of Subpart FFFF, as specified by 40 C.F.R. §63.2455.
[40 C.F.R. §63.2455, 45CSR34, Emission Group 431]

7.1.4 MON MACT. The permittee shall comply with the applicable batch process vent standards of Subpart FFFF, as specified by 40 C.F.R. §63.2460.
[40 C.F.R. §63.2460, 45CSR34]

7.1.5 MON MACT. The permittee shall comply with the applicable process vent standards for sources that emit hydrogen halide and halogen HAP or HAP metals of Subpart FFFF, as specified by 40 C.F.R. §63.2465.
[40 C.F.R. §63.2465, 45CSR34, Emission Group 405]

7.1.6 MON MACT. The permittee shall comply with the equipment leak standards of Subpart FFFF, as specified by 40 C.F.R. §63.2480.
[40 C.F.R. §63.2480, 45CSR34]

7.1.7 MON MACT. The permittee shall comply with the applicable wastewater streams and liquid streams in open systems within an MCPU standards of Subpart FFFF as specified by 40 C.F.R. §63.2485.
[40 C.F.R. §63.2485, 45CSR34]

7.1.8 MON MACT. The permittee shall comply with the applicable heat exchanger system standards of Subpart FFFF, as specified by 40 C.F.R. §63.2490.
[40 C.F.R. §63.2490, 45CSR34, Emission Groups 415, 432]

7.2. Monitoring Requirements

7.2.1 The permittee will conduct inspection and/or preventive maintenance of the control devices C-65, C-75, C-80, and C-448 once every two years.
[45CSR§30-5.1.c., Emission Unit ID (C-65, C-75, C-80, C-448)]

7.2.2. For the purpose of determining compliance with the opacity limits of 45CSR§§7-3.1, the permittee shall conduct visible emission checks and/or opacity monitoring and recordkeeping for all emission sources subject to an opacity limit. The opacity monitoring shall include visual emission checks, as described below, for all emission points subject to an opacity limit contained within this section.

Monitoring shall be conducted at least once per month, with a maximum of forty-five (45) days between consecutive readings. After three consecutive monthly readings in which no visible emissions are observed from an emission point subject to an opacity standard, Permittee may conduct visible emission checks or opacity monitoring once per calendar quarter for that emission point. If visible emissions or opacity are observed during a quarterly monitoring from an emission point(s), or at any other time, then that emission point(s) with observed emissions or opacity shall be required to revert to monthly monitoring. Any emission point that has reverted to monthly monitoring shall be allowed to again conduct quarterly visible emission checks or opacity monitoring only after three consecutive monthly readings in which no visible emissions are observed from the subject emission point.

These checks shall be conducted by personnel trained in the practices and limitations of 40 C.F.R. 60, Appendix A, Method 22, during periods of normal operation of emission sources that vent from the referenced emission points for a sufficient time interval, but no less than one (1) minute, to determine if there is a visible emission

If visible emissions are identified during the visible emission check, or at any other time regardless of operations, the permittee shall conduct an opacity reading using the procedures and requirements of 45CSR7A or Method 9 within three (3) days of the first sign of visible emissions. A 45CSR7A or Method 9 evaluation shall not be required if the visible emission condition is corrected within three (3) days after the visible emission and the sources are operating at normal conditions.
[45CSR§30-5.1.c.)]

7.2.3 In order to demonstrate compliance with MON control requirements for halogenated process vents within 7.1.5 the permittee shall, when required per 7.1.5, monitor and record the following parameters and maintain scrubber flows above the minimum operating limits:

Emission Group	Control Equipment ID	Operating Limit Scrubber Water Flow gallons per min – (gpm)
405	K-18 Scrubber	> 7.0

The operating limits summarized above were established within the permittee's notification of compliance status report dated October 6, 2008. Upon submittal of a notification of process change as specified within §63.2520(e)(10) and a subsequent finding of compliance is made by the WVDAQ, the operating limits listed above may be revised as allowed under the Federal Regulation.
[40 C.F.R. §63.2465, 45CSR34]

7.3. Testing Requirements

7.3.1. Stack testing will be performed upon the request of the Director per 45CSR§7-8.1.
[45CSR§7-8.1.]

7.4. Recordkeeping Requirements

7.4.1 **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 7.2.1, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.
[45CSR§30-5.1.c., Emission Unit ID (C-65, C-75, C-80, C-448)]

7.4.2 **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in Section 7.2.1, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment that results in emissions of an air pollutant in excess of an applicable standard. For each such case, the following information shall be recorded:

a. The equipment involved.

b. Steps taken to minimize emissions during the event.

c. The estimated duration of the event.

d. The estimated increase in emissions during the event.

For each such case associated with an equipment malfunction, the additional information shall also be recorded:

e. The cause of the malfunction.

f. Steps taken to correct the malfunction.

g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of malfunction.
[45CSR§30-5.1.c., Emission Unit ID (C-65, C-75, C-80, C-448)]

7.4.3 The emission estimation models and calculation methodologies developed in Section 7.1.2, as well as production records for each calendar month shall be maintained onsite or readily accessible to the site for a period of five (5) years. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.
[45CSR§30-5.1.c, 45CSR§7-3.1, 4.2., Emission Point ID (4001, 4002, 4004, and 4006)]

7.4.4 The permittee shall maintain onsite or readily accessible to the site for a period of five (5) years a tabulation of actual emissions generated using those methods specified in Section 7.1.2., over a calendar year period. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request
[45CSR§30-5.1.c, 45CSR§7-3.1, 4.2., Emission Point ID (4001, 4002, 4004, and 4006)]

7.5. Reporting Requirements

7.5.1 None

7.6 Compliance Plan

7.6.1 None

8.0 Source-Specific Requirements [Distribution] Emission Group (578)

8.1 Limitations and Standards

8.1.1 Except as authorized by or pursuant to 45 CSR 7, emissions to the atmosphere from the following emission points subject to 45CSR7 – "To Prevent and Control Particulate Matter Air Pollution from Manufacturing Processes and Associated Operations" shall not exceed the emission limitations set forth in Table 8.1.1.

Table 8.1.1.

Emission Point ID	Pollutant	Emission Limit
5074	HCl Opacity	420 mg/m^3 20%

[45CSR§7-3.1, 4.2., Emission Point ID(s) 5074]

8.1.2. Compliance with the concentration standards for HCl shall be demonstrated by calculating emissions from the emission points listed in Table 8.1.1 above, using ChemCAD®, Essential EHS (formerly known as PlantWare®), or Emission Master®, emission modeling software, or other appropriate emission estimation models or calculation methodologies (e.g., USEPA's TANKS 4.0, WATER9, etc.). The emission models and other calculation methods shall be maintained current for all processes, process modifications and new product variants. The Director of the Division of Air Quality may specify or may approve other valid methods for compliance determination when he or she deems it appropriate and necessary.
[45CSR§30-5.1.c., Emission Point ID(s) 5074]

8.2 Monitoring Requirements

8.2.1 The permittee will conduct inspection and/or preventive maintenance of the control device S-169 once every two years.
[45CSR§30-5.1.c., Emission Unit ID (S-169)]

8.2.2. For the purpose of determining compliance with the opacity limits of 45CSR§§7-3.1, the permittee shall conduct visible emission checks and/or opacity monitoring and recordkeeping for all emission sources subject to an opacity limit. The opacity monitoring shall include visual emission checks, as described below, for all emission points subject to an opacity limit contained within this section.

Monitoring shall be conducted at least once per month, with a maximum of forty-five (45) days between consecutive readings. After three consecutive monthly readings in which no visible emissions are observed from an emission point subject to an opacity standard, Permittee may conduct visible emission checks or opacity monitoring once per calendar quarter for that emission point. If visible emissions or opacity are observed during a quarterly monitoring from an emission point(s), or at any other time, then that emission point(s) with observed emissions or opacity shall be required to revert to monthly monitoring. Any emission point that has reverted to monthly monitoring shall be allowed to again conduct quarterly visible emission checks or opacity monitoring only after three consecutive monthly readings in which no visible emissions are observed from the subject emission point.

