



Missouri Department of Natural Resources
Air Pollution Control Program

PART 70

PERMIT TO OPERATE

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to operate the air contaminant source(s) described below, in accordance with the laws, rules, and conditions set forth herein.

Operating Permit Number: OP2013-015
Expiration Date: MAR 25 2018
Installation ID: 510-0697
Project Number: 2010-12-049

Installation Name and Address

Sigma-Aldrich
3500 Dekalb Street
St. Louis, MO 63118
St. Louis City

Parent Company's Name and Address

Sigma-Aldrich Corporation
3050 Spruce Street
St. Louis MO, 63103

Installation Description:

Sigma-Aldrich Company is a manufacturer and distributor of about 14,000 research biochemicals. Some of these biochemicals are manufactured at Sigma-Aldrich Company's three installations located at 3500 Dekalb Street (Dekalb), 3300 South Second Street (Cherokee), and 3506 South Broadway (Broadway). Since the three installations are located close to each other and the property has become contiguous, a single Title V Permit is being issued for the three installations. The installation will be located in a moderate non-attainment area for 8-hour ozone, effective June 15, 2004. This source exceeds the Part 70 threshold levels for carbon monoxide, oxides of nitrogen and hazardous air pollutants.

MAR 26 2013

Effective Date

Director or Designee
Department of Natural Resources

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I. Installation Description and Equipment Listing

Sigma-Aldrich is a manufacturer and distributor of research and commercial grade biochemicals. Over 50,000 products are manufactured at sites worldwide, and a portion of the 50,000 products are manufactured within the St. Louis Production Campus ("SLPC"). The SLPC is comprised of facilities located at 3300 S. 2nd Street ("Cherokee Facility"), 3500 Dekalb Street ("Dekalb Facility"), and 3506 S. Broadway ("Broadway Facility"). These three facilities are in relative proximity and are considered to be one contiguous site, as defined under the Clean Air Act.

The processes at the Cherokee Facility include the production of pharmaceutical active ingredients and intermediates, biological buffers, and diagnostic reagents within three unique and separate production areas. The processes at the Dekalb Facility primarily generate biochemical products that support life science research and development. The processes at the Broadway Facility include the production/formulation of cell culture serum and supplements.

The production processes at the Cherokee and Dekalb Facilities utilize relatively small-scale batch operations (approximately 5 to 5,000 gallons in size). These processes utilize standard chemical unit operations, which include chemical synthesis, distillation (atmospheric and vacuum), crystallization, and column (ion exchange) chromatography. The production processes at the Broadway Facility primarily utilize blending and formulation techniques of liquid and solid media.

Two distinct process operations occur at Dekalb that produce air emissions (VOC and/or HAP). The production processes in the area designated "BC Building" primarily include the synthesis and preparation of bioorganic products. The other areas at Dekalb, "Excluding BC Building," primarily conduct natural extractions using plant or animal tissues to derive biochemical products such as enzymes, lipids, peptides, proteins, etc. Within both of these areas, the equipment listed within this permit application may be configured in a variety of ways, uniquely specific to each type of product produced.

Three distinct process operations occur at Cherokee that produce air emissions (VOC and/or HAP). The "XY Building" area (identified within emissions reporting under the group "Excluding T Building") primarily produces formulation products (biological stains and dyes) by mixing the starting material with a specific solvent (generally methanol or ethanol). The production processes in the area designated as "T-West" include primarily the synthesis and preparation of biological buffers. All of the process vents from T-West (in addition to the conservation vents from the solvent tanks in the Tank Farm) go through a hydrocarbon combustion device (flare). The production processes in the area designated as "T-East" include synthesis and preparation of pharmaceutical active ingredients and intermediates. Other departments at Cherokee perform mostly quality control or small-scale process development work in laboratory hoods or aqueous operations. Each major production department has some principal equipment that is specifically listed within this permit application.

Reported Air Pollutant Emissions, tons per year					
Pollutants	2011	2010	2009	2008	2007
Particulate Matter ≤ Ten Microns (PM ₁₀) ¹	0.8	0.7	0.7	0.7	0.6
Particulate Matter ≤ 2.5 Microns (PM _{2.5}) ²	0.4	0.1	0.1	-- ³	--
Sulfur Oxides (SO _x)	0.1	0.1	0.1	0.1	0.0
Nitrogen Oxides (NO _x)	10.0	8.1	8.3	8.8	8.3
Volatile Organic Compounds(VOC)	10.8	13.8	10.3	13.5	26.3
Carbon Monoxide (CO)	8.9	7.3	7.6	8.1	7.0
Lead (Pb)	--	--	--	--	--
Hazardous Air Pollutants (HAPs)	7.6 ⁴	9.1 ⁵	7.1 ⁶	3.7 ⁷	3.9 ⁸
Ammonia (NH ₃)	0.2	0.2	0.2	--	--

EMISSION UNITS WITH LIMITATIONS

The following list provides a description of the equipment at this installation that emits air pollutants and that are identified as having unit-specific emission limitations.

Equipment Number	Emission Point Description
Cherokee Facility (3300 S. 2nd Street)	
3RT-0127	A-Vessel, XY, Paul Mueller Co., 6,000 Liter (1,585 gallon), constructed 1987
3RT-0126	B-Vessel, XY, Alpha Tank Co., 12,000 Liter (3,170 gallon), constructed 1987
3RT-0128	C-Vessel, XY, 3,000 Liter (793 gallon), constructed 1987
	Dye Mix Batch Operation, XY, constructed 1987

¹ Includes condensables where available
² Includes condensables where available
³ Below reporting threshold or not required to be reported
⁴ 8.3 tons reported as VOC or PM
⁵ 8.3 tons reported as VOC or PM
⁶ 6.0 tons reported as VOC or PM
⁷ 2.5 tons reported as VOC or PM
⁸ 2.3 tons reported as VOC or PM

Equipment Number	Emission Point Description
3HO-XY-0006, 3HO-XY-0007	Filling Equipment (Lines 1 and 2), XY, constructed 1987
	Powder Weigh and Repackaging Operation, XY, constructed 1987
3T-0502	Portable Reactor, XY, Precision Stainless, 8206-2, 480 liter, constructed 1994
3RT-0001	Reactor, T-West, Pfaudler, R183-0120 or RA-60-750-100-90, 750 Gallon, constructed 2005
3RT-0001-T26	Catch Tank, T-West, Pfaudler, E158-0225, 350 Gallon, constructed 01/21/1987
3RT-0002	Reactor, T-West, Pfaudler, R181-0192; 1,000 Gallon; constructed 01/21/1987
3RT-0002-T27	Catch Tank, T-West, Pfaudler, E160-0040, 350 Gallon, constructed 01/21/1987
3RT-0004	Reactor, T-West, De Dietrich, SA-2000; 2,000 Gallon; constructed 12/30/2010
3RT-0004-T29	Catch Tank, T-West, Pfaudler, R679-8036; 1,000 Gallon; constructed 01/21/1987
3RT-0071	Reactor, T-West, Pfaudler, E95565, 20 Gallon, constructed 01/21/1987
3RT-0071-T72	Catch Tank, T-West, Pfaudler, E179-0847, 10 Gallon, constructed 1977
3T-0006	Slurry Tank, T-West, Pfaudler, RA-60-1000-100-90; 1,000 Gallon; constructed 2005
3RT-0010	Buffer Line Reactor, T-West, Pfaudler, RA-5000, 5,000 Gallon Reactor, Permit 01-03-007, constructed 2001
3RT-0010-V01	Buffer Line Receiver, T-West, Pfaudler, RA 60-1000, 1,000 Gallon Receiver, Permit 01-03-007, constructed 2001
3CF-0085	Buffer Line Centrifuge, T-West, Western State, Q-320, 117 Gallon, constructed 2001
3RT-0005-T30	Catch Tank/Receiver, T-West, Pfaudler, S177-4134; 1,000 Gallon; constructed 01/21/1987
3RT-0005	Crystallizer, T-West, Pfaudler, R179-0497; 3,000 Gallon; constructed 01/21/1987
3CF-0001	Centrifuge, T-West, Western State
3D-0003	Dryer, T-West
3D-0005	Dryer, T-West, Komline-Sanderson Engineering Corp.
3D-0009	Dryer, T-West, Custom
3T-0084	Cherokee Denatured Alcohol Storage Tank, V-51, Modern Welding Company, 12,000 gallon, constructed 1987
3T-0086	Methanol Storage Tank, V-53, Modern Welding Company, 12,000 gallon, constructed 1987

Equipment Number	Emission Point Description
3T-0087	Denatured Ethanol Storage Tank, V-54, Modern Welding Company, 12,000 gallon, constructed 1987
3T-0088	Denatured Ethanol or MTBE Storage Tank, V-55, Modern Welding Company, 12,000 gallon, constructed 1987
3T-0089	Methanol Storage Tank, V-56, Modern Welding Company, 12,000 gallon, constructed 1987
3T-0090	Methanol Storage Tank, V-57, Modern Welding Company, 12,000 gallon, constructed 1987
3RT-1000	Reactor , 100 Gallon, (constructed 1997), Pfaudler, RTC32-100-100-100
3RT-1000-T01	Receiver , 50 Gallon, (constructed 1997), Pfaudler, Model No. JVRC24-50-70-100
3RT-2000	Reactor , 200 Gallon (constructed 1997), Pfaudler, Model No. RT40-200-70-100
3RT-2000-T01	Receiver, 100 Gallon (constructed 1994), Pfaudler, Model No. EC32-100-100-90
3RT-7500	Reactor, 750 Gallon (constructed 1997), Pfaudler, Model No. KC60-750-70-100
3RT-7500-T01	Receiver, 300 Gallon (constructed 1997), Pfaudler, Model No. KC48-300-70-100
3RT-3000	Crystallizer, 3,000 Gallon (constructed 1997), Pfaudler, Model No. KC96-3000-70-100
3RT-3000-T01	Receiver, 50 Gallon (constructed 1997), Pfaudler, Model No. P607-25
3FI-0046	Wet Cake Filter Dryer, 800 kg (constructed 1997), Rosenmund, Model No. ML2000
3FI-0046-T02	Receiver, 500 Gallon (2001), Precision Stainless, Model No. 6135-1, Serial No. 211083
3FI-0047	Contained Filter, (constructed 1997), Zwag, Custom Built
3FI-0047-T01	Receiver, 100 Gallon (constructed 1998), Precision Stainless Model No. 6135-2
3RT-0500	Scale Reactor System, 50 Liter (constructed 1997), Schott Process Systems, Model No. REAZ55/CTJ 13
3RT-0500-T02	Receiver, 20 Liter (constructed 1997), Schott Process Systems, Model No. REAZ55/CTJ 13
3T-0121	Solution Addition Tank, 50 Gallon (constructed 1997), Pfaudler, Model No. VRC24-50-10
3T-0116	Carbon Tank, 200 Gallon (constructed 1997), Pfaudler, Model No. RT40-200-70-100
3HTS-0001	Closed Loop 250° F Glycol System, (constructed 1997), Atlas Industrial, Model No. 10-144
3HTS-0002	Low Temperature Coolant System, (constructed 1997), Grasso, Model No. RC 2112

Equipment Number	Emission Point Description
3FI-0100	Portable Neutsche Filter, DeDietrich, NF600, 45 Gallon, constructed 2003
3CF-0011	Centrifuge, ROBATEL, EHL-813-DRG, 94 liter, constructed 1997
ZCT-3-35-X-2/8	Flare, Hydrocarbon Combustion Unit (smokeless flare), constructed 05/01/2008
3T-0085	Acetone Storage Tank, V-52, Modern Welding Company, 12,000 gallon, constructed 1987
3T-0091	Used Solvent Storage Tank, V-59, Modern Welding Company, 12,000 gallon, constructed 1987
3T-0092	Used Solvent Storage Tank, V-61, Modern Welding Company, 12,000 gallon, constructed 1987
3T-0093	Used Solvent Storage Tank, V-63, Modern Welding Company, 12,000 gallon, constructed 1987
3T-0094	Mixed Solvent Storage Tank, V-64, Modern Welding Company, 12,000 gallon, constructed 1987
3T-0095	Used Solvent Storage Tank, V-67, Modern Welding Company, 12,000 gallon, constructed 1987
3BLR-0001	12.55 MMBtu/hr Cleaver Brooks Boiler (constructed 1985), Model No. CB300, Natural Gas
3BLR-0002	12.55 MMBtu/hr Cleaver Brooks Boiler (constructed 1985), Model No. CB300, Natural Gas
3BLR-0700	12.55 MMBtu/hr Cleaver Brooks Boiler (constructed 1998), Model No. CB700-300-150, Natural Gas
3GEN-0015	Diesel Compression Ignition Internal Combustion Engine Powered Generator, Caterpillar, C27/AFK01358, 6.89 MMBtu per hour, 750 kW, constructed 07/31/2009
	Paint Spray Booth, Cherokee, constructed 1992
3RT-0008	Reactor, T-West, Pfaudler, 50 Gallon, constructed 01/21/1987
3RT-0008-T09	Catch Tank, T-West, Pfaudler, E278-0873, 50 Gallon, constructed 01/21/1987
3RT-0003	Crystallizer, T-West, Art Welding Co., 3013; 1,500 Gallon; constructed 07/16/1984
3V-0010	Crystallizer, T-West; 1,800 Gallon; constructed 07/16/1984
3T-0152	Sodium Vinyl Sulfonate Tank 1, T-West; 4,000 Gallon; constructed 1998
3T-0153	Sodium Vinyl Sulfonate Tank 2, T-West; 2,000 Gallon; constructed 1998
3T-0154	Sodium Vinyl Sulfonate Tank 3, T-West; 2,000 Gallon; constructed 1998
3CF-0002	Centrifuge, T-West, Sharples

Equipment Number	Emission Point Description
3CF-0003	Centrifuge, T-West, Western State, Model No. Q-320, 117 Gallon, Permit 01-03-007, constructed 2001
3D-0004	Dryer, T-West
Dekalb Facility	
1RT-0013	Reactor with Condenser, K5, Pfaudler, 50 Gallon, constructed 1967
1RT-0013-T01	Catch Tank, K5, Laciny Bros., 30 Gallon, constructed 1967
1RT-0011	Reactor with Condenser, K5, Pfaudler, 100 Gallon, constructed 1967
1RT-0011-T01	Catch Tank, K5, 50 Gallon, constructed 1967
1RT-0015	Reactor with Condenser, K5, Mueller, 500 Gallon, constructed 1967
1RT-0015-T01	Catch Tank, K5, 200 Gallon, constructed 1967
1RT-0012	Reactor with Condenser, K7, 1,200 Gallon, constructed 1967
1RT-0012-T01	Catch Tank, K7, Art Welding, 500 Gallon, constructed June 1983
1RT-0019	Jacketed Crystallizer with Condenser, K7, 5 Star Ind. Svcs, 1500 Gallon, constructed 1985
1RT-0026	Glass Lined Crystallizer, K5, Pfaudler, R190-0132, 500 Gallon, constructed 2002.
1RT-0025	Glass Lined Crystallizer, K5, Pfaudler, R690-8266, 500 Gallon, constructed 2002.
1RT-0032	Press Tank-North, K7, 2,000 Gallon, constructed 1996
1RT-0033	Press Tank-South, K7, 2,000 Gallon, constructed 1996
1RT-0033-T01	Catch Tank, K7
1T-0305	Vessel-F, K7, Precision Stainless, 2,000 Gallon, constructed 1996
1CF-0148	Centrifuge, XP, Westfalia; 1,500 liters, constructed 2009
1T-0442	Storage Tank, XP, constructed 1967
1T-0039	Precipitation Tank-East, XP, 400 Gallon, constructed 1967
1T-0040	Precipitation Tank-West, XP, 400 Gallon, constructed 1967
1RT-0028	Crystallizer, BC1, Pfaudler, R174-0886; 1,000 Gallon; constructed 1975
1T-0002	Catch Tank, Pfaudler, L10362, 30 Gallon, constructed 1967
1RT-0002	Reactor, BC2, Pfaudler, E184-0364, 50 Gallon, constructed 1984
1RT-0003	Reactor, BC2, Pfaudler, E181-0104, 100 Gallon, constructed 1981
1RT-0003-T42	Catch Tank, BC2, Pfaudler, E177-3050, 100 Gallon, constructed 1977

Equipment Number	Emission Point Description
1RT-0004	Reactor, BC1, Pfaudler, R185-0049, 500 Gallon , constructed 2001
1RT-0004-T04	Catch Tank, BC1, Pfaudler, E173-0008, 100 Gallon, constructed 1973
1RT-0005	Reactor, BC2, Pfaudler, Serial No. J044854, 500 Gallon, constructed 2001
1RT-0005-T05	Catch Tank, BC2, Pfaudler, E85176, 100 Gallon, constructed 1952
1RT-0006	Reactor, BC1, Pfaudler, Serial No. J044855, 1000 Gallon, constructed 2001
1RT-0006-T01	Catch Tank, BC1, Pfaudler, E174-1283, 300 Gallon, constructed 1974
1T-0400	12,000 Gallon Denatured Solvent Storage Tank
1T-0402	12,000 Gallon Denatured Solvent Storage Tank
1RT-0014	Portable Glasslined Reactor, K3, Pfaudler, P14-10-25, 10 Gallon, constructed 1967
1RT-0027	Portable Glasslined Reactor, K3, Pfaudler, P20-30-25, 30 gallon, constructed 1967
1V-0001	Portable Stainless Steel Reactor, Expert Industrial
1V-0022	Portable Stainless Steel Tank
1V-0023	Portable Stainless Steel Tank
3PR-005	Filter Press, K7, Sperry, 42", 11,000 gallon
1PR-0015	Filter Press; 11,000 Gallon
1FL-0010	Neutsche Filter
1PR-0018	Filter Press
1V-0012	Process Holding Tank, K5, 140 Gallon
1CF-0077	Centrifuge, K5, Sharples, A-26
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1CF-0080	Centrifuge, K5, Sharples, A-26
1CF-0082	Centrifuge, K5, Sharples, A-26
1COL-0012	Column, K5, Laciny Bros.
1COL-0013	Column, K5, Laciny Bros.
1CF-0138	Centrifuge, K8, Westfalia, HAD 30-06-078, 132 gallons per minute, constructed 2002
1CF-0088	Centrifuge, XP, Sharples, AS-16, 20 liters, constructed 1967
1T-0357	Fractionation Process Tank, XP, 160 Gallon, constructed 1967
1T-0362	Ppt Tank, XP, 200 liter, constructed 1967
1T-0358	Fractionation Process Tank, XP, 100 liters, constructed 1967

Equipment Number	Emission Point Description
1T-0425	Cold Room A/B Tank, K, GPI, 7427A; 1,500 gallon, constructed 2005
1T-0426	Cold Room A/B Tank, K, GPI, 7427B; 1,500 gallon, constructed 2005
1T-0427	Cold Room A/B Tank, K, Tankinetics, 2918-03; 2,000 gallon, constructed 2005
1T-0428	Cold Room A/B Tank, K, Tankinetics, 2918-04; 2,000 gallon, constructed 2005
1V-0003	Receiver, BC1, 750 Gallon, constructed 1967
1RT-0008	Dye Lab Reactor, BC2, Pfaudler, E169-2000 (E196-2000), 50 Gallon, constructed 1970
1RT-0008-T01	Catch Tank, BC2, Pfaudler, 50 Gallon, constructed 1967
1RT-0007	Reactor, BC2, Pfaudler, E177-3031, 50 Gallon, constructed 1978
1RT-0007-T01	Catch Tank, BC2, Pfaudler, E163-0933, 50 Gallon, constructed 1963
1RT-0030	Reactor, BC1, Pfaudler, R191-0513, 200 Gallon, constructed 1991
1RT-0030-T01	Catch Tank, BC1, Pfaudler, E181-0683, 100 Gallon, constructed 1981
1RT-0031	Reactor, BC1, Pfaudler, E163-1307, 100 Gallon, constructed 1963
1RT-0031-T01	Catch Tank, BC1, Pfaudler, E176-1460, 100 Gallon, constructed 1976
	Paint Spray Booth; constructed in 1992
1BLR-0003	Boiler, Small Industrial, Johnston Boiler; 10.4 MMBtu per hour; constructed 1981; Natural Gas Fired
1GEN-0005	Diesel Compression Ignition Internal Combustion Engine Powered Generator, Caterpillar, C27/AFK01358, 6.89 MMBtu per hour, 750 kW, Added January 2012.
Broadway Facility (3506 S. Broadway)	
5BLR-0901	Boiler, Cleaver Brooks Small Industrial Boiler, CB300, 12.55 MMBtu per hour, constructed 1996 (pipeline grade natural gas)
5V-0604	2,000 L ACC Tank
5V-0605	10,000 ACC Tank
5V-0608	3,000 ACF Tank
5V-0609	6,000 ACF Tank
5V-0610	10,000 ACF Tank

EMISSION UNITS WITHOUT LIMITATIONS

The following list provides a description of the equipment that does not have unit specific limitations at the time of permit issuance.

Equipment Number	Emission Point Description	Emission Point
	Bench Hoods, Throughout Dekalb Facility (excluding BC Building)	EP-1101
	Bench Hoods, Throughout Dekalb BC Building 56 Hoods	EP-1102
	Walk-in Hoods, Throughout Dekalb Facility (excluding BC Building) 21 Hoods	EP-1301
	Walk-in Hoods, Throughout Dekalb BC Building 34 Hoods	EP-1302
1 BLR-0005	Dekalb Superior Boiler, 4.2 MM Btu per hour, Installed 2005	EP-1805
1 BLR-0006	Dekalb Superior Boiler, 4.2 MM Btu per hour, Installed 2005	EP-1806
	Dekalb Tank 1T-0217, Used Solvent Storage Tank, 6,000 gallon storage capacity, (emissions regulated by RCRA, Subpart BB & CC)	EP-1910
1T-0218	Dekalb Tank, Used Solvent Storage Tank, 10,000 gallon storage capacity, (emissions regulated by RCRA, Subpart BB & CC)	EP-1911
1T-0219	Dekalb Tank, Used Solvent Storage Tank, 6,000 gallon storage capacity, (emissions regulated by RCRA, Subpart BB & CC)	EP-1912
1T-0220	Dekalb Tank, Used Solvent Storage Tank, 6,000 gallon storage capacity, (emissions regulated by RCRA, Subpart BB & CC)	EP-1913
1T-0403	Dekalb Tank, HCl Storage Tank, 6,600 gallon storage capacity	EP-1916
	Dekalb HCl Day Tank (on roof), 500 gallon storage capacity	EP-1917
1T-0401	Dekalb Tank, Acetone Storage Tank, 12,000 gallon storage capacity	EP-1918
	Dekalb 55-gallon Drum Storage Area	
	Dekalb NG Fired HVAC Unit, 120,000 Btu per hour, Emissions reported in EIQ for Dekalb boilers	
	Dekalb NG Fired Commercial Dryer, 785,600 Btu per hour, Emissions reported in EIQ for Dekalb boilers	
	Dekalb NG Fired HVAC Unit, 350,000 Btu per hour, Emissions reported in EIQ for Dekalb boilers	
	Dekalb NG Fired Commercial Dryers (4), 120,000 Btu per hour, Emissions reported in EIQ for Dekalb boilers	
	Dekalb NG Fired HVAC Units (2), 500,000 Btu per hour, Emission reported in EIQ for Dekalb boilers	
	Dekalb Diesel Storage Tank, 300 gallon storage capacity,	

Equipment Number	Emission Point Description	Emission Point
	used for emergency fire pump	
	Bench Hoods, Throughout Cherokee (Excluding T -Building) 33 Hoods	EP-3101
	Bench Hoods, Throughout Cherokee T -Building 2 Hoods	EP-3102
	Walk-In Hoods, Throughout Cherokee (Excluding T-Building) 8 Hoods	EP-3301
	Walk-In Hoods, Throughout Cherokee T-Building, 4 Hoods	EP-3302
3T-0152	Cherokee, T-West, 4000 Gallon, Sodium Vinyl Sulfonate Tank 1	EP-3402
3T-0153	Cherokee, T-West, 2000 Gallon, Sodium Vinyl Sulfonate Tank 2	EP-3402
3T -0154	Cherokee, T -West, 2000 Gallon Sodium Vinyl Sulfonate Tank 3	EP-3402
3V-0028	Cherokee Tank V-28, HCl Storage Tank, 6,300 gallon storage capacity	EP-3914
3V-0104	Cherokee Tank V-104, HCl Storage Tank, 6,300 gallon storage capacity	EP-3915
3V-0126	Cherokee Tank V-126, BCP Storage Tank, 5,000 gallon storage capacity	EP-3916
	Cherokee NG fired HVAC Units, 3 @ 75,000 Btu/hour, Emissions reported in EIQ for Cherokee boilers	
	Cherokee NG fired HVAC Units, 17 @ 500,000 Btu/hour Emissions reported in EIQ for Cherokee boilers	
	Cherokee NG fired Commercial Dryer, 1 @ 300,000 Btu/hour Emissions reported in EIQ for Cherokee boilers	
	Cherokee NG Fired Heat Treating Furnace, 180,000 Btu/hour, Emissions reported in EIQ for Cherokee boilers	
	Bench Hoods, Throughout Broadway Facility	EP-5102

DOCUMENTS INCORPORATED BY REFERENCE

These documents have been incorporated by reference into this permit.

Dekalb Installations

1. St. Louis City Construction Permit for Paint Booth Dated October 16, 1992
2. St. Louis City Construction Permit No. 01-11-035 Issued on January 29, 2002
3. St. Louis City Construction Permit No. 02-12-027 Issued on January 22, 2003
4. St. Louis City Permit No. 05-06-004 Issued on October 5, 2005
5. St. Louis City Source Registration Permit No. SR 11.026 Issued on January 10, 2012

Cherokee Installations

6. St. Louis City Permit Matter No. 99-10-072 Issued on October 22, 1999, Correction to Source Registration Permit No. 97-07-074
7. St. Louis City Construction Permit No. 01-03-007 Issued on June 4, 2001
8. Section 112(j) Part 1 Application for NESHAP Dated May 10, 2002
9. Precompliance Report for Pharmaceutical MACT Standard (Subpart GGG) Dated April 19, 2002 and St. Louis City approval letter.
10. Notification of Compliance Status Report for MACT Subpart GGG Dated March 20, 2003
11. St. Louis City Permit No. 04-02-003 Issued on February 13, 2004 Replacing Permit No. 98-03-020
12. St. Louis City Source Registration Permit No. SR03.010 - Issued on May 12, 2003
13. St. Louis City Source Registration Permit SR09.026 Issued on July 31, 2009
14. St. Louis City Source Registration Permit SR10.049 Issued on October 5, 2010
15. St. Louis City Source Registration Permit SR07.034 Issued October 1, 2007

Broadway Installations

16. St. Louis City Amendment Permit No. 96-02-018A for the Manufacture of Medical Liquid and Powder Nutrients Issued on September 18, 1998
17. St. Louis City Source Registration Permit No. SR04.009 Issued On February 13, 2004 to Amend Source Registration Permit No. 01720

II. Plant Wide Emission Limitations

The installation shall comply with each of the following emission limitations. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued.

The following requirements apply to all conditions (in addition to any other requirements listed in the specific conditions), unless otherwise noted.

Monitoring:

The permittee shall calibrate, maintain and operate all instruments and control equipment according to the manufacturer's recommendations or according to good engineering practices.

Recordkeeping:

The permittee shall record all required recordkeeping (i.e. control device maintenance, inspections and corrective actions) in the appropriate format. Records may be kept electronically using database or workbook systems, as long as all required information is readily available for compliance determinations.

Reporting⁹:

- 1) The permittee shall report any exceedance of any of the terms imposed by this permit, or any malfunction which could cause an exceedance any of the terms imposed by this permit, no later than ten (10) days after the exceedance or event causing the exceedance (unless otherwise specified in the specific condition), to the Air Pollution Control Program's Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102
- 2) The permittee shall submit an annual certification¹⁰ that it is in compliance with all of the federally enforceable terms and conditions contained in this permit, including emissions limitations, standards, or work practices. All deviations and Part 64 exceedances and excursions must be included in the compliance certifications. These certifications shall be submitted annually by **April 1st**, unless the applicable requirement specifies more frequent submission. These certifications shall be submitted to Environmental Protection Agency, Region 7, 11201 Renner Boulevard, Lenexa, Kansas 66219, and the Air Pollution Control Program's Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102

⁹ Refer to General Permit Requirements, 10 CSR 10-6.065(6)(C)1.C General Recordkeeping and Reporting Requirements, page 260, for additional details, including semi-annual reporting of monitoring data.

¹⁰ Refer to General Permit Requirements, 10 CSR 10-6.065(6)(C)3 Compliance Requirements, page 262, for more details.

III. Emission Unit Specific Emission Limitations

The installation shall comply with each of the following emission limitations. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued.

Cherokee Facility (3300 S. 2nd Street)

Visible Emission Sources		
<i>Emission Unit</i>	Description	Control Devices
	All sources of visible emissions	

Visible Emission Sources Permit Condition 1 10 CSR 10-6.220 - Restriction of Emission of Visible Air Contaminants
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Emission Limitations:

The permittee shall not discharge into the ambient air from any source, not exempted under 10 CSR 10-6.220, any air contaminant of opacity greater than twenty (20%) percent. A source with a 20% opacity limit may emit air contaminants with opacity over 20%, but not greater than 40% for an aggregate length of time not to exceed six (6) minutes in any 60 minutes. Where the presence of uncombined water is the only reason for failure of an emission to meet the opacity requirements, the opacity requirements shall not apply.

Monitoring/Recordkeeping:

The permittee will follow the monitoring and recordkeeping requirements listed in 10 CSR 10-6.220 Restriction of Emission of Visible Air Contaminants, starting on page 256.

Miscellaneous Organic Chemical Manufacturing (MON) Group				
Equipment Number	Description	Location	Permit Conditions	Control Devices
3RT-0127	A-Vessel, XY, Paul Mueller Co., 6,000 Liter (1,585 gallon), constructed 1987	XY	1, 2	
3RT-0126	B-Vessel, XY, Alpha Tank Co., 12,000 Liter (3,170 gallon), constructed 1987	XY	1, 2	
3RT-0128	C-Vessel, XY, 3,000 Liter (793 gallon), constructed 1987	XY	1, 2	
	Dye Mix Batch Operation, XY, constructed 1987	XY	1, 2	
3HO-XY-0006 3HO-XY-0007	Filling Equipment (Lines 1 and 2), XY, constructed 1987	XY	1, 2	
	Powder Weigh and Repackaging Operation, XY, constructed 1987	XY	1, 2	

Miscellaneous Organic Chemical Manufacturing (MON) Group				
Equipment Number	Description	Location	Permit Conditions	Control Devices
3T-0502	Portable Reactor, XY, Precision Stainless, 8206-2, 480 liter, constructed 1994	XY	1, 2	
3RT-0001	Reactor, T-West, Pfaudler, R183-0120 or RA-60-750-100-90, 750 Gallon, constructed 2005	T-West	1, 2	Enclosed Ground Flare
3RT-0001-T26	Catch Tank, T-West, Pfaudler, E158-0225, 350 Gallon, constructed 01/21/1987	T-West	1, 2	Enclosed Ground Flare
3RT-0002	Reactor, T-West, Pfaudler, R181-0192; 1,000 Gallon; constructed 01/21/1987	T-West	1, 2	Enclosed Ground Flare
3RT-0002-T27	Catch Tank, T-West, Pfaudler, E160-0040, 350 Gallon, constructed 01/21/1987	T-West	1, 2	Enclosed Ground Flare
3RT-0004	Reactor, T-West, De Dietrich, SA-2000; 2,000 Gallon; constructed 12/30/2010	T-West	1, 2	Enclosed Ground Flare
3RT-0004-T29	Catch Tank, T-West, Pfaudler, R679-8036; 1,000 Gallon; constructed 01/21/1987	T-West	1, 2	Enclosed Ground Flare
3RT-0071	Reactor, T-West, Pfaudler, E95565, 20 Gallon, constructed 01/21/1987	T-West	1, 2	Enclosed Ground Flare
3RT-0071-T72	Catch Tank, T-West, Pfaudler, E179-0847, 10 Gallon, constructed 1977	T-West	1, 2	Enclosed Ground Flare
3RT-0006	Slurry Tank, T-West, Pfaudler, RA-60-1000-100-90; 1,000 Gallon; constructed 2005	T-West	1, 2	
3RT-0010	Buffer Line Reactor & Receiver, T-West, Pfaudler, RA-5000, 5,000 Gallon, Permit 01-03-007, constructed 2001	T-West	1, 2	
3RT-0010-V01	Buffer Line Receiver, T-West, Pfaudler, RA 60-1000, 1,000 Gallon. Constructed 2001	T-West	1, 2	Enclosed Ground Flare
3CF-0085	Buffer Line Centrifuge, T-West, Western State, Q-320, 117 Gallon, constructed 2001	T-West	1, 2	
3RT-0005-T30	Catch Tank/Receiver, T-West, Pfaudler, S177-4134; 1,000 Gallon; constructed 01/21/1987	T-West	1, 2	
3RT-0005	Crystallizer, T-West, Pfaudler, R179-0497; 3,000 Gallon; constructed 01/21/1987	T-West	1, 2	Enclosed Ground Flare

Miscellaneous Organic Chemical Manufacturing (MON) Group				
Equipment Number	Description	Location	Permit Conditions	Control Devices
3CF-0001	Centrifuge, T-West, Western State	T-West	1, 2	Enclosed Ground Flare
3D-0003	Dryer, T-West	T-West	1, 2, 3	Enclosed Ground Flare
3D-0005	Dryer, T-West, Komline-Sanderson Engineering Corp.	T-West	1, 2, 3	Enclosed Ground Flare
3D-0009	Dryer, T-West, Custom	T-West	1, 2, 3	Enclosed Ground Flare
3T-0084	Cherokee Denatured Alcohol Storage Tank, V-51, Modern Welding Company, 12,000 gallon, constructed 1987	Tank Farm	1	Enclosed Ground Flare
3T-0086	Cherokee Methanol Storage Tank, V-53, Modern Welding Company, 12,000 gallon, constructed 1987	Tank Farm	1	Enclosed Ground Flare
3T-0087	Cherokee Denatured Ethanol Storage Tank, V-54, Modern Welding Company, 12,000 gallon, constructed 1987	Tank Farm	1	Enclosed Ground Flare
3T-0088	Cherokee Denatured Ethanol or MTBE Storage Tank, V-55, Modern Welding Company, 12,000 gallon, constructed 1987	Tank Farm	1	Enclosed Ground Flare
3T-0089	Cherokee Methanol Storage Tank, V-56, Modern Welding Company, 12,000 gallon, constructed 1987	Tank Farm	1	Enclosed Ground Flare
3T-0090	Cherokee Methanol Storage Tank, V-57, Modern Welding Company, 12,000 gallon, constructed 1987	Tank Farm	1	Enclosed Ground Flare

Permit Condition 1 MON Group 10 CSR 10-6.075 Maximum Achievable Control Technology Regulations 40 CFR Part 63, Subpart FFFF—National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing
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Emission Limitation:

You must be in compliance with the emission limits and work practice standards in tables 1 through 7 to 40 CFR Part 63, Subpart FFFF at all times, except during periods of startup, shutdown, and malfunction (SSM), and you must meet the requirements specified in §§63.2455 through 63.2490 (or the alternative means of compliance in §63.2495, §63.2500, or §63.2505), except as specified in paragraphs (b) through

(s) of this section. You must meet the notification, reporting, and recordkeeping requirements specified in §§63.2515, 63.2520, and 63.2525. Refer to Emission Limits, Work Practice Standards, and Compliance Requirements on starting on page 50.

Notification:

Refer to “§ 63.2515 What notifications must I submit and when?” starting on page 69 (located in the Endnotes to this section).

Recordkeeping:

Refer to “§ 63.2525 What records must I keep?” starting on page 74 (located in the Endnotes to this section).

Reporting:

Refer to “§ 63.2520 What reports must I submit and when?” starting on page 70 (located in the Endnotes to this section).

Permit Condition 2

MON Group (except equipment 3T-0084. 3T-0086. 3T-0087. 3T-0088. 3T-0089. 3T-0090)
10 CSR 10-5.540 Control of Emissions from Batch Process Operations

Emission Limitation:

The permittee shall comply with the requirements found in Endnotes, 10 CSR 10-5.540 Control of Emissions From Batch Process Operations, (3) General Provisions found on page 242.

Monitoring:

The permittee shall monitor according to the requirements found in Endnotes, 10 CSR 10-5.540 Control of Emissions From Batch Process Operations, (I) Monitoring Requirements found on page 246.

Reporting / Recordkeeping:

The permittee shall record the pertinent information found in Endnotes, 10 CSR 10-5.540 Control of Emissions From Batch Process Operations, (4) Reporting and Recordkeeping found on page 245.

Permit Condition 3

3D-0003, 3D-0005, 3D-0009
10 CSR 10-6.060 Construction Permits Required
Construction Permit No. 01-03-007 (Issued on June 4, 2001)

Emission Limitation:

The permittee shall take appropriate measures within eight (8) hours to remediate leaks or abnormal conditions.

Monitoring/Recordkeeping:

The permittee shall keep maintenance records.

Reporting:

The permittee shall report to the Air Pollution Control Program’s Compliance/Enforcement Section the next business day any malfunction or upset conditions that cause the operation of the rotary dryer without the condenser.

GGG Group			
Equipment Number	Description	Location	Permit Conditions
3RT-1000	Reactor , 100 Gallon, (constructed 1997), Pfaudler, RTC32-100-100-100	T-East	1
3RT-1000-T01	Receiver , 50 Gallon, (constructed 1997), Pfaudler, Model No. JVRC24-50-70-100	T-East	1
3RT-2000	Reactor , 200 Gallon (constructed 1997), Pfaudler, Model No. RT40-200-70-100	T-East	1, 7
3RT-2000-T01	Receiver, 100 Gallon (constructed 1994), Pfaudler, Model No. EC32-100-100-90	T-East	1
3RT-7500	Reactor, 750 Gallon (constructed 1997), Pfaudler, Model No. KC60-750-70-100	T-East	1
3RT-7500-T01	Receiver, 300 Gallon (constructed 1997), Pfaudler, Model No. KC48-300-70-100	T-East	1
3RT-3000	Crystallizer, 3,000 Gallon (constructed 1997), Pfaudler, Model No. KC96-3000-70-100	T-East	1, 7
3RT-3000-T01	Receiver, 50 Gallon (constructed 1997), Pfaudler, Model No. P607-25	T-East	1
3FI-0046	Wet Cake Filter Dryer, 800 kg (constructed 1997), Rosenmund, Model No. ML2000	T-East	1
3FI-0046-T02	Receiver, 500 Gallon (2001), Precision Stainless, Model No. 6135-1, Serial No. 211083	T-East	1
3FI-0047	Contained Filter, (constructed 1997), Zwag, Custom Built	T-East	1
3FI-0047-T01	Receiver, 100 Gallon (constructed 1998), Precision Stainless Model No. 6135-2	T-East	1
3RT-0500	Scale Reactor System, 50 Liter (constructed 1997), Schott Process Systems, Model No. REAZ55/CTJ 13	T-East	1
3RT-0500-T02	Receiver, 20 Liter (constructed 1997), Schott Process Systems, Model No. REAZ55/CTJ 13	T-East	1
3T-0121	Solution Addition Tank, 50 Gallon (constructed 1997), Pfaudler, Model No. VRC24-50-10	T-East	1
3T-0116	Carbon Tank, 200 Gallon (constructed 1997), Pfaudler, Model No. RT40-200-70-100	T-East	1
3HTS-0001	Closed Loop 250° F Glycol System, (constructed 1997), Atlas Industrial, Model No. 10-144	T-East	1, 2
3HTS-0002	Low Temperature Coolant System, (constructed 1997), Grasso, Model No. RC 2112	T-East	1, 2
3FI-0100	Portable Neutsche Filter, Dietrich, NF600, 45 Gallon, constructed 2003	T-East	1, 3
3CF-0011	Centrifuge, ROBATEL, EHL-813-DRG, 94 liter, constructed 1997	T-East	1

Permit Condition 1
GGG Group
10 CSR 10-6.060 Construction Permits Required
Source Registration Permits Required – Permit No. 99-10-072 Issued on October 22, 1999, Correction to
Source Registration Permit No. 97-07-074

Emission Limitation:

The permittee shall take appropriate measures within eight (8) hours to remediate leaks or abnormal conditions.