These checks shall be conducted by personnel trained in the practices and limitations of 40 C.F.R. 60, Appendix A, Method 22, during periods of normal operation of emission sources that vent from the referenced emission points for a sufficient time interval, but no less than one (1) minute, to determine if there is a visible emission

If visible emissions are identified during the visible emission check, or at any other time regardless of operations, the permittee shall conduct an opacity reading using the procedures and requirements of 45CSR7A or Method 9 within three (3) days of the first sign of visible emissions. A 45CSR7A or Method 9 evaluation shall not be required if the visible emission condition is corrected within three (3) days after the visible emission and the sources are operating at normal conditions.
[45CSR§30-5.1.c.)]

8.3 Testing Requirements

8.3.1. Stack testing will be performed upon the request of the Director per 45CSR§7-8.1.
[45CSR§7-8.1.]

8.4 Recordkeeping Requirements

8.4.1 **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 8.2.1, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.
[45CSR§30-5.1.c., Emission Unit ID (S-169)]

8.4.2 **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in Section 8.2.1, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment that results in emissions of an air pollutant in excess of an applicable standard. For each such case, the following information shall be recorded:

a. The equipment involved.

b. Steps taken to minimize emissions during the event.

c. The estimated duration of the event.

d. The estimated increase in emissions during the event.

For each such case associated with an equipment malfunction, the additional information shall also be recorded:

e. The cause of the malfunction.

f. Steps taken to correct the malfunction.

g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of malfunction.
[45CSR§30-5.1.c., Emission Unit ID (S-169)]

8.4.3 The emission estimation models and calculation methodologies developed in Section 8.1.2, as well as production records for each calendar month shall be maintained onsite or readily accessible to the site for a period of five (5) years. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.
[45CSR§30-5.1.c, 45CSR§7-3.1, 4.2., Emission Point ID (5074)]

8.4.4 The permittee shall maintain onsite or readily accessible to the site for a period of five (5) years a tabulation of actual emissions generated using those methods specified in Section 8.1.2., over a calendar year period. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request
[45CSR§30-5.1.c, 45CSR§7-3.1, 4.2., Emission Point ID (5074)]

8.5 Reporting Requirements

8.5.1 None

8.6 Compliance Plan

8.6.1 None

9.0. Source-Specific Requirements [Environmental Protection]; Emission Group(s): (601, 649, 651)

9.1. Limitations and Standards

9.1.1. Emissions from the Wastewater Air Strippers ("Air Strippers") released to the atmosphere through Emission Points 6011 and 6012 shall not exceed the emission limitations set forth in Table 4.1.1.

Table 9.1.1. – Total Combined Emission Limits for Emission Points 6011 and 6012

Pollutant	Emission Limits	
	Hourly (pph)	Annual (tpy)
Ethyl Chloride	2.7	7.9
Methyl Chloride	2.7	3.5
Toluene	2.7	4.9
VOC[1]	12.8	21.2

1 – As described in Sections 9.2.1. and 9.2.3.

[45CSR13, Permit R13-1746, (Condition 4.1.1.), Emission Point ID (6011, 6012)]

9.1.2. As used herein, "process upset or accidental spills" shall be defined as an event that necessitates the use of the purge blowers due to elevated VOC concentrations in the wastewater treatment unit UNOX bioreactor units.
[45CSR13, Permit R13-1746, (Condition 4.1.2.), Emission Point ID (6011, 6012)]

9.1.3. Operation and Maintenance of Air Pollution Control Equipment. The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 as permitted by R13-1746 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.
[45CSR13, Permit R13-1746, (Condition 4.1.3.)]

9.1.4. Emissions to the atmosphere from emission point 6509, the stack venting the venturi scrubber used to control emissions from the waste storage tanks identified as T-1650 and T-1651 shall not exceed 1.69 lb/hr of non- methane hydrocarbons
[45CSR13, Permit R13-1107, (Condition A.1.), Emission Point ID (6509)]

9.2. Monitoring Requirements

9.2.1. During normal operations of the Air Strippers, the permittee shall be required to conduct, or have conducted, monitoring for pollutants as required by the facility's National Pollutant Discharge Elimination System (NPDES) permit, to determine the Air Strippers' inlet and outlet wastewater concentrations of regulated pollutants; and to determine wastewater flow rates, in order to determine emissions to the atmosphere resulting from the operation of the Air Strippers. NPDES required monitoring for specific

pollutants is required on weekly, quarterly, or annual bases, depending on the likelihood of the presence of each pollutant. The emissions of these pollutants shall be calculated using the difference between the inlet and outlet concentrations of each monitored pollutant and the wastewater flow rate.

Compliance with the hourly emission limits of Table 9.1.1. shall be determined by the calendar monthly average of monitoring results for those pollutants – both speciated and/or belonging to the class of pollutants VOC – that are monitored on a weekly basis. A calendar monthly average shall mean an average of the weekly monitoring conducted in a calendar month during normal operations.
[45CSR13, Permit R13-1746, (Condition 4.2.1.), Emission Point ID (6011, 6012)]

9.2.2. In the event of process upsets or accidental spills that affect emissions from the wastewater treatment system, the monitoring described in 9.2.1., that is conducted on a weekly basis, shall be performed within six (6) hours of the initial determination of process upsets or accidental spills, and shall be repeated every six (6) hours until such abnormal conditions are corrected.
[45CSR13, Permit R13-1746, (Condition 4.2.2.), Emission Point ID (6011, 6012)]

9.2.3. The permittee shall demonstrate compliance with the annual emission limits set forth in Table 9.1.1. by calculating the sum of emissions described in Sections 9.2.3.a., 9.2.3.b., and 9.2.3.c., over a calendar year.

a. The total emissions for each defined week during which no process upsets or accidental spills occurred, calculated using the results of all the weekly concentration analyses and monthly average flow results conducted in accordance with 9.2.1. of this permit, and

b. The total emissions occurring during each defined week during which a process upset or accidental spill occurred, calculated using a time-weighted average of the monitoring conducted in accordance with 9.2.1. and 9.2.2., and

c. The total emissions of those pollutants – both speciated and/or belonging to the class of pollutants VOC – that are monitored on a quarterly or annual basis, using average flow results for the corresponding period.

[45CSR13, Permit R13-1746, (Condition 4.2.3.), Emission Point ID (6011, 6012)]

9.3. Testing Requirements

9.3.1. *[Reserved]*

9.4. Recordkeeping Requirements

9.4.1 The permittee shall prepare, on a monthly basis, an emissions summary of the results of the monitoring required under Sections 9.2.1., 9.2.2., and 9.2.3. of this permit. The emission summary shall include all information obtained from the monitoring required under this permit.
[45CSR13, Permit R13-1746, (Condition 4.4.4.), Emission Point ID (6011, 6012)]

9.4.2. The permittee shall maintain all records on-site, or readily accessible to the site, for a period of five (5) years. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his/her duly authorized representative upon request.
[45CSR13, Permit R13-1746, (Condition 4.4.5.), Emission Point ID (6011, 6012)]

9.5. Reporting Requirements

9.5.1. The permittee shall report to the Director any noncompliance with the emission limits under Table 9.1.1. In addition, the permittee shall report any process upset or accidental spills to the wastewater treatment facility which result in a violation of any of the applicable emission limits set forth in Table 9.1.1. of this permit. Such reports shall be made within five (5) business days to the DAQ by telephone or telefax. A written report of any such exceedance or accidental spill shall be submitted to the DAQ within ten (10) days of the permittee becoming aware of the exceedance or spill. Such written report shall include the probable cause of such exceedance or spill and any corrective actions or preventative measures taken. **[45CSR13, Permit R13-1746, (Condition 4.5.1.), Emission Point ID (6011, 6012)]**