Monitoring/Recordkeeping:

The permittee shall keep maintenance records for the condenser and caustic scrubber.

Permit Condition 2
3HTS-0001 & 3HTS-0002
10 CSR 10-6.060 Construction Permits Required
Permit No. 99-10-072 Issued on October 22, 1999, Correction to Permit No. 97-07-074

Emission Limitation:

The permittee shall take appropriate measures within eight (8) hours to remediate leaks or abnormal conditions.

Monitoring/Recordkeeping:

The permittee shall keep maintenance records.

Permit Condition 3
3FI-0100
10 CSR 10-6.060 Construction Permits Required
Permit No. SR03.010 - Issued on May 12, 2003

Emission Limitation:

- 1) The permittee shall not emit more than 0.21 tons of VOCs during any consecutive 12-month period of time.
- 2) The permittee shall not emit more than 0.21 tons of HAPs during any consecutive 12-month period of time.

Monitoring/Recordkeeping:

The permittee shall keep records of VOC and HAP emissions monthly, including a calculated total for any consecutive 12-month period of time. The permittee may show compliance with this conditions by showing that the total emissions for *GGG Group* (T-East) falls below the 0.21 tons per 12 month limit. If the *GGG Group* (T-East) shows more than 0.21 tons of VOC's or HAP's are being emitted in a 12-month period, then the permittee shall provide records to show VOC's or HAP's emissions in a 12-month period for 3FI-0100 alone are below the emission limitation.

Permit Condition 4
GGG Group
10 CSR 10-5.350 Control of Emissions From Manufacture of Synthesized Pharmaceutical Products

Emission Limitation:

- 1) The permittee shall control the VOC emissions from all reactors, distillation operations, crystallizers, centrifuges and vacuum dryers by the use of surface condensers or equivalent controls.

- a) If surface condensers are used, with vapor pressures as measured at twenty degrees Celsius (20°C), the condenser outlet gas temperature must not exceed:
 - i) Minus twenty-five degrees Celsius (-25°C), when condensing VOC of vapor pressure greater than 40.0 kilopascals (kPa) (5.8 psi);
 - ii) Minus fifteen degrees Celsius (-15°C), when condensing VOC of vapor pressure greater than 20.0 kPa (2.9 psi);
 - iii) Zero degrees Celsius (0°C), when condensing VOC of vapor pressure greater than 10.0 kPa (1.5 psi);
 - iv) Ten degrees Celsius (10°C), when condensing VOC of vapor pressure greater than 7.0 kPa (1.0 psi); or
 - v) Twenty-five degrees Celsius (25°C), when condensing VOC of vapor pressure greater than 3.50 kPa (0.5 psi).
 - b) If equivalent controls are used, the VOC emissions must be reduced by an amount equivalent to the reductions achieved in condition 1)a) above. Equivalent controls may not be used unless approved by the director.
- 2) The permittee shall reduce the VOC emissions from all air dryers and production equipment exhaust systems:
- a) By at least ninety percent (90%) if emissions are one hundred fifty (150) kg/day, three hundred thirty (330) lbs./day or more of VOC; or
 - b) To fifteen (15) kg/day thirty-three (33) lbs./day or less if emissions are less than one hundred fifty (150) kg/day, three hundred thirty (330) lbs./day of VOC.
- 3) The permittee shall:
- a) Provide a vapor recovery system or equivalent control that is ninety percent (90%) or more effective in reducing daily average emissions from truck or railcar deliveries to storage tanks with capacities greater than seven thousand five hundred (7,500) liters (two thousand (2,000) gallons) that store VOC with vapor pressures greater than 28.0 kPa (4.1 psi) at twenty degrees Celsius (20°C); and
 - b) Install pressure/vacuum conservation vents set at ± 0.2 kPa on all storage tanks that store VOC with vapor pressures greater than 10.0 kPa (1.5 psi) at twenty degrees Celsius (20°C), unless a more effective control system is used.
- 4) The permittee shall enclose all centrifuges, rotary vacuum filters and other filters having an exposed liquid surface, where the liquid contains VOC and exerts a total VOC vapor pressure of 3.50 kPa (0.5 psi) or more at twenty degrees Celsius (20°C).
- 5) The permittee shall install covers on all in-process tanks containing a VOC at any time. These covers must remain closed, unless production, sampling, maintenance or inspection procedures require operator access.
- 6) The permittee shall repair all leaks from which a liquid containing VOC can be observed running or dripping. The repair shall be completed the first time the equipment is off-line for a period of time long enough to complete the repair.

Monitoring/Recordkeeping:

- 1) Compliance with this rule in 10 CSR 10-5.350(3)(A) and (B) and 10 CSR 10-5.350(3)(C)1. shall be determined by the testing methods referenced in 10 CSR 10-6.030(14)(A).
- 2) Owners or operators utilizing add-on control technology shall monitor and record the following parameters continuously while the affected equipment is in operation:
 - a) Exhaust gas temperature of all incinerators;
 - b) Temperature rise across a catalytic incinerator bed;

- c) VOC breakthrough on a carbon adsorption unit;
 - d) Exit stream temperature on all condensers; and
 - e) Any other monitoring device requested by the director.
- 3) Records shall be kept on production rates sufficient to determine daily VOC emissions and any equipment test results performed in conjunction with this rule.

Permit Condition 5
GGG Group
10 CSR 10-6.075 Maximum Achievable Control Technology Regulations
40 CFR Part 63, Subpart GGG National Emission Standards for Pharmaceutical Production – General

Emission Limitation:

The permittee shall comply with the standards prescribed by § 63.1252 Standards: General. You should reference page 119 of this permit for the actual wording.

Monitoring / Recordkeeping:

No monitoring or recordkeeping are required for the general standards.

Permit Condition 6
GGG Group
10 CSR 10-6.075 Maximum Achievable Control Technology Regulations
40 CFR Part 63, Subpart GGG National Emission Standards for Pharmaceuticals Production- Standards for
Process Vents
Notification of Compliance Status Report (Public Version)- Submitted to US EPA on March 20,2003

Emission Limitation:

The permittee shall comply with the standards prescribed by § 63.1254 Standards: Process vents. You should reference page 126 of this permit for the actual wording. Actual HAP emissions from the sum of all process vents within a process must not exceed 900 kilograms (kg) in any 365-day period. Actual HAP emissions from the sum of all process vents within processes are limited to a maximum of 1,800 kg in any 365-day period.

Monitoring / Recordkeeping:

- 1) The permittee shall monitor the number of batches per product for the purpose of determining the emission rate.
- 2) The permittee shall keep records of the number of batches and the sum of emissions.

Permit Condition 7
3RT-2000, 3RT-3000
10 CSR 10-6.075 Maximum Achievable Control Technology Regulations
40 CFR Part 63, Subpart GGG National Emission Standards for Pharmaceutical Production – Process
Equipment Leaks

Emission Limitation:

The permittee shall comply with the standards prescribed by § 63.1255 Standards: Equipment leaks. You should reference page 129 of this permit for the actual wording.

Monitoring:

The permittee shall monitor at least annually and after any reconfiguration or maintenance of the equipment. The permittee may complete monitoring using pressure tests, liquid tests, or Method 21.

Recordkeeping:

The permittee shall record pertinent information.

General Equipment Throughout Cherokee Facility (excluding T Building)				
Equipment Number	Description	Location	Permit Conditions	Control Devices
ZCT-3-35-X-2/8	Cherokee Flare, Hydrocarbon Combustion Unit (smokeless flare), 12.4 mmBtu per hour, constructed 05/01/2008		5	
3T-0084	Cherokee Denatured Alcohol Storage Tank, V-51, Modern Welding Company, 12,000 gallon, constructed 1987	Tank Farm	1, 2, 3	Enclosed Ground Flare
3T-0085	Cherokee Acetone Storage Tank, V-52, Modern Welding Company, 12,000 gallon, constructed 1987	Tank Farm	1, 2	Enclosed Ground Flare
3T-0086	Cherokee Methanol Storage Tank, V-53, Modern Welding Company, 12,000 gallon, constructed 1987	Tank Farm	1, 2, 3	Enclosed Ground Flare
3T-0087	Cherokee Denatured Ethanol Storage Tank, V-54, Modern Welding Company, 12,000 gallon, constructed 1987	Tank Farm	1, 2, 3	Enclosed Ground Flare
3T-0088	Cherokee MTBE Storage Tank, V-55, Modern Welding Company, 12,000 gallon, constructed 1987	Tank Farm	1, 2, 4	Enclosed Ground Flare
3T-0089	Methanol Storage Tank, V-56, Modern Welding Company, 12,000 gallon, constructed 1987	Tank Farm	1, 2, 3	Enclosed Ground Flare
3T-0090	Methanol Storage Tank, V-57, Modern Welding Company, 12,000 gallon, constructed 1987	Tank Farm	1, 2, 3	Enclosed Ground Flare
3T-0091	Used Solvent Storage Tank, V-59, Modern Welding Company, 12,000 gallon, constructed 1987	Tank Farm	3	Enclosed Ground Flare
3T-0092	Used Solvent Storage Tank, V-61, Modern Welding Company, 12,000 gallon, constructed 1987	Tank Farm	3	Enclosed Ground Flare
3T-0093	Used Solvent Storage Tank, V-63, Modern Welding Company, 12,000 gallon, constructed 1987	Tank Farm	3	Enclosed Ground Flare
3T-0094	Mixed Solvent Storage Tank, V-64, Modern Welding Company, 12,000 gallon, constructed 1987	Tank Farm	3	Enclosed Ground Flare
3T-0095	Used Solvent Storage Tank, V-67, Modern Welding Company, 12,000 gallon, constructed 1987	Tank Farm	3	Enclosed Ground Flare

Permit Condition 1
3T-0084, 3T-0086, 3T-0087, 3T-0088, 3T-0089, 3T-0090
10 CSR 10-6.075 Maximum Achievable Control Technology Regulations
40 CFR Part 63, Subpart FFFF—National Emission Standards for Hazardous Air Pollutants: Miscellaneous
Organic Chemical Manufacturing

Emission Limitation:

- 1) If the permittee complies with either 40 CFR 63, subpart H or subpart UU, then permittee may elect to comply with the provisions of (a) through (e) as an alternative to the referenced provision in subpart H or subpart UU.
 - a) The requirements for pressure testing in §63.179(b) or §63.1036(b) may be applied to all processes, not just batch processes.
 - b) For the purposes of this subpart, pressure testing for leaks in accordance with §63.179(b) or §63.1036(b) is not required after reconfiguration of an equipment train if flexible hose connections are the only disturbed equipment.
 - c) For an existing source, you are not required to develop an initial list of identification numbers for connectors as would otherwise be required under §63.1022(b)(1) or §63.181(b)(1)(i).
 - d) For connectors in gas/vapor and light liquid service at an existing source, you may elect to comply with the requirements in §63.169 or §63.1029 for connectors in heavy liquid service, including all associated recordkeeping and reporting requirements, rather than the requirements of §63.174 or §63.1027.
 - e) For pumps in light liquid service in an MCPU that has no continuous process vents and is part of an existing source, you may elect to consider the leak definition that defines a leak to be 10,000 parts per million (ppm) or greater as an alternative to the values specified in §63.1026(b)(2)(i) through (iii) or §63.163(b)(2).
- 2) If you comply with 40 CFR Part 65, subpart F, you may elect to comply with the provisions in paragraphs (2)(A) through (2)(I) of this section as an alternative to the referenced provisions in 40 CFR Part 65, subpart F.
 - a) The requirements for pressure testing in §65.117(b) may be applied to all processes, not just batch processes.
 - b) For the purposes of this subpart, pressure testing for leaks in accordance with §65.117(b) is not required after reconfiguration of an equipment train if flexible hose connections are the only disturbed equipment.
 - c) For an existing source, you are not required to develop an initial list of identification numbers for connectors as would otherwise be required under §65.103(b)(1).
 - d) You may elect to comply with the monitoring and repair requirements specified in §65.108(e)(3) as an alternative to the requirements specified in §65.108(a) through (d) for any connectors at your affected source.
 - e) For pumps in light liquid service in an MCPU that has no continuous process vents and is part of an existing source, you may elect to consider the leak definition that defines a leak to be 10,000 ppm or greater as an alternative to the values specified in §65.107(b)(2)(i) through (iii).
 - f) When 40 CFR Part 65, subpart F refers to the implementation date specified in §65.1(f), it means the compliance date specified in §63.2445.
 - g) When §§65.105(f) and 65.117(d)(3) refer to §65.4, it means §63.2525.
 - h) When §65.120(a) refers to §65.5(d), it means §63.2515.
 - i) When §65.120(b) refers to §65.5(e), it means §63.2520.

- 3) The provisions of this section do not apply to bench-scale processes, regardless of whether the processes are located at the same plant site as a process subject to the provisions of this subpart.

Monitoring / Recordkeeping:

The permittee will conduct monitoring and keep such records to demonstrate compliance with this condition.

Permit Condition 2 3T-0084, 3T-0086, 3T-0087, 3T-0088, 3T-0089, 3T-0090 10 CSR 10-6.075 Maximum Achievable Control Technology Regulations 40 CFR Part 63, Subpart FFFF—National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing

Emission Limitation:

The permittee shall maintain records qualifying these tanks as Group 2.

Group 1 storage tank means a storage tank with a capacity greater than or equal to 10,000 gal storing material that has a maximum true vapor pressure of total HAP greater than or equal to 6.9 kilopascals at an existing source or greater than or equal to 0.69 kilopascals at a new source.

Group 2 storage tank means a storage tank that does not meet the definition of a Group 1 storage tank.

Monitoring / Recordkeeping:

The permittee will conduct monitoring and keep such records to demonstrate compliance with this condition.

Permit Condition 3 3T-0084, 3T-0086, 3T-0087, 3T-0089, 3T-0090, 3T-0091, 3T-0092, 3T-0093, 3T-0094, 3T-0095 10 CSR 10-6.070 New Source Performance Regulations 40 CFR Part 60, Subpart Kb—Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984
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Emission Limitation:

The permittee shall do the following:

- 1) keep copies of all records required by this section, except for the record required by paragraph (b) of this section, for at least 2 years. The record required by paragraph (b) of this section will be kept for the life of the source.
- 2) keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel.

Monitoring / Recordkeeping:

The permittee will conduct monitoring and keep such records to demonstrate compliance with this condition.

Permit Condition 4 3T-0088 10 CSR 10-6.060 Construction Permits Required Permit No. SR10.049

Emission Limitation:

The permittee shall do the following:

- 1) use submerged fill and nitrogen blanket (requirements retained from August 8, 1986 Source Registration).
- 2) throughput of MTBE shall not exceed 87,500 gallons in any consecutive 12-month period.
- 3) breathing and working loss emissions shall be vented through "hard piped" existing smokeless flare. The smokeless flare must be operated to achieve at least 95% destruction of emissions from the tank.

Recordkeeping:

The permittee shall keep the following records:

- 1) of MTBE throughput monthly with a total for each consecutive 12-month period.
- 2) the latest performance (emission) test performed on the smokeless flare used to control emissions. This shall include documentation of the destruction efficiency of organic vapors vented to the flare.
- 3) The permittee will keep such records to demonstrate compliance with this condition.

Permit Condition 5 Cherokee Flare 10 CSR 10-6.060 Construction Permits Required Permit No. SR 07.034

Emission Limitation:

- 1) The permittee shall use only Natural Gas-Fired as fuel for the *Cherokee Flare*.
- 2) The permittee may not use the *Cherokee Flare* to control halogenated vent streams or hydrogen halide and halogen-containing HAP emissions.

Recordkeeping:

Records of emissions of CO, NO and VOC from the EHCU shall be kept on a monthly basis. Emission totals for every consecutive 12-month period shall also be kept. The permittee will conduct monitoring and keep such records to demonstrate compliance with this condition.

Cherokee Facility Boilers				
Equipment Number	Description	Location	Permit Conditions	Control Devices
3BLR-0001	Cleaver Brooks Boiler	R-Building	1	
3BLR-0002	Cleaver Brooks Boiler	R-Building	1	
3BLR-0700	Cleaver Brooks Boiler	R-Building	2	

Permit Condition 1 3BLR-0001, 3BLR-0002 10 CSR 10-6.060 Construction Permits Required Permit No. 99-10-072 Issued on October 22, 1999, Correction to Permit No. 97-07-074
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Emission Limitations:

This emission unit shall be limited to burning pipeline grade natural gas.

Monitoring / Recordkeeping:

10 CSR 10-6.405(1)(E) An installation is exempt from this rule if all of the installation's applicable units are fueled only by landfill gas, propane, natural gas, fuel oils #2 through #6 (with less than one and two-tenths percent (1.2%) sulfur), or other gases (with hydrogen sulfide levels less than or equal to four (4) parts per million volume as measured using ASTM D4084, or equivalent and mercury concentrations

less than forty (40) micrograms per cubic meter as measured using ASTM D5954, or ASTM D6350, or equivalent) or any combination of these fuels.

<p>Permit Condition 2 3BLR-0700 10 CSR 10-6.060 Construction Permits Required Permit 04-02-003 (Replaces Permit 98-03-020) – Permit Issued February 13, 2004 10 CSR 10-6.070 New Source Performance Regulations 40 CFR Part 60 Subpart Dc Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units</p>

Emission Limitation:

The permittee shall only use pipeline grade natural gas as a source of fuel for this boiler.

Monitoring/Recordkeeping:

The permittee shall record and maintain records of the amount of fuel combusted during each month. [\[EPA Region VII Letter of Approval of Reduced Recordkeeping Frequency, Dated April 29, 1998\]](#)

3GEN-0015				
Equipment Number	Description	Location	Permit Conditions	Control Devices
3GEN-0015	Cherokee Diesel Compression Ignition Internal Combustion Engine Powered Generator, Caterpillar, C27/AFK01358, 6.89 MMBtu per hour, 750 kW, constructed 07/31/2009	S-Dock	1	

<p>Permit Condition 1 3GEN-0015 40 CFR Part 60, NSPS Subpart III, 10 CSR 10-6.060 Construction Permits Required Source Registration: SR09.026</p>

Emission Limitations:

- 1) You must operate and maintain stationary CI ICE that achieve the emission standards as required in §60.4204 according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer, over the entire life of the engine. [§60.4206]
- 2) Beginning October 1, 2007, owners and operators of stationary CI ICE that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(a). [§60.4207(a)]
 - a) Sulfur content: 500 parts per million (ppm) maximum; and [§80.510(a)(1)]
 - b) A minimum cetane index of 40; or a maximum aromatic content of 35 volume percent. [§80.510(a)(2)(i) and (ii)]
- 3) Beginning October 1, 2010, owners and operators of stationary CI ICE subject to this subpart with a displacement of less than 30 liters per cylinder that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel. [§60.4207(b)]
 - a) Sulfur content: 15 ppm maximum for nonroad diesel fuel; and [§80.510(b)(1)(i)]
 - b) A minimum cetane index of 40; or a maximum aromatic content of 35 volume percent. [§80.510(b)(2)(i) and (ii)]

- 4) Owners and operators of pre-2011 model year stationary CI ICE subject to this subpart may petition the Administrator for approval to use remaining non-compliant fuel that does not meet the fuel requirements of *Emission Limitations* 2) and 3) above beyond the dates required for the purpose of using up existing fuel inventories. If approved, the petition will be valid for a period of up to 6 months. If additional time is needed, the owner or operator is required to submit a new petition to the Administrator. [§60.4207(c)]
- 5) The emergency generator shall be limited to 500 hours of operation in any consecutive 12-month period. The generator shall be equipped with a non-resettable meter to record operational hours. [SR09.026]
- 6) The generator shall only be operated when power from the utility is interrupted, when required to perform maintenance, and for operational testing as allowed in the applicable NSPS subpart. [SR09.026]
- 7) The generator shall be installed and maintained per the manufacturer's recommendations. The generator shall only burn Low or Ultra-Low Sulfur Diesel (LSD @ 500 ppm or ULSD @ 15 ppm #2 fuel oil) with a sulfur content not to exceed 0.05% by weight. [SR09.026]

Recordkeeping:

- 1) The permittee shall maintain an accurate record of the diesel fuel used. Fuel purchase receipts, analyzed samples or certifications that verify the fuel type and compliant content will be acceptable.
- 2) Records of operational hours shall be maintained for this unit, with the reason for each operating period, a total for each month and a total for each consecutive 12-month period.
- 3) The permittee shall maintain fuel delivery records and records from the fuel oil supplier certifying the sulfur content of the fuel.

Reporting:

The permittee shall certify annually that the affected units have been operated and maintained according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer.

Paint Spray Booth				
Equipment Number	Description	Location	Permit Conditions	Control Devices
3501	Paint Spray Booth; constructed in 1992	S-Bldg	1	

Permit Condition 1 3501 10 CSR 10-6.060 Construction Permits Required St. Louis City Permit issued October 16, 1992
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Emission Limitation:

The permittee shall not exceed 2.5 tons (actual) VOC emissions from 3501 in any consecutive twelve (12) month period.

Monitoring/Recordkeeping:

The permittee shall keep quarterly records that include the rolling 12 month VOC emissions on site to verify the VOC emission limit of 2.5 tons (actual) per year for the paint spray booths at the Cherokee facility. The quarterly records shall include the rolling 12-month VOC emissions. The permittee will conduct monitoring and keep such records to demonstrate compliance with this condition.

General Equipment Throughout Cherokee Facility T-West Building				
Equipment Number	Description	Location	Permit Conditions	Control Devices
3402	General equipment throughout Cherokee facility (listed below)		1	
3RT-0001	Reactor, Pfaudler, R183-0120 or RA-60-750-100-90, 750 Gallon, constructed 2005	T-West	1	Enclosed Ground Flare
3RT-0001-T26	Catch Tank, Pfaudler, E158-0225, 350 Gallon, constructed 01/21/1987	T-West	1	Enclosed Ground Flare
3RT-0002	Reactor, Pfaudler, R181-0192; 1,000 Gallon; constructed 01/21/1987	T-West	1	Enclosed Ground Flare
3RT-0002-T27	Catch Tank, Pfaudler, E160-0040, 350 Gallon, constructed 01/21/1987	T-West	1	Enclosed Ground Flare
3RT-0004	Reactor, De Dietrich, SA-2000; 2,000 Gallon; constructed 12/30/2010	T-West	1	Enclosed Ground Flare
3RT-0004-T29	Catch Tank, Pfaudler, R679-8036; 1,000 Gallon; constructed 01/21/1987	T-West	1	Enclosed Ground Flare
3RT-0071	Reactor, Pfaudler, E95565, 20 Gallon, constructed 01/21/1987	T-West	1	Enclosed Ground Flare
3RT-0071-T72	Catch Tank, Pfaudler, E179-0847, 10 Gallon, constructed 1977	T-West	1	Enclosed Ground Flare
3RT-0008	Reactor, Pfaudler, 50 Gallon, constructed 01/21/1987	T-West	1	
3RT-0008-T09	Catch Tank, Pfaudler, E278-0873, 50 Gallon, constructed 01/21/1987	T-West	1	
3RT-0003	Crystallizer, Art Welding Co., 3013; 1,500 Gallon; constructed 07/16/1984	T-West	1	Enclosed Ground Flare
3V-0010	Crystallizer, T-West; 1,800 Gallon; constructed 07/16/1984	T-West	1	
3T-0006	Slurry Tank, Pfaudler, RA-60-1000-100-90; 1,000 Gallon; constructed 2005	T-West	1	
3T-0152	Sodium Vinyl Sulfonate Tank 1, T-West; 4,000 Gallon; constructed 1998	T-West	1	
3T-0153	Sodium Vinyl Sulfonate Tank 2, T-West; 2,000 Gallon; constructed 1998	T-West	1	
3T-0154	Sodium Vinyl Sulfonate Tank 3, T-West; 2,000 Gallon; constructed 1998	T-West	1	

General Equipment Throughout Cherokee Facility T-West Building				
Equipment Number	Description	Location	Permit Conditions	Control Devices
3RT-0010	Buffer Line Reactor, Pfaudler, RA-5000, 5,000 Gallon, Permit 01-03-007, constructed 2001	T-West	1, 2	Enclosed Ground Flare
3RT-0010-V01	Buffer Line Receiver, Pfaudler, RA 60-1000, 1,000 Gallon, Permit 01-03-007, constructed 2001	T-West	1, 2	Enclosed Ground Flare
3CF-0085	Buffer Line Centrifuge, Western State, Q-320, 117 Gallon, constructed 2001	T-West	1	Enclosed Ground Flare
3RT-0005-T30	Catch Tank/Receiver, Pfaudler, S177-4134; 1,000 Gallon; constructed 01/21/1987	T-West	1	Enclosed Ground Flare
3RT-0005	Crystallizer, Pfaudler, R179-0497; 3,000 Gallon; constructed 01/21/1987	T-West	1	Enclosed Ground Flare
3CF-0001	Centrifuge, Western State	T-West	1	Enclosed Ground Flare
3CF-0002	Centrifuge, Sharples	T-West	1	
3CF-0003	Centrifuge, Western State, Model No. Q-320, 117 Gallon, Permit 01-03-007, constructed 2001	T-West	1	
3D-0003	Dryer, T-West	T-West	1	Enclosed Ground Flare
3D-0004	Dryer, T-West	T-West	1	Enclosed Ground Flare
3D-0005	Dryer, Komline-Sanderson Engineering Corp.	T-West	1	Enclosed Ground Flare
3D-0009	Dryer, Custom	T-West	1	Enclosed Ground Flare

<p>Permit Condition 1 General Equipment Throughout Cherokee Facility, T-West Building 10 CSR 10-5.540 Control of Emissions from Batch Process Operations</p>

Emission Limitation:

The permittee shall comply with the requirements found in Endnotes, 10 CSR 10-5.540 Control of Emissions From Batch Process Operations, (3) General Provisions found on page 242.

Monitoring:

The permittee shall monitor according to the requirements found in Endnotes, 10 CSR 10-5.540 Control of Emissions From Batch Process Operations, (I) Monitoring Requirements found on page 246.

Reporting / Recordkeeping:

The permittee shall record the pertinent information found in Endnotes, 10 CSR 10-5.540 Control of Emissions From Batch Process Operations, (4) Reporting and Recordkeeping found on page 245.

Permit Condition 2 3RT-0010 10 CSR 10-6.060 Construction Permits Required Permit No. 01-03-007

Emission Limitation:

- 1) The permittee shall not operate the batch process for more than 6,570 hours for the production of MOPS or 6,570 hours for the production of TAPS in any consecutive twelve-month period.
- 2) The permittee shall operate this process only if the condenser for the rotary dryer is in operation. To ensure proper function, the following shall be performed:
 - a) If leaks or abnormal conditions are detected, the appropriate measures for remediation shall be implemented within eight (8) hours.
 - b) All instruments and control equipment shall be calibrated, maintained and operated according to the manufacturer's specifications.
- 3) Any malfunction or condition of upset that causes operation of the rotary dryer without the condenser shall be reported to this Division in writing by the next business day.

Monitoring / Recordkeeping:

- 1) The permittee shall record the hours of operation for each product produced per month. Refer to Attachment I, Recordkeeping for 01-03-007, on page 276, for a sample of the records format.
- 2) The permittee shall maintain a written record of any maintenance performed on the condenser.

Dekalb Facility (3500 Dekalb Street)

Visible Emission Sources		
<i>Emission Unit</i>	Description	Control Devices
	All sources of visible emissions	

Permit Condition 1 Visible Emission Sources 10 CSR 10-6.220 - Restriction of Emission of Visible Air Contaminants

Emission Limitations:

The permittee shall not discharge into the ambient air from any source, not exempted under 10 CSR 10-6.220, any air contaminant of opacity greater than twenty (20%) percent. A source with a 20% opacity limit may emit air contaminants with opacity over 20%, but not greater than 40% for an aggregate length of time not to exceed six (6) minutes in any 60 minutes. Where the presence of uncombined water is the only reason for failure of an emission to meet the opacity requirements, the opacity requirements shall not apply.

Monitoring/Recordkeeping:

The permittee will following the monitoring and recordkeeping requirements listed in 10 CSR 10-6.220 Restriction of Emission of Visible Air Contaminants, starting on page 256.

Miscellaneous Organic Chemical Manufacturing (MON) Group			
Equipment Number	Description	Location	Permit Conditions
1RT-0013	Reactor with Condenser, K5, Pfaudler, 50 Gallon, constructed 1967	K5	1, 2, 3
1RT-0013-T01	Catch Tank, K5, Laciny Bros., 30 Gallon, constructed 1967	K5	1, 2, 3
1RT-0011	Reactor with Condenser, K5, Pfaudler, 100 Gallon, constructed 1967	K5	1, 2, 3
1RT-0011-T01	Catch Tank, K5, 50 Gallon, constructed 1967	K5	1, 2, 3
1RT-0015	Reactor with Condenser, K5, Mueller, 500 Gallon, constructed 1967	K5	1, 2, 3
1RT-0015-T01	Catch Tank, K5, 200 Gallon, constructed 1967	K5	1, 2, 3
1RT-0012	Reactor with Condenser, K7, 1,200 Gallon, constructed 1967	K7	1, 2, 3
1RT-0012-T01	Catch Tank, K7, Art Welding, 500 Gallon, constructed June 1983	K7	1, 2, 3
1RT-0019	Jacketed Crystallizer with Condenser, K7, 5 Star Ind. Svcs, 1500 Gallon, constructed 1985	K7	1, 2, 3
1RT-0026	Glass Lined Crystallizer, K5, Pfaudler, R190-0132, 500 Gallon, constructed 2002. The typical process train consists of the crystallizer, a centrifuge, a funnel filter, a shelf dryer and a condenser.	K5	1, 2, 3, 5

Miscellaneous Organic Chemical Manufacturing (MON) Group			
Equipment Number	Description	Location	Permit Conditions
1RT-0025	Glass Lined Crystallizer, K5, Pfaudler, R690-8266, 500 Gallon, constructed 2002.	K5	1, 2, 3, 5
1RT-0032	Press Tank-North, K7, 2,000 Gallon, constructed 1996	K7	1, 2, 3
1RT-0033	Press Tank-South, K7, 2,000 Gallon, constructed 1996	K7	1, 2, 3
1RT-0033-T01	Catch Tank, K7	K7	1, 2, 3
1T-0305	Vessel-F, K7, Precision Stainless, 2,000 Gallon, constructed 1996		1, 2, 3
1CF-0148	Centrifuge, XP, Westfalia; 1,500 liters, constructed 2009	K7	1, 2, 3
1T-0442	Storage Tank, XP, constructed 1967	XP	1, 2, 3
1T-0039	Precipitation Tank-East, XP, 400 Gallon, constructed 1967	XP	1, 2, 3
1T-0040	Precipitation Tank-West, XP, 400 Gallon, constructed 1967	XP	1, 2, 3
1RT-0028	Crystallizer, BC1, Pfaudler, R174-0886; 1,000 Gallon; constructed 1975	XP	1, 2
1T-0002	Catch Tank, Pfaudler, L10362, 30 Gallon, constructed 1967		1, 2
1RT-0002	Reactor, BC2, Pfaudler, E184-0364, 50 Gallon, constructed 1984	BC2	1, 2
1RT-0003	Reactor, BC2, Pfaudler, E181-0104, 100 Gallon, constructed 1981	BC2	1, 2
1RT-0003-T42	Catch Tank, BC2, Pfaudler, E177-3050, 100 Gallon, constructed 1977	BC2	1, 2
1RT-0004	Reactor, BC1, Pfaudler, R185-0049, 500 Gallon, constructed 2001	BC1	1, 2
1RT-0004-T04	Catch Tank, BC1, Pfaudler, E173-0008, 100 Gallon, constructed 1973	BC1	1, 2
1RT-0005	Reactor, BC2, Pfaudler, Serial No. J044854, 500 Gallon, constructed 2001	BC2	1, 2
1RT-0005-T05	Catch Tank, BC2, Pfaudler, E85176, 100 Gallon, constructed 1952	BC2	1, 2
1RT-0006	Reactor, BC1, Pfaudler, Serial No. J044855, 1000 Gallon, constructed 2001	BC1	1, 2
1RT-0006-T01	Catch Tank, BC1, Pfaudler, E174-1283, 300 Gallon, constructed 1974	BC1	1, 2
1T-0400	Solvent Storage Tank, including conservation vent	Tank Farm	1, 4
1T-0402	Solvent Storage Tank, including conservation vent	Tank Farm	1, 4

Permit Condition 1

MON Group

10 CSR 10-6.075 Maximum Achievable Control Technology Regulations
40 CFR Part 63, Subpart FFFF—National Emission Standards for Hazardous Air Pollutants: Miscellaneous
Organic Chemical Manufacturing

Emission Limitation:

You must be in compliance with the emission limits and work practice standards in tables 1 through 7 to 40 CFR Part 63, Subpart FFFF at all times, except during periods of startup, shutdown, and malfunction (SSM), and you must meet the requirements specified in §§63.2455 through 63.2490 (or the alternative means of compliance in §63.2495, §63.2500, or §63.2505), except as specified in paragraphs (b) through (s) of this section. You must meet the notification, reporting, and recordkeeping requirements specified in §§63.2515, 63.2520, and 63.2525. Refer to Emission Limits, Work Practice Standards, and Compliance Requirements on starting on page 50.

Notification:

Refer to “§ 63.2515 What notifications must I submit and when?” starting on page 69 (located in the Endnotes to this section).

Recordkeeping:

Refer to “§ 63.2525 What records must I keep?” starting on page 74 (located in the Endnotes to this section).

Reporting:

Refer to “§ 63.2520 What reports must I submit and when?” starting on page 70 (located in the Endnotes to this section).

Permit Condition 2

MON Group excluding 1T-0400 and 1T-0402

10 CSR 10-5.540 Control of Emissions from Batch Process Operations

Emission Limitation:

The permittee shall comply with the standards prescribed by 10 CSR 10-5.540 (3) General Provisions. You should reference page 242 of this permit for the actual wording.

Monitoring:

The permittee shall monitor according to the requirements laid out in 10 CSR 10-5.540 section (I) Monitoring Requirements, found also at page 246.

Recordkeeping:

The permittee shall record pertinent information. The permittee will conduct monitoring and keep such records to demonstrate compliance with this condition.

Permit Condition 3

1RT-0013, 1RT-0013-T01, 1RT-0011, 1RT-0011-T01, 1RT-0015, 1RT-0015-T01, 1RT-0012, 1RT-0012-T01, 1RT-0019, 1RT-0026, 1RT-0025, 1RT-0032, 1RT-0033, 1RT-0033-T01, 1T-0305, 1CF-0148, 1T-0442, 1T-0039, 1T-0040

10 CSR 10-6.060 Construction Permits Required

Source Registration Permit – Permit No. 02-12-027 (Issued on January 22, 2003)

Emission Limitation:

At all times the batch process train is in operation for producing ADH, the VOC concentration from the centrifuge shall not equal or exceed 500 parts per million by volume (ppmv) on a continuous basis.

Monitoring/Recordkeeping:

The permittee shall monitor the VOC concentration from the centrifuge on a continuous basis and keep monthly records of verification that the vent stream concentration shall not equal or exceed five-hundred (500) ppmv.

Permit Condition 4

1T-0400 & 1T-0402

10 CSR 10-6.060 Construction Permits Required

Permit No. 99-10-071 (Issued on December 7, 1999)

Emission Limitation:

- 1) The permittee shall not emit greater than 0.8 tons of VOCs and 0.40 tons of HAPs from 1T-0400 in any consecutive twelve (12) month period.
- 2) The permittee shall not emit greater than 1.03 tons of VOCs and HAPs from 1T-0402 in any consecutive twelve (12) month period.
- 3) The permittee shall ensure that the throughputs of denatured alcohol and methanol for 1T-0400 and 1T-0402 respectively, will not exceed 6,240,000 gallons each in any consecutive twelve (12) month period.
- 4) 1T-0400 and 1T-0402 shall be equipped with a pressure/vacuum conservation vent set at 0.03 pounds per square inch (psi) or greater, or an equally effective control device.

Monitoring:

A physical inspection of loading and unloading equipment shall be conducted daily during operations.

Recordkeeping:

- 1) The permittee shall keep monthly and rolling 12-month records of denatured alcohol and methanol used. The monthly throughput data shall be totaled for each consecutive twelve (12) month period. Monthly emissions of VOC and hazardous air pollutants (HAP) shall be calculated and recorded. Refer to Attachment M, T-400 (AAA) & T-402 (Methanol) Monthly Throughput, on page 282, for a sample of the recordkeeping format.
- 2) A current record of product storage shall be kept at the facility and shall be made available for inspection upon request.
- 3) The permittee shall keep maintenance records for the equipment. The permittee shall also keep a record of any spills or leaks of more than a reportable quantity, including all reporting and corrective actions taken.

<p>Permit Condition 5 1RT-0025 & 1RT-0026 10 CSR 10-6.060 Construction Permits Required Permit No. 01-11-035, Issued on January 29, 2002</p>
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Emission Limitation:

If leaks or abnormal conditions are detected, the appropriate measures for remediation shall be implemented within eight (8) hours.

Monitoring / Recordkeeping:

The permittee shall maintain a written record of any maintenance performed.

General Equipment Throughout K-Bldg. and BC Bldg.				
Emission Unit	Equipment Number	Description	Permit Conditions	Control Devices
1401	1RT-0014	Portable Glasslined Reactor, K3, Pfaudler, P14-10-25, 10 Gallon, constructed 1967	1	CD
1401	1RT-0027	Portable Glasslined Reactor, K3, Pfaudler, P20-30-25, 30 gallon, constructed 1967	1	
1401	1V-0001	Portable Stainless Steel Reactor, Expert Industrial	1	
1401	1V-0022	Portable Stainless Steel Tank	1	
1401	1V-0023	Portable Stainless Steel Tank	1	
1401	3PR-005	Filter Press, K7, Sperry, 42", 11,000 gallon	1	
1401	1PR-0015	Filter Press; 11,000 Gallon	1	
1401	1FL-0010	Neutsche Filter	1	
1401	1PR-0030	Filter Press (replacement for 1PR-0017)	1	
1401	1PR-0018	Filter Press	1	
1401	1V-0012	Process Holding Tank, K5, 140 Gallon	1	
1401	1CF-0077	Centrifuge, K5, Sharples, A-26	1	
1401	1CF-0079	Centrifuge, K5, Sharples, A-26	1	
1401	1CF-0080	Centrifuge, K5, Sharples, A-26	1	
1401	1CF-0082	Centrifuge, K5, Sharples, A-26	1	
1401	1COL-0012	Column, K5, Laciny Bros.	1	
1401	1COL-0013	Column, K5, Laciny Bros.	1	
1401	1CF-0138	Centrifuge, K8, Westfalia, HAD 30-06-078, 132 gallons per minute, constructed 2002	1	
1401	1CF-0088	Centrifuge, XP, Sharples, AS-16, 20 liters, constructed 1967	1	
1401	1T-0357	Fractionation Process Tank, XP, 160 Gallon, constructed 1967	1	
1401	1T-0362	Ppt Tank, XP, 200 liter, constructed 1967	1	
1401	1T-0358	Fractionation Process Tank, XP, 100 liters, constructed 1967	1	
1401	1T-0425	Cold Room A/B Tank, K, GPI, 7427A; 1,500 gallon, constructed 2005	1, 2	fabric filter

General Equipment Throughout K-Bldg. and BC Bldg.				
Emission Unit	Equipment Number	Description	Permit Conditions	Control Devices
1401	1T-0426	Cold Room A/B Tank, K, GPI, 7427B; 1,500 gallon, constructed 2005	1, 2	fabric filter
1401	1T-0427	Cold Room A/B Tank, K, Tankinetics, 2918-03; 2,000 gallon, constructed 2005	1, 2	fabric filter
1401	1T-0428	Cold Room A/B Tank, K, Tankinetics, 2918-04; 2,000 gallon, constructed 2005	1, 2	fabric filter
1402	1V-0003	Receiver, BC1, 750 Gallon, constructed 1967	1	
1402	1RT-0008	Dye Lab Reactor, BC2, Pfaudler, E169-2000 (E196-2000), 50 Gallon, constructed 1970	1	
1402	1RT-0008-T01	Catch Tank, BC2, Pfaudler, 50 Gallon, constructed 1967	1	
1402	1RT-0007	Reactor, BC2, Pfaudler, E177-3031, 50 Gallon, constructed 1978	1	
1402	1RT-0007-T01	Catch Tank, BC2, Pfaudler, E163-0933, 50 Gallon, constructed 1963	1	
1402	1RT-0030	Reactor, BC1, Pfaudler, R191-0513, 200 Gallon, constructed 1991	1	
1402	1RT-0030-T01	Catch Tank, BC1, Pfaudler, E181-0683, 100 Gallon, constructed 1981	1	
1402	1RT-0031	Reactor, BC1, Pfaudler, E163-1307, 100 Gallon, constructed 1963	1	
1402	1RT-0031-T01	Catch Tank, BC1, Pfaudler, E176-1460, 100 Gallon, constructed 1976	1	

<p>Permit Condition 1 General Equipment Throughout K-Bldg. and BC Bldg. 10 CSR 10-5.540 Control of Emissions from Batch Process Operations</p>
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Emission Limitation:

The permittee shall comply with the standards prescribed by 10 CSR 10-5.540 (3) General Provisions. You should reference page 242 of this permit for the actual wording.

Monitoring:

The permittee shall monitor according to the requirements laid out in 10 CSR 10-5.540 section (I) Monitoring Requirements, found also at page 246.

Recordkeeping:

The permittee shall record pertinent information. The permittee will conduct monitoring and keep such records to demonstrate compliance with this condition.

Permit Condition 2
1T-0425, 1T-0426, 1T-0427, 1T-0428 and associated fabric filters
10 CSR 10-6.060 Construction Permits Required
Source Registration Permit – Permit No. 05-06-004 (Issued on October 5, 2005)

Emission Limitations:

The permittee shall insure the following:

- 1) 1T-0425, 1T-0426, 1T-0427 and 1T-0428 must vent to the control devices when operating.
- 2) The permittee shall be limited to twenty-six (26) batches of porcine trypsin during any consecutive 12-month period of time.
- 3) The following conditions shall be met during and after the production of porcine trypsin (1T-0425, 1T-0426, 1T-0427 and 1T-0428):
 - a) The prefilter and secondary filter shall be in place during all operating hours of the porcine trypsin (1T-0425, 1T-0426, 1T-0427 and 1T-0428) batch process.
 - b) The prefilter shall be changed after completion of each batch cycle.
 - c) After the completion of each batch cycle, the secondary filter shall be inspected for leaks and wear. If leaks or abnormal conditions are detected the secondary filter shall be replaced prior to the next batch cycle.

Monitoring / Recordkeeping:

- 1) The permittee shall keep a record of control device activities using Attachment D (Inspection/Maintenance/Repair/Malfunction Log found on page 270). No other monitoring or recordkeeping is required for this condition since the emission unit is exempt from this rule provided federally enforceable control efficiency of 90% or greater is maintained (reference Attachment I, Sample of Batch Recordkeeping on page 276).
- 2) The permittee shall keep monthly records of the number of porcine trypsin batches completed, including a calculated batch total for every consecutive 12-month period of time. The permittee will conduct monitoring and keep such records to demonstrate compliance with this condition.
- 3) The permittee shall maintain records for verifying compliance with the fabric filter monitoring. These records shall include:
 - a) The dates that the prefilters are changed out.
 - b) Results of the secondary filter inspections noting any actions taken as a result of the inspections.

Dekalb - Paint Spray Booth (1501)				
Equipment Number	Description	Location	Permit Conditions	Control Devices
1501	Dekalb - Paint Spray Booth; constructed in 1992	K-3	1	

Permit Condition 3
1501
10 CSR 10-6.060 Construction Permits Required; Construction Permit – Permit Issued October 16, 1992

Emission Limitation:

The permittee shall not exceed 2.5 tons (actual) VOC emissions from 1501 in any consecutive twelve (12) month period.

Monitoring/Recordkeeping:

The permittee shall keep quarterly records that include the rolling 12 month VOC emissions on site to verify the VOC emission limit of 2.5 tons (actual) per year for the paint spray booths at the Dekalb installation. The quarterly records shall include the rolling 12-month VOC emissions. The permittee will conduct monitoring and keep such records to demonstrate compliance with this condition.

Dekalb Boiler (1803)				
Equipment Number	Description	Location	Permit Conditions	Control Devices
1BLR-0003	Dekalb Boiler, Small Industrial, Johnston Boiler; 10.4 MMBtu per hour; constructed 1981; Natural Gas Fired	Boiler Room J-1	1	

Permit Condition 1 1BLR-0003 10 CSR 10-6.405 Maximum Allowable Emissions of Particulate Matter From Fuel Burning Equipment Used for Indirect Heating
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Emission Limitations:

This emission unit shall be limited to burning pipeline grade natural gas.

Monitoring / Recordkeeping:

10 CSR 10-6.405(1)(E) An installation is exempt from this rule if all of the installation’s applicable units are fueled only by landfill gas, propane, natural gas, fuel oils #2 through #6 (with less than one and two-tenths percent (1.2%) sulfur), or other gases (with hydrogen sulfide levels less than or equal to four (4) parts per million volume as measured using ASTM D4084, or equivalent and mercury concentrations less than forty (40) micrograms per cubic meter as measured using ASTM D5954, or ASTM D6350, or equivalent) or any combination of these fuels.

Dekalb Emergency Generator				
Equipment Number	Description	Location	Permit Conditions	Control Devices
1GEN-0005	Diesel Compression Ignition Internal Combustion Engine Powered Generator, Low Sulfur Diesel Fuel, 750 kW, constructed 01/10/2012	Outside K-North	1, 2	

Permit Condition 1 1GEN-0005 10 CSR 10-6.070 New Source Performance Regulations 40 CFR Part 60, NSPS Subpart III

Emission Limitations:

- 1) You must operate and maintain stationary CI ICE that achieve the emission standards as required in §60.4204 according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer, over the entire life of the engine. [§60.4206]
- 2) Beginning October 1, 2007, owners and operators of stationary CI ICE subject to this subpart that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(a). [§60.4207(a)]

- a) Sulfur content: 500 parts per million (ppm) maximum; and [§80.510(a)(1)]
- b) A minimum cetane index of 40; or a maximum aromatic content of 35 volume percent.
[§80.510(a)(2)(i) and (ii)]
- 3) Beginning October 1, 2010, owners and operators of stationary CI ICE subject to this subpart with a displacement of less than 30 liters per cylinder that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel. [§60.4207(b)]
 - a) Sulfur content: 15 ppm maximum for nonroad diesel fuel; and [§80.510(b)(1)(i)]
 - b) A minimum cetane index of 40; or a maximum aromatic content of 35 volume percent.
[§80.510(b)(2)(i) and (ii)]
- 4) Owners and operators of pre-2011 model year stationary CI ICE subject to this subpart may petition the Administrator for approval to use remaining non-compliant fuel that does not meet the fuel requirements of Paragraphs (a) and (b) of this section beyond the dates required for the purpose of using up existing fuel inventories. If approved, the petition will be valid for a period of up to 6 months. If additional time is needed, the owner or operator is required to submit a new petition to the Administrator. [§60.4207(c)]

Recordkeeping:

The permittee shall maintain an accurate record of the diesel fuel used. Fuel purchase receipts, analyzed samples or certifications that verify the fuel type and compliant content will be acceptable.

Reporting:

The permittee shall certify annually that the affected units have been operated and maintained according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer.

Permit Condition 2 1GEN-0005 10 CSR 10-6.060 Construction Permits Required City of St. Louis Ordinance 68657 Section 20: Source Registration Permits Required: SR11.026
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Emission Limitation:

- 1) The emergency generator shall be limited to 500 hours of operation in any consecutive 12-month period. The generator shall be equipped with a non-resettable meter to record operational hours.
- 2) The generator shall only be operated when power from the utility is interrupted, when required to perform maintenance, and for operational testing as allowed in the applicable NSPS subpart.
- 3) The generator shall be installed and maintained per the manufacturer's recommendations. The generator shall only burn Low or Ultra-Low Sulfur Diesel (LSD @ 500 ppm or ULSD @ 15 ppm #2 fuel oil) with a sulfur content not to exceed 0.05% by weight.
- 4) Visual opacity from the emergency generator shall not exceed twenty (20%) percent for a period in excess of six (6) minutes in any sixty (60) minute period and shall never exceed forty (40%) percent regardless of duration.

Recordkeeping:

- 1) Records of operational hours shall be maintained for this unit, with the reason for each operating period, a total for each month and a total for each consecutive 12-month period.
- 2) The permittee shall maintain fuel delivery records and records from the fuel oil supplier certifying the sulfur content of the fuel.

Broadway Facility (3506 S. Broadway)

Visible Emission Sources		
<i>Emission Unit</i>	Description	Control Devices
	All sources of visible emissions	Dust Collector

Visible Emission Sources Permit Condition 1
 10 CSR 10-6.220 - Restriction of Emission of Visible Air Contaminants

Emission Limitations:

The permittee shall not discharge into the ambient air from any source, not exempted under 10 CSR 10-6.220, any air contaminant of opacity greater than twenty (20%) percent. A source with a 20% opacity limit may emit air contaminants with opacity over 20%, but not greater than 40% for an aggregate length of time not to exceed six (6) minutes in any 60 minutes. Where the presence of uncombined water is the only reason for failure of an emission to meet the opacity requirements, the opacity requirements shall not apply.

Monitoring/Recordkeeping:

The permittee will following the monitoring and recordkeeping requirements listed in 10 CSR 10-6.220 Restriction of Emission of Visible Air Contaminants, starting on page 256.

Broadway Facility Boilers (5801)				
Equipment Number	Description	Location	Permit Conditions	Control Devices
5BLR-0901	Boiler, Broadway, Cleaver Brooks Small Industrial Boiler, CB300, 12.55 MMBtu per hour, constructed 1996 (pipeline grade natural gas)		1	

Permit Condition 1
 10 CSR 10-6.060 Construction Permits Required
 Permit No. SR04.009 (Replaces Source Registration Permit No. 01720) – Permit Issued February 13, 2004
 10 CSR 10-6.070 New Source Performance Regulations
 40 CFR Part 60 Subpart Dc Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

Emission Limitation:

The permittee shall only use pipeline grade natural gas as a source of fuel for this boiler.
[\[Permit No. SR04.009\]](#)

Monitoring/Recordkeeping:

The permittee shall record and maintain records of the amount of fuel combusted during each month.
[\[EPA Region VII Letter of Approval of Reduced Recordkeeping Frequency, Dated April 29, 1998\]](#)

Broadway Manufacturing Facility Tanks (1501)				
Equipment Number	Description	Location	Permit Conditions	Control Devices
5V-0604	2,000 L ACC Tank		1	Dust Collector
5V-0605	10,000 ACC Tank		1	Dust Collector
5V-0608	3,000 ACF Tank		1	Dust Collector
5V-0609	6,000 ACF Tank		1	Dust Collector
5V-0610	10,000 ACF Tank		1	Dust Collector

<p>Permit Condition 1 Broadway Manufacturing Facility Tanks 10 CSR 10-6.060 Construction Permits Required Permit No. 96-02-018A – Permit Issued September 18, 1998</p>
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Emission Limitation:

- 1) The permittee shall not emit greater than 0.01 tons per year of PM₁₀.
- 2) The permittee shall emit less than 0.05 tons per year of HCl.
- 3) The permittee shall not emit greater than 1.75 tons per year of VOCs.
- 4) The permittee shall not mill, powder fill, aseptic fill and purify greater than 16,400,000 pounds of medical liquid and powder nutrients in any consecutive twelve (12) month period.
- 5) The permittee shall not use more than 600 gallons of isopropyl alcohol for aseptic filling in any consecutive twelve (12) month period.
- 6) The permittee shall obtain a written approval from the *Permitting Authority* for the use of chloroform in the processes.

Monitoring:

- 1) The permittee shall operate the dust collector (HEPA filter) and other controls at all times this process is in operation.
- 2) Control equipment shall be operated in accordance with the permittee's maintenance plan and good air pollution control practices for minimizing emissions.
- 3) The permittee shall check and document the fabric filter pressure drop daily. If the pressure drops fails the manufacturer's recommended operating range, corrective action shall be taken within eight (8) hours to return the pressure drop to the recommended range.
- 4) The permittee shall thoroughly inspect the fabric (bags) for leaks and wear and check the cleaning sequence of the filter semiannually.
- 5) Inspect every six (6) months all components that are not subject to wear or plugging, including structural components, housing, ducts and hoods.
- 6) If leaks or abnormal conditions are detected the appropriate measures for remediation shall be implemented within eight (8) hours. Bag replacement should be documented. Maintain a written record of the inspection and any action resulting from the inspection. All instruments and control equipment shall be calibrated, maintained, and operated according to the manufacture's specifications.

Recordkeeping:

- 1) The permittee shall keep monthly records of process throughput, usage of isopropyl alcohol and 10N HCl.
- 2) The permittee shall keep daily records of the pressure drop across the HEPA filter.
- 3) The permittee shall maintain a written record of the inspection of the fabric filters and any action resulting from the inspection.

IV. Endnotes:

Title 40: Protection of Environment

[PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES \(CONTINUED\)](#)

Subpart FFFF—National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing

Source: 68 FR 63888, Nov. 10, 2003, unless otherwise noted.

What This Subpart Covers

§ 63.2430 What is the purpose of this subpart?

This subpart establishes national emission standards for hazardous air pollutants (NESHAP) for miscellaneous organic chemical manufacturing. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limits, operating limits, and work practice standards.

§ 63.2435 Am I subject to the requirements in this subpart?

(a) You are subject to the requirements in this subpart if you own or operate miscellaneous organic chemical manufacturing process units (MCPU) that are located at, or are part of, a major source of hazardous air pollutants (HAP) emissions as defined in section 112(a) of the Clean Air Act (CAA).

(b) An MCPU includes equipment necessary to operate a miscellaneous organic chemical manufacturing process, as defined in §63.2550, that satisfies all of the conditions specified in paragraphs (b)(1) through (3) of this section. An MCPU also includes any assigned storage tanks and transfer racks; equipment in open systems that is used to convey or store water having the same concentration and flow characteristics as wastewater; and components such as pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, and instrumentation systems that are used to manufacture any material or family of materials described in paragraphs (b)(1)(i) through (v) of this section.

(1) The MCPU produces material or family of materials that is described in paragraph (b)(1)(i), (ii), (iii), (iv), or (v) of this section.

(i) An organic chemical(s) classified using the 1987 version of SIC code 282, 283, 284, 285, 286, 287, 289, or 386, except as provided in paragraph (c)(5) of this section.

(ii) An organic chemical(s) classified using the 1997 version of NAICS code 325, except as provided in paragraph (c)(5) of this section.

(iii) Quaternary ammonium compounds and ammonium sulfate produced with caprolactam.

(iv) Hydrazine.

(v) Organic solvents classified in any of the SIC or NAICS codes listed in paragraph (b)(1)(i) or (ii) of this section that are recovered using nondedicated solvent recovery operations.

(2) The MCPU processes, uses, or generates any of the organic HAP listed in section 112(b) of the CAA or hydrogen halide and halogen HAP, as defined in §63.2550.

(3) The MCPU is not an affected source or part of an affected source under another subpart of this part 63, except for process vents from batch operations within a chemical manufacturing process unit (CMPU), as identified in §63.100(j)(4). For this situation, the MCPU is the same as the CMPU as defined in §63.100, and you are subject only to the requirements for batch process vents in this subpart.

(c) The requirements in this subpart do not apply to the operations specified in paragraphs (c)(1) through (7) of this section.

(1) Research and development facilities, as defined in section 112(c)(7) of the CAA.

(2) The manufacture of ammonium sulfate as a by-product, if the slurry entering the by-product manufacturing process contains 50 parts per million by weight (ppmw) HAP or less or 10 ppmw benzene or less. You must retain information, data, and analysis to document the HAP concentration in the entering slurry in order to claim this exemption.

(3) The affiliated operations located at an affected source under subparts GG (National Emission Standards for Aerospace Manufacturing and Rework Facilities), KK (National Emission Standards for the Printing and Publishing Industry), JJJ (NESHAP: Paper and Other Web Coating), future MMMM (NESHAP: Surface Coating of Miscellaneous Metal Parts and Products), and SSSS (NESHAP: Surface Coating of Metal Coil) of this part 63. Affiliated operations include, but are not limited to, mixing or dissolving of coating ingredients; coating mixing for viscosity adjustment, color tint or additive blending, or pH adjustment; cleaning of coating lines and coating line parts; handling and storage of coatings and solvent; and conveyance and treatment of wastewater.

(4) Fabricating operations (such as spinning or compressing a solid polymer into its end use); compounding operations (in which blending, melting, and resolidification of a solid polymer product occur for the purpose of incorporating additives, colorants, or stabilizers); and extrusion and drawing operations (converting an already produced solid polymer into a different shape by melting or mixing the polymer and then forcing it or pulling it through an orifice to create an extruded product). An operation is not exempt if it involves processing with HAP solvent or if an intended purpose of the operation is to remove residual HAP monomer.

(5) Production activities described using the 1997 version of NAICS codes 325131, 325181, 325188 (except the requirements do apply to hydrazine), 325314, 325991 (except the requirements do apply to reformulating plastics resins from recycled plastics products), and 325992 (except the requirements do apply to photographic chemicals).

(6) Tall oil recovery systems.

(7) Carbon monoxide production.

(d) If the predominant use of a transfer rack loading arm or storage tank (including storage tanks in series) is associated with a miscellaneous organic chemical manufacturing process, and the loading arm or storage tank is not part of an affected source under a subpart of this part 63, then you must assign the loading arm or storage tank to the MCPU for that miscellaneous organic chemical manufacturing process. If the predominant use cannot be determined, then you may assign the loading arm or storage tank to any MCPU that shares it and is subject to this subpart. If the use varies from year to year, then you must base the determination on the utilization that occurred during the year preceding November 10, 2003 or, if the loading arm or storage tank was not in operation during that year, you must base the use on the expected use for the first 5-year period after startup. You must include the determination in the notification of compliance status report specified in §63.2520(d). You must redetermine the primary use at least once every 5 years, or any time you implement emissions averaging or pollution prevention after the compliance date.

(e) For nondedicated equipment used to create at least one MCPU, you may elect to develop process unit groups (PUG), determine the primary product of each PUG, and comply with the requirements of the subpart in 40 CFR Part 63 that applies to that primary product as specified in §63.2535(l).

[68 FR 63888, Nov. 10, 2003, as amended at 71 FR 40331, July 14, 2006]

§ 63.2440 What parts of my plant does this subpart cover?

- (a) This subpart applies to each miscellaneous organic chemical manufacturing affected source.
- (b) The miscellaneous organic chemical manufacturing affected source is the facility wide collection of MCPU and heat exchange systems, wastewater, and waste management units that are associated with manufacturing materials described in §63.2435(b)(1).
- (c) A new affected source is described by either paragraph (c)(1) or (2) of this section.
 - (1) Each affected source defined in paragraph (b) of this section for which you commenced construction or reconstruction after April 4, 2002, and you meet the applicability criteria at the time you commenced construction or reconstruction.
 - (2) Each dedicated MCPU that has the potential to emit 10 tons per year (tpy) of any one HAP or 25 tpy of combined HAP, and you commenced construction or reconstruction of the MCPU after April 4, 2002. For the purposes of this paragraph, an MCPU is an affected source in the definition of the term "reconstruction" in §63.2.
- (d) An MCPU that is also a CMPU under §63.100 is reconstructed for the purposes of this subpart if, and only if, the CMPU meets the requirements for reconstruction in §63.100(1)(2).

Compliance Dates

§ 63.2445 When do I have to comply with this subpart?

- (a) If you have a new affected source, you must comply with this subpart according to the requirements in paragraphs (a)(1) and (2) of this section.
 - (1) If you startup your new affected source before November 10, 2003, then you must comply with the requirements for new sources in this subpart no later than November 10, 2003.
 - (2) If you startup your new affected source after November 10, 2003, then you must comply with the requirements for new sources in this subpart upon startup of your affected source.
- (b) If you have an existing source on November 10, 2003, you must comply with the requirements for existing sources in this subpart no later than May 10, 2008.
- (c) You must meet the notification requirements in §63.2515 according to the dates specified in that section and in subpart A of this part 63. Some of the notifications must be submitted before you are required to comply with the emission limits, operating limits, and work practice standards in this subpart.
- (d) If you have a Group 2 emission point that becomes a Group 1 emission point after the compliance date for your affected source, you must comply with the Group 1 requirements beginning on the date the switch occurs. An initial compliance demonstration as specified in this subpart must be conducted within 150 days after the switch occurs.
- (e) If, after the compliance date for your affected source, hydrogen halide and halogen HAP emissions from process vents in a process increase to more than 1,000 lb/yr, or HAP metals emissions from a process at a new affected source increase to more than 150 lb/yr, you must comply with the applicable emission limits specified in Table 3 to this subpart and the associated compliance requirements beginning on the date the emissions exceed the applicable threshold. An initial compliance demonstration as specified in this subpart must be conducted within 150 days after the switch occurs.

(f) If you have a small control device for process vent or transfer rack emissions that becomes a large control device, as defined in §63.2550(i), you must comply with monitoring and associated recordkeeping and reporting requirements for large control devices beginning on the date the switch occurs. An initial compliance demonstration as specified in this subpart must be conducted within 150 days after the switch occurs.

[68 FR 63888, Nov. 10, 2003, as amended at 71 FR 10442, Mar. 1, 2006; 71 FR 40332, July 14, 2006]

Emission Limits, Work Practice Standards, and Compliance Requirements

§ 63.2450 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limits and work practice standards in tables 1 through 7 to this subpart at all times, except during periods of startup, shutdown, and malfunction (SSM), and you must meet the requirements specified in §§63.2455 through 63.2490 (or the alternative means of compliance in §63.2495, §63.2500, or §63.2505), except as specified in paragraphs (b) through (s) of this section. You must meet the notification, reporting, and recordkeeping requirements specified in §§63.2515, 63.2520, and 63.2525.

(b) *Determine halogenated vent streams.* You must determine if an emission stream is a halogenated vent stream, as defined in §63.2550, by calculating the mass emission rate of halogen atoms in accordance with §63.115(d)(2)(v). Alternatively, you may elect to designate the emission stream as halogenated.

(c) *Requirements for combined emission streams.* When organic HAP emissions from different emission types (*e.g.*, continuous process vents, batch process vents, storage tanks, transfer operations, and waste management units) are combined, you must comply with the requirements of either paragraph (c)(1) or (2) of this section.

(1) Comply with the applicable requirements of this subpart for each kind of organic HAP emissions in the stream (*e.g.*, the requirements of table 1 to this subpart for continuous process vents and the requirements of table 4 to this subpart for emissions from storage tanks).

(2) Determine the applicable requirements based on the hierarchy presented in paragraphs (c)(2)(i) through (vi) of this section. For a combined stream, the applicable requirements are specified in the highest-listed paragraph in the hierarchy that applies to any of the individual streams that make up the combined stream. For example, if a combined stream consists of emissions from Group 1 batch process vents and any other type of emission stream, then you must comply with the requirements in paragraph (c)(2)(i) of this section for the combined stream; compliance with the requirements in paragraph (c)(2)(i) of this section constitutes compliance for the other emission streams in the combined stream. Two exceptions are that you must comply with the requirements in table 3 to this subpart and §63.2465 for all process vents with hydrogen halide and halogen HAP emissions, and recordkeeping requirements for Group 2 applicability or compliance are still required (*e.g.*, the requirement in §63.2525(f) to track the number of batches produced and calculate rolling annual emissions for processes with Group 2 batch process vents).

(i) The requirements of table 2 to this subpart and §63.2460 for Group 1 batch process vents, including applicable monitoring, recordkeeping, and reporting.

(ii) The requirements of table 1 to this subpart and §63.2455 for continuous process vents that are routed to a control device, as defined in §63.981, including applicable monitoring, recordkeeping, and reporting.

(iii) The requirements of table 5 to this subpart and §63.2475 for transfer operations, including applicable monitoring, recordkeeping, and reporting.

(iv) The requirements of table 7 to this subpart and §63.2485 for emissions from waste management units that are used to manage and treat Group 1 wastewater streams and residuals from Group 1 wastewater streams, including applicable monitoring, recordkeeping, and reporting.

(v) The requirements of table 4 to this subpart and §63.2470 for control of emissions from storage tanks, including applicable monitoring, recordkeeping, and reporting.

(vi) The requirements of table 1 to this subpart and §63.2455 for continuous process vents after a recovery device including applicable monitoring, recordkeeping, and reporting.

(d) [Reserved]

(e) *Requirements for control devices.* (1) Except when complying with §63.2485, if you reduce organic HAP emissions by venting emissions through a closed-vent system to any combination of control devices (except a flare) or recovery devices, you must meet the requirements of §63.982(c) and the requirements referenced therein.

(2) Except when complying with §63.2485, if you reduce organic HAP emissions by venting emissions through a closed-vent system to a flare, you must meet the requirements of §63.982(b) and the requirements referenced therein.

(3) If you use a halogen reduction device to reduce hydrogen halide and halogen HAP emissions from halogenated vent streams, you must meet the requirements of §63.994 and the requirements referenced therein. If you use a halogen reduction device before a combustion device, you must determine the halogen atom emission rate prior to the combustion device according to the procedures in §63.115(d)(2)(v).

(f) *Requirements for flare compliance assessments.* (1) As part of a flare compliance assessment required in §63.987(b), you have the option of demonstrating compliance with the requirements of §63.11(b) by complying with the requirements in either §63.11(b)(6)(i) or §63.987(b)(3)(ii).

(2) If you elect to meet the requirements in §63.11(b)(6)(i), you must keep flare compliance assessment records as specified in paragraphs (f)(2)(i) and (ii) of this section.

(i) Keep records as specified in §63.998(a)(1)(i), except that a record of the heat content determination is not required.

(ii) Keep records of the flare diameter, hydrogen content, exit velocity, and maximum permitted velocity. Include these records in the flare compliance report required in §63.999(a)(2).

(g) *Requirements for performance tests.* The requirements specified in paragraphs (g)(1) through (5) of this section apply instead of or in addition to the requirements specified in subpart SS of this part 63.

(1) Conduct gas molecular weight analysis using Method 3, 3A, or 3B in appendix A to part 60 of this chapter.

(2) Measure moisture content of the stack gas using Method 4 in appendix A to part 60 of this chapter.

(3) If the uncontrolled or inlet gas stream to the control device contains carbon disulfide, you must conduct emissions testing according to paragraph (g)(3)(i) or (ii) of this section.

(i) If you elect to comply with the percent reduction emission limits in tables 1 through 7 to this subpart, and carbon disulfide is the principal organic HAP component (*i.e.*, greater than 50 percent of the HAP in the stream by volume), then you must use Method 18, or Method 15 (40 CFR Part 60, appendix A) to measure carbon disulfide at the inlet and outlet of the control device. Use the percent reduction in carbon disulfide as a surrogate for the percent reduction in total organic HAP emissions.

(ii) If you elect to comply with the outlet total organic compound (TOC) concentration emission limits in tables 1 through 7 to this subpart, and the uncontrolled or inlet gas stream to the control device contains greater than 10 percent (volume concentration) carbon disulfide, you must use Method 18 or Method 15 to separately determine the carbon disulfide concentration. Calculate the total HAP or TOC emissions by totaling the carbon disulfide emissions measured using Method 18 or 15 and the other HAP emissions measured using Method 18 or 25A.

(4) As an alternative to using Method 18, Method 25/25A, or Method 26/26A of 40 CFR Part 60, appendix A, to comply with any of the emission limits specified in tables 1 through 7 to this subpart, you may use Method 320 of 40 CFR Part 60, appendix A. When using Method 320, you must follow the analyte spiking procedures of section 13 of Method 320, unless you demonstrate that the complete spiking procedure has been conducted at a similar source.

(5) Section 63.997(c)(1) does not apply. For the purposes of this subpart, results of all initial compliance demonstrations must be included in the notification of compliance status report, which is due 150 days after the compliance date, as specified in §63.2520(d)(1).

(h) *Design evaluation.* To determine the percent reduction of a small control device that is used to comply with an emission limit specified in table 1, 2, 3, or 5 to this subpart, you may elect to conduct a design evaluation as specified in §63.1257(a)(1) instead of a performance test as specified in subpart SS of this part 63. You must establish the value(s) and basis for the operating limits as part of the design evaluation. For continuous process vents, the design evaluation must be conducted at maximum representative operating conditions for the process, unless the Administrator specifies or approves alternate operating conditions. For transfer racks, the design evaluation must demonstrate that the control device achieves the required control efficiency during the reasonably expected maximum transfer loading rate.

(i) *Outlet concentration correction for combustion devices.* When §63.997(e)(2)(iii)(C) requires you to correct the measured concentration at the outlet of a combustion device to 3 percent oxygen if you add supplemental combustion air, the requirements in either paragraph (i)(1) or (2) of this section apply for the purposes of this subpart.

(1) You must correct the concentration in the gas stream at the outlet of the combustion device to 3 percent oxygen if you add supplemental gases, as defined in §63.2550, to the vent stream, or;

(2) You must correct the measured concentration for supplemental gases using Equation 1 of §63.2460; you may use process knowledge and representative operating data to determine the fraction of the total flow due to supplemental gas.

(j) *Continuous emissions monitoring systems.* Each continuous emissions monitoring system (CEMS) must be installed, operated, and maintained according to the requirements in §63.8 and paragraphs (j)(1) through (5) of this section.

(1) Each CEMS must be installed, operated, and maintained according to the applicable Performance Specification of 40 CFR Part 60, appendix B, and according to paragraph (j)(2) of this section, except as specified in paragraph (j)(1)(i) of this section. For any CEMS meeting Performance Specification 8, you must also comply with appendix F, procedure 1 of 40 CFR Part 60.

(i) If you wish to use a CEMS other than an Fourier Transform Infrared Spectroscopy (FTIR) meeting the requirements of Performance Specification 15 to measure hydrogen halide and halogen HAP before we promulgate a Performance Specification for such CEMS, you must prepare a monitoring plan and submit it for approval in accordance with the procedures specified in §63.8.

(ii) [Reserved]

(2) You must determine the calibration gases and reporting units for TOC CEMS in accordance with paragraph (j)(2)(i), (ii), or (iii) of this section.

(i) For CEMS meeting Performance Specification 9 or 15 requirements, determine the target analyte(s) for calibration using either process knowledge of the control device inlet stream or the screening procedures of Method 18 on the control device inlet stream.

(ii) For CEMS meeting Performance Specification 8 used to monitor performance of a combustion device, calibrate the instrument on the predominant organic HAP and report the results as carbon (C1), and use Method 25A or any approved alternative as the reference method for the relative accuracy tests.

(iii) For CEMS meeting Performance Specification 8 used to monitor performance of a noncombustion device, determine the predominant organic HAP using either process knowledge or the screening procedures of Method 18 on the control device inlet stream, calibrate the monitor on the predominant organic HAP, and report the results as C_1 . Use Method 18, ASTM D6420-99, or any approved alternative as the reference method for the relative accuracy tests, and report the results as C_1 .

(3) You must conduct a performance evaluation of each CEMS according to the requirements in 40 CFR 63.8 and according to the applicable Performance Specification of 40 CFR Part 60, appendix B, except that the schedule in §63.8(e)(4) does not apply, and the results of the performance evaluation must be included in the notification of compliance status report.

(4) The CEMS data must be reduced to operating day or operating block averages computed using valid data consistent with the data availability requirements specified in §63.999(c)(6)(i)(B) through (D), except monitoring data also are sufficient to constitute a valid hour of data if measured values are available for at least two of the 15-minute periods during an hour when calibration, quality assurance, or maintenance activities are being performed. An operating block is a period of time from the beginning to end of batch operations within a process. Operating block averages may be used only for batch process vent data.

(5) If you add supplemental gases, you must correct the measured concentrations in accordance with paragraph (i) of this section and §63.2460(c)(6).

(k) *Continuous parameter monitoring.* The provisions in paragraphs (k)(1) through (6) of this section apply in addition to the requirements for continuous parameter monitoring system (CPMS) in subpart SS of this part 63.

(1) You must record the results of each calibration check and all maintenance performed on the CPMS as specified in §63.998(c)(1)(ii)(A).

(2) When subpart SS of this part 63 uses the term “a range” or “operating range” of a monitored parameter, it means an “operating limit” for a monitored parameter for the purposes of this subpart.

(3) As an alternative to continuously measuring and recording pH as specified in §§63.994(c)(1)(i) and 63.998(a)(2)(ii)(D), you may elect to continuously monitor and record the caustic strength of the effluent. For halogen scrubbers used to control only batch process vents you may elect to monitor and record either the pH or the caustic strength of the scrubber effluent at least once per day.

(4) As an alternative to the inlet and outlet temperature monitoring requirements for catalytic incinerators as specified in §63.988(c)(2) and the related recordkeeping requirements specified in §63.998(a)(2)(ii)(B)(2) and (c)(2)(ii), you may elect to comply with the requirements specified in paragraphs (k)(4)(i) through (iv) of this section.

(i) Monitor and record the inlet temperature as specified in subpart SS of this part 63.

(ii) Check the activity level of the catalyst at least every 12 months and take any necessary corrective action, such as replacing the catalyst to ensure that the catalyst is performing as designed.

(iii) Maintain records of the annual checks of catalyst activity levels and the subsequent corrective actions.

(iv) Recording the downstream temperature and temperature difference across the catalyst bed as specified in §63.998(a)(2)(ii)(B)(2) and (b)(2)(ii) is not required.

(5) For absorbers that control organic compounds and use water as the scrubbing fluid, you must conduct monitoring and recordkeeping as specified in paragraphs (k)(5)(i) through (iii) of this section instead of the monitoring and recordkeeping requirements specified in §§63.990(c)(1), 63.993(c)(1), and 63.998(a)(2)(ii)(C).

(i) You must use a flow meter capable of providing a continuous record of the absorber influent liquid flow.

- (ii) You must determine gas stream flow using one of the procedures specified in §63.994(c)(1)(ii)(A) through (D).
- (iii) You must record the absorber liquid-to-gas ratio averaged over the time period of any performance test.
- (6) For a control device with total inlet HAP emissions less than 1 tpy, you must establish an operating limit(s) for a parameter(s) that you will measure and record at least once per averaging period (i.e., daily or block) to verify that the control device is operating properly. You may elect to measure the same parameter(s) that is required for control devices that control inlet HAP emissions equal to or greater than 1 tpy. If the parameter will not be measured continuously, you must request approval of your proposed procedure in the precompliance report. You must identify the operating limit(s) and the measurement frequency, and you must provide rationale to support how these measurements demonstrate the control device is operating properly.
- (l) *Startup, shutdown, and malfunction.* Sections 63.152(f)(7)(ii) through (iv) and 63.998(b)(2)(iii) and (b)(6)(i)(A), which apply to the exclusion of monitoring data collected during periods of SSM from daily averages, do not apply for the purposes of this subpart.
- (m) *Reporting.* (1) When §§63.2455 through 63.2490 reference other subparts in this part 63 that use the term “periodic report,” it means “compliance report” for the purposes of this subpart. The compliance report must include the information specified in §63.2520(e), as well as the information specified in referenced subparts.
- (2) When there are conflicts between this subpart and referenced subparts for the due dates of reports required by this subpart, reports must be submitted according to the due dates presented in this subpart.
- (3) Excused excursions, as defined in subparts G and SS of this part 63, are not allowed.
- (n) [Reserved]
- (o) You may not use a flare to control halogenated vent streams or hydrogen halide and halogen HAP emissions.
- (p) Opening a safety device, as defined in §63.2550, is allowed at any time conditions require it to avoid unsafe conditions.
- (q) If an emission stream contains energetics or organic peroxides that, for safety reasons, cannot meet an applicable emission limit specified in Tables 1 through 7 to this subpart, then you must submit documentation in your precompliance report explaining why an undue safety hazard would be created if the air emission controls were installed, and you must describe the procedures that you will implement to minimize HAP emissions from these vent streams.
- (r) *Surge control vessels and bottoms receivers.* For each surge control vessel or bottoms receiver that meets the capacity and vapor pressure thresholds for a Group 1 storage tank, you must meet emission limits and work practice standards specified in Table 4 to this subpart.
- (s) For the purposes of determining Group status for continuous process vents, batch process vents, and storage tanks in §§63.2455, 63.2460, and 63.2470, hydrazine is to be considered an organic HAP.

[68 FR 63888, Nov. 10, 2003, as amended at 70 FR 38559, July 1, 2005; 71 FR 40332, July 14, 2006]

§ 63.2455 What requirements must I meet for continuous process vents?

- (a) You must meet each emission limit in Table 1 to this subpart that applies to your continuous process vents, and you must meet each applicable requirement specified in paragraphs (b) through (c) of this section.

(b) For each continuous process vent, you must either designate the vent as a Group 1 continuous process vent or determine the total resource effectiveness (TRE) index value as specified in §63.115(d), except as specified in paragraphs (b)(1) through (3) of this section.

(1) You are not required to determine the Group status or the TRE index value for any continuous process vent that is combined with Group 1 batch process vents before a control device or recovery device because the requirements of §63.2450(c)(2)(i) apply to the combined stream.