9.6. Compliance Plan

9.6.1. None

10.0 Source-Specific Requirements [Rotary Kiln Incinerator]; Emission Group: (901)

10.1. Limitations and Standards

10.1.1. The permittee shall comply with all applicable requirements of 40 C.F.R. 63 Subpart EEE "National Emission Standard for Hazardous Air Pollutants from Hazardous Waste Combustors". The enumerated requirements that follow address specific obligations taken from applicable sections of this regulation. However, the permittee shall comply with the hazardous waste combustor MACT as referenced above in its entirety, which includes the specific requirements listed within this section of the Title V permit. In addition, the Permittee shall comply with applicable sections of 40 C.F.R. Part 63, Subpart A.
[45CSR34, 40 C.F.R. 63, Subpart EEE]

10.1.2. **Compliance with standards** The emission standards and operating requirements set forth in Section 10.1 apply at all times except as provided in §63.1206(b)(1)(i) and §63.1206(b)(1)(ii).
[45CSR34, 40 C.F.R. §63.1206(b)(1) Emission Unit E-10032]

10.1.3. **Emission Limits** The permittee shall comply with the Replacement Standards for Hazardous Waste Incinerators established within 40 C.F.R. §63.1219(a)(1-7), as follows: ~~standards established within *40 C.F.R. §63.1203(a)*, as follows:~~

(a) The Permittee must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) For dioxins and furans:

(i) (Not applicable) ~~Emissions in excess of 0.20 ng TEQ/dscm corrected to 7 percent oxygen; or~~

(ii) Emissions in excess of 0.40 ng TEQ/dscm corrected to 7 percent oxygen, for incinerators not equipped with either a waste heat boiler or dry air pollution control system; ~~provided that the combustion gas temperature at the inlet to the initial particulate matter control device is 400 °F or lower based on the average of the test run average temperatures. (For purposes of compliance, operation of a wet particulate control device is presumed to meet the 400 °F or lower requirement);~~

(2) Mercury in excess of 130 µg/dscm corrected to 7 percent oxygen;

(3) Lead and cadmium in excess of 230 ~~240~~ µg/dscm, combined emissions, corrected to 7 percent oxygen;

(4) Arsenic, beryllium, and chromium in excess of 92 ~~97~~ µg/dscm, combined emissions, corrected to 7 percent oxygen;

(5) For carbon monoxide and hydrocarbons, either:

(i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If the permittee elects to comply with this carbon

monoxide standard rather than the hydrocarbon standard under paragraph 40 C.F.R. §63.1203(a)(5)(ii), the permittee must also document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by §63.1206(b)(7), hydrocarbons do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) Hydrogen chloride ~~Hydrochloric acid~~ and chlorine gas in excess of 32 ~~77~~ parts per million by volume, combined emissions, expressed as a chloride (Cl(-)) equivalent, ~~hydrochloric acid equivalents,~~ dry basis and corrected to 7 percent oxygen; and

(7) Particulate matter in excess of 0.013 ~~0.015~~ gr/dscf corrected to 7 percent oxygen.

Alternatively, the permittee may comply with the alternative to the particulate matter standard for incinerators per *40 C.F.R.* §*63.1219(e)(2)* ~~*63.1206(b)(14)(ii)*~~:

(2) ~~ii)~~ ***Alternative metal emission control requirements for existing incinerators.***

(i) ~~(A)~~ The permittee must not discharge or cause combustion gases to be emitted into the atmosphere that contain cadmium, lead, and selenium in excess of 230 ~~240~~ µgm/dscm, combined emissions, corrected to 7 percent oxygen; and,

(ii) ~~(B)~~ The permittee must not discharge or cause combustion gases to be emitted into the atmosphere that contain antimony, arsenic, beryllium, chromium, cobalt, manganese, and nickel in excess of 92 ~~97~~ µgm/dscm, combined emissions, corrected to 7 percent oxygen.

[45CSR34, 40 C.F.R. §§63.1219(a)(1-7)~~1203(a)(1-7)~~, 40 C.F.R. §63.1219(e)(2)~~1206(b)(14)~~, Emission Point ID (9001)]

10.1.4. **Destruction and removal efficiency** Except as authorized by law or regulation, the permittee shall comply with the Replacement Standards for Hazardous Waste Incenerators ~~standards~~ established within *40 C.F.R. §§63.1219~~1203~~(c)(1) and (3)*:

(c) *Destruction and removal efficiency (DRE) standard.*

(1) *99.99% DRE.* , The permittee must achieve a destruction and removal efficiency (DRE) of 99.99% for each principle organic hazardous constituent (POHC) designated under paragraph ~~40 C.F.R. §63.1203~~(c)(3) of this section. The permittee must calculate DRE for each POHC from the following equation:

$$DRE = [1-(W_{out} / W_{in})] \times 100\%$$

Where:

W_{in} = mass feedrate of one principal organic hazardous constituent (POHC) in a waste

feedstream; and

W_{out} = mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(3) *Principal organic hazardous constituents (POHCs).*

(i) The permittee must treat the Principal Organic Hazardous Constituents (POHCs) in the waste feed that the permittee ~~you~~ specifies ~~specify~~ under paragraph 40 C.F.R. 63.1219~~1203~~(c)(3)(ii) to the extent required by paragraph 40 C.F.R. §63.1219~~1203~~(c)(1) and (c)(2).

(ii) The permittee must specify one or more POHCs that are representative of the most difficult to destroy organic compounds in the permittee's hazardous waste feedstream. The permittee must base this specification on the degree of difficulty of incineration of the organic constituents in the hazardous waste and on their concentration or mass in the hazardous waste feed, considering the results of hazardous waste analyses or other data and information. ~~The permittee must specify one or more POHCs from the list of hazardous air pollutants established by 42 U.S.C. 7412(b)(1), excluding caprolactam (CAS number 105602) as provided by §63.60, for each waste to be burned. The permittee must base this specification on the degree of difficulty of incineration of the organic constituents in the waste and on their concentration or mass in the waste feed, considering the results of waste analyses or other data and information.~~

[45CSR34, 40 C.F.R. §§63.1219~~1203~~(c)(1-3), Emission Point ID (9001)]

10.1.5. **Operating Parameter Limits** For the purpose of ensuring compliance with the emission standards of sections 10.1.3 and 10.1.4, the following operating parameter limits (OPLs) established during the Documentation of Compliance shall be maintained, except as authorized by law:

From Section 6 of the Notification of Compliance

Parameter	OPL	Averaging Period *	Emission Standard
Minimum Combustion Temperature	1599 ~~1595~~°F	HRA	DRE and D/F
Maximum Combustion Chamber Pressure	0.0 Inches W.C.	None	Fugitives
Maximum Combustion Gas Flow Rate	12,218 ~~12,125~~ scfm	HRA	DRE, D/F, HCl/Cl_2, SVM, LVM and PM
Maximum Pumpable Waste Feed Rate	3,112 lb/hr	HRA	DRE and D/F
Maximum Total Hazardous Waste Feed Rate	3,358 lb/hr	HRA	DRE and D/F
Maximum Ash Feed Rate	811~~653~~ lb/hr	4-HRA	PM
Maximum Total Chlorine and Chloride Feed Rate	709~~864~~ lb/hr	4-HRA	SVM, LVM, and HCl/Cl_2

Parameter	OPL	Averaging Period *	Emission Standard
Maximum Mercury Feed Rate	0.0019 lb/hr	4-HRA	Mercury
Maximum SVM Feed Rate	0.71 ~~0.20~~ lb/hr	4-HRA	SVM
Maximum Total LVM feed rate	1.27 ~~0.27~~ lb/hr	4-HRA	LVM
Maximum Pumpable LVM feed rate	1.27 ~~0.27~~ lb/hr	4-HRA	LVM
Maximum Hazardous Waste Viscosity	100 cP	None	DRE
Minimum Air Atomization Pressure	90 psig	None	DRE
Minimum Steam Atomization Pressure	80 psig	None	DRE
CO Concentration	100 ppmv	HRA	DRE
Minimum Combustion Gas Flow Rate	9,000 scfm	4-HRA	Mercury
Minimum Make-up Water Flow Rate for Ionizing Wet Scrubber (IWS)	8.4 gpm	HRA	PM
Minimum Sump Level for IW~~V~~S – Stage 3	47 ~~50~~% level	HRA	PM
Minimum Total Power Input to IWS – sum of stages 1, 2, and 3	5.455 ~~5.5~~ kVA	HRA	PM
Minimum Pressure Drop Across the IWS	0.36 inches W. C.	HRA	HCl/Cl_2
Minimum IWS – Stage 3 pH	2.7 ~~4.5~~ pH	HRA	HCl/Cl_2
Minimum IWS Scrubber Water Flow Rate to Gas Flow Rate Ratio	56 ~~47~~ gpm/1000 acfm	HRA	HCl/Cl_2
Minimum Pressure Drop Across the Counter Current Scrubber (CCS)	0.18 Inches W.C.	HRA	HCl/Cl_2
Minimum CCS Scrubber Water Flow Rate to Gas Flow Rate Ratio	36 ~~38~~ gpm / 1000 acfm	HRA	HCl/Cl_2
Minimum Pressure Drop Across the Cross Flow Scrubber (CFS)	0.24 Inches W.C.	HRA	HCl/Cl_2
Minimum CFS-Stage 2 Recirculation Stream pH	9.2 ~~8.8~~ pH	HRA	HCl/Cl_2
Minimum CFS Scrubber Water Flow Rate to Gas Flow Rate Ratio	32 ~~33~~ gpm /1000 acfm	HRA	HCl/Cl_2

*** HRA: Hourly Rolling Average; 4-HRA: 4-Hour Rolling Average**
[45CSR34, 40 C.F.R. §63.1206(c)(1)(v), Emission Point ID (9001)]

10.1.6. The permittee must prepare a startup, shutdown, malfunction plan in accordance with 40 C.F.R. §63.1206(c)(2).
[45CSR34, 40 C.F.R. § 63.6(e)(3), 40 C.F.R. § 63.1206(c)(2), Emission Unit E-10032]

10.1.7. **Automatic Waste Feed Cutoffs** The permittee shall operate the rotary kiln incinerator with a functioning system that immediately and automatically cuts off the hazardous waste feed when operating parameter limits are exceeded or emission standards monitored by a CEMS are exceeded. The permittee has the option of ramping down waste feed in certain circumstances in accordance with 40 C.F.R. §63.1206(c)(3)(viii). An immediate and automatic cutoff shall also be triggered when the span value of any continuous process monitor is exceeded. Any malfunctions of the monitoring equipment or automatic waste feed cutoff system shall also initiate an immediate and automatic cutoff of hazardous waste feed. These specific cutoffs are listed as follows:

Automatic Cutoff of Hazardous Waste Feed Parameter	Cutoff Trigger	Cutoff Reason
Combustion Chamber Outlet Temperature	<1599~~1595~~°F	OPL
Combustion Gas Flow Rate (Maximum)	>12,218 ~~12,125~~ scfm	OPL
Combustion Gas Flow Rate (Minimum)	<9000 scfm	OPL
Pumpable Waste Feed Rate	>3,112 lb/hr	OPL
Total Waste Feed Rate	>3,358 lb/hr	OPL
Stack CO Concentration	≥100ppmv	CEMS Emission Standard
Air Atomization Pressure	<90 psig	OPL
Steam Atomization Pressure	<80 psig	OPL
Mercury Feed Rate	>0.0019 lb/hr	OPL ~~Span Value~~
Ionizing Wet Scrubber (IWS) Stage 3 Make-up Water Flow Rate	<8.4~~7~~ gpm	OPL ~~Span Value~~
IWS Stage 3 – Sump Level	<47 ~~50~~%	OPL ~~Span Value~~
IWS Power Input	<5.455 ~~5.5~~ kVA	OPL ~~Span Value~~
IWS Stage 3 – pH	<2.7 ~~4.5~~ pH	OPL
IWS Scrubber Water Flow Rate to Gas Flow Rate Ratio	<56 ~~47~~ gpm/ 1000 acfm	OPL
Ash Feed Rate	>811 ~~653~~ lb/hr	OPL
Total LVM Feed Rate	>1.27 ~~0.27~~ lb/hr	OPL
Pumpable LVM Reed Rate	>1.27 ~~0.27~~ lb/hr	OPL
Total SVM Feed Rate	>0.71 ~~0.20~~ lb/hr	OPL
Chlorine And Chloride Feed Rate	>709 ~~864~~ lb/hr	OPL
Pressure Drop Across the Counter Current Scrubber (CCS)	<0.18 inches W.C.	OPL
CCS Scrubber Water Flow Rate to Gas Flow Rate Ratio	<36 ~~38~~ gpm/ 1000 acfm	OPL
Pressure Drop Across the Cross Flow Scrubber (CFS)	<0.24 inches of W.C.	OPL
CFS – Stage 2 Recirculation Stream pH	<9.2 ~~8.8~~ pH	OPL
CFS Scrubber Water Flow Rate to Gas Flow Rate Ratio	<32 ~~33~~ gpm/ 1000 acfm	OPL
Combustion Chamber Pressure	>0 inches W. C.	OPL

[45CSR34, 40 C.F.R. §63.1206(c)(3), Emission Point ID (9001)]

10.1.8. The permittee shall develop, implement, and maintain an emergency safety vent (ESV) operating plan in accordance with 40 C.F.R. §63.1206(c)(4).:
[45CSR34, 40 C.F.R. §63.1206(c)(4), Emission Point ID (9001)]

10.1.9. The permittee shall adhere to the combustion system leak provisions listed within 40 C.F.R. §63.1206(c)(5).
[45CSR34, 40 C.F.R. §63.1206(c)(5), Emission Point ID (9001)]

10.1.10. The permittee shall develop and maintain an operator training and certification program in accordance with 40 C.F.R. §63.1206(c)(6). Records pertaining to the operator training and certification program shall be documented within the operating record.
[45CSR34, 40 C.F.R. §63.1206(c)(6), Emission Point ID (9001)]

10.1.11. The permittee shall implement and maintain an operation and maintenance plan as specified by 40 C.F.R. §63.1206(c)(7).
[45CSR34, 40 C.F.R. §63.1206(c)(7), Emission Point ID (9001)]

10.1.12. The permittee must develop and implement a feed stream analysis plan and record it in the operating record in accordance with 40 C.F.R. §63.1209(c)(2).
[45CSR34, 40 C.F.R. §63.1209(c)(2)]

10.1.13. The permittee must prepare a continuous monitoring system (CMS) performance evaluation plan in accordance with 40 C.F.R. §63.8(d)(2) & Appendix to 40 C.F.R. 63, Subpart EEE "Quality Assurance Procedures for Continuous Emissions Monitors Used for Hazardous Waste Combustors"
[45CSR34, 40 C.F.R. §63.8(d)(2) & Appendix to 40 C.F.R. 63, Subpart EEE]

10.1.14. No person shall cause, suffer, allow or permit the emission of particulates of unburned or partially burned refuse or ash from any incinerator which are large enough to be individually distinguished in the open air.
[45CSR§6- 4.5, Emission Unit E-10032]

10.1.15. Incinerators, including all associated equipment and grounds, shall be designed, operated and maintained so as to prevent the emissions of objectionable odors.
[45CSR§6- 4.6, Emission Unit E-10032]

10.1.16. No person shall cause suffer, allow or permit emission of smoke into the atmosphere from any incinerator which is twenty (20%) percent opacity or greater. Compliance with 10.1.3(a)(7) ensures compliance with this standard.
[45CSR§6- 4.3, Emission Unit E-10032]

10.1.17. The provisions of 10.1.16 shall not apply to smoke which is less than forty (40%) percent opacity, for a period or periods aggregating no more than eight (8) minutes per start-up or six (6) minutes in any sixty (60) minute period for stoking operations. Compliance with 10.1.3(a)(7) ensures compliance with this standard.
[45CSR§6-4.4, Emission Unit E-10032]

10.1.18. The permittee shall comply with the changes in design, operation or maintenance provisions in accordance with 40 C.F.R. §63.1206(b)(5)
[45CSR34, 40 C.F.R. §63.1206(b)(5)]