(2) When a TRE index value of 4.0 is referred to in §63.115(d), TRE index values of 5.0 for existing affected sources and 8.0 for new and reconstructed affected sources apply for the purposes of this subpart.

(3) When §63.115(d) refers to “emission reductions specified in §63.113(a),” the reductions specified in Table 1 to this subpart apply for the purposes of this subpart.

(c) If you use a recovery device to maintain the TRE above a specified threshold, you must meet the requirements of §63.982(e) and the requirements referenced therein, except as specified in §63.2450 and paragraph (c)(1) of this section.

(1) When §63.993 uses the phrase “the TRE index value is between the level specified in a referencing subpart and 4.0,” the phrase “the TRE index value is >1.9 but ≤ 5.0 ” applies for an existing affected source, and the phrase “the TRE index value is >5.0 but ≤ 8.0 ” applies for a new and reconstructed affected source, for the purposes of this subpart.

(2) [Reserved]

§ 63.2460 What requirements must I meet for batch process vents?

(a) You must meet each emission limit in Table 2 to this subpart that applies to you, and you must meet each applicable requirement specified in paragraphs (b) and (c) of this section.

(b) *Group status.* If a process has batch process vents, as defined in §63.2550, you must determine the group status of the batch process vents by determining and summing the uncontrolled organic HAP emissions from each of the batch process vents within the process using the procedures specified in §63.1257(d)(2)(i) and (ii), except as specified in paragraphs (b)(1) through (7) of this section.

(1) To calculate emissions caused by the heating of a vessel without a process condenser to a temperature lower than the boiling point, you must use the procedures in §63.1257(d)(2)(i)(C)(3).

(2) To calculate emissions from depressurization of a vessel without a process condenser, you must use the procedures in §63.1257(d)(2)(i)(D)(10).

(3) To calculate emissions from vacuum systems for the purposes of this subpart, the receiving vessel is part of the vacuum system, and terms used in Equation 33 to 40 CFR Part 63, subpart GGG, are defined as follows:

P_{system} = absolute pressure of the receiving vessel;

P_i = partial pressure of the HAP determined at the exit temperature and exit pressure conditions of the condenser or at the conditions of the dedicated receiver;

P_j = partial pressure of condensables (including HAP) determined at the exit temperature and exit pressure conditions of the condenser or at the conditions of the dedicated receiver;

MW_{HAP} = molecular weight of the HAP determined at the exit temperature and exit pressure conditions of the condenser or at the conditions of the dedicated receiver.

(4) To calculate uncontrolled emissions when a vessel is equipped with a process condenser, you must use the procedures in §63.1257(d)(3)(i)(B), except as specified in paragraphs (b)(4)(i) through (vii) of this section.

(i) You must determine the flowrate of gas (or volume of gas), partial pressures of condensables, temperature (T), and HAP molecular weight (MW_{HAP}) at the exit temperature and exit pressure conditions of the condenser or at the conditions of the dedicated receiver.

(ii) You must assume that all of the components contained in the condenser exit vent stream are in equilibrium with the same components in the exit condensate stream (except for noncondensables).

(iii) You must perform a material balance for each component.

(iv) For the emissions from gas evolution, the term for time, t, must be used in Equation 12 to 40 CFR Part 63, subpart GGG.

(v) Emissions from empty vessel purging shall be calculated using Equation 36 to 40 CFR Part 63, subpart GGG and the exit temperature and exit pressure conditions of the condenser or the conditions of the dedicated receiver.

(vi) You must conduct an engineering assessment as specified in §63.1257(d)(2)(ii) for each emission episode that is not due to vapor displacement, purging, heating, depressurization, vacuum operations, gas evolution, air drying, or empty vessel purging. The requirements of paragraphs (b)(3) through (4) of this section shall apply.

(vii) You may elect to conduct an engineering assessment if you can demonstrate to the Administrator that the methods in §63.1257(d)(3)(i)(B) are not appropriate.

(5) You may elect to designate the batch process vents within a process as Group 1 and not calculate uncontrolled emissions under either of the situations in paragraph (b)(5)(i), (ii), or (iii) of this section.

(i) If you comply with the alternative standard specified in §63.2505.

(ii) If all Group 1 batch process vents within a process are controlled; you conduct the performance test under hypothetical worst case conditions, as defined in §63.1257(b)(8)(i)(B); and the emission profile is based on capture and control system limitations as specified in §63.1257(b)(8)(ii)(C).

(iii) If you comply with an emission limit using a flare that meets the requirements specified in §63.987.

(6) You may change from Group 2 to Group 1 in accordance with either paragraph (b)(6)(i) or (ii) of this section. You must comply with the requirements of this section and submit the test report in the next Compliance report.

(i) You may switch at any time after operating as Group 2 for at least 1 year so that you can show compliance with the 10,000 pounds per year (lb/yr) threshold for Group 2 batch process vents for at least 365 days before the switch. You may elect to start keeping records of emissions from Group 2 batch process vents before the compliance date. Report a switch based on this provision in your next compliance report in accordance with §63.2520(e)(10)(i).

(ii) If the conditions in paragraph (b)(6)(i) of this section are not applicable, you must provide a 60-day advance notice in accordance with §63.2520(e)(10)(ii) before switching.

(7) As an alternative to determining the uncontrolled organic HAP emissions as specified in §63.1257(d)(2)(i) and (ii), you may elect to demonstrate that non-reactive organic HAP are the only HAP used in the process and non-reactive HAP usage in the process is less than 10,000 lb/yr. You must provide data and supporting rationale in your notification of compliance status report explaining why the non-reactive organic HAP usage will be less than 10,000 lb/yr. You must keep records of the non-reactive organic HAP usage as specified in §63.2525(e)(2) and include information in compliance reports as specified in §63.2520(e)(5)(iv).

(c) Exceptions to the requirements in subparts SS and WW of this part 63 are specified in paragraphs (c)(1) through (9) of this section.

(1) *Process condensers.* Process condensers, as defined in §63.2550(i), are not considered to be control devices for batch process vents. You must determine whether a condenser is a control device for a batch process vent or a process condenser from which the uncontrolled HAP emissions are evaluated as part of the initial compliance demonstration for each MCPU and report the results with supporting rationale in your notification of compliance status report.

(2) *Initial compliance.* (i) To demonstrate initial compliance with a percent reduction emission limit in Table 2 to this subpart FFFF, you must compare the sums of the controlled and uncontrolled emissions for the applicable Group 1 batch process vents within the process, and show that the specified reduction is met. This requirement does not apply if you comply with the emission limits of Table 2 to this subpart FFFF by using a flare that meets the requirements of §63.987.

(ii) When you conduct a performance test or design evaluation for a non-flare control device used to control emissions from batch process vents, you must establish emission profiles and conduct the test under worst-case conditions according to §63.1257(b)(8) instead of under normal operating conditions as specified in §63.7(e)(1). The requirements in §63.997(e)(1)(i) and (iii) also do not apply for performance tests conducted to determine compliance with the emission limits for batch process vents. For purposes of this subpart FFFF, references in §63.997(b)(1) to “methods specified in §63.997(e)” include the methods specified in §63.1257(b)(8).

(iii) As an alternative to conducting a performance test or design evaluation to demonstrate initial compliance with a percent reduction requirement for a condenser, you may determine controlled emissions using the procedures specified in §63.1257(d)(3)(i)(B) and paragraphs (b)(3) through (4) of this section.

(iv) When §63.1257(d)(3)(i)(B)(7) specifies that condenser-controlled emissions from an air dryer must be calculated using Equation 11 of 40 CFR Part 63, subpart GGG, with “V equal to the air flow rate,” it means “V equal to the dryer outlet gas flow rate,” for the purposes of this subpart. Alternatively, you may use Equation 12 of 40 CFR Part 63, subpart GGG, with V equal to the dryer inlet air flow rate. Account for time as appropriate in either equation.

(v) If a process condenser is used for any boiling operations, you must demonstrate that it is properly operated according to the procedures specified in §63.1257(d)(2)(i)(C)(4)(ii) and (d)(3)(iii)(B), and the demonstration must occur only during the boiling operation. The reference in §63.1257(d)(3)(iii)(B) to the alternative standard in §63.1254(c) means §63.2505 for the purposes of this subpart. As an alternative to measuring the exhaust gas temperature, as required by §63.1257(d)(3)(iii)(B), you may elect to measure the liquid temperature in the receiver.

(vi) You must conduct a subsequent performance test or compliance demonstration equivalent to an initial compliance demonstration within 180 days of a change in the worst-case conditions.

(3) *Establishing operating limits.* You must establish operating limits under the conditions required for your initial compliance demonstration, except you may elect to establish operating limit(s) for conditions other than those under which a performance test was conducted as specified in paragraph (c)(3)(i) of this section and, if applicable, paragraph (c)(3)(ii) of this section.

(i) The operating limits may be based on the results of the performance test and supplementary information such as engineering assessments and manufacturer's recommendations. These limits may be established for conditions as unique as individual emission episodes for a batch process. You must provide rationale in the precompliance report for the specific level for each operating limit, including any data and calculations used to develop the limit and a description of why the limit indicates proper operation of the control device. The procedures provided in this paragraph (c)(3)(i) have not been approved by the Administrator and determination of the operating limit using these procedures is subject to review and approval by the Administrator.

(ii) If you elect to establish separate monitoring levels for different emission episodes within a batch process, you must maintain records in your daily schedule or log of processes indicating each point at which you change from one operating

limit to another, even if the duration of the monitoring for an operating limit is less than 15 minutes. You must maintain a daily schedule or log of processes according to §63.2525(c).

(4) *Averaging periods.* As an alternative to the requirement for daily averages in §63.998(b)(3), you may determine averages for operating blocks. An operating block is a period of time that is equal to the time from the beginning to end of batch process operations within a process.

(5) [Reserved]

(6) *Outlet concentration correction for supplemental gases.* If you use a control device other than a combustion device to comply with a TOC, organic HAP, or hydrogen halide and halogen HAP outlet concentration emission limit for batch process vents, you must correct the actual concentration for supplemental gases using Equation 1 of this section; you may use process knowledge and representative operating data to determine the fraction of the total flow due to supplemental gas.

$$C_a = C_m \left(\frac{Q_s + Q_a}{Q_a} \right) \quad (\text{Eq. 1})$$

Where:

C_a = corrected outlet TOC, organic HAP, or hydrogen halide and halogen HAP concentration, dry basis, ppmv;

C_m = actual TOC, organic HAP, or hydrogen halide and halogen HAP concentration measured at control device outlet, dry basis, ppmv;

Q_a = total volumetric flowrate of all gas streams vented to the control device, except supplemental gases;

Q_s = total volumetric flowrate of supplemental gases.

(7) If flow to a control device could be intermittent, you must install, calibrate, and operate a flow indicator at the inlet or outlet of the control device to identify periods of no flow. Periods of no flow may not be used in daily or block averages, and it may not be used in fulfilling a minimum data availability requirement.

(8) *Terminology.* When the term “storage vessel” is used in subpart WW of this part 63, the term “process tank,” as defined in §63.2550(i), applies for the purposes of this section.

(9) *Requirements for a biofilter.* If you use a biofilter to meet either the 95 percent reduction requirement or outlet concentration requirement specified in Table 2 to this subpart, you must meet the requirements specified in paragraphs (c)(9)(i) through (iv) of this section.

(i) *Operational requirements.* The biofilter must be operated at all times when emissions are vented to it.

(ii) *Performance tests.* To demonstrate initial compliance, you must conduct a performance test according to the procedures in §63.997 and paragraphs (c)(9)(ii)(A) through (D) of this section. The design evaluation option for small control devices is not applicable if you use a biofilter.

(A) Keep up-to-date, readily accessible continuous records of either the biofilter bed temperature averaged over the full period of the performance test or the outlet total organic HAP or TOC concentration averaged over the full period of the performance test. Include these data in your notification of compliance status report as required by §63.999(b)(3)(ii).

(B) Record either the percent reduction of total organic HAP achieved by the biofilter determined as specified in §63.997(e)(2)(iv) or the concentration of TOC or total organic HAP determined as specified in §63.997(e)(2)(iii) at the outlet of the biofilter, as applicable.

(C) If you monitor the biofilter bed temperature, you may elect to use multiple thermocouples in representative locations throughout the biofilter bed and calculate the average biofilter bed temperature across these thermocouples prior to reducing the temperature data to 15 minute (or shorter) averages for purposes of establishing operating limits for the biofilter. If you use multiple thermocouples, include your rationale for their site selection in your notification of compliance status report.

(D) Submit a performance test report as specified in §63.999(a)(2)(i) and (ii). Include the records from paragraph (c)(9)(ii)(B) of this section in your performance test report.

(iii) *Monitoring requirements.* Use either a biofilter bed temperature monitoring device (or multiple devices) capable of providing a continuous record or an organic monitoring device capable of providing a continuous record. Keep records of temperature or other parameter monitoring results as specified in §63.998(b) and (c), as applicable. General requirements for monitoring are contained in §63.996. If you monitor temperature, the operating temperature range must be based on only the temperatures measured during the performance test; these data may not be supplemented by engineering assessments or manufacturer's recommendations as otherwise allowed in §63.999(b)(3)(ii)(A). If you establish the operating range (minimum and maximum temperatures) using data from previous performance tests in accordance with §63.996(c)(6), replacement of the biofilter media with the same type of media is not considered a process change under §63.997(b)(1). You may expand your biofilter bed temperature operating range by conducting a repeat performance test that demonstrates compliance with the 95 percent reduction requirement or outlet concentration limit, as applicable.

(iv) *Repeat performance tests.* You must conduct a repeat performance test using the applicable methods specified in §63.997 within 2 years following the previous performance test and within 150 days after each replacement of any portion of the biofilter bed media with a different type of media or each replacement of more than 50 percent (by volume) of the biofilter bed media with the same type of media.

[68 FR 63888, Nov. 10, 2003, as amended at 70 FR 38559, July 1, 2005; 71 FR 40333, July 14, 2006]

§ 63.2465 What requirements must I meet for process vents that emit hydrogen halide and halogen HAP or HAP metals?

(a) You must meet each emission limit in Table 3 to this subpart that applies to you, and you must meet each applicable requirement in paragraphs (b) through (d) of this section.

(b) If any process vents within a process emit hydrogen halide and halogen HAP, you must determine and sum the uncontrolled hydrogen halide and halogen HAP emissions from each of the process vents within the process using the procedures specified in §63.1257(d)(2)(i) and/or (ii), as appropriate. When §63.1257(d)(2)(ii)(E) requires documentation to be submitted in the precompliance report, it means the notification of compliance status report for the purposes of this paragraph.

(c) If collective uncontrolled hydrogen halide and halogen HAP emissions from the process vents within a process are greater than or equal to 1,000 pounds per year (lb/yr), you must comply with §63.994 and the requirements referenced therein, except as specified in paragraphs (c)(1) through (3) of this section.

(1) When §63.994(b)(1) requires a performance test, you may elect to conduct a design evaluation in accordance with §63.1257(a)(1).

(2) When §63.994(b)(1) refers to "a combustion device followed by a halogen scrubber or other halogen reduction device," it means any combination of control devices used to meet the emission limits specified in Table 3 to this subpart.

(3) Section 63.994(b)(2) does not apply for the purposes of this section.

(d) To demonstrate compliance with the emission limit in Table 3 to this subpart for HAP metals at a new source, you must comply with paragraphs (d)(1) through (3) of this section.

(1) Determine the mass emission rate of HAP metals based on process knowledge, engineering assessment, or test data.

(2) Conduct an initial performance test of each control device that is used to comply with the emission limit for HAP metals specified in Table 3 to this subpart. Conduct the performance test according to the procedures in §63.997. Use Method 29 of appendix A of 40 CFR Part 60 to determine the HAP metals at the inlet and outlet of each control device, or use Method 5 of appendix A of 40 CFR Part 60 to determine the total particulate matter (PM) at the inlet and outlet of each control device. You have demonstrated initial compliance if the overall reduction of either HAP metals or total PM from the process is greater than or equal to 97 percent by weight.

(3) Comply with the monitoring requirements specified in §63.1366(b)(1)(xi) for each fabric filter used to control HAP metals.

[68 FR 63888, Nov. 10, 2003, as amended at 71 FR 40334, July 14, 2006]

§ 63.2470 What requirements must I meet for storage tanks?

(a) You must meet each emission limit in Table 4 to this subpart that applies to your storage tanks, and you must meet each applicable requirement specified in paragraphs (b) through (e) of this section.

(b) [Reserved]

(c) *Exceptions to subparts SS and WW of this part 63.* (1) If you conduct a performance test or design evaluation for a control device used to control emissions only from storage tanks, you must establish operating limits, conduct monitoring, and keep records using the same procedures as required in subpart SS of this part 63 for control devices used to reduce emissions from process vents instead of the procedures specified in §§63.985(c), 63.998(d)(2)(i), and 63.999(b)(2).

(2) When the term “storage vessel” is used in subparts SS and WW of this part 63, the term “storage tank,” as defined in §63.2550 applies for the purposes of this subpart.

(d) *Planned routine maintenance.* The emission limits in Table 4 to this subpart for control devices used to control emissions from storage tanks do not apply during periods of planned routine maintenance. Periods of planned routine maintenance of each control device, during which the control device does not meet the emission limit specified in Table 4 to this subpart, must not exceed 240 hours per year (hr/yr). You may submit an application to the Administrator requesting an extension of this time limit to a total of 360 hr/yr. The application must explain why the extension is needed, it must indicate that no material will be added to the storage tank between the time the 240-hr limit is exceeded and the control device is again operational, and it must be submitted at least 60 days before the 240-hr limit will be exceeded.

(e) *Vapor balancing alternative.* As an alternative to the emission limits specified in Table 4 to this subpart, you may elect to implement vapor balancing in accordance with §63.1253(f), except as specified in paragraphs (e)(1) through (3) of this section.

(1) When §63.1253(f)(6)(i) refers to a 90 percent reduction, 95 percent applies for the purposes of this subpart.

(2) To comply with §63.1253(f)(6)(i), the owner or operator of an offsite cleaning or reloading facility must comply with §§63.2445 through 63.2550 instead of complying with §63.1253(f)(7)(ii), except as specified in paragraph (e)(2)(i) or (ii) of this section.

(i) The reporting requirements in §63.2520 do not apply to the owner or operator of the offsite cleaning or reloading facility.

(ii) As an alternative to complying with the monitoring, recordkeeping, and reporting provisions in §§63.2445 through 63.2550, the owner or operator of an offsite cleaning or reloading facility may comply as specified in §63.2535(a)(2) with any other subpart of this part 63 which has monitoring, recordkeeping, and reporting provisions as specified in §63.2535(a)(2).

(3) You may elect to set a pressure relief device to a value less than the 2.5 pounds per square inch gage pressure (psig) required in §63.1253(f)(5) if you provide rationale in your notification of compliance status report explaining why the alternative value is sufficient to prevent breathing losses at all times.

(4) You may comply with the vapor balancing alternative in §63.1253(f) when your storage tank is filled from a barge. All requirements for tank trucks and railcars specified in §63.1253(f) also apply to barges, except as specified in §63.2470(e)(4)(i).

(i) When §63.1253(f)(2) refers to pressure testing certifications, the requirements in 40 CFR 61.304(f) apply for barges.

(ii) [Reserved]

[68 FR 63888, Nov. 10, 2003, as amended at 70 FR 38559, July 1, 2005; 71 FR 40335, July 14, 2006]

§ 63.2475 What requirements must I meet for transfer racks?

(a) You must comply with each emission limit and work practice standard in table 5 to this subpart that applies to your transfer racks, and you must meet each applicable requirement in paragraphs (b) and (c) of this section.

(b) When the term “high throughput transfer rack” is used in subpart SS of this part 63, the term “Group 1 transfer rack,” as defined in §63.2550, applies for the purposes of this subpart.

[68 FR 63888, Nov. 10, 2003, as amended at 71 FR 40335, July 14, 2006]

§ 63.2480 What requirements must I meet for equipment leaks?

(a) You must meet each requirement in table 6 to this subpart that applies to your equipment leaks, except as specified in paragraphs (b) through (d) of this section.

(b) If you comply with either subpart H or subpart UU of this part 63, you may elect to comply with the provisions in paragraphs (b)(1) through (5) of this section as an alternative to the referenced provisions in subpart H or subpart UU of this part.

(1) The requirements for pressure testing in §63.179(b) or §63.1036(b) may be applied to all processes, not just batch processes.

(2) For the purposes of this subpart, pressure testing for leaks in accordance with §63.179(b) or §63.1036(b) is not required after reconfiguration of an equipment train if flexible hose connections are the only disturbed equipment.

(3) For an existing source, you are not required to develop an initial list of identification numbers for connectors as would otherwise be required under §63.1022(b)(1) or §63.181(b)(1)(i).

(4) For connectors in gas/vapor and light liquid service at an existing source, you may elect to comply with the requirements in §63.169 or §63.1029 for connectors in heavy liquid service, including all associated recordkeeping and reporting requirements, rather than the requirements of §63.174 or §63.1027.

(5) For pumps in light liquid service in an MCPU that has no continuous process vents and is part of an existing source, you may elect to consider the leak definition that defines a leak to be 10,000 parts per million (ppm) or greater as an alternative to the values specified in §63.1026(b)(2)(i) through (iii) or §63.163(b)(2).

(c) If you comply with 40 CFR Part 65, subpart F, you may elect to comply with the provisions in paragraphs (c)(1) through (9) of this section as an alternative to the referenced provisions in 40 CFR Part 65, subpart F.

(1) The requirements for pressure testing in §65.117(b) may be applied to all processes, not just batch processes.

(2) For the purposes of this subpart, pressure testing for leaks in accordance with §65.117(b) is not required after reconfiguration of an equipment train if flexible hose connections are the only disturbed equipment.

(3) For an existing source, you are not required to develop an initial list of identification numbers for connectors as would otherwise be required under §65.103(b)(1).

(4) You may elect to comply with the monitoring and repair requirements specified in §65.108(e)(3) as an alternative to the requirements specified in §65.108(a) through (d) for any connectors at your affected source.

(5) For pumps in light liquid service in an MCPU that has no continuous process vents and is part of an existing source, you may elect to consider the leak definition that defines a leak to be 10,000 ppm or greater as an alternative to the values specified in §65.107(b)(2)(i) through (iii).

(6) When 40 CFR Part 65, subpart F refers to the implementation date specified in §65.1(f), it means the compliance date specified in §63.2445.

(7) When §§65.105(f) and 65.117(d)(3) refer to §65.4, it means §63.2525.

(8) When §65.120(a) refers to §65.5(d), it means §63.2515.

(9) When §65.120(b) refers to §65.5(e), it means §63.2520.

(d) The provisions of this section do not apply to bench-scale processes, regardless of whether the processes are located at the same plant site as a process subject to the provisions of this subpart.

[71 FR 40335, July 14, 2006]

§ 63.2485 What requirements must I meet for wastewater streams and liquid streams in open systems within an MCPU?

(a) You must meet each requirement in table 7 to this subpart that applies to your wastewater streams and liquid streams in open systems within an MCPU, except as specified in paragraphs (b) through (o) of this section.

(b) *Wastewater HAP.* Where §63.105 and §§63.132 through 63.148 refer to compounds in table 9 of subpart G of this part 63, the compounds in tables 8 and 9 to this subpart apply for the purposes of this subpart.

(c) *Group 1 wastewater.* Section 63.132(c)(1) (i) and (ii) do not apply. For the purposes of this subpart, a process wastewater stream is Group 1 for compounds in tables 8 and 9 to this subpart if any of the conditions specified in paragraphs (c) (1) through (3) of this section are met.

(1) The total annual average concentration of compounds in table 8 to this subpart is greater than or equal to 10,000 ppmw at any flowrate, and the total annual load of compounds in table 8 to this subpart is greater than or equal to 200 lb/yr.

- (2) The total annual average concentration of compounds in table 8 to this subpart is greater than or equal to 1,000 ppmw, and the annual average flowrate is greater than or equal to 1 l/min.
- (3) The combined total annual average concentration of compounds in tables 8 and 9 to this subpart is greater than or equal to 30,000 ppmw, and the combined total annual load of compounds in tables 8 and 9 to this subpart is greater than or equal to 1 tpy.
- (d) *Wastewater tank requirements.* (1) When §§63.133 and 63.147 reference floating roof requirements in §§63.119 and 63.120, the corresponding requirements in subpart WW of this part 63 may be applied for the purposes of this subpart.
- (2) When §63.133(a) refers to table 10 of subpart G of this part 63, the maximum true vapor pressure in the table shall be limited to the HAP listed in tables 8 and 9 of this subpart FFFF.
- (3) For the purposes of this subpart, the requirements of §63.133(a)(2) are satisfied by operating and maintaining a fixed roof if you demonstrate that the total soluble and partially soluble HAP emissions from the wastewater tank are no more than 5 percent higher than the emissions would be if the contents of the wastewater tank were not heated, treated by an exothermic reaction, or sparged.
- (4) The emission limits specified in §§63.133(b)(2) and 63.139 for control devices used to control emissions from wastewater tanks do not apply during periods of planned routine maintenance of the control device(s) of no more than 240 hr/yr. You may request an extension to a total of 360 hr/yr in accordance with the procedures specified in §63.2470(d).
- (e) *Individual drain systems.* The provisions of §63.136(e)(3) apply except as specified in paragraph (e)(1) of this section.
- (1) A sewer line connected to drains that are in compliance with §63.136(e)(1) may be vented to the atmosphere, provided that the sewer line entrance to the first downstream junction box is water sealed and the sewer line vent pipe is designed as specified in §63.136(e)(2)(ii)(A).
- (2) [Reserved]
- (f) *Closed-vent system requirements.* When §63.148(k) refers to closed vent systems that are subject to the requirements of §63.172, the requirements of either §63.172 or §63.1034 apply for the purposes of this subpart.
- (g) *Halogenated vent stream requirements.* For each halogenated vent stream from a Group 1 wastewater stream or residual removed from a Group 1 wastewater stream that is vented through a closed-vent system to a combustion device to reduce organic HAP emissions, you must meet the same emission limits as specified for batch process vents in item 2 of table 2 to this subpart.
- (h) *Alternative test methods.* (1) As an alternative to the test methods specified in §63.144(b)(5)(i), you may use Method 8260 or 8270 as specified in §63.1257(b)(10)(iii).
- (2) As an alternative to using the methods specified in §63.144(b)(5)(i), you may conduct wastewater analyses using Method 1666 or 1671 of 40 CFR Part 136 and comply with the sampling protocol requirements specified in §63.144(b)(5)(ii). The validation requirements specified in §63.144(b)(5)(iii) do not apply if you use Method 1666 or 1671 of 40 CFR Part 136.
- (3) As an alternative to using Method 18 of 40 CFR Part 60, as specified in §§63.139(c)(1)(ii) and 63.145(i)(2), you may elect to use Method 25A of 40 CFR Part 60 as specified in §63.997.
- (i) *Offsite management and treatment option.* (1) If you ship wastewater to an offsite treatment facility that meets the requirements of §63.138(h), you may elect to document in your notification of compliance status report that the wastewater will be treated as hazardous waste at a facility that meets the requirements of §63.138(h) as an alternative to having the offsite facility submit the certification specified in §63.132(g)(2).

(2) As an alternative to the management and treatment options specified in §63.132(g)(2), any affected wastewater stream (or residual removed from an affected wastewater stream) with a total annual average concentration of compounds in Table 8 to this subpart less than 50 ppmw may be transferred offsite in accordance with paragraphs (i)(2) (i) and (ii) of this section.

(i) The transferee (or you) must demonstrate that less than 5 percent of the HAP in Table 9 to this subpart is emitted from the waste management units up to the activated sludge unit.

(ii) The transferee must treat the wastewater stream or residual in a biological treatment unit in accordance with §§63.138 and 63.145 and the requirements referenced therein.

(j) You must determine the annual average concentration and annual average flowrate for wastewater streams for each MCPU. The procedures for flexible operation units specified in §63.144 (b) and (c) do not apply for the purposes of this subpart.

(k) The requirement to correct outlet concentrations from combustion devices to 3 percent oxygen in §§63.139(c)(1)(ii) and 63.146(i)(6) applies only if supplemental gases are combined with a vent stream from a Group 1 wastewater stream. If emissions are controlled with a vapor recovery system as specified in §63.139(c)(2), you must correct for supplemental gases as specified in §63.2460(c)(6).

(1) *Requirements for liquid streams in open systems.* (1) References in §63.149 to §63.100(b) mean §63.2435(b) for the purposes of this subpart.

(2) When §63.149(e) refers to 40 CFR 63.100(l) (1) or (2), §63.2445(a) applies for the purposes of this subpart.

(3) When §63.149 uses the term “chemical manufacturing process unit,” the term “MCPU” applies for the purposes of this subpart.

(4) When §63.149(e)(1) refers to characteristics of water that contain compounds in Table 9 to 40 CFR Part 63, subpart G, the characteristics specified in paragraphs (c) (1) through (3) of this section apply for the purposes of this subpart.

(5) When §63.149(e)(2) refers to characteristics of water that contain compounds in Table 9 to 40 CFR Part 63, subpart G, the characteristics specified in paragraph (c)(2) of this section apply for the purposes of this subpart.

(m) When §63.132(f) refers to “a concentration of greater than 10,000 ppmw of table 9 compounds,” the phrase “a concentration of greater than 30,000 ppmw of total partially soluble HAP (PSHAP) and soluble HAP (SHAP) or greater than 10,000 ppmw of PSHAP” shall apply for the purposes of this subpart.

(n) *Alternative requirements for wastewater that is Group 1 for soluble HAP only.* The option specified in this paragraph (n) applies to wastewater that is Group 1 for soluble HAP in accordance with paragraph (c)(3) of this section and is discharged to biological treatment. Except as provided in paragraph (n)(4) of this section, this option does not apply to wastewater that is Group 1 for partially soluble HAP in accordance with paragraph (c)(1), (c)(2), or (c)(4) of this section. For wastewater that is Group 1 for SHAP, you need not comply with §§63.133 through 63.137 for any equalization unit, neutralization unit, and/or clarifier prior to the activated sludge unit, and you need not comply with the venting requirements in §63.136(e)(2)(ii)(A) for lift stations with a volume larger than 10,000 gal, provided you comply with the requirements specified in paragraphs (n)(1) through (3) of this section and all otherwise applicable requirements specified in table 7 to this subpart. For this option, the treatment requirements in §63.138 and the performance testing requirements in §63.145 do not apply to the biological treatment unit, except as specified in paragraphs (n)(2)(i) through (iv) of this section.

(1) Wastewater must be hard-piped between the equalization unit, clarifier, and activated sludge unit. This requirement does not apply to the transfer between any of these types of units that are part of the same structure and one unit overflows into the next.

(2) Calculate the destruction efficiency of the biological treatment unit using Equation 1 of this section in accordance with the procedures described in paragraphs (n)(2)(i) through (vi) of this section. You have demonstrated initial compliance if E is greater than or equal to 90 percent.

$$E = \frac{(QMW_a - QMG_e - QMG_n - QMG_c)(F_{bio})}{QMW_a} \times 100 \quad (\text{Eq. 1})$$

Where:

E = destruction efficiency of total PSHAP and SHAP for the biological treatment unit including the equalization unit, neutralization unit, and/or clarifier, percent;

QMW_a = mass flow rate of total PSHAP and SHAP compounds entering the equalization unit (or whichever of the three types of units is first), kilograms per hour (kg/hr);

QMG_e = mass flow rate of total PSHAP and SHAP compounds emitted from the equalization unit, kg/hr;

QMG_n = mass flow rate of total PSHAP and SHAP compounds emitted from the neutralization unit, kg/hr;

QMG_c = mass flow rate of total PSHAP and SHAP compounds emitted from the clarifier, kg/hr

F_{bio} = site-specific fraction of PSHAP and SHAP compounds biodegraded in the biological treatment unit.

(i) Include all PSHAP and SHAP compounds in both Group 1 and Group 2 wastewater streams from all MCPU, except you may exclude any compounds that meet the criteria specified in §63.145(a)(6)(ii) or (iii).

(ii) Conduct the demonstration under representative process unit and treatment unit operating conditions in accordance with §63.145(a)(3) and (4).

(iii) Determine PSHAP and SHAP concentrations and the total wastewater flow rate at the inlet to the equalization unit in accordance with §63.145(f)(1) and (2). References in §63.145(f)(1) and (2) to required mass removal and actual mass removal do not apply for the purposes of this section.

(iv) Determine F_{bio} for the activated sludge unit as specified in §63.145(h), except as specified in paragraph (n)(2)(iv)(A) or paragraph (n)(2)(iv)(B) of this section.

(A) If the biological treatment process meets both of the requirements specified in §63.145(h)(1)(i) and (ii), you may elect to replace the F_{bio} term in Equation 1 of this section with the numeral "1."

(B) You may elect to assume f_{bio} is zero for any compounds on List 2 of table 36 in subpart G.

(v) Determine QMG_e, QMG_n, and QMG_c using EPA's WATER9 model or the most recent update to this model, and conduct testing or use other procedures to validate the modeling results.

(vi) Submit the data and results of your demonstration, including both a description of and the results of your WATER9 modeling validation procedures, in your notification of compliance status report as specified in §63.2520(d)(2)(ii).

(3) As an alternative to the venting requirements in §63.136(e)(2)(ii)(A), a lift station with a volume larger than 10,000 gal may have openings necessary for proper venting of the lift station. The size and other design characteristics of these openings may be established based on manufacturer recommendations or engineering judgment for venting under normal operating

conditions. You must describe the design of such openings and your supporting calculations and other rationale in your notification of compliance status report.

(4) For any wastewater streams that are Group 1 for both PSHAP and SHAP, you may elect to meet the requirements specified in table 7 to this subpart for the PSHAP and then comply with paragraphs (n)(1) through (3) of this section for the SHAP in the wastewater system. You may determine the SHAP mass removal rate, in kg/hr, in treatment units that are used to meet the requirements for PSHAP and add this amount to both the numerator and denominator in Equation 1 of this section.

(o) *Compliance records.* For each CPMS used to monitor a nonflare control device for wastewater emissions, you must keep records as specified in §63.998(c)(1) in addition to the records required in §63.147(d).

[68 FR 63888, Nov. 10, 2003, as amended at 70 FR 38559, July 1, 2005; 71 FR 40335, July 14, 2006]

§ 63.2490 What requirements must I meet for heat exchange systems?

(a) You must comply with each requirement in Table 10 to this subpart that applies to your heat exchange systems, except as specified in paragraphs (b) and (c) of this section.

(b) The phrase “a chemical manufacturing process unit meeting the conditions of §63.100 (b)(1) through (b)(3) of this section” in §63.104(a) means “an MCPU meeting the conditions of §63.2435” for the purposes of this subpart.

(c) The reference to §63.100(c) in §63.104(a) does not apply for the purposes of this subpart.

Alternative Means of Compliance

§ 63.2495 How do I comply with the pollution prevention standard?

(a) You may elect to comply with the pollution prevention alternative requirements specified in paragraphs (a) (1) and (2) of this section in lieu of the emission limitations and work practice standards contained in Tables 1 through 7 to this subpart for any MCPU for which initial startup occurred before April 4, 2002.

(1) You must reduce the production-indexed HAP consumption factor (HAP factor) by at least 65 percent from a 3-year average baseline beginning no earlier than the 1994 through 1996 calendar years. For any reduction in the HAP factor that you achieve by reducing HAP that are also volatile organic compounds (VOC), you must demonstrate an equivalent reduction in the production-indexed VOC consumption factor (VOC factor) on a mass basis. For any reduction in the HAP factor that you achieve by reducing a HAP that is not a VOC, you may not increase the VOC factor.

(2) Any MCPU for which you seek to comply by using the pollution prevention alternative must begin with the same starting material(s) and end with the same product(s). You may not comply by eliminating any steps of a process by transferring the step offsite (to another manufacturing location). You may also not merge a solvent recovery step conducted offsite to onsite and as part of an existing process as a method of reducing consumption.

(3) You may comply with the requirements of paragraph (a)(1) of this section for a series of processes, including situations where multiple processes are merged, if you demonstrate to the satisfaction of the Administrator that the multiple processes were merged after the baseline period into an existing process or processes.

(b) *Exclusions.* (1) You must comply with the emission limitations and work practice standards contained in tables 1 through 7 of this subpart for all HAP that are generated in the MCPU and that are not included in consumption, as defined in §63.2550. If any vent stream routed to the combustion control is a halogenated vent stream, as defined in §63.2550, then hydrogen halides that are generated as a result of combustion control must be controlled according to the requirements of §63.994 and the requirements referenced therein.

(2) You may not merge nondedicated formulation or nondedicated solvent recovery processes with any other processes.

(c) *Initial compliance procedures.* To demonstrate initial compliance with paragraph (a) of this section, you must prepare a demonstration summary in accordance with paragraph (c) (1) of this section and calculate baseline and target annual HAP and VOC factors in accordance with paragraphs (c) (2) and (3) of this section.

(1) *Demonstration plan.* You must prepare a pollution prevention demonstration plan that contains, at a minimum, the information in paragraphs (c)(1) (i) through (iii) of this section for each MCPU for which you comply with paragraph (a) of this section.

(i) Descriptions of the methodologies and forms used to measure and record consumption of HAP and VOC compounds.

(ii) Descriptions of the methodologies and forms used to measure and record production of the product(s).

(iii) Supporting documentation for the descriptions provided in accordance with paragraphs (c)(1) (i) and (ii) of this section including, but not limited to, samples of operator log sheets and daily, monthly, and/or annual inventories of materials and products. You must describe how this documentation will be used to calculate the annual factors required in paragraph (d) of this section.

(2) *Baseline factors.* You must calculate baseline HAP and VOC factors by dividing the consumption of total HAP and total VOC by the production rate, per process, for the first 3-year period in which the process was operational, beginning no earlier than the period consisting of the 1994 through 1996 calendar years.

(3) *Target annual factors.* You must calculate target annual HAP and VOC factors. The target annual HAP factor must be equal to 35 percent of the baseline HAP factor. The target annual VOC factor must be lower than the baseline VOC factor by an amount equivalent to the reduction in any HAP that is also a VOC, on a mass basis. The target annual VOC factor may be the same as the baseline VOC factor if the only HAP you reduce is not a VOC.

(d) *Continuous compliance requirements.* You must calculate annual rolling average values of the HAP and VOC factors (annual factors) in accordance with the procedures specified in paragraphs (d) (1) through (3) of this section. To show continuous compliance, the annual factors must be equal to or less than the target annual factors calculated according to paragraph (c)(3) of this section.

(1) To calculate the annual factors, you must divide the consumption of both total HAP and total VOC by the production rate, per process, for 12-month periods at the frequency specified in either paragraph (d) (2) or (3) of this section, as applicable.

(2) For continuous processes, you must calculate the annual factors every 30 days for the 12-month period preceding the 30th day (i.e., annual rolling average calculated every 30 days). A process with both batch and continuous operations is considered a continuous process for the purposes of this section.

(3) For batch processes, you must calculate the annual factors every 10 batches for the 12-month period preceding the 10th batch (i.e., annual rolling average calculated every 10 batches), except as specified in paragraphs (d)(3) (i) and (ii) of this section.

(i) If you produce more than 10 batches during a month, you must calculate the annual factors at least once during that month.

(ii) If you produce less than 10 batches in a 12-month period, you must calculate the annual factors for the number of batches in the 12-month period since the previous calculations.

(e) *Records.* You must keep records of HAP and VOC consumption, production, and the rolling annual HAP and VOC factors for each MCPU for which you are complying with paragraph (a) of this section.

(f) *Reporting.* (1) You must include the pollution prevention demonstration plan in the precompliance report required by §63.2520(c).

(2) You must identify all days when the annual factors were above the target factors in the compliance reports.

[68 FR 63888, Nov. 10, 2003, as amended at 71 FR 40336, July 14, 2006]

§ 63.2500 How do I comply with emissions averaging?

(a) For an existing source, you may elect to comply with the percent reduction emission limitations in Tables 1, 2, 4, 5, and 7 to this subpart by complying with the emissions averaging provisions specified in §63.150, except as specified in paragraphs (b) through (f) of this section.

(b) The batch process vents in an MCPU collectively are considered one individual emission point for the purposes of emissions averaging, except that only individual batch process vents must be excluded to meet the requirements of §63.150(d)(5).

(c) References in §63.150 to §§63.112 through 63.130 mean the corresponding requirements in §§63.2450 through 63.2490, including applicable monitoring, recordkeeping, and reporting.

(d) References to “periodic reports” in §63.150 mean “compliance report” for the purposes of this subpart.

(e) For batch process vents, estimate uncontrolled emissions for a standard batch using the procedures in §63.1257(d)(2)(i) and (ii) instead of the procedures in §63.150(g)(2). Multiply the calculated emissions per batch by the number of batches per month when calculating the monthly emissions for use in calculating debits and credits.

(f) References to “storage vessels” in §63.150 mean “storage tank” as defined in §63.2550 for the purposes of this subpart.

§ 63.2505 How do I comply with the alternative standard?

As an alternative to complying with the emission limits and work practice standards for process vents and storage tanks in Tables 1 through 4 to this subpart and the requirements in §§63.2455 through 63.2470, you may comply with the emission limits in paragraph (a) of this section and demonstrate compliance in accordance with the requirements in paragraph (b) of this section.

(a) *Emission limits and work practice standards.* (1) You must route vent streams through a closed-vent system to a control device that reduces HAP emissions as specified in either paragraph (a)(1)(i) or (ii) of this section.

(i) If you use a combustion control device, it must reduce HAP emissions as specified in paragraphs (a)(1)(i)(A), (B), and (C) of this section.

(A) To an outlet TOC concentration of 20 parts per million by volume (ppmv) or less.

(B) To an outlet concentration of hydrogen halide and halogen HAP of 20 ppmv or less.

(C) As an alternative to paragraph (a)(1)(i)(B) of this section, if you control halogenated vent streams emitted from a combustion device followed by a scrubber, reduce the hydrogen halide and halogen HAP generated in the combustion device by greater than or equal to 95 percent by weight in the scrubber.

(ii) If you use a noncombustion control device(s), it must reduce HAP emissions to an outlet total organic HAP concentration of 50 ppmv or less, and an outlet concentration of hydrogen halide and halogen HAP of 50 ppmv or less.

(2) Any Group 1 process vents within a process that are not controlled according to this alternative standard must be controlled according to the emission limits in tables 1 through 3 to this subpart.

(b) *Compliance requirements.* To demonstrate compliance with paragraph (a) of this section, you must meet the requirements of §63.1258(b)(5) beginning no later than the initial compliance date specified in §63.2445, except as specified in paragraphs (b)(1) through (9) of this section.

(1) You must comply with the requirements in §63.983 and the requirements referenced therein for closed-vent systems.

(2) When §63.1258(b)(5)(i) refers to §§63.1253(d) and 63.1254(c), the requirements in paragraph (a) of this section apply for the purposes of this subpart FFFF.

(3) When §63.1258(b)(5)(i)(B) refers to “HCl,” it means “total hydrogen halide and halogen HAP” for the purposes of this subpart FFFF.

(4) When §63.1258(b)(5)(ii) refers to §63.1257(a)(3), it means §63.2450(j)(5) for the purposes of this subpart FFFF.

(5) You must submit the results of any determination of the target analytes of predominant HAP in the notification of compliance status report.

(6) If you elect to comply with the requirement to reduce hydrogen halide and halogen HAP by greater than or equal to 95 percent by weight in paragraph (a)(1)(i)(C) of this section, you must meet the requirements in paragraphs (b)(6)(i) and (ii) of this section.

(i) Demonstrate initial compliance with the 95 percent reduction by conducting a performance test and setting a site-specific operating limit(s) for the scrubber in accordance with §63.994 and the requirements referenced therein. You must submit the results of the initial compliance demonstration in the notification of compliance status report.

(ii) Install, operate, and maintain CPMS for the scrubber as specified in §§63.994(c) and 63.2450(k), instead of as specified in §63.1258(b)(5)(i)(C).

(7) If flow to the scrubber could be intermittent, you must install, calibrate, and operate a flow indicator as specified in §63.2460(c)(7).

(8) Use the operating day as the averaging period for CEMS data and scrubber parameter monitoring data.

(9) The requirements in paragraph (a) of this section do not apply to emissions from storage tanks during periods of planned routine maintenance of the control device that do not exceed 240 hr/yr. You may submit an application to the Administrator requesting an extension of this time limit to a total of 360 hr/yr in accordance with the procedures specified in §63.2470(d). You must comply with the recordkeeping and reporting specified in §§63.998(d)(2)(ii) and 63.999(c)(4) for periods of planned routine maintenance.

[68 FR 63888, Nov. 10, 2003, as amended at 70 FR 38559, July 1, 2005]

Notification, Reports, and Records

§ 63.2515 What notifications must I submit and when?

(a) You must submit all of the notifications in §§63.6(h)(4) and (5), 63.7(b) and (c), 63.8(e), (f)(4) and (6), and 63.9(b) through (h) that apply to you by the dates specified.

(b) *Initial notification.* As specified in §63.9(b)(2), if you startup your affected source before November 10, 2003, you must submit an initial notification not later than 120 calendar days after November 10, 2003.

(2) As specified in §63.9(b)(3), if you startup your new affected source on or after November 10, 2003, you must submit an initial notification not later than 120 calendar days after you become subject to this subpart.

(c) *Notification of performance test.* If you are required to conduct a performance test, you must submit a notification of intent to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin as required in §63.7(b)(1). For any performance test required as part of the initial compliance procedures for batch process vents in table 2 to this subpart, you must also submit the test plan required by §63.7(c) and the emission profile with the notification of the performance test.

§ 63.2520 What reports must I submit and when?

(a) You must submit each report in Table 11 to this subpart that applies to you.

(b) Unless the Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report by the date in table 11 to this subpart and according to paragraphs (b)(1) through (5) of this section.

(1) The first compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.2445 and ending on June 30 or December 31, whichever date is the first date following the end of the first 6 months after the compliance date that is specified for your affected source in §63.2445.

(2) The first compliance report must be postmarked or delivered no later than August 31 or February 28, whichever date is the first date following the end of the first reporting period specified in paragraph (b)(1) of this section.

(3) Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) Each subsequent compliance report must be postmarked or delivered no later than August 31 or February 28, whichever date is the first date following the end of the semiannual reporting period.

(5) For each affected source that is subject to permitting regulations pursuant to 40 CFR Part 70 or 40 CFR Part 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (4) of this section.

(c) *Precompliance report.* You must submit a precompliance report to request approval for any of the items in paragraphs (c)(1) through (7) of this section. We will either approve or disapprove the report within 90 days after we receive it. If we disapprove the report, you must still be in compliance with the emission limitations and work practice standards in this subpart by the compliance date. To change any of the information submitted in the report, you must notify us 60 days before the planned change is to be implemented.

(1) Requests for approval to set operating limits for parameters other than those specified in §§63.2455 through 63.2485 and referenced therein. Alternatively, you may make these requests according to §63.8(f).

(2) Descriptions of daily or per batch demonstrations to verify that control devices subject to §63.2460(c)(5) are operating as designed.

(3) A description of the test conditions, data, calculations, and other information used to establish operating limits according to §63.2460(c)(3).

(4) Data and rationale used to support an engineering assessment to calculate uncontrolled emissions in accordance with §63.1257(d)(2)(ii). This requirement does not apply to calculations of hydrogen halide and halogen HAP emissions as specified in §63.2465(b), to determinations that the total HAP concentration is less than 50 ppmv, or if you use previous test data to establish the uncontrolled emissions.

(5) The pollution prevention demonstration plan required in §63.2495(c)(1), if you are complying with the pollution prevention alternative.

(6) Documentation of the practices that you will implement to minimize HAP emissions from streams that contain energetics and organic peroxides, and rationale for why meeting the emission limit specified in tables 1 through 7 to this subpart would create an undue safety hazard.

(7) For fabric filters that are monitored with bag leak detectors, an operation and maintenance plan that describes proper operation and maintenance procedures, and a corrective action plan that describes corrective actions to be taken, and the timing of those actions, when the PM concentration exceeds the set point and activates the alarm.

(d) *Notification of compliance status report.* You must submit a notification of compliance status report according to the schedule in paragraph (d)(1) of this section, and the notification of compliance status report must contain the information specified in paragraph (d)(2) of this section.

(1) You must submit the notification of compliance status report no later than 150 days after the applicable compliance date specified in §63.2445.

(2) The notification of compliance status report must include the information in paragraphs (d)(2)(i) through (ix) of this section.

(i) The results of any applicability determinations, emission calculations, or analyses used to identify and quantify HAP usage or HAP emissions from the affected source.

(ii) The results of emissions profiles, performance tests, engineering analyses, design evaluations, flare compliance assessments, inspections and repairs, and calculations used to demonstrate initial compliance according to §§63.2455 through 63.2485. For performance tests, results must include descriptions of sampling and analysis procedures and quality assurance procedures.

(iii) Descriptions of monitoring devices, monitoring frequencies, and the operating limits established during the initial compliance demonstrations, including data and calculations to support the levels you establish.

(iv) All operating scenarios.

(v) Descriptions of worst-case operating and/or testing conditions for control devices.

(vi) Identification of parts of the affected source subject to overlapping requirements described in §63.2535 and the authority under which you will comply.

(vii) The information specified in §63.1039(a)(1) through (3) for each process subject to the work practice standards for equipment leaks in Table 6 to this subpart.

(viii) Identify storage tanks for which you are complying with the vapor balancing alternative in §63.2470(e).

(ix) Records as specified in §63.2535(1)(1) through (3) of process units used to create a PUG and calculations of the initial primary product of the PUG.

(e) *Compliance report.* The compliance report must contain the information specified in paragraphs (e)(1) through (10) of this section.

(1) Company name and address.

(2) Statement by a responsible official with that official's name, title, and signature, certifying the accuracy of the content of the report.

(3) Date of report and beginning and ending dates of the reporting period.

(4) For each SSM during which excess emissions occur, the compliance report must include records that the procedures specified in your startup, shutdown, and malfunction plan (SSMP) were followed or documentation of actions taken that are not consistent with the SSMP, and include a brief description of each malfunction.

(5) The compliance report must contain the information on deviations, as defined in §63.2550, according to paragraphs (e)(5)(i), (ii), (iii), and (iv) of this section.

(i) If there are no deviations from any emission limit, operating limit or work practice standard specified in this subpart, include a statement that there were no deviations from the emission limits, operating limits, or work practice standards during the reporting period.

(ii) For each deviation from an emission limit, operating limit, and work practice standard that occurs at an affected source where you are not using a continuous monitoring system (CMS) to comply with the emission limit or work practice standard in this subpart, you must include the information in paragraphs (e)(5)(ii)(A) through (C) of this section. This includes periods of SSM.

(A) The total operating time of the affected source during the reporting period.

(B) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(C) Operating logs of processes with batch vents from batch operations for the day(s) during which the deviation occurred, except operating logs are not required for deviations of the work practice standards for equipment leaks.

(iii) For each deviation from an emission limit or operating limit occurring at an affected source where you are using a CMS to comply with an emission limit in this subpart, you must include the information in paragraphs (e)(5)(iii)(A) through (L) of this section. This includes periods of SSM.

(A) The date and time that each CMS was inoperative, except for zero (low-level) and high-level checks.

(B) The date, time, and duration that each CEMS was out-of-control, including the information in §63.8(c)(8).

(C) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(D) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total operating time of the affected source during that reporting period.

(E) A breakdown of the total duration of the deviations during the reporting period into those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

- (F) A summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent of the total operating time of the affected source during that reporting period.
- (G) An identification of each HAP that is known to be in the emission stream.
- (H) A brief description of the process units.
- (I) A brief description of the CMS.
- (J) The date of the latest CMS certification or audit.
- (K) Operating logs of processes with batch vents from batch operations for each day(s) during which the deviation occurred.
- (L) The operating day or operating block average values of monitored parameters for each day(s) during which the deviation occurred.
- (iv) If you documented in your notification of compliance status report that an MCPU has Group 2 batch process vents because the non-reactive HAP is the only HAP and usage is less than 10,000 lb/yr, the total uncontrolled organic HAP emissions from the batch process vents in an MCPU will be less than 1,000 lb/yr for the anticipated number of standard batches, or total uncontrolled hydrogen halide and halogen HAP emissions from all batch process vents and continuous process vents in a process are less than 1,000 lb/yr, include the records associated with each calculation required by §63.2525(e) that exceeds an applicable HAP usage or emissions threshold.
- (6) If you use a CEMS, and there were no periods during which it was out-of-control as specified in §63.8(c)(7), include a statement that there were no periods during which the CEMS was out-of-control during the reporting period.
- (7) Include each new operating scenario which has been operated since the time period covered by the last compliance report and has not been submitted in the notification of compliance status report or a previous compliance report. For each new operating scenario, you must provide verification that the operating conditions for any associated control or treatment device have not been exceeded and that any required calculations and engineering analyses have been performed. For the purposes of this paragraph, a revised operating scenario for an existing process is considered to be a new operating scenario.
- (8) Records of process units added to a PUG as specified in §63.2525(i)(4) and records of primary product redeterminations as specified in §63.2525(i)(5).
- (9) Applicable records and information for periodic reports as specified in referenced subparts F, G, H, SS, UU, WW, and GGG of this part and subpart F of 40 CFR Part 65.
- (10) *Notification of process change.* (i) Except as specified in paragraph (e)(10)(ii) of this section, whenever you make a process change, or change any of the information submitted in the notification of compliance status report or a previous compliance report, that is not within the scope of an existing operating scenario, you must document the change in your compliance report. A process change does not include moving within a range of conditions identified in the standard batch, and a nonstandard batch does not constitute a process change. The notification must include all of the information in paragraphs (e)(10)(i)(A) through (C) of this section.
- (A) A description of the process change.
- (B) Revisions to any of the information reported in the original notification of compliance status report under paragraph (d) of this section.
- (C) Information required by the notification of compliance status report under paragraph (d) of this section for changes involving the addition of processes or equipment at the affected source.

(ii) You must submit a report 60 days before the scheduled implementation date of any of the changes identified in paragraph (e)(10)(ii)(A), (B), or (C) of this section.

(A) Any change to the information contained in the precompliance report.

(B) A change in the status of a control device from small to large.

(C) A change from Group 2 to Group 1 for any emission point except for batch process vents that meet the conditions specified in §63.2460(b)(6)(i).

[68 FR 63888, Nov. 10, 2003, as amended at 70 FR 38560, July 1, 2005; 71 FR 40336, July 14, 2006]

§ 63.2525 What records must I keep?

You must keep the records specified in paragraphs (a) through (k) of this section.

(a) Each applicable record required by subpart A of this part 63 and in referenced subparts F, G, SS, UU, WW, and GGG of this part 63 and in referenced subpart F of 40 CFR Part 65.

(b) Records of each operating scenario as specified in paragraphs (b)(1) through (8) of this section.

(1) A description of the process and the type of process equipment used.

(2) An identification of related process vents, including their associated emissions episodes if not complying with the alternative standard in §63.2505; wastewater point of determination (POD); storage tanks; and transfer racks.

(3) The applicable control requirements of this subpart, including the level of required control, and for vents, the level of control for each vent.

(4) The control device or treatment process used, as applicable, including a description of operating and/or testing conditions for any associated control device.

(5) The process vents, wastewater POD, transfer racks, and storage tanks (including those from other processes) that are simultaneously routed to the control device or treatment process(s).

(6) The applicable monitoring requirements of this subpart and any parametric level that assures compliance for all emissions routed to the control device or treatment process.

(7) Calculations and engineering analyses required to demonstrate compliance.

(8) For reporting purposes, a change to any of these elements not previously reported, except for paragraph (b)(5) of this section, constitutes a new operating scenario.

(c) A schedule or log of operating scenarios for processes with batch vents from batch operations updated each time a different operating scenario is put into effect.

(d) The information specified in paragraphs (d)(1) and (2) of this section for Group 1 batch process vents in compliance with a percent reduction emission limit in Table 2 to this subpart if some of the vents are controlled to less the percent reduction requirement.

(1) Records of whether each batch operated was considered a standard batch.

(2) The estimated uncontrolled and controlled emissions for each batch that is considered to be a nonstandard batch.

(e) The information specified in paragraph (e)(2), (3), or (4) of this section, as applicable, for each process with Group 2 batch process vents or uncontrolled hydrogen halide and halogen HAP emissions from the sum of all batch and continuous process vents less than 1,000 lb/yr. No records are required for situations described in paragraph (e)(1) of this section.

(1) No records are required if you documented in your notification of compliance status report that the MCPU meets any of the situations described in paragraph (e)(1)(i), (ii), or (iii) of this section.

(i) The MCPU does not process, use, or generate HAP.

(ii) You control the Group 2 batch process vents using a flare that meets the requirements of §63.987.

(iii) You control the Group 2 batch process vents using a control device for which your determination of worst case for initial compliance includes the contribution of all Group 2 batch process vents.

(2) If you documented in your notification of compliance status report that an MCPU has Group 2 batch process vents because the non-reactive organic HAP is the only HAP and usage is less than 10,000 lb/yr, as specified in §63.2460(b)(7), you must keep records of the amount of HAP material used, and calculate the daily rolling annual sum of the amount used no less frequently than monthly. If a record indicates usage exceeds 10,000 lb/yr, you must estimate emissions for the preceding 12 months based on the number of batches operated and the estimated emissions for a standard batch, and you must begin recordkeeping as specified in paragraph (e)(4) of this section. After 1 year, you may revert to recording only usage if the usage during the year is less than 10,000 lb.

(3) If you documented in your notification of compliance status report that total uncontrolled organic HAP emissions from the batch process vents in an MCPU will be less than 1,000 lb/yr for the anticipated number of standard batches, then you must keep records of the number of batches operated and calculate a daily rolling annual sum of batches operated no less frequently than monthly. If the number of batches operated results in organic HAP emissions that exceed 1,000 lb/yr, you must estimate emissions for the preceding 12 months based on the number of batches operated and the estimated emissions for a standard batch, and you must begin recordkeeping as specified in paragraph (e)(4) of this section. After 1 year, you may revert to recording only the number of batches if the number of batches operated during the year results in less than 1,000 lb of organic HAP emissions.

(4) If you meet none of the conditions specified in paragraphs (e)(1) through (3) of this section, you must keep records of the information specified in paragraphs (e)(4)(i) through (iv) of this section.

(i) A record of the day each batch was completed and/or the operating hours per day for continuous operations with hydrogen halide and halogen emissions.

(ii) A record of whether each batch operated was considered a standard batch.

(iii) The estimated uncontrolled and controlled emissions for each batch that is considered to be a nonstandard batch.

(iv) Records of the daily 365-day rolling summations of emissions, or alternative records that correlate to the emissions (e.g., number of batches), calculated no less frequently than monthly.

(f) A record of each time a safety device is opened to avoid unsafe conditions in accordance with §63.2450(s).

(g) Records of the results of each CPMS calibration check and the maintenance performed, as specified in §63.2450(k)(1).

(h) For each CEMS, you must keep records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(i) For each PUG, you must keep records specified in paragraphs (i)(1) through (5) of this section.

(1) Descriptions of the MCPU and other process units in the initial PUG required by §63.2535(l)(1)(v).

(2) Rationale for including each MCPU and other process unit in the initial PUG (*i.e.*, identify the overlapping equipment between process units) required by §63.2535(l)(1)(v).

(3) Calculations used to determine the primary product for the initial PUG required by §63.2535(l)(2)(iv).

(4) Descriptions of process units added to the PUG after the creation date and rationale for including the additional process units in the PUG as required by §63.2535(l)(1)(v).

(5) The calculation of each primary product redetermination required by §63.2535(l)(2)(iv).

(j) In the SSMP required by §63.6(e)(3), you are not required to include Group 2 emission points, unless those emission points are used in an emissions average. For equipment leaks, the SSMP requirement is limited to control devices and is optional for other equipment.

(k) For each bag leak detector used to monitor PM HAP emissions from a fabric filter, maintain records of any bag leak detection alarm, including the date and time, with a brief explanation of the cause of the alarm and the corrective action taken.

[68 FR 63888, Nov. 10, 2003, as amended at 70 FR 38560, July 1, 2005; 71 FR 40337, July 14, 2006]

Other Requirements and Information

§ 63.2535 What compliance options do I have if part of my plant is subject to both this subpart and another subpart?

For any equipment, emission stream, or wastewater stream subject to the provisions of both this subpart and another rule, you may elect to comply only with the provisions as specified in paragraphs (a) through (l) of this section. You also must identify the subject equipment, emission stream, or wastewater stream, and the provisions with which you will comply, in your notification of compliance status report required by §63.2520(d).

(a) *Compliance with other subparts of this part 63.* (1) If you have an MCPU that includes a batch process vent that also is part of a CMPU as defined in subparts F and G of this part 63, you must comply with the emission limits; operating limits; work practice standards; and the compliance, monitoring, reporting, and recordkeeping requirements for batch process vents in this subpart, and you must continue to comply with the requirements in subparts F, G, and H of this part 63 that are applicable to the CMPU and associated equipment.

(2) After the compliance dates specified in §63.2445, at an offsite reloading or cleaning facility subject to §63.1253(f), as referenced from §63.2470(e), compliance with the monitoring, recordkeeping, and reporting provisions of any other subpart of this part 63 constitutes compliance with the monitoring, recordkeeping, and reporting provisions of §63.1253(f)(7)(ii) or §63.1253(f)(7)(iii). You must identify in your notification of compliance status report required by §63.2520(d) the subpart of this part 63 with which the owner or operator of the offsite reloading or cleaning facility complies.

(b) *Compliance with 40 CFR Parts 264 and 265, subparts AA, BB, and/or CC.* (1) After the compliance dates specified in §63.2445, if a control device that you use to comply with this subpart is also subject to monitoring, recordkeeping, and reporting requirements in 40 CFR Part 264, subpart AA, BB, or CC; or the monitoring and recordkeeping requirements in 40 CFR Part 265, subpart AA, BB, or CC; and you comply with the periodic reporting requirements under 40 CFR Part 264, subpart AA, BB, or CC that would apply to the device if your facility had final-permitted status, you may elect to comply either with the monitoring, recordkeeping, and reporting requirements of this subpart; or with the monitoring and recordkeeping requirements in 40 CFR Part 264 or 265 and the reporting requirements in 40 CFR Part 264, as described in

this paragraph (b)(1), which constitute compliance with the monitoring, recordkeeping, and reporting requirements of this subpart. If you elect to comply with the monitoring, recordkeeping, and reporting requirements in 40 CFR Parts 264 and/or 265, you must report the information described in §63.2520(e).

(2) After the compliance dates specified in §63.2445, if you have an affected source with equipment that is also subject to 40 CFR Part 264, subpart BB, or to 40 CFR Part 265, subpart BB, then compliance with the recordkeeping and reporting requirements of 40 CFR Parts 264 and/or 265 may be used to comply with the recordkeeping and reporting requirements of this subpart, to the extent that the requirements of 40 CFR Parts 264 and/or 265 duplicate the requirements of this subpart.

(c) *Compliance with 40 CFR Part 60, subpart Kb and 40 CFR Part 61, subpart Y.* After the compliance dates specified in §63.2445, you are in compliance with the provisions of this subpart FFFF for any storage tank that is assigned to an MCPU and that is both controlled with a floating roof and in compliance with the provisions of either 40 CFR Part 60, subpart Kb, or 40 CFR Part 61, subpart Y. You are in compliance with this subpart FFFF if you have a storage tank with a fixed roof, closed-vent system, and control device in compliance with the provisions of either 40 CFR Part 60, subpart Kb, or 40 CFR Part 61, subpart Y, except that you must comply with the monitoring, recordkeeping, and reporting requirements in this subpart FFFF. Alternatively, if a storage tank assigned to an MCPU is subject to control under 40 CFR Part 60, subpart Kb, or 40 CFR Part 61, subpart Y, you may elect to comply only with the requirements for Group 1 storage tanks in this subpart FFFF.

(d) *Compliance with subpart I, GGG, or MMM of this part 63.* After the compliance dates specified in §63.2445, if you have an affected source with equipment subject to subpart I, GGG, or MMM of this part 63, you may elect to comply with the provisions of subpart H, GGG, or MMM of this part 63, respectively, for all such equipment.

(e) *Compliance with subpart GGG of this part 63 for wastewater.* After the compliance dates specified in §63.2445, if you have an affected source subject to this subpart and you have an affected source that generates wastewater streams that meet the applicability thresholds specified in §63.1256, you may elect to comply with the provisions of this subpart FFFF for all such wastewater streams.

(f) *Compliance with subpart MMM of this part 63 for wastewater.* After the compliance dates specified in §63.2445, if you have an affected source subject to this subpart, and you have an affected source that generates wastewater streams that meet the applicability thresholds specified in §63.1362(d), you may elect to comply with the provisions of this subpart FFFF for all such wastewater streams (except that the 99 percent reduction requirement for streams subject to §63.1362(d)(10) still applies).

(g) *Compliance with other regulations for wastewater.* After the compliance dates specified in §63.2445, if you have a Group 1 wastewater stream that is also subject to provisions in 40 CFR Parts 260 through 272, you may elect to determine whether this subpart or 40 CFR Parts 260 through 272 contain the more stringent control requirements (e.g., design, operation, and inspection requirements for waste management units; numerical treatment standards; etc.) and the more stringent testing, monitoring, recordkeeping, and reporting requirements. Compliance with provisions of 40 CFR Parts 260 through 272 that are determined to be more stringent than the requirements of this subpart constitute compliance with this subpart. For example, provisions of 40 CFR Parts 260 through 272 for treatment units that meet the conditions specified in §63.138(h) constitute compliance with this subpart. You must identify in the notification of compliance status report required by §63.2520(d) the information and procedures that you used to make any stringency determinations.

(h) *Compliance with 40 CFR Part 60, subpart DDD, III, NNN, or RRR.* After the compliance dates specified in §63.2445, if you have an MCPU that contains equipment subject to the provisions of this subpart that are also subject to the provisions of 40 CFR Part 60, subpart DDD, III, NNN, or RRR, you may elect to apply this subpart to all such equipment in the MCPU. If an MCPU subject to the provisions of this subpart has equipment to which this subpart does not apply but which is subject to a standard in 40 CFR Part 60, subpart DDD, III, NNN, or RRR, you may elect to comply with the requirements for Group 1 process vents in this subpart for such equipment. If you elect any of these methods of compliance, you must consider all total organic compounds, minus methane and ethane, in such equipment for purposes of compliance with this subpart, as if they were organic HAP. Compliance with the provisions of this subpart, in the manner described in this paragraph (h), will constitute compliance with 40 CFR Part 60, subpart DDD, III, NNN, or RRR, as applicable.

(i) *Compliance with 40 CFR Part 61, subpart BB.* (1) After the compliance dates specified in §63.2445, a Group 1 transfer rack, as defined in §63.2550, that is also subject to the provisions of 40 CFR Part 61, subpart BB, you are required to comply only with the provisions of this subpart.

(2) After the compliance dates specified in §63.2445, a Group 2 transfer rack, as defined in §63.2550, that is also subject to the provisions of 40 CFR Part 61, subpart BB, is required to comply with the provisions of either paragraph (l)(2)(i) or (ii) of this section.

(i) If the transfer rack is subject to the control requirements specified in §61.302 of 40 CFR Part 61, subpart BB, then you may elect to comply with either the requirements of 40 CFR Part 61, subpart BB, or the requirements for Group 1 transfer racks under this subpart FFFF.

(ii) If the transfer rack is subject only to reporting and recordkeeping requirements under 40 CFR Part 61, subpart BB, then you are required to comply only with the reporting and recordkeeping requirements specified in this subpart for Group 2 transfer racks, and you are exempt from the reporting and recordkeeping requirements in 40 CFR Part 61, subpart BB.

(j) *Compliance with 40 CFR Part 61, subpart FF.* After the compliance date specified in §63.2445, for a Group 1 or Group 2 wastewater stream that is also subject to the provisions of 40 CFR 61.342(c) through (h), and is not exempt under 40 CFR 61.342(c)(2) or (3), you may elect to comply only with the requirements for Group 1 wastewater streams in this subpart FFFF. If a Group 2 wastewater stream is exempted from 40 CFR 61.342(c)(1) under 40 CFR 61.342(c)(2) or (3), then you are required to comply only with the reporting and recordkeeping requirements specified in this subpart for Group 2 wastewater streams, and you are exempt from the requirements in 40 CFR Part 61, subpart FF.

(k) *Compliance with 40 CFR Part 60, subpart VV, and 40 CFR Part 61, subpart V.* After the compliance date specified in §63.2445, if you have an affected source with equipment that is also subject to the requirements of 40 CFR Part 60, subpart VV, or 40 CFR Part 61, subpart V, you may elect to apply this subpart to all such equipment. After the compliance date specified in §63.2445, if you have an affected source with equipment to which this subpart does not apply, but which is subject to the requirements of 40 CFR Part 60, subpart VV, or 40 CFR Part 61, subpart V, you may elect to apply this subpart to all such equipment. If you elect either of these methods of compliance, you must consider all total organic compounds, minus methane and ethane, in such equipment for purposes of compliance with this subpart, as if they were organic HAP. Compliance with the provisions of this subpart, in the manner described in this paragraph (k), will constitute compliance with 40 CFR Part 60, subpart VV and 40 CFR Part 61, subpart V, as applicable.

(l) *Applicability of process units included in a process unit group.* You may elect to develop and comply with the requirements for PUG in accordance with paragraphs (l)(1) through (3) of this section.

(1) *Procedures to create process unit groups.* Develop and document changes in a PUG in accordance with the procedures specified in paragraphs (l)(1)(i) through (v) of this section.

(i) Initially, identify an MCPU that is created from nondedicated equipment that will operate on or after November 10, 2003 and identify all processing equipment that is part of this MCPU, based on descriptions in operating scenarios.

(ii) Add to the group any other nondedicated MCPU and other nondedicated process units expected to be operated in the 5 years after the date specified in paragraph (l)(1)(i) of this section, provided they satisfy the criteria specified in paragraphs (l)(1)(ii)(A) through (C) of this section. Also identify all of the processing equipment used for each process unit based on information from operating scenarios and other applicable documentation.

(A) Each process unit that is added to a group must have some processing equipment that is also part of one or more process units in the group.

(B) No process unit may be part of more than one PUG.

(C) The processing equipment used to satisfy the requirement of paragraph (1)(1)(ii)(A) of this section may not be a storage tank or control device.

(iii) The initial PUG consists of all of the processing equipment for the process units identified in paragraphs (1)(1)(i) and (ii) of this section. As an alternative to the procedures specified in paragraphs (1)(1)(i) and (ii) of this section, you may use a PUG that was developed in accordance with §63.1360(h) as your initial PUG.

(iv) Add process units developed in the future in accordance with the conditions specified in paragraphs (1)(1)(ii)(A) and (B) of this section.

(v) Maintain records that describe the process units in the initial PUG, the procedure used to create the PUG, and subsequent changes to each PUG as specified in §63.2525(i). Submit the records in reports as specified in §63.2520(d)(2)(ix) and (e)(8).

(2) *Determine primary product.* You must determine the primary product of each PUG created in paragraph (1)(1) of this section according to the procedures specified in paragraphs (1)(2)(i) through (iv) of this section.

(i) The primary product is the type of product (e.g., organic chemicals subject to §63.2435(b)(1), pharmaceutical products subject to §63.1250, or pesticide active ingredients subject to §63.1360) expected to be produced for the greatest operating time in the 5-year period specified in paragraph (1)(1)(ii) of this section.

(ii) If the PUG produces multiple types of products equally based on operating time, then the primary product is the type of product with the greatest production on a mass basis over the 5-year period specified in paragraph (1)(1)(ii) of this section.

(iii) At a minimum, you must redetermine the primary product of the PUG following the procedure specified in paragraphs (1)(2)(i) and (ii) of this section every 5 years.

(iv) You must record the calculation of the initial primary product determination as specified in §63.2525(i)(3) and report the results in the notification of compliance status report as specified in §63.2520(d)(8)(ix). You must record the calculation of each redetermination of the primary product as specified in §63.2525(i)(5) and report the calculation in a compliance report submitted no later than the report covering the period for the end of the 5th year after cessation of production of the previous primary product, as specified in §63.2520(e)(8).

(3) *Compliance requirements.* (i) If the primary product of the PUG is determined according to paragraph (1)(2) of this section to be material described in §63.2435(b)(1), then you must comply with this subpart for each MCPU in the PUG. You may also elect to comply with this subpart for all other process units in the PUG, which constitutes compliance with other part 63 rules.

(ii) If the primary product of the PUG is determined according to paragraph (1)(2) of this section to be material not described in §63.2435(b)(1), then you must comply with paragraph (1)(3)(ii)(A), (B), or (C) of this section, as applicable.

(A) If the primary product is subject to subpart GGG of this part 63, then comply with the requirements of subpart GGG for each MCPU in the PUG.

(B) If the primary product is subject to subpart MMM of this part 63, then comply with the requirements of subpart MMM for each MCPU in the PUG.

(C) If the primary product is subject to any subpart in this part 63 other than subpart GGG or subpart MMM, then comply with the requirements of this subpart for each MCPU in the PUG.

(iii) The requirements for new and reconstructed sources in the alternative subpart apply to all MCPU in the PUG if and only if the affected source under the alternative subpart meets the requirements for construction or reconstruction.

[68 FR 63888, Nov. 10, 2003, as amended at 71 FR 40337, July 14, 2006]

§ 63.2540 What parts of the General Provisions apply to me?

Table 12 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you.

§ 63.2545 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by us, the U.S. Environmental Protection Agency (U.S. EPA), or a delegated authority such as your State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency also has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out if this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR Part 63, subpart E, the authorities contained in paragraphs (b)(1) through (4) of this section are retained by the Administrator of U.S. EPA and are not delegated to the State, local, or tribal agency.

(1) Approval of alternatives to the non-opacity emission limits and work practice standards in §63.2450(a) under §63.6(g).

(2) Approval of major alternatives to test methods under §63.7(e)(2)(ii) and (f) and as defined in §63.90.

(3) Approval of major alternatives to monitoring under §63.8(f) and as defined in §63.90.

(4) Approval of major alternatives to recordkeeping and reporting under §63.10(f) and as defined in §63.90.

§ 63.2550 What definitions apply to this subpart?

(a) For an affected source complying with the requirements in subpart SS of this part 63, the terms used in this subpart and in subpart SS of this part 63 have the meaning given them in §63.981, except as specified in §§63.2450(k)(2) and (m), 63.2470(c)(2), 63.2475(b), and paragraph (i) of this section.

(b) For an affected source complying with the requirements in 40 CFR Part 65, subpart F, the terms used in this subpart and in 40 CFR Part 65, subpart F have the meaning given to them in §65.2.

(c) For an affected source complying with the requirements in subpart UU of this part 63, the terms used in this subpart and in subpart UU of this part 63 have the meaning given them in §63.1020.

(d) For an affected source complying with the requirements in subpart WW of this part 63, the terms used in this subpart and subpart WW of this part 63 have the meaning given them in §63.1061, except as specified in §§63.2450(m), 63.2470(c)(2), and paragraph (i) of this section.

(e) For an affected source complying with the requirements in §§63.132 through 63.149, the terms used in this subpart and §§63.132 through 63.149 have the meaning given them in §§63.101 and 63.111, except as specified in §63.2450(m) and paragraph (i) of this section.

(f) For an affected source complying with the requirements in §§63.104 and 63.105, the terms used in this subpart and in §§63.104 and 63.105 of this subpart have the meaning given them in §63.101, except as specified in §§63.2450(m), 63.2490(b), and paragraph (i) of this section.

(g) For an affected source complying with requirements in §§63.1253, 63.1257, and 63.1258, the terms used in this subpart and in §§63.1253, 63.1257, and 63.1258 have the meaning given them in §63.1251, except as specified in §63.2450(m) and paragraph (i) of this section.

(h) For an affected source complying with the requirements in 40 CFR Part 65, subpart F, the terms used in this subpart and in 40 CFR Part 65, subpart F, have the meaning given them in 40 CFR 65.2.

(i) All other terms used in this subpart are defined in the Clean Air Act (CAA), in 40 CFR 63.2, and in this paragraph (i). If a term is defined in §63.2, §63.101, §63.111, §63.981, §63.1020, §63.1061, §63.1251, or §65.2 and in this paragraph (i), the definition in this paragraph (i) applies for the purposes of this subpart.

Ancillary activities means boilers and incinerators (not used to comply with the emission limits in Tables 1 through 7 to this subpart), chillers and refrigeration systems, and other equipment and activities that are not directly involved (*i.e.*, they operate within a closed system and materials are not combined with process fluids) in the processing of raw materials or the manufacturing of a product or isolated intermediate.

Batch operation means a noncontinuous operation involving intermittent or discontinuous feed into equipment, and, in general, involves the emptying of the equipment after the operation ceases and prior to beginning a new operation. Addition of raw material and withdrawal of product do not occur simultaneously in a batch operation.

Batch process vent means a vent from a unit operation or vents from multiple unit operations within a process that are manifolded together into a common header, through which a HAP-containing gas stream is, or has the potential to be, released to the atmosphere. Examples of batch process vents include, but are not limited to, vents on condensers used for product recovery, reactors, filters, centrifuges, and process tanks. The following are not batch process vents for the purposes of this subpart:

- (1) Continuous process vents;
- (2) Bottoms receivers;
- (3) Surge control vessels;
- (4) Gaseous streams routed to a fuel gas system(s);
- (5) Vents on storage tanks, wastewater emission sources, or pieces of equipment subject to the emission limits and work practice standards in Tables 4, 6, and 7 to this subpart;
- (6) Drums, pails, and totes;
- (7) Flexible elephant trunk systems that draw ambient air (*i.e.*, the system is not ducted, piped, or otherwise connected to the unit operations) away from operators when vessels are opened; and
- (8) Emission streams from emission episodes that are undiluted and uncontrolled containing less than 50 ppmv HAP are not part of any batch process vent. A vent from a unit operation, or a vent from multiple unit operations that are manifolded together, from which total uncontrolled HAP emissions are less than 200 lb/yr is not a batch process vent; emissions for all emission episodes associated with the unit operation(s) must be included in the determination of the total mass emitted. The HAP concentration or mass emission rate may be determined using any of the following: process knowledge that no HAP are present in the emission stream; an engineering assessment as discussed in §63.1257(d)(2)(ii), except that you do not need to demonstrate that the equations in §63.1257(d)(2)(i) do not apply, and the precompliance reporting requirements specified in §63.1257(d)(2)(ii)(E) do not apply for the purposes of this demonstration; equations specified in §63.1257(d)(2)(i), as applicable; test data using Method 18 of 40 CFR Part 60, appendix A; or any other test method that has been validated according to the procedures in Method 301 of appendix A of this part.