~~10.1.19. Final Replacement Standards The permittee shall comply with the phase II HWC replacement standards for incinerators as specified within 40 C.F.R. §63.1219 by October 14, 2008. As a result the permittee is required to conduct "Initial Comprehensive Performance Testing" no later than 12 months after the compliance date, by October 14, 2009 in accordance with 40 C.F.R. §63.1207(c)(3). Furthermore, 40 C.F.R. §63.1207(j) specifies that the "Notification of Compliance" (NOC) report shall be postmarked no later than 90 days after completion of performance testing, December 29, 2009 at the latest.~~

~~**[45CSR34, 40 C.F.R. §63.1219]**~~

~~10.1.20. Permit Modification The permittee shall submit a complete application for significant modification to the Title V permit, which incorporates the information submitted within the NOC report required by phase II of 40 C.F.R. 63, Subpart EEE. The Title V application shall be submitted no later than December 29, 2009, which corresponds to the maximum time allowed for NOC submittal as specified by the applicable standard referenced above.~~
~~**[45CSR§30-6.5.b., 45CSR§30-12.7.]**~~

10.2. Monitoring Requirements

10.2.1 The permittee shall install, calibrate, maintain, and operate continuous emissions monitoring systems (CEMS) for CO and O_2 in accordance with 40 C.F.R. §63.1209(a).
[45CSR34, 40 C.F.R. §63.1209(a), Emission Point ID (9001)]

10.2.2. The permittee shall comply with the other continuous monitoring systems (CMS) requirements of 40 C.F.R. §63.1209(b).
[45CSR34, 40 C.F.R. §63.1209(b), Emission Point ID (9001)]

10.2.3. The permittee shall comply with the feed steam analysis requirements of 40 C.F.R. §63.1209(c).
[45CSR34, 40 C.F.R. §63.1209(c), Emission Point ID (9001)]

10.2.4. The permittee shall comply with the performance evaluation requirements of 40 C.F.R. §63.1209(d).
[45CSR34, 40 C.F.R. §63.1209(d), Emission Point ID (9001)]

10.2.5. The permit shall comply with the operation and maintenance of continuous monitoring systems in accordance with 40 C.F.R. §63.1209(f).
[45CSR34, 40 C.F.R. §63.1209(f), Emission Point ID (9001)]

10.2.6. The permittee shall comply with the monitoring provisions identified in the Documentation of Compliance Table 6.1 and provided in Section 10.1.5.
[45CSR34, 40 C.F.R. §63.1209 (j), (k), (n), (o) and (p), and 40 C.F.R. §63.1207(m)(4)(i); Emission Unit E-10032]

10.2.7. For the purpose of determining compliance with the opacity limits of 45CSR§6-4.3, the permittee shall conduct visible emission checks and/or opacity monitoring and recordkeeping for all emission sources subject to an opacity limit. The opacity monitoring shall include visual emission checks, as described below, for all emission points subject to an opacity limit contained within this section.
Monitoring shall be conducted at least once per month with a maximum of forty-five (45) days between consecutive readings. After three consecutive monthly readings point in which no visible emissions are observed from an emission point subject to an opacity standard, permittee may conduct visible emission checks or opacity monitoring once per calendar quarter. If visible emissions or opacity are observed during a quarterly monitoring from an emission point(s), or at any other time, then that emission point(s) with observed emissions or opacity shall be required to revert to monthly monitoring. Any emission point that has reverted to monthly monitoring shall be allowed to again conduct quarterly visible emission checks or opacity monitoring only after three consecutive monthly readings in which no visible emissions are observed from the subject emission point.

These checks shall be conducted by personnel trained in the practices and limitations of 40 C.F.R. 60, Appendix A, Method 22, during periods of normal operation of emission sources that vent from the referenced emission points for a sufficient time interval, but no less than one (1) minute, to determine if there is a visible emission.

If visible emissions are identified during the visible emission check, or at any other time regardless of operations, the permittee shall conduct an opacity reading using the procedures and requirements of Method 9 within three (3) days of the first sign of visible emissions. A Method 9 evaluation shall not be required if the visible emission condition is corrected within three (3) days after the visible emission and the sources are operating at normal conditions.
[45CSR§30-5.1.c]

10.3. Testing Requirements

10.3.1. The permittee shall adhere to the frequency of ~~interim~~ testing requirements ~~schedule~~ in accordance with 40 C.F.R. § 63.1207(d) ~~(4).~~
[45CSR34, 40 C.F.R. §§63.1207(d)~~(4)(i) and (ii),~~ Emission Point ID (9001)]

10.4. Recordkeeping Requirements

10.4.1. *Calculation of hazardous waste residence time.* The permittee must maintain a copy of the calculation of the hazardous waste residence time for the rotary kiln incinerator and include the calculation in the operating record.
[**45CSR34, 40 C.F.R. §63.1206(b)(11)]**

10.4.2. The permittee must keep a copy of all data recorded by continuous monitoring systems (CMS) (including monitoring data recorded during unavoidable CMS breakdowns and out-of-control periods) and copies of all notification, reports, plans and other documents submitted to the Administrator in a form suitable and readily available for expeditious inspection and review.
[45CSR34, 40 C.F.R. §63.10(b) & (c)]

10.4.3. The permittee must maintain a record of changes that will not adversely affect compliance with the emission standards or operating requirements, and must document the change upon making such change.
[45CSR34, 40 C.F.R. §63.1206(b)(5)(ii)]

10.4.4. The permittee must maintain a copy of the Start-up, Shutdown, and Malfunction (SSM) Plan on site.
[45CSR34, 40 C.F.R. §63.1206(c)(2)(iv)]

10.4.5. The permittee shall keep a copy of any documentation of investigation and evaluation of excessive exceedences during malfunctions.
[45CSR34, 40 C.F.R. §63.1206(c)(2)(v)(A)(3)(ii)]

10.4.6. The permittee shall keep a copy of any documentation of investigation and corrective measures taken for any automatic waste feed cutoffs that result in an exceedance of an emission standard or operating parameter limit.
[45CSR34, 40 C.F.R. §63.1206(c)(3)(v)]

10.4.7. The permittee shall keep a copy of any documentation and results of the automatic waste feed cutoff operability testing.

[45CSR34, 40 C.F.R. §63.1206(c)(3)(vii)]

10.4.8. The permittee shall keep a copy of the Operator Training and Certification program.
[45CSR34, 40 C.F.R. §63.1206(c)(6)(vii)]

10.4.9. The permittee shall keep a copy of the Operation and Maintenance (O&M) Plan.
[45CSR34, 40 C.F.R. §63.1206(c)(7)(i)(D)]

10.4.10. The permittee shall keep a copy of the Feedstream Analysis Plan.
[45CSR34, 40 C.F.R. §63.1209(c)(2)]

10.4.11. The permittee shall adhere to the Recordkeeping Requirements for Continuous Monitoring Systems provided in 40 C.F.R. §63.10(c).
[45CSR34, 40 C.F.R. §63.10(c)]

10.4.12. The permittee shall record the Emergency Safety Vent operating plan in the operating record as specified in 40 C.F.R. §63.1206(c)(4)(ii)(A).
[45CSR34, 40 C.F.R. §63.1206(c)(4)(ii)(A)]

10.4.13. The permittee shall record the corrective measures for any emergency safety vent opening in the operating record as specified in 40 C.F.R. §63.1206(c)(4)(iii).
[45CSR34, 40 C.F.R. §63.1206(c)(4)(iii)]

10.5. Reporting Requirements

10.5.1. The permittee shall comply with any applicable by the reporting requirements summarized in 40 C.F.R. §63.1211(a)
[45CSR34, 40 C.F.R. §63.1211(a)]

10.6. Compliance Plan

10.6.1 None

11.0. Source-Specific Requirements [Boilers]; Emission Group(s): (951, 952, 953, 955); Emission Point ID(s): (9051, 9052, 9053, 9055)

11.1. Limitations and Standards

11.1.1. No person shall cause, suffer, allow, or permit emission of smoke and/or particulate matter into the open air from any fuel burning unit which is greater than ten (10) percent opacity based on a six minute block average.
[45CSR13, Permit R13-2806, (Condition 4.1.5.), 45CSR§2-3.1]

11.1.2. No person shall cause, suffer, allow, or permit the discharge of particulate matter into the open air from the following fuel burning units located at one plant, measured in terms of pounds per hour in excess of the amount determined as follows:

For Type 'b' fuel burning units, the product of 0.09 and the total design heat inputs for such units in million BTUs per hour, provided however that no more than six hundred (600) pounds per hour of particulate matter shall be discharged into the open air from all such units.