Biofilter means an enclosed control system such as a tank or series of tanks with a fixed roof that contact emissions with a solid media (such as bark) and use microbiological activity to transform organic pollutants in a process vent stream to innocuous compounds such as carbon dioxide, water, and inorganic salts. Wastewater treatment processes such as aeration lagoons or activated sludge systems are not considered to be biofilters.

Bottoms receiver means a tank that collects bottoms from continuous distillation before the stream is sent for storage or for further downstream processing.

Construction means the onsite fabrication, erection, or installation of an affected source or MCPU. Addition of new equipment to an MCPU subject to existing source standards does not constitute construction, but it may constitute reconstruction of the affected source or MCPU if it satisfies the definition of reconstruction in §63.2.

Consumption means the quantity of all HAP raw materials entering a process in excess of the theoretical amount used as reactant, assuming 100 percent stoichiometric conversion. The raw materials include reactants, solvents, and any other additives. If a HAP is generated in the process as well as added as a raw material, consumption includes the quantity generated in the process.

Continuous operation means any operation that is not a batch operation.

Continuous process vent means the point of discharge to the atmosphere (or the point of entry into a control device, if any) of a gas stream if the gas stream has the characteristics specified in §63.107(b) through (h), or meets the criteria specified in §63.107(i), except:

- (1) The reference in §63.107(e) to a chemical manufacturing process unit that meets the criteria of §63.100(b) means an MCPU that meets the criteria of §63.2435(b);
- (2) The reference in §63.107(h)(4) to §63.113 means Table 1 to this subpart;
- (3) The references in §63.107(h)(7) to §§63.119 and 63.126 mean tables 4 and 5 to this subpart; and
- (4) For the purposes of §63.2455, all references to the characteristics of a process vent (*e.g.*, flowrate, total HAP concentration, or TRE index value) mean the characteristics of the gas stream.
- (5) The reference to “total organic HAP” in §63.107(d) means “total HAP” for the purposes of this subpart FFFF.
- (6) The references to an “air oxidation reactor, distillation unit, or reactor” in §63.107 mean any continuous operation for the purposes of this subpart.
- (7) A separate determination is required for the emissions from each MCPU, even if emission streams from two or more MCPU are combined prior to discharge to the atmosphere or to a control device.

Dedicated MCPU means an MCPU that consists of equipment that is used exclusively for one process, except that storage tanks assigned to the process according to the procedures in §63.2435(d) also may be shared by other processes.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

- (1) Fails to meet any requirement or obligation established by this subpart including, but not limited to, any emission limit, operating limit, or work practice standard; or
- (2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or
- (3) Fails to meet any emission limit, operating limit, or work practice standard in this subpart during startup, shutdown, or malfunction, regardless of whether or not such failure is permitted by this subpart.

Emission point means each continuous process vent, batch process vent, storage tank, transfer rack, and wastewater stream.

Energetics means propellants, explosives, and pyrotechnics and include materials listed at 49 CFR 172.101 as Hazard Class I Hazardous Materials, Divisions 1.1 through 1.6.

Equipment means each pump, compressor, agitator, pressure relief device, sampling connection system, open-ended valve or line, valve, connector, and instrumentation system in organic HAP service; and any control devices or systems used to comply with Table 6 to this subpart.

Excess emissions means emissions greater than those allowed by the emission limit.

Family of materials means a grouping of materials with the same basic composition or the same basic end use or functionality produced using the same basic feedstocks with essentially identical HAP emission profiles (primary constituent and relative magnitude on a pound per product basis) and manufacturing equipment configuration. Examples of families of materials include multiple grades of the same product or different variations of a product (e.g., blue, black, and red resins).

Group 1 batch process vent means each of the batch process vents in a process for which the collective uncontrolled organic HAP emissions from all of the batch process vents are greater than or equal to 10,000 lb/yr at an existing source or greater than or equal to 3,000 lb/yr at a new source.

Group 2 batch process vent means each batch process vent that does not meet the definition of Group 1 batch process vent.

Group 1 continuous process vent means a continuous process vent for which the flow rate is greater than or equal to 0.005 standard cubic meter per minute, and the total resource effectiveness index value, calculated according to §63.2455(b), is less than or equal to 1.9 at an existing source and less than or equal to 5.0 at a new source.

Group 2 continuous process vent means a continuous process vent that does not meet the definition of a Group 1 continuous process vent.

Group 1 storage tank means a storage tank with a capacity greater than or equal to 10,000 gal storing material that has a maximum true vapor pressure of total HAP greater than or equal to 6.9 kilopascals at an existing source or greater than or equal to 0.69 kilopascals at a new source.

Group 2 storage tank means a storage tank that does not meet the definition of a Group 1 storage tank.

Group 1 transfer rack means a transfer rack that loads more than 0.65 million liters/year of liquids that contain organic HAP with a rack-weighted average partial pressure, as defined in §63.111, greater than or equal to 1.5 pound per square inch absolute.

Group 2 transfer rack means a transfer rack that does not meet the definition of a Group 1 transfer rack.

Group 1 wastewater stream means a wastewater stream consisting of process wastewater at an existing or new source that meets the criteria for Group 1 status in §63.2485(c) for compounds in Tables 8 and 9 to this subpart and/or a wastewater stream consisting of process wastewater at a new source that meets the criteria for Group 1 status in §63.132(d) for compounds in Table 8 to subpart G of this part 63.

Group 2 wastewater stream means any process wastewater stream that does not meet the definition of a Group 1 wastewater stream.

Halogen atoms mean chlorine and fluorine.

Halogenated vent stream means a vent stream determined to have a mass emission rate of halogen atoms contained in organic compounds of 0.45 kilograms per hour or greater determined by the procedures presented in §63.115(d)(2)(v).

HAP metals means the metal portion of antimony compounds, arsenic compounds, beryllium compounds, cadmium compounds, chromium compounds, cobalt compounds, lead compounds, manganese compounds, mercury compounds, nickel compounds, and selenium compounds.

Hydrogen halide and halogen HAP means hydrogen chloride, hydrogen fluoride, and chlorine.

In organic HAP service means that a piece of equipment either contains or contacts a fluid (liquid or gas) that is at least 5 percent by weight of total organic HAP as determined according to the provisions of §63.180(d). The provisions of §63.180(d) also specify how to determine that a piece of equipment is not in organic HAP service.

Isolated intermediate means a product of a process that is stored before subsequent processing. An isolated intermediate is usually a product of a chemical synthesis, fermentation, or biological extraction process. Storage of an isolated intermediate marks the end of a process. Storage occurs at any time the intermediate is placed in equipment used solely for storage. The storage equipment is part of the MCPU that produces the isolated intermediate and is not assigned as specified in §63.2435(d).

Large control device means a control device that controls total HAP emissions of greater than or equal to 10 tpy, before control.

Maintenance wastewater means wastewater generated by the draining of process fluid from components in the MCPU into an individual drain system in preparation for or during maintenance activities. Maintenance wastewater can be generated during planned and unplanned shutdowns and during periods not associated with a shutdown. Examples of activities that can generate maintenance wastewater include descaling of heat exchanger tubing bundles, cleaning of distillation column traps, draining of pumps into an individual drain system, and draining of portions of the MCPU for repair. Wastewater from routine cleaning operations occurring as part of batch operations is not considered maintenance wastewater.

Maximum true vapor pressure has the meaning given in §63.111, except that it applies to all HAP rather than only organic HAP.

Miscellaneous organic chemical manufacturing process means all equipment which collectively function to produce a product or isolated intermediate that are materials described in §63.2435(b). For the purposes of this subpart, process includes any, all or a combination of reaction, recovery, separation, purification, or other activity, operation, manufacture, or treatment which are used to produce a product or isolated intermediate. A process is also defined by the following:

- (1) Routine cleaning operations conducted as part of batch operations are considered part of the process;
- (2) Each nondedicated solvent recovery operation is considered a single process;
- (3) Each nondedicated formulation operation is considered a single process that is used to formulate numerous materials and/or products;
- (4) Quality assurance/quality control laboratories are not considered part of any process; and
- (5) Ancillary activities are not considered a process or part of any process.
- (6) The end of a process that produces a solid material is either up to and including the dryer or extruder, or for a polymer production process without a dryer or extruder, it is up to and including the extruder, die plate, or solid-state reactor, except in two cases. If the dryer, extruder, die plate, or solid-state reactor is followed by an operation that is designed and operated to remove HAP solvent or residual HAP monomer from the solid, then the solvent removal operation is the last step in the process. If the dried solid is diluted or mixed with a HAP-based solvent, then the solvent removal operation is the last step in the process.

Nondedicated solvent recovery operation means a distillation unit or other purification equipment that receives used solvent from more than one MCPU.

Nonstandard batch means a batch process that is operated outside of the range of operating conditions that are documented in an existing operating scenario but is still a reasonably anticipated event. For example, a nonstandard batch occurs when additional processing or processing at different operating conditions must be conducted to produce a product that is normally produced under the conditions described by the standard batch. A nonstandard batch may be necessary as a result of a malfunction, but it is not itself a malfunction.

On-site or on site means, with respect to records required to be maintained by this subpart or required by another subpart referenced by this subpart, that records are stored at a location within a major source which encompasses the affected source. On-site includes, but is not limited to, storage at the affected source or MCPU to which the records pertain, or storage in central files elsewhere at the major source.

Operating scenario means, for the purposes of reporting and recordkeeping, any specific operation of an MCPU as described by records specified in §63.2525(b).

Organic group means structures that contain primarily carbon, hydrogen, and oxygen atoms.

Organic peroxides means organic compounds containing the bivalent -o-o-structure which may be considered to be a structural derivative of hydrogen peroxide where one or both of the hydrogen atoms has been replaced by an organic radical.

Point of determination means each point where process wastewater exits the MCPU or control device.

Note to definition for point of determination: The regulation allows determination of the characteristics of a wastewater stream: At the point of determination; or downstream of the point of determination if corrections are made for changes in flow rate and annual average concentration of soluble HAP and partially soluble HAP compounds as determined according to procedures in §63.144 of subpart G in this part 63. Such changes include losses by air emissions; reduction of annual average concentration or changes in flow rate by mixing with other water or wastewater streams; and reduction in flow rate or annual average concentration by treating or otherwise handling the wastewater stream to remove or destroy HAP.

Predominant HAP means as used in calibrating an analyzer, the single organic HAP that constitutes the largest percentage of the total organic HAP in the analyzed gas stream, by volume.

Process condenser means a condenser whose primary purpose is to recover material as an integral part of an MCPU. All condensers recovering condensate from an MCPU at or above the boiling point or all condensers in line prior to a vacuum source are considered process condensers. Typically, a primary condenser or condensers in series are considered to be integral to the MCPU if they are capable of and normally used for the purpose of recovering chemicals for fuel value (i.e., net positive heating value), use, reuse or for sale for fuel value, use, or reuse. This definition does not apply to a condenser that is used to remove materials that would hinder performance of a downstream recovery device as follows:

- (1) To remove water vapor that would cause icing in a downstream condenser, or
- (2) To remove water vapor that would negatively affect the adsorption capacity of carbon in a downstream carbon adsorber, or
- (3) To remove high molecular weight organic compounds or other organic compounds that would be difficult to remove during regeneration of a downstream carbon adsorber.

Process tank means a tank or vessel that is used within a process to collect material discharged from a feedstock storage tank or equipment within the process before the material is transferred to other equipment within the process or a product storage tank. A process tank has emissions that are related to the characteristics of the batch cycle, and it does not accumulate product over multiple batches. Surge control vessels and bottoms receivers are not process tanks.

Production-indexed HAP consumption factor (HAP factor) means the result of dividing the annual consumption of total HAP by the annual production rate, per process.

Production-indexed VOC consumption factor (VOC factor) means the result of dividing the annual consumption of total VOC by the annual production rate, per process.

Quaternary ammonium compounds means a type of organic nitrogen compound in which the molecular structure includes a central nitrogen atom joined to four organic groups as well as an acid radical of some sort.

Recovery device means an individual unit of equipment used for the purpose of recovering chemicals from process vent streams and from wastewater streams for fuel value (i.e., net positive heating value), use, reuse, or for sale for fuel value, use, or reuse. For the purposes of meeting requirements in table 2 to this subpart, the recovery device must not be a process condenser and must recover chemicals to be reused in a process on site. Examples of equipment that may be recovery devices include absorbers, carbon adsorbers, condensers, oil-water separators or organic-water separators, or organic removal devices such as decanters, strippers, or thin-film evaporation units. To be a recovery device for a wastewater stream, a decanter and any other equipment based on the operating principle of gravity separation must receive only multi-phase liquid streams.

Responsible official means responsible official as defined in 40 CFR 70.2.

Safety device means a closure device such as a pressure relief valve, frangible disc, fusible plug, or any other type of device which functions exclusively to prevent physical damage or permanent deformation to a unit or its air emission control equipment by venting gases or vapors directly to the atmosphere during unsafe conditions resulting from an unplanned, accidental, or emergency event. For the purposes of this subpart, a safety device is not used for routine venting of gases or vapors from the vapor headspace underneath a cover such as during filling of the unit or to adjust the pressure in response to normal daily diurnal ambient temperature fluctuations. A safety device is designed to remain in a closed position during normal operations and open only when the internal pressure, or another relevant parameter, exceeds the device threshold setting applicable to the air emission control equipment as determined by the owner or operator based on manufacturer recommendations, applicable regulations, fire protection and prevention codes and practices, or other requirements for the safe handling of flammable, combustible, explosive, reactive, or hazardous materials.

Shutdown means the cessation of operation of a continuous operation for any purpose. Shutdown also means the cessation of a batch operation, or any related individual piece of equipment required or used to comply with this subpart, if the steps taken to cease operation differ from those described in a standard batch or nonstandard batch. Shutdown also applies to emptying and degassing storage vessels. Shutdown does not apply to cessation of batch operations at the end of a campaign or between batches within a campaign when the steps taken are routine operations.

Small control device means a control device that controls total HAP emissions of less than 10 tpy, before control.

Standard batch means a batch process operated within a range of operating conditions that are documented in an operating scenario. Emissions from a standard batch are based on the operating conditions that result in highest emissions. The standard batch defines the uncontrolled and controlled emissions for each emission episode defined under the operating scenario.

Startup means the setting in operation of a continuous operation for any purpose; the first time a new or reconstructed batch operation begins production; for new equipment added, including equipment required or used to comply with this subpart, the first time the equipment is put into operation; or for the introduction of a new product/process, the first time the product or process is run in equipment. For batch operations, startup applies to the first time the equipment is put into operation at the start of a campaign to produce a product that has been produced in the past if the steps taken to begin production differ from those specified in a standard batch or nonstandard batch. Startup does not apply when the equipment is put into operation as part of a batch within a campaign when the steps taken are routine operations.

Storage tank means a tank or other vessel that is used to store liquids that contain organic HAP and/or hydrogen halide and halogen HAP and that has been assigned to an MCPU according to the procedures in §63.2435(d). The following are not considered storage tanks for the purposes of this subpart:

- (1) Vessels permanently attached to motor vehicles such as trucks, railcars, barges, or ships;
- (2) Pressure vessels designed to operate in excess of 204.9 kilopascals and without emissions to the atmosphere;
- (3) Vessels storing organic liquids that contain HAP only as impurities;
- (4) Wastewater storage tanks;
- (5) Bottoms receivers;
- (6) Surge control vessels; and
- (7) Process tanks.

Supplemental gases means the air that is added to a vent stream after the vent stream leaves the unit operation. Air that is part of the vent stream as a result of the nature of the unit operation is not considered supplemental gases. Air required to operate combustion device burner(s) is not considered supplemental gases.

Surge control vessel means feed drums, recycle drums, and intermediate vessels as part of any continuous operation. Surge control vessels are used within an MCPU when in-process storage, mixing, or management of flowrates or volumes is needed to introduce material into continuous operations.

Total organic compounds or (TOC) means the total gaseous organic compounds (minus methane and ethane) in a vent stream.

Transfer rack means the collection of loading arms and loading hoses, at a single loading rack, that are assigned to an MCPU according to the procedures specified in §63.2435(d) and are used to fill tank trucks and/or rail cars with organic liquids that contain one or more of the organic HAP listed in section 112(b) of the CAA of this subpart. Transfer rack includes the associated pumps, meters, shutoff valves, relief valves, and other piping and valves.

Unit operation means those processing steps that occur within distinct equipment that are used, among other things, to prepare reactants, facilitate reactions, separate and purify products, and recycle materials. Equipment used for these purposes includes, but is not limited to, reactors, distillation columns, extraction columns, absorbers, decanters, dryers, condensers, and filtration equipment.

Waste management unit means the equipment, structure(s), and/or device(s) used to convey, store, treat, or dispose of wastewater streams or residuals. Examples of waste management units include wastewater tanks, air flotation units, surface impoundments, containers, oil-water or organic-water separators, individual drain systems, biological wastewater treatment units, waste incinerators, and organic removal devices such as steam and air stripper units, and thin film evaporation units. If such equipment is being operated as a recovery device, then it is part of a miscellaneous organic chemical manufacturing process and is not a waste management unit.

Wastewater means water that is discarded from an MCPU or control device through a POD and that contains either: an annual average concentration of compounds in tables 8 and 9 to this subpart of at least 5 ppmw and has an annual average flowrate of 0.02 liters per minute or greater; or an annual average concentration of compounds in tables 8 and 9 to this subpart of at least 10,000 ppmw at any flowrate. Wastewater means process wastewater or maintenance wastewater. The following are not considered wastewater for the purposes of this subpart:

- (1) Stormwater from segregated sewers;
- (2) Water from fire-fighting and deluge systems, including testing of such systems;

- (3) Spills;
- (4) Water from safety showers;
- (5) Samples of a size not greater than reasonably necessary for the method of analysis that is used;
- (6) Equipment leaks;
- (7) Wastewater drips from procedures such as disconnecting hoses after cleaning lines; and
- (8) Noncontact cooling water.

Wastewater stream means a stream that contains only wastewater as defined in this paragraph (i).

Work practice standard means any design, equipment, work practice, or operational standard, or combination thereof, that is promulgated pursuant to section 112(h) of the CAA.

[68 FR 63888, Nov. 10, 2003, as amended at 70 FR 38560, July 1, 2005; 71 FR 40338, July 14, 2006]

Table 1 to Subpart FFFF of Part 63—Emission Limits and Work Practice Standards for Continuous Process Vents

As required in §63.2455, you must meet each emission limit and work practice standard in the following table that applies to your continuous process vents:

For each . . .	For which . . .	Then you must . . .
1. Group 1 continuous process vent	a. Not applicable	i. Reduce emissions of total organic HAP by ≥ 98 percent by weight or to an outlet process concentration ≤ 20 ppmv as organic HAP or TOC by venting emissions through a closed-vent system to any combination of control devices (except a flare); or
		ii. Reduce emissions of total organic HAP by venting emissions through a closed vent system to a flare; or
		iii. Use a recovery device to maintain the TRE above 1.9 for an existing source or above 5.0 for a new source.
2. Halogenated Group 1 continuous process vent stream	a. You use a combustion control device to control organic HAP emissions	i. Use a halogen reduction device after the combustion device to reduce emissions of hydrogen halide and halogen HAP by ≥ 99 percent by weight, or to ≤ 0.45 kg/hr, or to ≤ 20 ppmv; or ii. Use a halogen reduction device before the combustion device to reduce the halogen atom mass emission rate to ≤ 0.45 kg/hr or to a concentration ≤ 20 ppmv.
3. Group 2 continuous process vent at an existing source	You use a recovery device to maintain the TRE level > 1.9 but ≤ 5.0	Comply with the requirements in §63.993 and the requirements referenced therein.

For each . . .	For which . . .	Then you must . . .
4. Group 2 continuous process vent at a new source	You use a recovery device to maintain the TRE level >5.0 but ≤8.0	Comply with the requirements in §63.993 and the requirements referenced therein.

Table 2 to Subpart FFFF of Part 63—Emission Limits and Work Practice Standards for Batch Process Vents

As required in §63.2460, you must meet each emission limit and work practice standard in the following table that applies to your batch process vents:

For each . . .	Then you must . . .	And you must . . .
1. Process with Group 1 batch process vents	a. Reduce collective uncontrolled organic HAP emissions from the sum of all batch process vents within the process by ≥98 percent by weight by venting emissions from a sufficient number of the vents through one or more closed-vent systems to any combination of control devices (except a flare); or	Not applicable.
	b. Reduce collective uncontrolled organic HAP emissions from the sum of all batch process vents within the process by ≥95 percent by weight by venting emissions from a sufficient number of the vents through one or more closed-vent systems to any combination of recovery devices or a biofilter, except you may elect to comply with the requirements of subpart WW of this part for any process tank; or	Not applicable.
	c. Reduce uncontrolled organic HAP emissions from one or more batch process vents within the process by venting through a closed-vent system to a flare or by venting through one or more closed-vent systems to any combination of control devices (excluding a flare) that reduce organic HAP to an outlet concentration ≤20 ppmv as TOC or total organic HAP.	For all other batch process vents within the process, reduce collective organic HAP emissions as specified in item 1.a and/or item 1.b of this table.

For each . . .	Then you must . . .	And you must . . .
2. Halogenated Group 1 batch process vent for which you use a combustion device to control organic HAP emissions	a. Use a halogen reduction device after the combustion control device; or	i. Reduce overall emissions of hydrogen halide and halogen HAP by ≥ 99 percent; or ii. Reduce overall emissions of hydrogen halide and halogen HAP to ≤ 0.45 kg/hr; or iii. Reduce overall emissions of hydrogen halide and halogen HAP to a concentration ≤ 20 ppmv.
	b. Use a halogen reduction device before the combustion control device	Reduce the halogen atom mass emission rate to ≤ 0.45 kg/hr or to a concentration ≤ 20 ppmv.

[68 FR 63888, Nov. 10, 2003, as amended at 71 FR 40339, July 14, 2006]

Table 3 to Subpart FFFF of Part 63—Emission Limits for Hydrogen Halide and Halogen HAP Emissions or HAP Metals Emissions From Process Vents

As required in §63.2465, you must meet each emission limit in the following table that applies to your process vents that contain hydrogen halide and halogen HAP emissions or PM HAP emissions:

For each . . .	You must . . .
1. Process with uncontrolled hydrogen halide and halogen HAP emissions from process vents $\geq 1,000$ lb/yr	a. Reduce collective hydrogen halide and halogen HAP emissions by ≥ 99 percent by weight or to an outlet concentration ≤ 20 ppmv by venting through one or more closed-vent systems to any combination of control devices, or
	b. Reduce the halogen atom mass emission rate from the sum of all batch process vents and each individual continuous process vent to ≤ 0.45 kg/hr by venting through one or more closed-vent systems to a halogen reduction device.
2. Process at a new source with uncontrolled emissions from process vents ≥ 150 lb/yr of HAP metals	Reduce overall emissions of HAP metals by ≥ 97 percent by weight.

[68 FR 63888, Nov. 10, 2003, as amended at 71 FR 40340, July 14, 2006]

Table 4 to Subpart FFFF of Part 63—Emission Limits for Storage Tanks

As required in §63.2470, you must meet each emission limit in the following table that applies to your storage tanks:

For each . . .	For which . . .	Then you must . . .
1. Group 1 storage tank	a. The maximum true vapor pressure of total HAP at the storage temperature is ≥ 76.6 kilopascals	i. Reduce total HAP emissions by ≥ 95 percent by weight or to ≤ 20 ppmv of TOC or organic HAP and ≤ 20 ppmv of hydrogen halide and halogen HAP by venting emissions through a closed vent system to any combination of control devices (excluding a flare); or
		ii. Reduce total organic HAP emissions by venting emissions through a closed vent system to a flare; or
		iii. Reduce total HAP emissions by venting emissions to a fuel gas system or process in accordance with §63.982(d) and the requirements referenced therein.
	b. The maximum true vapor pressure of total HAP at the storage temperature is < 76.6 kilopascals	i. Comply with the requirements of subpart WW of this part, except as specified in §63.2470; or
		ii. Reduce total HAP emissions by ≥ 95 percent by weight or to ≤ 20 ppmv of TOC or organic HAP and ≤ 20 ppmv of hydrogen halide and halogen HAP by venting emissions through a closed vent system to any combination of control devices (excluding a flare); or
		iii. Reduce total organic HAP emissions by venting emissions through a closed vent system to a flare; or
		iv. Reduce total HAP emissions by venting emissions to a fuel gas system or process in accordance with §63.982(d) and the requirements referenced therein.
2. Halogenated vent stream from a Group 1 storage tank	You use a combustion control device to control organic HAP emissions	Meet one of the emission limit options specified in Item 2.a.i or ii. in Table 1 to this subpart.

[68 FR 63888, Nov. 10, 2003, as amended at 71 FR 40340, July 14, 2006]

Table 5 to Subpart FFFF of Part 63—Emission Limits and Work Practice Standards for Transfer Racks

As required in §63.2475, you must meet each emission limit and work practice standard in the following table that applies to your transfer racks:

For each . . .	You must . . .
1. Group 1 transfer rack	a. Reduce emissions of total organic HAP by ≥ 98 percent by weight or to an outlet concentration ≤ 20 ppmv as organic HAP or TOC by venting emissions through a closed-vent system to any combination of control devices (except a flare); or
	b. Reduce emissions of total organic HAP by venting emissions through a closed-vent system to a flare; or
	c. Reduce emissions of total organic HAP by venting emissions to a fuel gas system or process in accordance with §63.982(d) and the requirements referenced therein; or
	d. Use a vapor balancing system designed and operated to collect organic HAP vapors displaced from tank trucks and railcars during loading and route the collected HAP vapors to the storage tank from which the liquid being loaded originated or to another storage tank connected by a common header.
2. Halogenated Group 1 transfer rack vent stream for which you use a combustion device to control organic HAP emissions	a. Use a halogen reduction device after the combustion device to reduce emissions of hydrogen halide and halogen HAP by ≥ 99 percent by weight, to ≤ 0.45 kg/hr, or to ≤ 20 ppmv; or b. Use a halogen reduction device before the combustion device to reduce the halogen atom mass emission rate to ≤ 0.45 kg/hr or to a concentration ≤ 20 ppmv.

[68 FR 63888, Nov. 10, 2003, as amended at 71 FR 40341, July 14, 2006]

Table 6 to Subpart FFFF of Part 63—Requirements for Equipment Leaks

As required in §63.2480, you must meet each requirement in the following table that applies to your equipment leaks:

For all . . .	And that is part of . . .	You must . . .
1. Equipment that is in organic HAP service	a. Comply with the requirements of subpart UU of this part 63 and the requirements referenced therein, except as specified in §63.2480(b) and (d); or	
	b. Comply with the requirements of subpart H of this part 63 and the requirements referenced therein, except as specified in §63.2480(b) and (d); or	

For all . . .	And that is part of . . .	You must . . .
	c. Comply with the requirements of 40 CFR Part 65, subpart F and the requirements referenced therein, except as specified in §63.2480(c) and (d).	
2. Equipment that is in organic HAP service at a new source	a. Any MCPU	i. Comply with the requirements of subpart UU of this part 63 and the requirements referenced therein; or ii. Comply with the requirements of 40 CFR Part 65, subpart F.

[68 FR 63888, Nov. 10, 2003, as amended at 71 FR 40341, July 14, 2006]

Table 7 to Subpart FFFF of Part 63—Requirements for Wastewater Streams and Liquid Streams in Open Systems Within an MCPU

As required in §63.2485, you must meet each requirement in the following table that applies to your wastewater streams and liquid streams in open systems within an MCPU:

For each . . .	You must . . .
1. Process wastewater stream	Comply with the requirements in §§63.132 through 63.148 and the requirements referenced therein, except as specified in §63.2485.
2. Maintenance wastewater stream	Comply with the requirements in §63.105 and the requirements referenced therein, except as specified in §63.2485.
3. Liquid streams in an open system within an MCPU	Comply with the requirements in §63.149 and the requirements referenced therein, except as specified in §63.2485.

Table 8 to Subpart FFFF of Part 63—Partially Soluble Hazardous Air Pollutants

As specified in §63.2485, the partially soluble HAP in wastewater that are subject to management and treatment requirements in this subpart FFFF are listed in the following table:

Chemical name . . .	CAS No.
1. 1,1,1–Trichloroethane (methyl chloroform)	71556
2. 1,1,2,2–Tetrachloroethane	79345
3. 1,1,2–Trichloroethane	79005
4. 1,1–Dichloroethylene (vinylidene chloride)	75354
5. 1,2–Dibromoethane	106934
6. 1,2–Dichloroethane (ethylene dichloride)	107062
7. 1,2–Dichloropropane	78875

Chemical name . . .	CAS No.
8. 1,3-Dichloropropene	542756
9. 2,4,5-Trichlorophenol	95954
10. 1,4-Dichlorobenzene	106467
11. 2-Nitropropane	79469
12. 4-Methyl-2-pentanone (MIBK)	108101
13. Acetaldehyde	75070
14. Acrolein	107028
15. Acrylonitrile	107131
16. Allyl chloride	107051
17. Benzene	71432
18. Benzyl chloride	100447
19. Biphenyl	92524
20. Bromoform (tribromomethane)	75252
21. Bromomethane	74839
22. Butadiene	106990
23. Carbon disulfide	75150
24. Chlorobenzene	108907
25. Chloroethane (ethyl chloride)	75003
26. Chloroform	67663
27. Chloromethane	74873
28. Chloroprene	126998
29. Cumene	98828
30. Dichloroethyl ether	111444
31. Dinitrophenol	51285
32. Epichlorohydrin	106898
33. Ethyl acrylate	140885
34. Ethylbenzene	100414
35. Ethylene oxide	75218
36. Ethylidene dichloride	75343

Chemical name . . .	CAS No.
37. Hexachlorobenzene	118741
38. Hexachlorobutadiene	87683
39. Hexachloroethane	67721
40. Methyl methacrylate	80626
41. Methyl-t-butyl ether	1634044
42. Methylene chloride	75092
43. N-hexane	110543
44. N,N-dimethylaniline	121697
45. Naphthalene	91203
46. Phosgene	75445
47. Propionaldehyde	123386
48. Propylene oxide	75569
49. Styrene	100425
50. Tetrachloroethylene (perchloroethylene)	127184
51. Tetrachloromethane (carbon tetrachloride)	56235
52. Toluene	108883
53. Trichlorobenzene (1,2,4-)	120821
54. Trichloroethylene	79016
55. Trimethylpentane	540841
56. Vinyl acetate	108054
57. Vinyl chloride	75014
58. Xylene (m)	108383
59. Xylene (o)	95476
60. Xylene (p)	106423

Table 9 to Subpart FFFF of Part 63—Soluble Hazardous Air Pollutants

As specified in §63.2485, the soluble HAP in wastewater that are subject to management and treatment requirements of this subpart FFFF are listed in the following table:

Chemical name . . .	CAS No.
1. Acetonitrile	75058
2. Acetophenone	98862
3. Diethyl sulfate	64675
4. Dimethyl hydrazine (1,1)	57147
5. Dimethyl sulfate	77781
6. Dinitrotoluene (2,4)	121142
7. Dioxane (1,4)	123911
8. Ethylene glycol dimethyl ether	110714
9. Ethylene glycol monobutyl ether acetate	112072
10. Ethylene glycol monomethyl ether acetate	110496
11. Isophorone	78591
12. Methanol	67561
13. Nitrobenzene	98953
14. Tolidine (o-)	95534
15. Triethylamine	121448

[68 FR 63888, Nov. 10, 2003, as amended at 70 FR 38561, July 1, 2005]

Table 10 to Subpart FFFF of Part 63—Work Practice Standards for Heat Exchange Systems

As required in §63.2490, you must meet each requirement in the following table that applies to your heat exchange systems:

For each . . .	You must . . .
Heat exchange system, as defined in §63.101	Comply with the requirements of §63.104 and the requirements referenced therein, except as specified in §63.2490.

Table 11 to Subpart FFFF of Part 63—Requirements for Reports

As required in §63.2520(a) and (b), you must submit each report that applies to you on the schedule shown in the following table:

You must submit a(n)	The report must contain . . .	You must submit the report . . .
1. Precompliance report	The information specified in §63.2520(c)	At least 6 months prior to the compliance date; or for new sources, with the application for approval of construction or reconstruction.
2. Notification of compliance status report	The information specified in §63.2520(d)	No later than 150 days after the compliance date specified in §63.2445.
3. Compliance report	The information specified in §63.2520(e)	Semiannually according to the requirements in §63.2520(b).

Table 12 to Subpart FFFF of Part 63—Applicability of General Provisions to Subpart FFFF

As specified in §63.2540, the parts of the General Provisions that apply to you are shown in the following table:

Citation	Subject	Explanation
§63.1	Applicability	Yes.
§63.2	Definitions	Yes.
§63.3	Units and Abbreviations	Yes.
§63.4	Prohibited Activities	Yes.
§63.5	Construction/Reconstruction	Yes.
§63.6(a)	Applicability	Yes.
§63.6(b)(1)–(4)	Compliance Dates for New and Reconstructed sources	Yes.
§63.6(b)(5)	Notification	Yes.
§63.6(b)(6)	[Reserved]	
§63.6(b)(7)	Compliance Dates for New and Reconstructed Area Sources That Become Major	Yes.
§63.6(c)(1)–(2)	Compliance Dates for Existing Sources	Yes.
§63.6(c)(3)–(4)	[Reserved]	

Citation	Subject	Explanation
§63.6(c)(5)	Compliance Dates for Existing Area Sources That Become Major	Yes
§63.6(d)	[Reserved]	
§63.6(e)(1)–(2)	Operation & Maintenance	Yes.
§63.6(e)(3)(i), (ii), and (v) through (viii)	Startup, Shutdown, Malfunction Plan (SSMP)	Yes, except information regarding Group 2 emission points and equipment leaks is not required in the SSMP, as specified in §63.2525(j).
§63.6(e)(3)(iii) and (iv)	Recordkeeping and Reporting During SSM	No, §63.998(d)(3) and 63.998(c)(1)(ii)(D) through (G) specify the recordkeeping requirement for SSM events, and §63.2520(e)(4) specifies reporting requirements.
§63.6(e)(3)(ix)	SSMP incorporation into title V permit	Yes.
§63.6(f)(1)	Compliance Except During SSM	Yes.
§63.6(f)(2)–(3)	Methods for Determining Compliance	Yes.
§63.6(g)(1)–(3)	Alternative Standard	Yes.
§63.6(h)	Opacity/Visible Emission (VE) Standards	Only for flares for which Method 22 observations are required as part of a flare compliance assessment.
§63.6(i)(1)–(14)	Compliance Extension	Yes.
§63.6(j)	Presidential Compliance Exemption	Yes.
§63.7(a)(1)–(2)	Performance Test Dates	Yes, except substitute 150 days for 180 days.
§63.7(a)(3)	Section 114 Authority	Yes, and this paragraph also applies to flare compliance assessments as specified under §63.997(b)(2).
§63.7(b)(1)	Notification of Performance Test	Yes.
§63.7(b)(2)	Notification of Rescheduling	Yes.
§63.7(c)	Quality Assurance/Test Plan	Yes, except the test plan must be submitted with the notification of the performance test if the control device controls batch process vents.
§63.7(d)	Testing Facilities	Yes.

Citation	Subject	Explanation
§63.7(e)(1)	Conditions for Conducting Performance Tests	Yes, except that performance tests for batch process vents must be conducted under worst-case conditions as specified in §63.2460.
§63.7(e)(2)	Conditions for Conducting Performance Tests	Yes.
§63.7(e)(3)	Test Run Duration	Yes.
§63.7(f)	Alternative Test Method	Yes.
§63.7(g)	Performance Test Data Analysis	Yes.
§63.7(h)	Waiver of Tests	Yes.
§63.8(a)(1)	Applicability of Monitoring Requirements	Yes.
§63.8(a)(2)	Performance Specifications	Yes.
§63.8(a)(3)	[Reserved]	
§63.8(a)(4)	Monitoring with Flares	Yes.
§63.8(b)(1)	Monitoring	Yes.
§63.8(b)(2)–(3)	Multiple Effluents and Multiple Monitoring Systems	Yes.
§63.8(c)(1)	Monitoring System Operation and Maintenance	Yes.
§63.8(c)(1)(i)	Routine and Predictable SSM	Yes.
§63.8(c)(1)(ii)	SSM not in SSMP	Yes.
§63.8(c)(1)(iii)	Compliance with Operation and Maintenance Requirements	Yes.
§63.8(c)(2)–(3)	Monitoring System Installation	Yes.
§63.8(c)(4)	CMS Requirements	Only for CEMS. Requirements for CPMS are specified in referenced subparts G and SS of part 63. Requirements for COMS do not apply because subpart FFFF does not require continuous opacity monitoring systems (COMS).
§63.8(c)(4)(i)	COMS Measurement and Recording Frequency	No; subpart FFFF does not require COMS.
§63.8(c)(4)(ii)	CEMS Measurement and Recording Frequency	Yes.

Citation	Subject	Explanation
§63.8(c)(5)	COMS Minimum Procedures	No. Subpart FFFF does not contain opacity or VE limits.
§63.8(c)(6)	CMS Requirements	Only for CEMS; requirements for CPMS are specified in referenced subparts G and SS of this part 63. Requirements for COMS do not apply because subpart FFFF does not require COMS.
§63.8(c)(7)–(8)	CMS Requirements	Only for CEMS. Requirements for CPMS are specified in referenced subparts G and SS of part 63. Requirements for COMS do not apply because subpart FFFF does not require COMS.
§63.8(d)	CMS Quality Control	Only for CEMS.
§63.8(e)	CMS Performance Evaluation	Only for CEMS. Section 63.8(e)(5)(ii) does not apply because subpart FFFF does not require COMS.
§63.8(f)(1)–(5)	Alternative Monitoring Method	Yes, except you may also request approval using the precompliance report.
§63.8(f)(6)	Alternative to Relative Accuracy Test	Only applicable when using CEMS to demonstrate compliance, including the alternative standard in §63.2505.
§63.8(g)(1)–(4)	Data Reduction	Only when using CEMS, including for the alternative standard in §63.2505, except that the requirements for COMS do not apply because subpart FFFF has no opacity or VE limits, and §63.8(g)(2) does not apply because data reduction requirements for CEMS are specified in §63.2450(j).
§63.8(g)(5)	Data Reduction	No. Requirements for CEMS are specified in §63.2450(j). Requirements for CPMS are specified in referenced subparts G and SS of this part 63.
§63.9(a)	Notification Requirements	Yes.
§63.9(b)(1)–(5)	Initial Notifications	Yes.
§63.9(c)	Request for Compliance Extension	Yes.
§63.9(d)	Notification of Special Compliance Requirements for New Source	Yes.

Citation	Subject	Explanation
§63.9(e)	Notification of Performance Test	Yes.
§63.9(f)	Notification of VE/Opacity Test	No. Subpart FFFF does not contain opacity or VE limits.
§63.9(g)	Additional Notifications When Using CMS	Only for CEMS. Section 63.9(g)(2) does not apply because subpart FFFF does not require COMS.
63.9(h)(1)–(6)	Notification of Compliance Status	Yes, except subpart FFFF has no opacity or VE limits, and 63.9(h)(2)(i)(A) through (G) and (ii) do not apply because 63.2520(d) specifies the required contents and due date of the notification of compliance status report.
§63.9(i)	Adjustment of Submittal Deadlines	Yes.
§63.9(j)	Change in Previous Information	No, §63.2520(e) specifies reporting requirements for process changes.
§63.10(a)	Recordkeeping/Reporting	Yes.
§63.10(b)(1)	Recordkeeping/Reporting	Yes.
§63.10(b)(2)(i)–(ii), (iv), (v)	Records related to SSM	No, §§63.998(d)(3) and 63.998(c)(1)(ii)(D) through (G) specify recordkeeping requirements for periods of SSM.
§63.10(b)(2)(iii)	Records related to maintenance of air pollution control equipment	Yes.
§63.10(b)(2)(vi), (x), and (xi)	CMS Records	Only for CEMS; requirements for CPMS are specified in referenced subparts G and SS of this part 63.
§63.10(b)(2)(vii)–(ix)	Records	Yes.
§63.10(b)(2)(xii)	Records	Yes.
§63.10(b)(2)(xiii)	Records	Only for CEMS.
§63.10(b)(2)(xiv)	Records	Yes.
§63.10(b)(3)	Records	Yes.
§63.10(c)(1)–(6), (9)–(15)	Records	Only for CEMS. Recordkeeping requirements for CPMS are specified in referenced subparts G and SS of this part 63.
§63.10(c)(7)–(8)	Records	No. Recordkeeping requirements are specified in §63.2525.

Citation	Subject	Explanation
§63.10(d)(1)	General Reporting Requirements	Yes.
§63.10(d)(2)	Report of Performance Test Results	Yes.
§63.10(d)(3)	Reporting Opacity or VE Observations	No. Subpart FFFF does not contain opacity or VE limits.
§63.10(d)(4)	Progress Reports	Yes.
§63.10(d)(5)(i)	Periodic Startup, Shutdown, and Malfunction Reports	No, §63.2520(e)(4) and (5) specify the SSM reporting requirements.
§63.10(d)(5)(ii)	Immediate SSM Reports	No.
§63.10(e)(1)	Additional CEMS Reports	Yes.
§63.10(e)(2)(i)	Additional CMS Reports	Only for CEMS.
§63.10(e)(2)(ii)	Additional COMS Reports	No. Subpart FFFF does not require COMS.
§63.10(e)(3)	Reports	No. Reporting requirements are specified in §63.2520.
§63.10(e)(3)(i)–(iii)	Reports	No. Reporting requirements are specified in §63.2520.
§63.10(e)(3)(iv)–(v)	Excess Emissions Reports	No. Reporting requirements are specified in §63.2520.
§63.10(e)(3)(iv)–(v)	Excess Emissions Reports	No. Reporting requirements are specified in §63.2520.
§63.10(e)(3)(vi)–(viii)	Excess Emissions Report and Summary Report	No. Reporting requirements are specified in §63.2520.
§63.10(e)(4)	Reporting COMS data	No. Subpart FFFF does not contain opacity or VE limits.
§63.10(f)	Waiver for Recordkeeping/Reporting	Yes.
§63.11	Control device requirements for flares and work practice requirements for equipment leaks	Yes.
§63.12	Delegation	Yes.
§63.13	Addresses	Yes.
§63.14	Incorporation by Reference	Yes.
§63.15	Availability of Information	Yes.

[68 FR 63888, Nov. 10, 2003, as amended at 70 FR 38561, July 1, 2005; 71 FR 20463, Apr. 20, 2006; 71 FR 40341, July 14, 2006; 73 FR 72816, Dec. 22, 2008]

Title 40: Protection of Environment

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

Subpart GGG—National Emission Standards for Pharmaceuticals Production

Source: 63 FR 50326, Sept. 21, 1998, unless otherwise noted.

§ 63.1250 Applicability.

(a) *Definition of affected source.* (1) The affected source subject to this subpart consists of the pharmaceutical manufacturing operations as defined in §63.1251. Except as specified in paragraph (d) of this section, the provisions of this subpart apply to pharmaceutical manufacturing operations that meet the criteria specified in paragraphs (a)(1) (i) through (iii) of this section:

- (i) Manufacture a pharmaceutical product as defined in §63.1251;
- (ii) Are located at a plant site that is a major source as defined in section 112(a) of the Act; and
- (iii) Process, use, or produce HAP.

(2) Determination of the applicability of this subpart shall be reported as part of an operating permit application or as otherwise specified by the permitting authority.

(b) *New source applicability.* A new affected source subject to this subpart and to which the requirements for new sources apply is: An affected source for which construction or reconstruction commenced after April 2, 1997, and the standard was applicable at the time of construction or reconstruction; or a pharmaceutical manufacturing process unit (PMPU) dedicated to manufacturing a single product that has the potential to emit 10 tons per year of any one HAP or 25 tons per year of combined HAP for which construction commenced after April 2, 1997 or reconstruction commenced after October 21, 1999.

(c) *General provisions.* Table 1 of this subpart specifies and clarifies the provisions of subpart A of this part that apply to an owner or operator of an affected source subject to this subpart. The provisions of subpart A specified in Table 1 are the only provisions of subpart A that apply to an affected source subject to this subpart.

(d) *Processes exempted from the affected source.* The provisions of this subpart do not apply to research and development facilities.

(e) *Storage tank ownership determination.* The owner or operator shall follow the procedures specified in paragraphs (e)(1) through (5) of this section to determine to which PMPU a storage tank shall belong. If an owner or operator produces only pharmaceutical products, the procedures specified in paragraphs (e)(1) through (5) of this section are required only to determine applicability and demonstrate compliance with the pollution-prevention alternative specified in §63.1252(e), or to determine new source applicability for a PMPU dedicated to manufacturing a single product as specified in paragraph (b) of this section.

(1) If a storage tank is dedicated to a single PMPU, the storage tank shall belong to that PMPU.

(2) If a storage tank is shared among process units (including at least one PMPU), then the storage tank shall belong to the process unit located on the same plant site as the storage tank that has the greatest annual volume input into or output from the storage tank (i.e., said PMPU or process unit has the predominant use of the storage tank).

(3) If predominant use cannot be determined for a storage tank that is shared among process units (including at least one PMPU), then the owner or operator shall assign the storage tank to any one of the PMPU's that shares it and is also subject to this subpart.

(4) If the predominant use of a storage tank varies from year to year, then predominant use shall be determined based on the utilization that occurred during the year preceding September 21, 1998 for existing affected sources. For new affected sources, predominant use will be based on the first year after initial startup. The determination of predominant use shall be reported in the Notification of Compliance Status required by §63.1260(f). If the predominant use changes, the redetermination of predominant use shall be reported in the next Periodic report.

(5) If the storage tank begins receiving material from (or sending material to) another PMPU, or ceases to receive material from (or send material to) a PMPU, or if the applicability of this subpart to a storage tank has been determined according to the provisions of paragraphs (e)(1) through (4) of this section and there is a significant change in the use of the storage tank that could reasonably change the predominant use, the owner or operator shall reevaluate the applicability of this subpart to the storage tank and report such changes to EPA in the next Periodic report.

(f) *Compliance dates.* The compliance dates for affected sources are as follows:

(1) An owner or operator of an existing affected source must comply with the provisions of this subpart no later than October 21, 2002.

(2) An owner or operator of a new or reconstructed affected source must comply with the provisions of this subpart on August 29, 2000 or upon startup, whichever is later.

(3) Notwithstanding the requirements of paragraph (f)(2) of this section, a new source which commences construction or reconstruction after April 2, 1997 and before September 21, 1998 shall not be required to comply with this subpart until September 21, 2001 if:

(i) The requirements of this subpart are more stringent than the requirements of this subpart in effect before August 29, 2000 and contained in the 40 CFR, part (63.1200–end), edition revised as of July 1, 2000; and

(ii) The owner or operator complies with the requirements published on April 2, 1997 (62 FR 15754) during the period until September 21, 2001.

(4) Notwithstanding the requirements of paragraph (f)(2) of this section, a new source which commences construction or reconstruction after September 21, 1998 and before April 10, 2000 shall not be required to comply with this subpart until October 21, 2002 if:

(i) The requirements of this subpart are more stringent than the requirements of this subpart in effect before August 29, 2000; and

(ii) The owner or operator complies with the requirements of this subpart in effect before August 29, 2000 during the period between startup and October 21, 2002.

(5) Notwithstanding the requirements of paragraph (f)(2) of this section, a new source which commences construction or reconstruction after April 10, 2000 and before August 29, 2000 shall not be required to comply with this subpart until August 29, 2001 if:

(i) The requirements of this subpart are more stringent than the requirements published on April 10, 2000 (65 FR 19152); and

(ii) The owner or operator complies with the requirements of this subpart in effect before August 29, 2000 during the period between startup and August 29, 2001.

(6) Pursuant to section 112(i)(3)(B) of the Act, an owner or operator may request an extension allowing the existing source up to 1 additional year to comply with section 112(d) standards.

(i) For purposes of this subpart, a request for an extension shall be submitted no later than 120 days prior to the compliance dates specified in paragraphs (f) (1) through (5) of this section, except as provided in paragraph (f)(6)(ii) of this section. The dates specified in §63.6(i) for submittal of requests for extensions shall not apply to sources subject to this subpart.

(ii) An owner or operator may submit a compliance extension request after the date specified in paragraph (f)(6)(i) of this section provided the need for the compliance extension arose after that date and before the otherwise applicable compliance date, and the need arose due to circumstances beyond reasonable control of the owner or operator. This request shall include the data described in §63.6(i)(6)(i) (A), (B), (C), and (D).

(g) *Applicability of this subpart.* (1) Each provision set forth in this subpart shall apply at all times, except that the provisions set forth in §63.1255 of this subpart shall not apply during periods of nonoperation of the PMPU (or specific portion thereof) in which the lines are drained and depressurized resulting in the cessation of the emissions to which §63.1255 of this subpart applies.

(2) The owner or operator shall not shut down items of equipment that are required or utilized for compliance with the emissions limitations of this subpart during times when emissions (or, where applicable, wastewater streams or residuals) are being routed to such items of equipment, if the shutdown would contravene emissions limitations of this subpart applicable to such items of equipment. This paragraph does not apply if the owner or operator must shut down the equipment to avoid damage to a PMPU or portion thereof.

(3) At all times, each owner or operator must operate and maintain any affected source subject to the requirements of this subpart, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the owner or operator to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

(4) In response to an action to enforce the standards set forth in this subpart, an owner or operator may assert an affirmative defense to a claim for civil penalties for exceedances of such standards that are caused by a malfunction, as defined in §63.2. Appropriate penalties may be assessed, however, if owner or operator fails to meet the burden of proving all the requirements in the affirmative defense. The affirmative defense shall not be available for claims for injunctive relief.

(i) To establish the affirmative defense in any action to enforce such a limit, the owners or operators of a facility must timely meet the notification requirements of paragraph (g)(4)(ii) of this section, and must prove by a preponderance of evidence that:

(A) The excess emissions were caused by a sudden, infrequent, and unavoidable failure of air pollution control and monitoring equipment, or a process to operate in a normal and usual manner; and could not have been prevented through careful planning, proper design, or better operation and maintenance practices; and did not stem from any activity or event that could have been foreseen and avoided, or planned for; and were not part of a recurring pattern indicative of inadequate design, operation, or maintenance;

(B) Repairs were made as expeditiously as possible when the applicable emission limitations were being exceeded. Off-shift and overtime labor were used, to the extent practicable to make these repairs;

(C) The frequency, amount, and duration of the excess emissions (including any bypass) were minimized to the maximum extent practicable during periods of such emissions;

(D) If the excess emissions resulted from a bypass of control equipment or a process, then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(E) All possible steps were taken to minimize the impact of the excess emissions on ambient air quality, the environment, and human health;

(F) All emissions monitoring and control systems were kept in operation if at all possible, consistent with safety and good air pollution control practices;

(G) All of the actions in response to the excess emissions were documented by properly signed, contemporaneous operating logs;

(H) At all times, the facility was operated in a manner consistent with good practices for minimizing emissions; and

(I) The owner or operator has prepared a written root cause analysis, the purpose of which is to determine, correct, and eliminate the primary causes of the malfunction and the excess emissions resulting from the malfunction event at issue. The analysis shall also specify, using the best monitoring methods and engineering judgment, the amount of excess emissions that were the result of the malfunction.

(ii) *Notification.* The owner or operator of the facility experiencing an exceedance of its emission limit(s) during a malfunction shall notify the Administrator by telephone or facsimile (FAX) transmission as soon as possible, but no later than 2 business days after the initial occurrence of the malfunction, if it wishes to avail itself of an affirmative defense to civil penalties for that malfunction. The owner or operator seeking to assert an affirmative defense shall also submit a written report to the Administrator within 45 days of the initial occurrence of the exceedance of the standard in this subpart to demonstrate, with all necessary supporting documentation, that it has met the requirements set forth in paragraph (g)(4)(i) of this section. The owner or operator may seek an extension of this deadline for up to 30 additional days by submitting a written request to the Administrator before the expiration of the 45 day period. Until a request for an extension has been approved by the Administrator, the owner or operator is subject to the requirement to submit such report within 45 days of the initial occurrence of the exceedance.

(h) *Consistency with other regulations* —(1) *Compliance with other MACT standards.* (i) After the compliance dates specified in this section, an affected source subject to the provisions of this subpart that is also subject to the provisions of any other subpart of this part 63 may elect to comply with either the provisions of this subpart or the provisions of another applicable subpart governing the maintenance of records and reporting to EPA. The affected source shall identify in the Notification of Compliance Status report required by §63.1260(f) under which authority such records will be maintained.

(ii) After the compliance dates specified in paragraph (f) of this section, at an offsite reloading or cleaning facility subject to §63.1253(f), compliance with the emission standards and associated initial compliance, monitoring, recordkeeping, and reporting provisions of any other subpart of this part 63 constitutes compliance with the provisions of §63.1253(f)(7) (ii) or (iii). The owner or operator of the affected storage tank shall identify in the Notification of Compliance Status report required by §63.1260(f) the subpart of this part 63 with which the owner or operator of the offsite reloading or cleaning facility complies.

(2) *Consistency with 40 CFR Parts 264 and 265, subparts AA, BB, and/or CC.* (i) After the compliance dates specified in this section, if any control device subject to this subpart is also subject to monitoring, recordkeeping, and reporting requirements in 40 CFR Part 264, subpart AA, BB, or CC, or is subject to monitoring and recordkeeping requirements in 40 CFR Part 265, subpart AA, BB, or CC, and the owner or operator complies with the periodic reporting requirements under 40 CFR Part 264, subpart AA, BB, or CC that would apply to the device if the facility had final-permitted status, the owner or operator may elect to comply either with the monitoring, recordkeeping, and reporting requirements of this subpart, or with the monitoring, recordkeeping, and reporting requirements in 40 CFR Parts 264 and/or 265, as described in this paragraph, which shall

constitute compliance with the monitoring, recordkeeping, and reporting requirements of this subpart. If the owner or operator elects to comply with the monitoring, recordkeeping, and reporting requirements in 40 CFR Parts 264 and/or 265, the owner or operator shall report all information required by §63.1260(g) and (i). The owner or operator shall identify in the Notification of Compliance Status, required by §63.1260(f), the monitoring, recordkeeping, and reporting authority under which the owner or operator will comply.

(ii) After the compliance dates specified in this section, if any equipment at an affected source that is subject to §63.1255, is also subject to 40 CFR Part 264, subpart BB, or to 40 CFR Part 265, subpart BB, then compliance with the recordkeeping and reporting requirements of 40 CFR Parts 264 and/or 265 may be used to comply with the recordkeeping and reporting requirements of §63.1255, to the extent that the requirements of 40 CFR Parts 264 and/or 265 duplicate the requirements of §63.1255. The owner or operator shall identify in the Notification of Compliance Status, required by §63.1260(f), if the owner or operator will comply with the recordkeeping and reporting authority under 40 CFR Parts 264 and/or 265.

(3) *Compliance with 40 CFR 60.112(b).* After the compliance dates specified in this section, a storage tank controlled with a floating roof and in compliance with the provisions of 40 CFR 60.112b, subpart Kb, constitutes compliance with the provisions of this subpart GGG. A storage tank with a fixed roof, closed vent system, and control device in compliance with the provisions of 40 CFR 60.112b, subpart Kb must comply with the monitoring, recordkeeping, and reporting provisions of this subpart GGG. The owner or operator shall identify in the Notification of Compliance Status report required by §63.1260(f) which tanks are in compliance with subpart Kb.

(4) *Compliance with subpart I of this part.* After the compliance dates specified in this section, an affected source with equipment subject to subpart I of this part may elect to comply with either the provisions of §63.1255 or the provisions of subpart H of this part for all such equipment. The owner or operator shall identify in the Notification of Compliance Status report required by §63.1260(f) the provisions with which the owner elects to comply.

(5) *Compliance with other regulations for wastewater.* After the compliance dates specified in this section, the owner or operator of an affected wastewater stream that is also subject to provisions in 40 CFR Parts 260 through 272 may elect to determine whether this subpart or 40 CFR Parts 260 through 272 contain the more stringent control requirements (e.g., design, operation, and inspection requirements for waste management units; numerical treatment standards; etc.) and the more stringent testing, monitoring, recordkeeping, and reporting. Compliance with provisions of 40 CFR Parts 260 through 272 that are determined to be more stringent than the requirements of this subpart constitutes compliance with this subpart. For example, provisions of 40 CFR Parts 260 through 272 for treatment units that meet the conditions specified in §63.1256(g)(13) constitute compliance with this subpart. In the Notification of Compliance Status report required by §63.1260(f), the owner or operator shall identify the more stringent provisions of 40 CFR Parts 260 through 272 with which the owner or operator will comply. The owner or operator shall also identify in the Notification of Compliance Status report required by §63.1260(f) the information and procedures used to make any stringency determinations. If the owner or operator does not elect to determine the more stringent requirements, the owner or operator must comply with both the provisions of 40 CFR Parts 260 through 272 and the provisions of this subpart.

(6) *Compliance with subpart PPP of this part.* After the compliance dates specified in this section, an affected source with equipment in a pharmaceutical manufacturing process unit that is also part of an affected source under subpart PPP of this part may elect to demonstrate compliance with §63.1254 by controlling all process vents in accordance with §63.1425 (b), (c)(1), (c)(3), (d), and/or (f). Alternatively, the owner or operator may elect to determine which process vents must be controlled to comply with the percent reduction requirements of §63.1254 and control only those vents in accordance with §63.1425 (b), (c)(1), (c)(3), (d), and/or (f). For any pharmaceutical manufacturing process unit controlled in accordance with the requirements of §63.1425, the owner or operator must also comply with all other requirements in subpart PPP of this part. In the Notification of Compliance Status report required by §63.1260(f), the owner or operator shall identify which pharmaceutical manufacturing process units are meeting the control requirements for process vents and all other requirements of subpart PPP of this part, and the owner or operator shall describe the calculations and other information used to identify which process vents must be controlled to comply with the percent reduction requirements of §63.1254, if applicable.

(i) For the purposes of establishing whether a person is in violation of this subpart, nothing in this subpart shall preclude the use of any credible evidence or information relevant to whether a source would have been in compliance with applicable requirements.

[63 FR 50326, Sept. 21, 1998, as amended at 65 FR 52596, Aug. 29, 2000; 66 FR 40131, Aug. 2, 2001; 76 FR 22599, Apr. 21, 2011]

§ 63.1251 Definitions.

Terms used in this subpart are defined in the Act, in subpart A of this part, or in this section. If the same term is defined in subpart A of this part and in this section, it shall have the meaning given in this section for the purposes of this subpart.

Active ingredient means any material that is intended to furnish pharmacological activity or other direct effect in the diagnosis, cure, mitigation, treatment, or prevention of disease, or to affect the structure or any function of the body of man or other animals. This term does not include food, food additives (except vitamins and other materials described by SIC code 2833 or 2834), color additives, cosmetics, in-vitro diagnostic substances, x-ray film, test indicator devices, and medical devices such as implants, artificial joints, surgical bandages, and stitching material.

Actual HAP emissions means the HAP emitted to the atmosphere from either uncontrolled or controlled emission points.

Affirmative defense means, in the context of an enforcement proceeding, a response or a defense put forward by a defendant, regarding which the defendant has the burden of proof, and the merits of which are independently and objectively evaluated in a judicial or administrative proceeding.

Air pollution control device or Control device means equipment installed on a process vent, storage tank, wastewater treatment exhaust stack, or combination thereof that reduces the mass of HAP emitted to the air. The equipment may consist of an individual device or a series of devices. Examples include, but are not limited to, incinerators, carbon adsorption units, condensers, flares, boilers, process heaters, and gas absorbers. Process condensers are not considered air pollution control devices or control devices.

Annual average concentration, as used in the wastewater provisions in §63.1256, means the total mass of partially soluble and/or soluble HAP compounds in a wastewater stream during the calendar year divided by the total mass of the wastewater stream discharged during the same calendar year, as determined according to the procedures specified in §63.1257(e)(1) (i) and (ii).

Automated monitoring and recording system means any means of measuring values of monitored parameters and creating a hard copy or computer record of the measured values that does not require manual reading of monitoring instruments and manual transcription of data values. Automated monitoring and recording systems include, but are not limited to, computerized systems and strip charts.

Batch emission episode means a discrete venting episode that may be associated with a single unit operation. A unit operation may have more than one batch emission episode. For example, a displacement of vapor resulting from the charging of a vessel with HAP will result in a discrete emission episode that will last through the duration of the charge and will have an average flowrate equal to the rate of the charge. If the vessel is then heated, there will also be another discrete emission episode resulting from the expulsion of expanded vapor. Both emission episodes may occur in the same vessel or unit operation. There are possibly other emission episodes that may occur from the vessel or other process equipment, depending on process operations.

Batch operation or Batch process means a noncontinuous operation involving intermittent or discontinuous feed into equipment, and, in general, involves the emptying of the equipment after the batch operation ceases and prior to beginning a new operation. Addition of raw material and withdrawal of product do not occur simultaneously in a batch operation.

Bench-scale batch process means a batch process (other than a research and development facility) that is capable of being located on a laboratory bench top. This bench-scale equipment will typically include reagent feed vessels, a small reactor and associated product separator, recovery and holding equipment. These processes are only capable of producing small quantities of product.

Block means a time period that comprises a single batch.

Boiler means any enclosed combustion device that extracts useful energy in the form of steam and is not an incinerator. Boiler also means any industrial furnace as defined in 40 CFR 260.10.

Centralized combustion control device (CCCD) means enclosed combustion devices that are used to control process vent emissions from non-dedicated PMPU's at a facility. Centralized combustion control devices may also be used to control emissions from source types including, but not limited to, storage tanks, waste management units, and equipment leaks.

Cleaning operation means routine rinsing, washing, or boil-off of equipment in batch operations between batches.

Closed biological treatment process means a tank or surface impoundment where biological treatment occurs and air emissions from the treatment process are routed to either a control device by means of a closed-vent system or by means of hard-piping. The tank or surface impoundment has a fixed roof, as defined in this section, or a floating flexible membrane cover that meets the requirements specified in §63.1256(c).

Closed-loop system means an enclosed system that returns process fluid to the process and is not vented to the atmosphere except through a closed-vent system.

Closed-purge system means a system or combination of system and portable containers, to capture purged liquids. Containers must be covered or closed when not being filled or emptied.

Closed-vent system means a system that is not open to the atmosphere and is composed of piping, ductwork, connections, and, if necessary, flow inducing devices that transport gas or vapor from an emission point to a control device.

Combustion device means an individual unit of equipment, such as a flare, incinerator, process heater, or boiler, used for the combustion of HAP vapors.

Combustion device burner means a device designed to mix and ignite fuel and air to provide a flame to heat and oxidize waste organic vapors in a combustion device.

Connector means flanged, screwed, or other joined fittings used to connect two pipe lines or a pipe line and a piece of equipment. A common connector is a flange. Joined fittings welded completely around the circumference of the interface are not considered connectors for the purpose of this regulation. For the purpose of reporting and recordkeeping, connector means joined fittings that are not inaccessible, ceramic, or ceramic-lined as described in §63.1255(b)(1)(vii) and §63.1255(f)(3).

Construction means the onsite fabrication, erection, or installation of an affected source or a PMPU. Addition of new equipment to a PMPU subject to existing source standards does not constitute construction, but it may constitute reconstruction of the affected source or PMPU if it satisfies the definition of reconstruction in this section.

Consumption means the quantity of all HAP raw materials entering a process in excess of the theoretical amount used as reactant, assuming 100 percent stoichiometric conversion. The raw materials include reactants, solvents, and any other additives. If a HAP is generated in the process as well as added as a raw material, consumption includes the quantity generated in the process.

Container, as used in the wastewater provisions, means any portable waste management unit that has a capacity greater than or equal to 0.1 m³ in which a material is stored, transported, treated, or otherwise handled. Examples of containers are drums, barrels, tank trucks, barges, dumpsters, tank cars, dump trucks, and ships.

Continuous process means a process where the inputs and outputs flow continuously throughout the duration of the process. Continuous processes are typically steady state.

Continuous recorder means a data recording device that either records an instantaneous data value at least once every 15 minutes or records 15-minute or more frequent block average values.

Continuous seal means a seal that forms a continuous closure that completely covers the space between the wall of the storage tank and the edge of the floating roof. A continuous seal may be a vapor-mounted, liquid-mounted, or metallic shoe seal.

Control device, for purposes of this §63.1255, means any equipment used for recovering or oxidizing organic hazardous air pollutant vapors. Such equipment includes, but is not limited to, absorbers, carbon adsorbers, condensers, flares, boilers, and process heaters.

Controlled HAP emissions means the quantity of HAP discharged to the atmosphere from an air pollution control device.

Cover, as used in the wastewater provisions, means a device or system which is placed on or over a waste management unit containing wastewater or residuals so that the entire surface area is enclosed to minimize air emissions. A cover may have openings necessary for operation, inspection, and maintenance of the waste management unit such as access hatches, sampling ports, and gauge wells provided that each opening is closed when not in use. Examples of covers include a fixed roof installed on a wastewater tank, a lid installed on a container, and an air-supported enclosure installed over a waste management unit.

Dedicated PMPU means a PMPU that is composed of equipment that is used to manufacture the same product for a continuous period of 6 months or greater. The PMPU includes any shared storage tank(s) that are determined to belong to the PMPU according to the procedures in §63.1250(e).

Dense gas system means a conveyance system operated to limit oxygen levels below 12 percent.

Double block and bleed system means two block valves connected in series with a bleed valve or line that can vent the line between the two block valves.

Duct work means a conveyance system such as those commonly used for heating and ventilation systems. It is often made of sheet metal and often has sections connected by screws or crimping. Hard-piping is not ductwork.

Enhanced biological treatment system or enhanced biological treatment process means an aerated, thoroughly mixed treatment unit(s) that contains biomass suspended in water followed by a clarifier that removes biomass from the treated water and recycles recovered biomass to the aeration unit. The mixed liquor volatile suspended solids (biomass) is greater than 1 kilogram per cubic meter throughout each aeration unit. The biomass is suspended and aerated in the water of the aeration unit(s) by either submerged air flow or mechanical agitation. A thoroughly mixed treatment unit is a unit that is designed and operated to approach or achieve uniform biomass distribution and organic compound concentration throughout the aeration unit by quickly dispersing the recycled biomass and the wastewater entering the unit.

Equipment, for purposes of §63.1255, means each pump, compressor, agitator, pressure relief device, sampling connection system, open-ended valve or line, valve, connector, and instrumentation system in organic hazardous air pollutant service; and any control devices or closed-vent systems required by this subpart.

Excipient means any substance other than the active drug or product which has been appropriately evaluated for safety and is included in a drug delivery system to either aid the processing of the drug delivery system during its manufacture; protect, support, or enhance stability, bioavailability, or patient acceptability; assist in product identification; or enhance any other attribute of the overall safety and effectiveness of the drug delivery system during storage or use.

External floating roof means a pontoon-type or double-deck type cover that rests on the liquid surface in a storage tank or waste management unit with no fixed roof.

Fill or filling means the introduction of material into a storage tank or the introduction of a wastewater stream or residual into a waste management unit, but not necessarily to complete capacity.

First attempt at repair means to take action for the purpose of stopping or reducing leakage of organic material to the atmosphere.

Fixed roof means a cover that is mounted on a waste management unit or storage tank in a stationary manner and that does not move with fluctuations in liquid level.

Floating roof means a cover consisting of a double deck, pontoon single deck, internal floating cover or covered floating roof, which rests upon and is supported by the liquid being contained, and is equipped with a closure seal or seals to close the space between the roof edge and waste management unit or storage tank wall.

Flow indicator means a device which indicates whether gas flow is, or whether the valve position would allow gas flow to be, present in a line.

Formulation means the process of mixing, blending, or diluting one or more active or inert ingredients with one or more active or inert ingredients, without an intended chemical reaction, to obtain a pharmaceutical dosage form. Formulation operations include mixing, compounding, blending, and tablet coating.

Group of processes means all of the equipment associated with processes in a building, processing area, or facility-wide. For a dedicated process, a group of processes may consist of a single process.

Halogen atoms mean atoms of chlorine or fluorine.

Halogenated compounds means organic HAP compounds that contain halogen atoms.

Halogenated vent stream or Halogenated stream means a process, storage tank, or waste management unit vent determined to have a concentration of halogenated compounds of greater than 20 ppmv, as determined through process knowledge, test results using Method 18 of 40 CFR Part 60, appendix A, or test results using any other test method that has been validated according to the procedures in Method 301 of appendix A of this part.

Hard-piping means piping or tubing that is manufactured and properly installed using good engineering judgment and standards, such as ANSI B31-3.

Hydrogen halides and halogens means hydrogen chloride (HCl), chlorine (Cl²), and hydrogen fluoride (HF).

In gas/vapor service means that a piece of equipment in organic hazardous air pollutant service contains a gas or vapor at operating conditions.

In heavy liquid service means that a piece of equipment in organic hazardous air pollutant service is not in gas/vapor service or in light liquid service.

In light liquid service means that a piece of equipment in organic hazardous air pollutant service contains a liquid that meets the following conditions:

- (1) The vapor pressure of one or more of the organic compounds is greater than 0.3 kilopascals at 20 °C;
- (2) The total concentration of the pure organic compounds constituents having a vapor pressure greater than 0.3 kilopascals at 20 °C is equal to or greater than 20 percent by weight of the total process stream; and

(3) The fluid is a liquid at operating conditions. (Note: Vapor pressures may be determined by the methods described in 40 CFR 60.485(e)(1).)

In liquid service means that a piece of equipment in organic hazardous air pollutant service is not in gas/vapor service.

In organic hazardous air pollutant or in organic HAP service means that a piece of equipment either contains or contacts a fluid (liquid or gas) that is at least 5 percent by weight of total organic HAP's as determined according to the provisions of §63.180(d). The provisions of §63.180(d) also specify how to determine that a piece of equipment is not in organic HAP service.

In vacuum service means that equipment is operating at an internal pressure which is at least 5 kilopascals below ambient pressure.

In-situ sampling systems means nonextractive samplers or in-line samplers.

Individual drain system means the stationary system used to convey wastewater streams or residuals to a waste management unit. The term includes hard piping; all process drains and junction boxes; and associated sewer lines, other junction boxes, manholes, sumps, and lift stations conveying wastewater streams or residuals. A segregated stormwater sewer system, which is a drain and collection system designed and operated for the sole purpose of collecting rainfall-runoff at a facility, and which is segregated from all other individual drain systems, is excluded from this definition.

Initial startup means the first time a new or reconstructed source begins production. Initial startup does not include operation solely for testing equipment. Initial startup does not include subsequent start ups (as defined in this section) of processes following malfunctions or process shutdowns.

Internal floating roof means a cover that rests or floats on the liquid surface (but not necessarily in complete contact with it) inside a storage tank or waste management unit that has a permanently affixed roof.

Instrumentation system means a group of equipment components used to condition and convey a sample of the process fluid to analyzers and instruments for the purpose of determining process operating conditions (e.g., composition, pressure, flow, etc.). Valves and connectors are the predominant type of equipment used in instrumentation systems; however, other types of equipment may also be included in these systems. Only valves nominally 0.5 inches and smaller, and connectors nominally 0.75 inches and smaller in diameter are considered instrumentation systems for the purposes of this subpart. Valves greater than nominally 0.5 inches and connectors greater than nominally 0.75 inches associated with instrumentation systems are not considered part of instrumentation systems and must be monitored individually.

Isolated intermediate means a product of a process. An isolated intermediate is usually a product of a chemical synthesis, fermentation, or biological extraction process; several different isolated intermediates may be produced in the manufacture of a finished dosage form of a drug. Precursors, active ingredients, or finished dosage forms are considered isolated intermediates. An isolated intermediate is stored before subsequent processing. Storage occurs at any time the intermediate is placed in equipment used solely for storage, such as drums, totes, day tanks, and storage tanks. The storage of an isolated intermediate marks the end of a process.

Junction box means a manhole or access point to a wastewater sewer system line or a lift station.

Large control device means a control device that controls total HAP emissions of greater than or equal to 10 tons/yr, before control.

Liquid-mounted seal means a foam- or liquid-filled seal mounted in contact with the liquid between the wall of the storage tank or waste management unit and the floating roof. The seal is mounted continuously around the tank or unit.

Liquids dripping means any visible leakage from the seal including dripping, spraying, misting, clouding, and ice formation. Indications of liquid dripping include puddling or new stains that are indicative of an existing evaporated drip.

Maintenance wastewater means wastewater generated by the draining of process fluid from components in the pharmaceutical manufacturing process unit into an individual drain system in preparation for or during maintenance activities. Maintenance wastewater can be generated during planned and unplanned shutdowns and during periods not associated with a shutdown. Examples of activities that can generate maintenance wastewater include descaling of heat exchanger tubing bundles, cleaning of distillation column traps, draining of pumps into an individual drain system, and draining of portions of the pharmaceutical manufacturing process unit for repair. Wastewater from cleaning operations is not considered maintenance wastewater.

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, emissions monitoring equipment, process equipment, or a process to operate in a normal or usual manner which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused all or in part by poor maintenance or careless operation are not malfunctions.

Maximum true vapor pressure means the equilibrium partial pressure exerted by the total organic HAP in the stored or transferred liquid at the temperature equal to the highest calendar-month average of the liquid storage or transferred temperature for liquids stored or transferred above or below the ambient temperature or at the local maximum monthly average temperature as reported by the National Weather Service for liquids stored or transferred at the ambient temperature, as determined:

- (1) In accordance with methods described in Chapter 19.2 of the American Petroleum Institute's Manual of Petroleum Measurement Standards, Evaporative Loss From Floating-Roof Tanks (incorporated by reference as specified in §63.14); or
- (2) As obtained from standard reference texts; or
- (3) As determined by the American Society for Testing and Materials Method D2879-97, Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope (incorporated by reference as specified in §63.14); or
- (4) Any other method approved by the Administrator.

Metallic shoe seal or mechanical shoe seal means metal sheets that are held vertically against the wall of the storage tank by springs, weighted levers, or other mechanisms and connected to the floating roof by braces or other means. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

Nondedicated formulation operations means equipment used to formulate numerous products.

Nondedicated recovery device(s) means a recovery device that receives material from more than one PMPU.

Nonrepairable means that it is technically infeasible to repair a piece of equipment from which a leak has been detected without a process shutdown.

Open biological treatment process means a biological treatment process that is not a closed biological treatment process as defined in this section.

Open-ended valve or line means any valve, except pressure relief valves, having one side of the valve seat in contact with process fluid and one side open to atmosphere, either directly or through open piping.

Operating scenario for the purposes of reporting and recordkeeping, means any specific operation of a PMPU and includes for each process:

- (1) A description of the process and the type of process equipment used;

- (2) An identification of related process vents and their associated emissions episodes and durations, wastewater PODs, and storage tanks;
- (3) The applicable control requirements of this subpart, including the level of required control, and for vents, the level of control for each vent;
- (4) The control or treatment devices used, as applicable, including a description of operating and/or testing conditions for any associated control device;
- (5) The process vents, wastewater PODs, and storage tanks (including those from other processes) that are simultaneously routed to the control or treatment device(s);
- (6) The applicable monitoring requirements of this subpart and any parametric level that assures compliance for all emissions routed to the control or treatment device;
- (7) Calculations and engineering analyses required to demonstrate compliance; and
- (8) For reporting purposes, a change to any of these elements not previously reported, except for paragraph (5) of this definition, shall constitute a new operating scenario.

Partially soluble HAP means a HAP listed in Table 2 of this subpart.

Pharmaceutical manufacturing operations means the facility wide collection of PMPU and any other equipment such as heat exchanger systems, wastewater and waste management units, or cooling towers that are not associated with an individual PMPU, but that are located at a facility for the purpose of manufacturing pharmaceutical products and are under common control.

Pharmaceutical manufacturing process unit (PMPU) means the process, as defined in this subpart, and any associated storage tanks, equipment identified in §63.1252(f), and components such as pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, and instrumentation systems that are used in the manufacturing of a pharmaceutical product.

Pharmaceutical product means any of the following materials, excluding any material that is a nonreactive solvent, excipient, binder, or filler, or any material that is produced in a chemical manufacturing process unit that is subject to the requirements of subparts F and G of this part 63:

- (1) Any material described by the standard industrial classification (SIC) code 2833 or 2834; or
- (2) Any material whose manufacturing process is described by North American Industrial Classification System (NAICS) code 325411 or 325412; or
- (3) A finished dosage form of a drug, for example, a tablet, capsule, solution, etc.; or
- (4) Any active ingredient or precursor that is produced at a facility whose primary manufacturing operations are described by SIC code 2833 or 2834; or
- (5) At a facility whose primary operations are not described by SIC code 2833 or 2834, any material whose primary use is as an active ingredient or precursor.

Plant site means all contiguous or adjoining property that is under common control, including properties that are separated only by a road or other public right-of-way. Common control includes properties that are owned, leased, or operated by the same entity, parent entity, subsidiary, or any combination thereof.

Point of determination (POD) means the point where a wastewater stream exits the process, storage tank, or last recovery device. If soluble and/or partially soluble HAP compounds are not recovered from water before discharge, the discharge point from the process equipment or storage tank is a POD. If water streams are routed to a recovery device, the discharge from the recovery device is a POD. There can be more than 1 POD per process or PMPU.

Precursor means a material that is manufactured to undergo further chemical change or processing to ultimately manufacture an active ingredient or finished dosage form of a drug. This term does not include commodity chemicals produced by the synthetic organic chemical manufacturing industry.

Pressure release means the emission of materials resulting from the system pressure being greater than the set pressure of the pressure relief device. This release can be one release or a series of releases over a short time period due to a malfunction in the process.

Pressure relief device or valve means a safety device used to prevent operating pressures from exceeding the maximum allowable working pressure of the process equipment. A common pressure relief device is a spring-loaded pressure relief valve. Devices that are actuated either by a pressure of less than or equal to 2.5 psig or by a vacuum are not pressure relief devices.

Primary use means 50 percent or more of a material is used for a particular purpose.