Emission Point ID	Emission Unit ID	Heat Input (MM Btu/hr)	PM Limit (lb/hr)
9051	Boiler #1	70	6.3
9052	Boiler #2	70	6.3
9053	Boiler #3	150	13.5
9055	955	<99	1.0[a]

[a] Compliance with a permitted PM_{10} emission limit of 1.0 pounds per hour, as specified in Condition 4.1.1 of R13-2806, will ensure compliance with the less stringent limit of 8.9 pounds per hour specified in 45CSR§2-4.1.b.

[45CSR13, Permit R13-2806, (Condition 4.1.1.), 45CSR§2-4.1.]

11.1.3. The visible emission standards set forth in 45CSR§2-3 shall apply at all times except in periods of start-ups, shutdowns, and malfunctions. Where the Director believes that start-ups and shutdowns are excessive in duration and/or frequency, the Director may require an owner or operator to provide a written report demonstrating that such frequent start-ups and shutdowns are necessary.
[45CSR§2-9.1]

11.1.4. At all times, including periods of start-ups, shutdowns, and malfunctions, owners and operators shall, to the extent practicable, maintain and operate any fuel burning unit(s) including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Director which may include, but is not limited to, monitoring results, visible emission observations, review of operating and maintenance procedures, and inspection of the source.
[45CSR§2-9.2]

11.1.5. The owner or operator of a fuel burning unit(s) subject to 45CSR2 shall report to the Director any malfunction of such unit or its air pollution control equipment which results in any excess particulate matter emission rate or excess opacity (i.e., emissions exceeding the standards in 45CSR§§2-3 and 4) as provided in one of the following subdivisions:

a. Excess opacity periods meeting the following conditions may be reported on a quarterly basis unless otherwise required by the Director:

1. The excess opacity period does not exceed thirty (30) minutes within any 24-hour period; and
2. Excess opacity does not exceed 40%.

b. The owner or operator shall report to the Director any malfunction resulting in excess particulate matter or excess opacity, not meeting the criteria set forth in 11.1.5.a. above, by telephone, telefax, or e-mail by the end of the next business day after becoming aware of such condition. The owner or operator shall file a certified written report concerning the malfunction with the Director within thirty (30) days providing the following information:

1. A detailed explanation of the factors involved or causes of the malfunction;

2. The date and time of duration (with starting and ending times) of the period of excess emissions;

3. An estimate of the mass of excess emissions discharged during the malfunction period;

4. The maximum opacity measured or observed during the malfunction;

5. Immediate remedial actions taken at the time of the malfunction to correct or mitigate the effects of the malfunction; and

6. A detailed explanation of the corrective measures or program that will be implemented to prevent a recurrence of the malfunction and a schedule for such implementation.

[45CSR§2-9.3.]

11.1.6. Total Allowable Emission Rates for Similar Units in Priority I and Priority II Regions – No person shall cause, suffer, allow or permit the discharge of sulfur dioxide into the open air from all stacks located at one plant, measured in terms of pounds per hour, in excess of the amount determined as follows:

a. For Type 'b' and Type 'c' fuel burning units, the product of 3.1 and the total design heat inputs for such units discharging through those stacks in million BTU's per hour

Emission Point ID	Emission Unit ID	Heat Input (MM Btu/hr)	SO_2 Limit (lb/hr)
9051	Boiler #1	70	217
9052	Boiler #2	70	217
9053	Boiler #3	150	465
9055	955	<99	0.1[a]

[a] Compliance with a permitted SO_2 emission limit of 0.1 pounds per hour, as specified in Condition 4.1.1 of R13-2806, will ensure compliance with the less stringent limit of 306.9 pounds per hour specified in 45CSR§10-3.1.e.

[45CSR13, Permit R13-2806, (Condition 4.1.1.), 45CSR§10-3.1.e]

11.1.7. Emissions from Boiler #5 shall not exceed the following:

Pollutant	Pounds per Hour (lb/hr)	Tons per Year (TPY)
NO_x	3.6	15.61
CO	3.8	16.26
VOC	0.4	1.73
Total Organic HAPs	0.2	0.80

Compliance with a permitted SO_2 emission limit of 0.1 pounds per hour will ensure compliance with the less stringent limit of 306.9 pounds per hour specified in 45CSR§10-3.1.e.

[45CSR13, Permit R13-2806, (Condition 4.1.1.), Emission Point ID (9055)]

11.1.8. Within 180 days of startup of Boiler #5, Boiler #1 shall be permanently shut down.
[45CSR13, Permit R13-2806, (Condition 4.1.2.), Emission Point ID (9051)]

11.1.9. Boiler #5 shall fire only pipeline quality natural gas.
[45CSR13, Permit R13-2806, (Condition 4.1.3.), Emission Point ID (9051)]

11.1.10. Boiler #5 shall not consume more than 84,615 ft^3/hr nor 741 mmcf per year of natural gas based on a rolling 12 month total.
[45CSR13, Permit R13-2806, (Condition 4.1.4.), Emission Point ID (9051)]

11.1.11. CO emissions from Boiler #5 shall not exceed 50 ppm_v on a dry basis corrected to 3% oxygen.
[45CSR13, Permit R13-2806, (Condition 4.1.7.), 40 C.F.R. §63.52(f)(1), Emission Point ID (9055)]

11.1.12. At least once per year the permittee shall perform a tune up on Boiler #5. Said tune up shall include, at a minimum, the following:

a. Inspect the burner and clean or replace any components of the boiler as necessary.

b. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern consistent with the manufacturer's specifications.

c. Perform a full retune of the fuel to air ratio (from 0 to 100% fuel flow) to ensure that it is correctly calibrated and functioning properly.

d. Minimize the total emissions of NO_x and CO consistent with the manufacturers specifications.

e. The permittee shall ensure that the operating parameter settings are established and recorded after the combustion process is adjusted and that the adjusted equipment is maintained to operate consistent with the annual adjustment.

[45CSR13, Permit R13-2806, (Condition 4.1.8.), 40 C.F.R. §63.52(f)(2), Emission Point ID (9055)]

11.1.13. Due to unavoidable malfunction of equipment or inadvertent fuel shortages, emissions exceeding those provided for in 45CSR10 may be permitted by the Director for periods not to exceed ten (10) days upon specific application to the Director. Such application shall be made within twenty-four (24) hours of the equipment malfunction or fuel shortage. In cases of major equipment failure or extended shortages of

conforming fuels, additional time periods may be granted by the Director provided a corrective program has been submitted by the owner or operator and approved by the Director.
[45CSR§10-9.1]

11.1.14. Operation and Maintenance of Air Pollution Control Equipment. The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and identified as permitted in R13-2806 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.

[45CSR13, Permit R13-2806, (Condition 4.1.10.), Emission Point ID (9055)]

11.1.15. If US EPA has not already promulgated a standard pursuant to 40 C.F.R. 63 for industrial, commercial, institutional boilers and process heaters, the facility shall submit a Part 1 112(j) "equivalent emission limitation by permit" application for case-by-case MACT determination, containing the information required in 40 C.F.R. §63.53(a), within thirty (30) days of the date for a final rule specified in the final order of the United States District Court for the District of Columbia, which is currently December 16, 2010. The Part 1 112(j) application shall identify each affected unit, and address HAP emissions from each of the boilers and process heaters. If the facility determines there are no affected units (boilers or process heaters), a statement of non-applicability must be submitted in lieu of a Part 1 application. A Part 2 112(j) "equivalent emission limitation by permit" application for case-by-case MACT determination containing information required in 40 C.F.R. §63.53(b) is due within 60 days of the Part 1 112(j) application submittal. All 112(j) "equivalent emission limitation by permit" applications must be submitted to both WVDEP-Division of Air Quality, and Chief of Permits and Technical Branch, US EPA Region III, Mail Code 3AP11, 1650 Arch Street, Philadelphia, PA, 19103-2029.
[45CSR34, 40 C.F.R. §63.52]

11.1.16. Boiler MACT Rule: At the compliance date of the newly promulgated federal rule for National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, Institutional Boilers and Process Heaters (40 CFR 63 Subpart DDDDD), the permittee will comply with that rule. At that time the following permit conditions will be superseded and no longer in effect: 11.1.11 CO emission limit; 11.1.12 annual tune-up; 11.3.3 and 11.3.4 testing requirements; and 11.2.1 recordkeeping.

[45CSR13, Permit R13-2806, (Condition 4.1.9.)]

11.2. Monitoring Requirements

11.2.1. The permittee shall monitor and record the following during each tune-up required under 11.1.12 of this permit.

a. The date of the tune-up and the times at which it began and ended.

b. The name, title and affiliation of the person who made the tune-up.

c. The CO concentration in the effluent stream, in ppm_v, before and after each tune-up.

d. The O_2 concentration in the effluent stream, in ppm_v, before and after each tune-up.

f. A description of any corrective action taken.

[45CSR13, Permit R13-2806, (Condition 4.3.4.), 40 C.F.R. §63.52(f)(2), Emission Point ID (9055)]

11.2.2. The permittee shall monitor & record, on a monthly basis, the amount of natural gas consumed by boiler #5. **[45CSR13, Permit R13-2806, (Condition 4.3.5.), 45CSR§2-8.3.c, 45CSR§2A-7.1.a.1, Emission Point ID (9055)]**

11.3. Testing Requirements

11.3.1. At such reasonable times as the Director may designate, the owner or operator of any fuel burning unit(s) may be required to conduct or have conducted tests to determine the compliance of such unit(s) with the emission limitations of 11.1.1 or 11.1.2. Such tests shall be conducted in accordance with the appropriate method set forth in the Appendix to 45CSR2 or other equivalent EPA approved method approved by the Director. The Director, or This duly authorized representative, may at his option witness or conduct such tests. Should the Director exercise his option to conduct such tests, the operator will provide all necessary sampling connections and sampling ports located in such manner as the Director may require, power for test equipment, and the required safety equipment such as scaffolding, railings and ladders to comply with generally accepted good safety practices.
[45CSR§2-8.1.b.]

11.3.2. The Director, or his duly authorized representative, may conduct such other tests as he may deem necessary to evaluate air pollution emissions other than those noted in 11.1.2.
[45CSR§2-8.1.c.]

11.3.3. During the annual tune-up required by 11.1.12 of this permit, the permittee shall measure the concentration of CO both before and after said adjustment. The method of said measurement may be by any suitable handheld or continuous device with an manufacturer guaranteed relative accuracy of at least ±10%.
[45CSR13, Permit R13-2806, (Condition 4.2.1.), 40 C.F.R. §63.52(f)(2), Emission Point ID (9055)]

11.3.4. Within 180 days of start up, the permittee shall determine emissions of CO from Boiler #5 according to the methods listed below. Additionally, said testing shall be performed on an ongoing basis at least once every 5 years.

Testing Requirement	Method
Select the sampling ports location and the number of traverse points.	Method 1 in Appendix A to 40 CFR part 60.
Determine velocity and volumetric flow-rate of the stack gas.	Method 2, 2F, or 2G in Appendix A to 40 CFR part 60.
Determine oxygen and carbon dioxide concentrations of the stack gas.	Method 3A or 3B in Appendix A to 40 CFR part 60 or ASME PTC 19, Part 10(1981).
Measure the moisture content of the stack gas.	Method 4 in Appendix A to 40 CFR part 60.
Measure the carbon monoxide emission concentration.	Method 10, 10A, or 10 B in Appendix A to 40 CFR part 60.

[45CSR13, Permit R13-2806, (Condition 4.2.2.), 40 C.F.R. §63.52(f)(2), Emission Point ID (9055)]

11.4. Recordkeeping Requirements

11.4.1 The Owner or operator shall maintain records of the operating schedule and the quantity and quality of fuel consumed in each fuel burning unit. Such records are to be readily accessible from the site and made

available to the Director or his duly authorized representative upon request. Where appropriate the owner or operator may maintain such records in an electronic format. For fuel burning unit(s) which burn only pipeline quality natural gas, such records shall include, the date and time of start-up and shutdown, and the quantity of fuel consumed on a monthly basis.
[45CSR§2A-7.1.a.1., 45CSR§2-8.3.c.]

11.4.2. **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 1.0 and identified as permitted in R13-2806, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.
[45CSR13, Permit R13-2806, (Condition 4.3.2.)]

11.4.3. **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in Section 1.0 and identified as permitted in R13-2806, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:

a. The equipment involved.

b. Steps taken to minimize emissions during the event.

c. The duration of the event.

d. The estimated increase in emissions during the event.

For each such case associated with an equipment malfunction, the additional information shall also be recorded:

e. The cause of the malfunction.

f. Steps taken to correct the malfunction.

g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.

[45CSR13, Permit R13-2806, (Condition 4.3.3.)]

11.5. Reporting Requirements

11.5.1. [Reserved]

11.5.2. The permittee shall notify the DAQ and USEPA of the date that construction of Boiler #5 is commenced, no later than 30 days after such date.
[45CSR13, Permit R13-2806, (Condition 4.1.6.), 40 C.F.R. §60.7(a)(1), 40 C.F.R. §60.48c(a)]

11.5.3. The permittee shall notify the DAQ and USEPA of the initial startup of Boiler #5, no later than 15 days after such date.
[45CSR13, Permit R13-2806, (Condition 4.1.6.), 40 C.F.R. §60.7(a)(3), 40 C.F.R. §60.48c(a)]

11.6 Compliance Plan

11.6.1. None

Attachment A –

(R13-2338 Appendix A)

(Parametric Monitoring)

Control Device ID	Emission Point	Description	Applicable Regulations	Emission Group(s) [1]	Monitoring Parameter	Parameter Value	Data Collection Frequency	Data Averaging Period	Inspection/ Preventative Maintenance Frequency
M-319	1348	Cartridge Filter	45CSR§7	134 TMS	Opacity	≤ 20%	Monthly	Each reading	Every two months
M-320	1349	Baghouse	45CSR§7	134 TMS	Opacity	≤ 20%	Monthly	Each reading	Every two months
					Pressure drop	> 1 inch H_2O	Min. 1 reading per 15 minutes	Each calendar day	
S-127/ S-128	1120 or 1121[2]	Water Scrubber Absorption System	45CSR§7 45CSR§13	116 Esters	Make-up water flow	≥ 30 gpm	Min. 1 reading per 15 minutes	Each calendar day	Once every two years
S-125/ S-145			45CSR§7 45CSR§13	116 Esters	Make-up water flow	≥ 10 gpm	Min. 1 reading per 15 minutes	Each calendar day	Once every two years
Esters HCl Absorption System			45CSR§7	116 Esters	Opacity	≤ 20%	Monthly	Each reading	Once every two years
S-132	1032	Water Scrubber	45CSR§7 45CSR§13	116 Esters 133 CEU 134 TMS 151 Esters TF	Opacity	≤ 20%	Monthly	Each reading	Once every two years
					Water flow	Recycle[7] ≥ 150gpm Make-up[6,7] ≥ 4 gpm or ≥ 1.6 gpm	Min. 1 reading per 15 minutes	Each calendar day	
S-137	1001	Water Scrubber	45CSR§7 45CSR§13	101/102 K-65 116 Esters 151 Esters TF 159 Esters Six Pack TF	Opacity	≤ 20%	Monthly	Each reading	Once every two years
					Water flow	Recycle[7] ≥ -150 gpm Make-up[7] ≥ 4 gpm	Min. 1 reading per 15 minutes	Each calendar day	
S-171	1006	Water Scrubber	45CSR§13	107 K-45	Make-up water flow	≥ 25gpm	Min. 1 reading per 15 minutes	Each calendar day	Once every two years
S-174	1003	Water Scrubber	45CSR§7 45CSR§13	103/104 HVD1 105 R-23/R-70 106 K-17 120 S-19/S-21 126 S-219 152 Intermed. TF 157 TF5	Opacity	≤ 20%	Monthly	Each reading	Once every two years
					Make-up water flow	≥ 65 gpm	Min. 1 reading per 15 minutes	Each calendar day	
S-196	1301	Water Scrubber	45CSR§7 45CSR§13	120 S-19/S-21 130 CNT 151 Esters TF	Opacity	≤ 20%	Monthly	Each reading	Once every two years
					Make-up water flow	≥ 25 gpm	Min. 1 reading per 15 minutes	Each calendar day	
S-197	1302	Caustic Scrubber	45CSR§7 45CSR§13	102 K-65 120 S-19/S-21 130 CNT 151 Esters TF 156 TF4	Opacity	≤ 20%	Monthly	Each reading	Once every two years
					Make-up water flow	≥ 7 gpm	Min. 1 reading per 15 minutes	Each calendar day	
					Inlet scrubbing liquor temp	≤ 20°C	Min. 1 reading per 15 minutes	Each calendar day	
S-203	1015	Water Scrubber	45CSR§13	133 CEU 134 TMS 153 TF2 155 TF3 156 TF4 157 TF5	Opacity	≤ 20%	Monthly	Each reading	Once every two years
					Make-up water flow	≥ 220gpm	Min. 1 reading per 15 minutes	Each calendar day	

Control Device ID	Emission Point	Description	Applicable Regulations	Emission Group(s) [1]	Monitoring Parameter	Parameter Value	Data Collection Frequency	Data Averaging Period	Inspection/ Preventative Maintenance Frequency
S-205	1038	Caustic Scrubber	45CSR§13	105 R-23/R-70	Drain and recharge scrubber to parameter value, with 25% caustic solution	50% Level Indicator	At least once per calendar week	Each charge	Once every two years
S-223	1120, 1121, or 1321[2]	Water Scrubber	45CSR§13	132 HVD2 133 CEU	Make-up water flow	≥ 65 gpm	Min. 1 reading per 15 minutes	Each calendar day	Once every two years
S-224	1321	Water Scrubber	45CSR§13	132 HVD2 133 CEU	Opacity	≤ 20%	Monthly	Each reading	Once every two years
					Water flow	Recycle: ≥ 250 gpm Make-up: ≥ 40 gpm	Min. 1 reading per 15 minutes	Each calendar day	
S-237	4310	Water Scrubber	45CSR§13	431 SPCEU	Opacity	≤ 20%	Monthly	Each reading	Once every two years
					Water Flow	≥ 15 gpm	Min. 1 reading per 15 minutes	Each calendar day	
S-257	1340	Water Scrubber	45CSR§13	134 TMS	Recycle water flow	≥ 200 gpm	Min. 1 reading per 15 minutes	Each calendar day	Once every two years
S-260	1341	Water Scrubber	45CSR§13	134 TMS	Water flow	Recycle: ≥ 60gpm Make-up: ≥ 32.4gpm	Min. 1 reading per 15 minutes	Each calendar day	Once every two years
S-270	1120	Caustic Scrubber	45CSR§6 45CSR§13	101/102 K65 116 Esters 132 HVD2 133 CEU	Opacity	< 20%	Monthly	Each reading	Once every two years
					Make-up Water Flow	≥7.1 gpm	Min. 1 reading per 15 minutes	Each calendar day	
					Recycle Water flow[4]	≥ 62.4gpm	Min. 1 reading per 15 minutes	Each calendar day	
					pH	> 8.9	Min. 1 reading per 15 minutes	Each calendar day	
E-1353	1038	Flare	45CSR§6 45CSR§13	105 R-23/R70	Opacity	≤ 20%	Monthly	Each reading	Once every two years
					Flare operating temperature (TI-E1353-4)	≥ 260°C	Min. 1 reading per 15 minutes	Each calendar day	
E-2322	1120	Thermal Oxidizer	45CSR§13	101/102 K65 116 Esters 132 HVD2 133 CEU	Firebox Temperature	≥ 1700 °F	Min. 1 reading per 15 minutes	Each calendar day	Once every two years

[1] The control device requirements apply when the listed emission group(s) are operating and venting to the control device.
[2] During normal operations the Esters HCl absorption system and S-223 will vent to the thermal oxidizer system. When the thermal oxidizer is down Esters HCl adsorption system and S-223 will vent to 1121. For products in Emission Group 133, the CEU unit, where the Thermal Oxidizer is not required (e.g. by the MON MACT), the CEU equipment may vent via Scrubber S-224 (Emission Point 1321) instead of the Thermal Oxidizer (Emission Point 1120).
[3] Reserved
[4] Recycle water flow from S-270 pot has branches going to the E-2322 quench and to S-270.
[5] Monitoring parameters are based on the MON performance tests and included in the NOC. October 6, 2008. The parameters may change as authorized by 40 C.F.R. §63.2520.
[6] S-132 makeup flow minimum is 4 gpm only when emission group 116 Esters, and 151 Esters TF methanol storage tanks (Group1 storage tanks under the MON MACT) are both operating and venting to the control device. Otherwise the minimum is 1.6 gpm
[7] Monitoring parameters are based on design evaluations conducted for the MON and included in the MON NOCS. The parameters may change as authorized by 40 C.F.R. §63.2520.

Attachment B:

GE Silicones, LLC, Sistersville Plant
Plant ID No. 095-00001; Permit No. R13-2338
APPENDIX C (Monthly Opacity Record)

Date of Observation: _____

Data Entered by: _____

Reviewed by: _____

Date Reviewed: _____

Describe the General Weather Conditions: _____

_____

Stack ID/Vent ID/ Emission Point ID	Stack/Vent/Emission Point Description	Time of Observation	Visible Emissions? Yes/No	Consecutive Months of Visual Emissions	Comments

Attachment C

APPENDIX B of R13-2338 (Toxic Air Pollutants)

CAS No.	Name	Table 45-13A/Rule 27 Toxic Air Pollutant?	Exceeds 45-13A/Rule 27 Threshold?
107-13-1	Acrylonitrile	Yes	Yes
107-05-1	Allyl Chloride	Yes	No
62-53-3	Aniline	No	--
75-00-3	Ethyl Chloride	No	--
*	Glycol Ethers	No	--
7647-01-0	Hydrochloric Acid	No	--
67-56-1	Methanol	No	--
74-87-3	Methyl Chloride	No	--
80-62-6	Methyl Methacrylate	No	--
109-86-4	2-Methoxyethanol	No	--
108-88-3	Toluene	No	--

* Includes mono- and di-ethers of ethylene glycol, diethylene glycol, and triethylene glycol R-$(OCH_2CH)_n$-OR' where:

n = 1, 2, or 3

R = alkyl or aryl groups

R' = R, H, or groups which, when removed, yield glycol ethers with the structure: R-$(OCH_2CH)_n$-OH. Polymers are excluded from the glycol category.

Attachment D

R13-0952C Appendix A
Parametric Monitoring

Control Device ID	Emission Point	Description	Applicable Regulations	Emission Group(s) *	Monitoring Parameter	Parameter Value	Data Collection Frequency	Data Averaging Period	Inspection/ Preventative Maintenance Frequency
S-192†	3402	Water Scrubber	45CSR13	341 K-84	NA	NA	NA	NA	Once every two years

* The control device requirements apply when the listed emission group(s) are operating and venting to the control device.
† The permittee is not taking any emission reduction credit in its potential or actual emission calculations for the sources connected to S-192.

Attachment E

R13-0952C Appendix B

Toxic Air Pollutants emitted by the K-84 (341) Unit

CAS No.	Name	Table 45-13A/Rule 27 Toxic Air Pollutant?	Exceeds 45-13A/Rule 27 Threshold?
67-56-1	Methanol	No	--
108-88-3	Toluene	No	--