Process means all equipment which collectively function to produce a pharmaceutical product or isolated intermediate (which is also a pharmaceutical product). A process may consist of one or more unit operations. For the purposes of this subpart, process includes any, all, or a combination of reaction, recovery, separation, purification, or other activity, operation, manufacture, or treatment which are used to produce a pharmaceutical product or isolated intermediate. Cleaning operations conducted are considered part of the process. Nondedicated solvent recovery operations located within a contiguous area within the affected source are considered single processes. A storage tank that is used to accumulate used solvent from multiple batches of a single process for purposes of solvent recovery does not represent the end of the process. Nondedicated formulation operations occurring within a contiguous area are considered a single process that is used to formulate numerous materials and/or products. Quality assurance and quality control laboratories are not considered part of any process. Ancillary activities are not considered a process or part of any process. Ancillary activities include boilers and incinerators (not used to comply with the provisions of §63.1253, §63.1254, or §63.1256(h)), chillers and refrigeration systems, and other equipment and activities that are not directly involved (i.e., they operate within a closed system and materials are not combined with process fluids) in the processing of raw materials or the manufacturing of a pharmaceutical product.

Process condenser means a condenser whose primary purpose is to recover material as an integral part of a process. The condenser must support a vapor-to-liquid phase change for periods of source equipment operation that are at or above the boiling or bubble point of substance(s) at the liquid surface. Examples of process condensers include distillation condensers, reflux condensers, and condensers used in stripping or flashing operations. In a series of condensers, all condensers up to and including the first condenser with an exit gas temperature below the boiling or bubble point of the substance(s) at the liquid surface are considered to be process condensers. All condensers in line prior to a vacuum source are included in this definition.

Process shutdown means a work practice or operational procedure that stops production from a process or part of a process during which it is technically feasible to clear process material from a process or part of a process consistent with safety constraints and during which repairs can be effected. An unscheduled work practice or operational procedure that stops production from a process or part of a process for less than 24 hours is not a process shutdown. An unscheduled work practice or operational procedure that would stop production from a process or part of a process for a shorter period of time than would be required to clear the process or part of the process of materials and start up the process, and would result in greater emissions than delay of repair of leaking components until the next scheduled process shutdown, is not a process shutdown. The use of spare equipment and technically feasible bypassing of equipment without stopping production are not process shutdowns.

Process tank means a tank that is used to collect material discharged from a feedstock storage tank or unit operation and to transfer this material to another unit operation within the process or to a product storage tank. Surge control vessels and

bottoms receivers that fit these conditions are considered process tanks. Product storage tanks are considered process tanks and are part of the PMPU that produce the stored material. For the purposes of this subpart, vents from process tanks are considered process vents.

Process vent means a vent from a unit operation or vents from multiple unit operations within a process that are manifolded together into a common header, through which a HAP-containing gas stream is, or has the potential to be, released to the atmosphere. Examples of process vents include, but are not limited to, vents on condensers used for product recovery, bottom receivers, surge control vessels, reactors, filters, centrifuges, and process tanks. Emission streams that are undiluted and uncontrolled containing less than 50 ppmv HAP, as determined through process knowledge that no HAP are present in the emission stream or using an engineering assessment as discussed in §63.1257(d)(2)(ii), test data using Methods 18 of 40 CFR Part 60, appendix A, or any other test method that has been validated according to the procedures in Method 301 of appendix A of this part, are not considered process vents. Process vents do not include vents on storage tanks regulated under §63.1253, vents on wastewater emission sources regulated under §63.1256, or pieces of equipment regulated under §63.1255.

Production-indexed HAP consumption factor is the result of dividing the annual consumption of total HAP by the annual production rate, per process.

Production-indexed volatile organic compound (VOC) consumption factor is the result of dividing the annual consumption of total VOC by the annual production rate, per process.

Publicly owned treatment works (POTW) means any devices and systems used in the storage, treatment, recycling, and reclamation of municipal sewage or industrial wastes of a liquid nature as defined in section 212(2)(A) of the Clean Water Act, as amended [33 U.S.C. §1292(2)(A)]. A POTW includes the treatment works, intercepting sewers, outfall sewers, sewage collection systems, pumping, power, and other equipment. The POTW is defined at 40 CFR 403.3(o).

Reactor means a device or vessel in which one or more chemicals or reactants, other than air, are combined or decomposed in such a way that their molecular structures are altered and one or more new organic compounds are formed.

Reconstruction, as used in §63.1250(b), shall have the meaning given in §63.2, except that “affected or previously unaffected stationary source” shall mean either “affected facility” or “PMPU.” As used in §63.1254(a)(3)(ii)(A)(3), reconstruction shall have the meaning given in §63.2, except that “source” shall mean “control device.”

Recovery device, as used in the wastewater provisions, means an individual unit of equipment used for the purpose of recovering chemicals for fuel value (i.e., net positive heating value), use, reuse, or for sale for fuel value, use or reuse. Examples of equipment that may be recovery devices include organic removal devices such as decanters, strippers, or thin-film evaporation units. To be a recovery device, a decanter and any other equipment based on the operating principle of gravity separation must receive only two-phase liquid streams.

Repaired means that equipment:

- (1) Is adjusted, or otherwise altered, to eliminate a leak as defined in the applicable paragraphs of §63.1255, and;
- (2) Is, unless otherwise specified in applicable provisions of §63.1255, monitored as specified in §63.180(b) and (c) as appropriate, to verify that emissions from the equipment are below the applicable leak definition.

Research and development facility means any stationary source whose primary purpose is to conduct research and development into new processes and products, where such source is operated under the close supervision of technically trained personnel, and is not engaged in the manufacture of products for commercial sale in commerce, except in a de minimis manner.

Residual means any HAP-containing liquid or solid material that is removed from a wastewater stream by a waste management unit or treatment process that does not destroy organics (nondestructive unit). Examples of residuals from nondestructive waste management units are: the organic layer and bottom residue removed by a decanter or organic-water

separator and the overheads from a steam stripper or air stripper. Examples of materials which are not residuals are: silt; mud; leaves; bottoms from a steam stripper or air stripper; and sludges, ash, or other materials removed from wastewater being treated by destructive devices such as biological treatment units and incinerators.

Safety device means a closure device such as a pressure relief valve, frangible disc, fusible plug, or any other type of device which functions exclusively to prevent physical damage or permanent deformation to a unit or its air emission control equipment by venting gases or vapors directly to the atmosphere during unsafe conditions resulting from an unplanned, accidental, or emergency event. For the purposes of this subpart, a safety device is not used for routine venting of gases or vapors from the vapor headspace underneath a cover such as during filling of the unit or to adjust the pressure in this vapor headspace in response to normal daily diurnal ambient temperature fluctuations. A safety device is designed to remain in a closed position during normal operations and open only when the internal pressure, or another relevant parameter, exceeds the device threshold setting applicable to the air emission control equipment as determined by the owner or operator based on manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, combustible, explosive, reactive, or hazardous materials.

Sampling connection system means an assembly of equipment within a process unit used during periods of representative operation to take samples of the process fluid. Equipment used to take nonroutine grab samples is not considered a sampling connection system.

Sensor means a device that measures a physical quantity or the change in a physical quantity, such as temperature, pressure, flow rate, pH, or liquid level.

Set pressure means the pressure at which a properly operating pressure relief device begins to open to relieve atypical process system operating pressure.

Sewer line means a lateral, trunk line, branch line, or other conduit including, but not limited to, grates, trenches, etc., used to convey wastewater streams or residuals to a downstream waste management unit.

Shutdown means the cessation of operation of a continuous process for any purpose. Shutdown also means the cessation of a batch process or any related individual piece of equipment required or used to comply with this subpart as a result of a malfunction or for replacement of equipment, repair, or any other purpose not excluded from this definition. Shutdown also applies to emptying and degassing storage vessels. Shutdown does not apply to cessation of a batch process at the end of a campaign, for routine maintenance, for rinsing or washing of equipment between batches, or other routine operations.

Single-seal system means a floating roof having one continuous seal that completely covers the space between the wall of the storage tank and the edge of the floating roof. This seal may be a vapor-mounted, liquid-mounted, or metallic shoe seal.

Small control device means a control device that controls total HAP emissions of less than 10 tons/yr, before control.

Soluble HAP means a HAP listed in Table 3 of this subpart.

Standard batch means a batch process operated within a range of operating conditions that are documented in an operating scenario. Emissions from a standard batch are based on the operating conditions that result in highest emissions. The standard batch defines the uncontrolled and controlled emissions for each emission episode defined under the operating scenario.

Startup means the setting in operation of a continuous process unit for any purpose; the first time a new or reconstructed batch process unit begins production; for new equipment added, including equipment used to comply with this subpart, the first time the equipment is put into operation; or, for the introduction of a new product/process, the first time the product or process is run in equipment. For batch process units, startup does not apply to the first time the equipment is put into operation at the start of a campaign to produce a product that has been produced in the past, after a shutdown for maintenance, or when the equipment is put into operation as part of a batch within a campaign. As used in §63.1255, startup means the setting in operation of a piece of equipment or a control device that is subject to this subpart.

Storage tank means a tank or other vessel that is used to store organic liquids that contain one or more HAP as raw material feedstocks. Storage tank also means a tank or other vessel in a tank farm that receives and accumulates used solvent from multiple batches of a process or processes for purposes of solvent recovery. The following are not considered storage tanks for the purposes of this subpart:

- (1) Vessels permanently attached to motor vehicles such as trucks, railcars, barges, or ships;
- (2) Pressure vessels designed to operate in excess of 204.9 kilopascals and without emissions to the atmosphere;
- (3) Vessels storing organic liquids that contain HAP only as impurities;
- (4) Wastewater storage tanks; and
- (5) Process tanks (including product tanks and isolated intermediate tanks).

Supplemental gases are any gaseous streams that are not defined as process vents, or closed-vent systems from wastewater management and treatment units, storage tanks, or equipment components and that contain less than 50 ppmv TOC, as determined through process knowledge, that are introduced into vent streams or manifolds. Air required to operate combustion device burner(s) is not considered supplemental gas.

Surface impoundment means a waste management unit which is a natural topographic depression, manmade excavation, or diked area formed primarily of earthen materials (although it may be lined with manmade materials), which is designed to hold an accumulation of liquid wastes or waste containing free liquids. A surface impoundment is used for the purpose of treating, storing, or disposing of wastewater or residuals, and is not an injection well. Examples of surface impoundments are equalization, settling, and aeration pits, ponds, and lagoons.

System flowrate means the flowrate of gas entering the control device.

Total organic compounds (TOC) means those compounds measured according to the procedures of Method 18 or Method 25A, 40 CFR Part 60, appendix A.

Treatment process means a specific technique that removes or destroys the organics in a wastewater or residual stream such as a steam stripping unit, thin-film evaporation unit, waste incinerator, biological treatment unit, or any other process applied to wastewater streams or residuals to comply with §63.1256. Most treatment processes are conducted in tanks. Treatment processes are a subset of waste management units.

Uncontrolled HAP emissions means a gas stream containing HAP which has exited the process (or process condenser, if any), but which has not yet been introduced into an air pollution control device to reduce the mass of HAP in the stream. If the process vent is not routed to an air pollution control device, uncontrolled emissions are those HAP emissions released to the atmosphere.

Unit operation means those processing steps that occur within distinct equipment that are used, among other things, to prepare reactants, facilitate reactions, separate and purify products, and recycle materials. Equipment used for these purposes includes but is not limited to reactors, distillation columns, extraction columns, absorbers, decanters, dryers, condensers, and filtration equipment.

Vapor-mounted seal means a continuous seal that completely covers the annular space between the wall of the storage tank or waste management unit and the edge of the floating roof and is mounted such that there is a vapor space between the stored liquid and the bottom of the seal.

Volatile organic compounds (VOC) means those materials defined in 40 CFR 51.100.

Waste management unit means the equipment, structure(s), and or devices used to convey, store, treat, or dispose of wastewater streams or residuals. Examples of waste management units include wastewater tanks, air flotation units, surface impoundments, containers, oil-water or organic-water separators, individual drain systems, biological wastewater treatment units, waste incinerators, and organic removal devices such as steam and air stripper units, and thin film evaporation units. If such equipment is used for recovery then it is part of a pharmaceutical process and is not a waste management unit.

Wastewater means any portion of an individual wastewater stream or any aggregation of wastewater streams.

Wastewater stream means water that is discarded from a PMPU through a single POD, that contains an annual average concentration of partially soluble and/or soluble HAP compounds of at least 5 parts per million by weight and a load of at least 0.05 kg/yr. The following are not considered wastewater streams for the purposes of this subpart:

- (1) Stormwater from segregated sewers;
- (2) Water from fire-fighting and deluge systems, including testing of such systems;
- (3) Spills;
- (4) Water from safety showers;
- (5) Samples of a size not greater than reasonably necessary for the method of analysis that is used;
- (6) Equipment leaks;
- (7) Wastewater drips from procedures such as disconnecting hoses after clearing lines; and
- (8) Noncontact cooling water.

Wastewater tank means a stationary waste management unit that is designed to contain an accumulation of wastewater or residuals and is constructed primarily of nonearthen materials (e.g., wood, concrete, steel, plastic) which provide structural support. Wastewater tanks used for flow equalization are included in this definition.

Water seal controls means a seal pot, p-leg trap, or other type of trap filled with water (e.g., flooded sewers that maintain water levels adequate to prevent air flow through the system) that creates a water barrier between the sewer line and the atmosphere. The water level of the seal must be maintained in the vertical leg of a drain in order to be considered a water seal.

[63 FR 50326, Sept. 21, 1998, as amended at 65 FR 52598, Aug. 29, 2000; 71 FR 20459, Apr. 20, 2006; 76 FR 22600, Apr. 21, 2011]

§ 63.1252 Standards: General.

Each owner or operator of any affected source subject to the provisions of this subpart shall control HAP emissions to the level specified in this section on and after the compliance dates specified in §63.1250(f). Initial compliance with the emission limits is demonstrated in accordance with the provisions of §63.1257, and continuous compliance is demonstrated in accordance with the provisions of §63.1258.

(a) *Opening of a safety device.* Opening of a safety device, as defined in §63.1251, is allowed at any time conditions require it to do so to avoid unsafe conditions.

(b) *Closed-vent systems.* The owner or operator of a closed-vent system that contains bypass lines that could divert a vent stream away from a control device used to comply with the requirements in §§63.1253, 63.1254, and 63.1256 shall comply

with the requirements of Table 4 to this subpart and paragraph (b)(1) or (2) of this section. Equipment such as low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, rupture disks and pressure relief valves needed for safety purposes are not subject to this paragraph.

(1) Install, calibrate, maintain, and operate a flow indicator that determines whether vent stream flow is present at least once every 15 minutes. Records shall be maintained as specified in §63.1259(i)(6)(i). The flow indicator shall be installed at the entrance to any bypass line that could divert the vent stream away from the control device to the atmosphere; or

(2) Secure the bypass line valve in the closed position with a car seal or lock and key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the closed position and the vent stream is not diverted through the bypass line. Records shall be maintained as specified in §63.1259(i)(6)(ii).

(c) *Heat exchange systems.* Except as provided in paragraph (c)(2) of this section, owners and operators of affected sources shall comply with the requirements in paragraph (c)(1) of this section for heat exchange systems that cool process equipment or materials used in pharmaceutical manufacturing operations.

(1) The heat exchange system shall be treated according to the provisions of §63.104, except that the monitoring frequency shall be no less than quarterly.

(2) For identifying leaking equipment, the owner or operator of heat exchange systems on equipment which meet current good manufacturing practice (CGMP) requirements of 21 CFR Part 211 may elect to use the physical integrity of the reactor as the surrogate indicator of heat exchange system leaks around the reactor.

(d) *Emissions averaging provisions.* Except as specified in paragraphs (d)(1) through (5) of this section, owners or operators of storage tanks or processes subject to the provisions of §§63.1253 and 63.1254 may choose to comply by using emissions averaging requirements specified in §63.1257(g) or (h) for any storage tank or process.

(1) A State may prohibit averaging of HAP emissions and require the owner or operator of an existing source to comply with the provisions in §§63.1253 and 63.1254.

(2) Only emission sources subject to the requirements of §63.1253(b)(1) or (c)(1)(i) or §63.1254(a)(1)(i) may be included in any averaging group.

(3) Processes which have been permanently shutdown or storage tanks permanently taken out of HAP service may not be included in any averaging group.

(4) Processes and storage tanks already controlled on or before November 15, 1990 may not be included in an emissions averaging group, except where the level of control is increased after November 15, 1990. In these cases, the uncontrolled emissions shall be the controlled emissions as calculated on November 15, 1990 for the purpose of determining the uncontrolled emissions as specified in §63.1257(g) and (h).

(5) Emission points controlled to comply with a State or Federal rule other than this subpart may not be credited in an emission averaging group, unless the level of control has been increased after November 15, 1990 above what is required by the other State or Federal rule. Only the control above what is required by the other State or Federal rule will be credited. However, if an emission point has been used to generate emissions averaging credit in an approved emissions average, and the point is subsequently made subject to a State or Federal rule other than this subpart, the point can continue to generate emissions averaging credit for the purpose of complying with the previously approved average.

(6) Not more than 20 processes subject to §63.1254(a)(1)(i), and 20 storage tanks subject to §63.1253(b)(1) or (c)(1)(i) at an affected source may be included in an emissions averaging group.

(7) Compliance with the emission standards in §63.1253 shall be satisfied when the annual percent reduction efficiency is greater than or equal to 90 percent for those tanks meeting the criteria of §63.1253(a)(1) and 95 percent for those tanks meeting the criteria of §63.1253(a)(2), as demonstrated using the test methods and compliance procedures specified in §63.1257(g).

(8) Compliance with the emission standards in §63.1254(a)(1)(i) shall be satisfied when the annual percent reduction efficiency is greater than or equal to 93 percent, as demonstrated using the test methods and compliance procedures specified in §63.1257(h).

(e) *Pollution prevention alternative.* Except as provided in paragraph (e)(1) of this section, an owner or operator may choose to meet the pollution prevention alternative requirement specified in either paragraph (e)(2) or (3) of this section for any PMPU or for any situation described in paragraph (e)(4) of this section, in lieu of the requirements specified in §§63.1253, 63.1254, 63.1255, and 63.1256. Compliance with paragraphs (e)(2) and (3) of this section shall be demonstrated through the procedures in §63.1257(f). Any PMPU for which the owner or operator seeks to comply by using the pollution prevention alternative shall begin with the same starting material(s) and end with the same product(s). The owner or operator may not comply with the pollution prevention alternative by eliminating any steps of a process by transferring the step offsite (to another manufacturing location).

(1) The HAP that are generated in the PMPU that are not part of the production-indexed consumption factor must be controlled according to the requirements of §§63.1253, 63.1254, 63.1255, and 63.1256. The hydrogen halides that are generated as a result of combustion control of emissions must be controlled according to the requirements of paragraph (g)(1) of this section.

(2) The production-indexed HAP consumption factor (kg HAP consumed/kg produced) shall be reduced by at least 75 percent from a 3 year average baseline established no earlier than the 1987 calendar year, or for the time period from startup of the process until the present in which the PMPU was operational and data are available, whichever is the lesser time period. If a time period less than 3 years is used to set the baseline, the data must represent at least 1 year's worth of data. For any reduction in the HAP factor achieved by reducing a HAP that is also a VOC, an equivalent reduction in the VOC factor is also required. For any reduction in the HAP factor that is achieved by reducing a HAP that is not a VOC, the VOC factor may not be increased.

(3) Both requirements specified in paragraphs (e)(3)(i) and (ii) of this section are met.

(i) The production-indexed HAP consumption factor (kg HAP consumed/kg produced) shall be reduced by at least 50 percent from a 3-year average baseline established no earlier than the 1987 calendar year, or for the time period from startup of the process until the present in which the PMPU was operational and data are available, whichever is less. If a time period less than 3 years is used to set the baseline, the data must represent at least 1 year's worth of data. For any reduction in the HAP factor achieved by reducing a HAP that is also a VOC, an equivalent reduction in the VOC factor is also required. For any reduction in the HAP factor that is achieved by reducing a HAP that is not a VOC, the VOC factor may not be increased.

(ii) The total PMPU HAP emissions shall be reduced by an amount, in kg/yr, that, when divided by the annual production rate, in kg/yr, and added to the reduction of the production-indexed HAP consumption factor, in kg/kg, yields a value of at least 75 percent of the average baseline HAP production-indexed consumption factor established according to paragraph (e)(3)(i) of this section according to the equation provided in §63.1257(f)(2)(ii)(A). The total PMPU VOC emissions shall be reduced by an amount calculated according to the equation provided in §63.1257(f)(2)(ii)(B). The annual reduction in HAP and VOC air emissions must be due to the use of the following control devices:

(A) Combustion control devices such as incinerators, flares or process heaters.

(B) Control devices such as condensers and carbon adsorbers whose recovered product is destroyed or shipped offsite for destruction.

(C) Any control device that does not ultimately allow for recycling of material back to the PMPU.

(D) Any control device for which the owner or operator can demonstrate that the use of the device in controlling HAP emissions will have no effect on the production-indexed consumption factor for the PMPU.

(4) The owner or operator may comply with the requirements in either paragraph (e)(2) or (3) of this section for a series of processes, including situations where multiple processes are merged, subject to the following conditions:

(i) The baseline period shall be a single year beginning no earlier than the 1992 calendar year.

(ii) The term "PMPU" shall have the meaning provided in §63.1251 except that the baseline and modified PMPU may include multiple processes (i.e., precursors, active ingredients, and final dosage form) if the owner or operator demonstrates to the satisfaction of the Administrator that the multiple processes were merged after the baseline period into an existing process or processes.

(iii) Nondedicated formulation and solvent recovery processes may not be merged with any other processes.

(f) *Control requirements for certain liquid streams in open systems within a PMPU.* (1) The owner or operator shall comply with the provisions of Table 5 of this subpart, for each item of equipment meeting all the criteria specified in paragraphs (f)(2) through (4) and either paragraph (f)(5)(i) or (ii) of this section.

(2) The item of equipment is of a type identified in Table 5 of this subpart;

(3) The item of equipment is part of a PMPU, as defined in §63.1251;

(4) The item of equipment is controlled less stringently than in Table 5 of this subpart and the item of equipment is not otherwise exempt from controls by the provisions of this subpart or subpart A of this part; and

(5) The item of equipment:

(i) Is a drain, drain hub, manhole, lift station, trench, pipe, or oil/water separator that conveys water with an annual average concentration greater than or equal to 1,300 parts per million by weight (ppmw) of partially soluble HAP compounds; or an annual average concentration greater than or equal to 5,200 ppmw of partially soluble and/or soluble HAP compounds. The annual average concentration shall be determined according to the procedures in §63.1257(e)(1)(ii).

(ii) Is a tank that receives one or more streams that contain water with an annual average concentration greater than or equal to 1,300 ppmw of partially soluble HAP compounds, or greater than or equal to 5,200 ppmw of total partially soluble and/or soluble HAP compounds. The owner or operator of the source shall determine the average concentration of the stream at the inlet to the tank and according to the procedures in §63.1257(e)(1)(ii).

(g) *Control requirements for halogenated vent streams that are controlled by combustion devices.* If a combustion device is used to comply with the provisions of §§63.1253 (storage tanks), 63.1254 (process vents), 63.1256(h) (wastewater vent streams) for a halogenated vent stream, then the vent stream shall be ducted to a halogen reduction device such as, but not limited to, a scrubber, before it is discharged to the atmosphere. The halogen reduction device must reduce emissions by the amounts specified in either paragraph (g)(1) or (2) of this section.

(1) A halogen reduction device after the combustion control device must reduce overall emissions of hydrogen halides and halogens, as defined in §63.1251, by 95 percent or to a concentration less than or equal to 20 ppmv.

(2) A halogen reduction device located before the combustion control device must reduce the halogen atom content of the vent stream to a concentration less than or equal to 20 ppmv.

(h) *Planned routine maintenance for centralized combustion control devices.* The owner or operator may operate non-dedicated PMPU's during periods of planned routine maintenance for CCCD in accordance with the provisions specified in paragraphs (h)(1) through (6) of this section.

(1) For equipment leaks and wastewater emissions that normally are controlled by the CCCD, if any, the owner or operator must continue to comply with the requirements in §§63.1255(b)(4)(ii) and 63.1256(h), respectively, using other control devices during the planned routine maintenance period for the CCCD.

(2) During the planned routine maintenance period, the owner or operator must route emissions from process vents with organic HAP emissions greater than 15 pounds per day (lb/day) through a closed-vent system to a condenser that meets the conditions specified in paragraphs (h)(2)(i) through (iii) of this section.

(i) The outlet gas temperature must be less than $-50\text{ }^{\circ}\text{C}$ ($-58\text{ }^{\circ}\text{F}$) when the emission stream contains organic HAP with a partial pressure greater than 20 kPa (2.9 psia).

(ii) The outlet gas temperature must be less than $-5\text{ }^{\circ}\text{C}$ ($23\text{ }^{\circ}\text{F}$) when the emission stream contains organic HAP with a partial pressure less than or equal to 20 kPa (2.9 psia).

(iii) The HAP partial pressures in paragraphs (h)(2)(i) and (ii) of this section must be determined at $25\text{ }^{\circ}\text{C}$.

(3) The owner or operator must route HCl emissions from process vents with HCl emissions greater than 15 lb/day through a closed-vent system to a caustic scrubber, and the pH of the scrubber effluent must be maintained at or above 9.

(4) For the purposes of the emission calculations required in paragraphs (h)(2) and (3) of this section, the term "process vent" shall mean each vent from a unit operation. The emission calculation shall not be performed on the aggregated emission stream from multiple unit operations that are manifolded together into a common header. Once an affected process vent has been controlled in accordance with this section, it is no longer subject to the requirements of this section or §63.1254 during the routine maintenance period.

(5) The total period of planned routine maintenance, during which non-dedicated PMPU's that are normally controlled by the CCCD continue to operate, and process vent emissions are controlled as specified in paragraphs (h)(2) and (3) of this section, must not exceed 240 hours in any 365-day period.

(6) While being controlled as specified in paragraphs (h)(2) and (3) of this section, the process vents may not be used in emissions averaging.

[63 FR 50326, Sept. 21, 1998, as amended at 65 FR 52600, Aug. 29, 2000; 66 FR 40131, Aug. 2, 2001]

§ 63.1253 Standards: Storage tanks.

(a) Except as provided in paragraphs (d), (e), and (f) of this section, the owner or operator of a storage tank meeting the criteria of paragraph (a)(1) of this section is subject to the requirements of paragraph (b) of this section. Except as provided in paragraphs (d), (e), and (f) of this section, the owner or operator of a storage tank meeting the criteria of paragraph (a)(2) of this section is subject to the requirements of paragraph (c) of this section. Compliance with the provisions of paragraphs (b) and (c) of this section is demonstrated using the initial compliance procedures in §63.1257(c) and the monitoring requirements in §63.1258.

(1) A storage tank with a design capacity greater than or equal to 38 m^3 but less than 75 m^3 storing a liquid for which the maximum true vapor pressure of total HAP is greater than or equal to 13.1 kPa.

(2) A storage tank with a design capacity greater than or equal to 75 m^3 storing a liquid for which the maximum true vapor pressure of total HAP is greater than or equal to 13.1 kPa.

(b) The owner or operator of a storage tank shall equip the affected storage tank with either a fixed roof with internal floating roof, an external floating roof, an external floating roof converted to an internal floating roof, or a closed-vent system meeting the conditions of §63.1252(b) with a control device that meets any of the following conditions:

- (1) Reduces inlet emissions of total HAP by 90 percent by weight or greater;
- (2) Reduces emissions to outlet concentrations less than or equal to 20 ppmv as TOC and less than or equal to 20 ppmv as hydrogen halides and halogens;
- (3) Is an enclosed combustion device that provides a minimum residence time of 0.5 seconds at a minimum temperature of 760 °C;
- (4) Is a flare that meets the requirements of §63.11(b); or
- (5) Is a control device specified in §63.1257(a)(4).

(c) The owner or operator of a storage tank shall equip the affected storage tank with either a fixed roof with internal floating roof, an external floating roof, an external floating roof converted to an internal floating roof, or a closed-vent system meeting the conditions of §63.1252(b) with a control device that meets any of the following conditions:

- (1) Reduces inlet emissions of total HAP as specified in paragraph (c)(1) (i) or (ii) of this section:
 - (i) By 95 percent by weight or greater; or (ii) If the owner or operator can demonstrate that a control device installed on a storage tank on or before April 2, 1997 is designed to reduce inlet emissions of total HAP by greater than or equal to 90 percent by weight but less than 95 percent by weight, then the control device is required to be operated to reduce inlet emissions of total HAP by 90 percent or greater.
- (2) Reduces emissions to outlet concentrations less than or equal to 20 ppmv as TOC and less than or equal to 20 ppmv as hydrogen halides and halogens;
- (3) Is an enclosed combustion device that provides a minimum residence time of 0.5 seconds at a minimum temperature of 760 °C;
- (4) Is a flare that meets the requirements of §63.11(b); or
- (5) Is a control device specified in §63.1257(a)(4).

(d) As an alternative standard, the owner or operator of an existing or new affected source may comply with the storage tank standards by routing storage tank vents to a combustion control device achieving an outlet TOC concentration, as calibrated on methane or the predominant HAP, of 20 ppmv or less, and an outlet concentration of hydrogen halides and halogens of 20 ppmv or less. If the owner or operator is routing emissions to a noncombustion control device, it must achieve an outlet TOC concentration, as calibrated on methane or the predominant HAP, of 50 ppmv or less, and an outlet concentration of hydrogen halides and halogens of 50 ppmv or less. Compliance with the outlet concentrations shall be determined by the initial compliance procedures of §63.1257(c)(4) and the continuous emission monitoring requirements of §63.1258(b)(5).

(e) *Planned routine maintenance.* The specifications and requirements in paragraphs (b) through (d) of this section for control devices do not apply during periods of planned routine maintenance. Periods of planned routine maintenance of the control devices (including CCCD subject to §63.1252(h)), during which the control device does not meet the specifications of paragraphs (b) through (d) of this section, as applicable, shall not exceed 240 hours in any 365-day period. The owner or operator may submit an application to the Administrator requesting an extension of this time limit to a total of 360 hours in any 365-day period. The application must explain why the extension is needed, it must specify that no material will be added

to the storage tank between the time the 240-hour limit is exceeded and the control device is again operational, and it must be submitted at least 60 days before the 240-hour limit will be exceeded.

(f) *Vapor balancing alternative.* As an alternative to the requirements in paragraphs (b) and (c) of this section, the owner or operator of an existing or new affected source may implement vapor balancing in accordance with paragraphs (f)(1) through (7) of this section.

- (1) The vapor balancing system must be designed and operated to route organic HAP vapors displaced from loading of the storage tank to the railcar or tank truck from which the storage tank is filled.
- (2) Tank trucks and railcars must have a current certification in accordance with the U.S. Department of Transportation (DOT) pressure test requirements of 49 CFR Part 180 for tank trucks and 49 CFR 173.31 for railcars.
- (3) Hazardous air pollutants must only be unloaded from tank trucks or railcars when vapor collection systems are connected to the storage tank's vapor collection system.
- (4) No pressure relief device on the storage tank, or on the railcar, or tank truck shall open during loading or as a result of diurnal temperature changes (breathing losses).
- (5) Pressure relief devices on affected storage tanks must be set to no less than 2.5 psig at all times to prevent breathing losses. The owner or operator shall record the setting as specified in §63.1259(b)(12) and comply with the requirements for each pressure relief valve in paragraphs (f)(5)(i) through (iii) of this section:
 - (i) The pressure relief valve shall be monitored quarterly using the method described in §63.180(b).
 - (ii) An instrument reading of 500 ppmv or greater defines a leak.
 - (iii) When a leak is detected, it shall be repaired as soon as practicable, but no later than 5 days after it is detected, and the owner or operator shall comply with the recordkeeping requirements of §63.1255(g)(4)(i) through (iv).
- (6) Railcars or tank trucks that deliver HAP to an affected storage tank must be reloaded or cleaned at a facility that utilizes one of the control techniques in paragraph (f)(6)(i) through (ii) of this section:
 - (i) The railcar or tank truck must be connected to a closed-vent system with a control device that reduces inlet emissions of HAP by 90 percent by weight or greater; or
 - (ii) A vapor balancing system designed and operated to collect organic HAP vapor displaced from the tank truck or railcar during reloading must be used to route the collected HAP vapor to the storage tank from which the liquid being transferred originated.
- (7) The owner or operator of the facility where the railcar or tank truck is reloaded or cleaned must comply with the requirements in paragraph (f)(7)(i) through (iii) of this section:
 - (i) Submit to the owner or operator of the affected storage tank and to the Administrator a written certification that the reloading or cleaning facility will meet the requirements of this section. The certifying entity may revoke the written certification by sending a written statement to the owner or operator of the affected storage tank giving at least 90 days notice that the certifying entity is rescinding acceptance of responsibility for compliance with the requirements of this paragraph (b)(7).
 - (ii) If complying with paragraph (f)(6)(i) of this section, demonstrate initial compliance in accordance with §63.1257(c), demonstrate continuous compliance in accordance with §63.1258, keep records as specified in §63.1259, and prepare reports as specified in §63.1260.

(iii) If complying with paragraph (f)(6)(ii) of this section, keep records of:

(A) The equipment to be used and the procedures to be followed when reloading the railcar or tank truck and displacing vapors to the storage tank from which the liquid originates, and

(B) Each time the vapor balancing system is used to comply with paragraph (f)(6)(ii) of this section.

[63 FR 50326, Sept. 21, 1998, as amended at 65 FR 52601, Aug. 29, 2000; 66 FR 40132, Aug. 2, 2001; 70 FR 25669, May 13, 2005]

§ 63.1254 Standards: Process vents.

(a) *Existing sources.* For each process, the owner or operator of an existing affected source must comply with the requirements in paragraphs (a)(1) and (3) of this section or paragraphs (a)(2) and (3) of this section. Initial compliance with the required emission limits or reductions in paragraphs (a)(1) through (3) of this section is demonstrated in accordance with the initial compliance procedures described in §63.1257(d), and continuous compliance is demonstrated in accordance with the monitoring requirements described in §63.1258.

(1) *Process-based emission reduction requirement.* (i) Uncontrolled HAP emissions from the sum of all process vents within a process that are not subject to the requirements of paragraph (a)(3) of this section shall be reduced by 93 percent or greater by weight, or as specified in paragraph (a)(1)(ii) of this section. Notification of changes in the compliance method shall be reported according to the procedures in §63.1260(h).

(ii) Any one or more vents within a process may be controlled in accordance with any of the procedures in paragraphs (a)(1)(ii)(A) through (D) of this section. All other vents within the process must be controlled as specified in paragraph (a)(1)(i) of this section.

(A) To outlet concentrations less than or equal to 20 ppmv as TOC and less than or equal to 20 ppmv as hydrogen halides and halogens;

(B) By a flare that meets the requirements of §63.11(b);

(C) By a control device specified in §63.1257(a)(4); or

(D) In accordance with the alternative standard specified in paragraph (c) of this section.

(2) *Process-based annual mass limit.* (i) Actual HAP emissions from the sum of all process vents within a process must not exceed 900 kilograms (kg) in any 365-day period.

(ii) Actual HAP emissions from the sum of all process vents within processes complying with paragraph (a)(2)(i) of this section are limited to a maximum of 1,800 kg in any 365-day period.

(iii) Emissions from vents that are subject to the requirements of paragraph (a)(3) of this section and emissions from vents that are controlled in accordance with the procedures in paragraph (c) of this section may be excluded from the sums calculated in paragraphs (a)(2)(i) and (ii) of this section.

(iv) The owner or operator may switch from compliance with paragraph (a)(2) of this section to compliance with paragraph (a)(1) of this section only after at least 1 year of operation in compliance with paragraph (a)(2) of this section. Notification of such a change in the compliance method shall be reported according to the procedures in §63.1260(h).

(3) *Individual vent emission reduction requirements.* (i) Except as provided in paragraph (a)(3)(ii) of this section, uncontrolled HAP emissions from a process vent must be reduced by 98 percent or in accordance with any of the procedures

in paragraphs (a)(1)(ii)(A) through (D) of this section if the uncontrolled HAP emissions from the vent exceed 25 tons per year, and the flow-weighted average flowrate (FR_a) calculated using Equation 1 of this subpart is less than or equal to the flowrate index (FRI) calculated using Equation 2 of this subpart.

$$FR_a = \frac{\sum_{i=1}^n (D_i)(FR_i)}{\sum_{i=1}^n (D_i)} \quad (Eq. 1)$$

$$FRI = 0.02 * (HL) - 1,000 \quad (Eq. 2)$$

Where:

FR_a= flow-weighted average flowrate for the vent, scfm

D_i= duration of each emission event, min

FR_i= flowrate of each emission event, scfm

n = number of emission events

FRI = flowrate index, scfm

HL = annual uncontrolled HAP emissions, lb/yr, as defined in §63.1251

(ii) *Grandfathering provisions.* As an alternative to the requirements in paragraph (a)(3)(i) of this section, the owner or operator may comply with the provisions in paragraph (a)(3)(ii)(A), (B), or (C) of this section, if applicable.

(A) *Control device operation.* If the owner or operator can demonstrate that a process vent is controlled by a control device meeting the criteria specified in paragraph (a)(3)(ii)(A)(1) of this section, then the control device is required to be operated according to paragraphs (a)(3)(ii)(A)(2), (3), and (4) of this section:

(1) The control device was installed on any process vent that met the conditions of paragraph (a)(3)(i) of this section on or before April 2, 1997, and was operated to reduce uncontrolled emissions of total HAP by greater than or equal to 93 percent by weight, but less than 98 percent by weight;

(2) The device must be operated to reduce inlet emissions of total HAP by 93 percent or by the percent reduction specified for that control device in any preconstruction permit issued pursuant to regulations approved or promulgated through rulemaking under title I (including parts C or D) of the Clean Air Act, whichever is greater;

(3) The device must be replaced or upgraded to achieve at least 98 percent reduction of HAP or meet any of the conditions specified in paragraphs (a)(1)(ii)(A) through (D) of this section upon reconstruction or replacement.

(4) The device must be replaced or upgraded to achieve at least 98 percent reduction of HAP or meet any of the conditions specified in paragraphs (a)(1)(ii)(A) through (D) of this section by April 2, 2007, or 15 years after issuance of the preconstruction permit, whichever is later.

(B) *Process operations.* If a process meets all of the conditions specified in paragraphs (a)(3)(ii)(B)(1) through (3) of this section, the required level of control for the process is the level that was achieved on or before April 2, 1997. This level of

control is demonstrated using the same procedures that are used to demonstrate compliance with paragraph (a)(1) of this section.

(1) At least one vent in the process met the conditions of paragraph (a)(3)(i) of this section on or before April 2, 1997; and

(2) The overall control for the process on or before April 2, 1997 was greater than or equal to 93 percent by weight, but less than 98 percent by weight; and

(3) The production-indexed HAP consumption factor for the 12-month period in which the process was operated prior to the compliance date is less than one-half of the 3-year average baseline value established no earlier than the 1987 through 1989 calendar years.

(C) *Hydrogenation vents.* Processes meeting the conditions of paragraphs (a)(3)(ii)(C)(1) through (3) of this section are required to be operated to maintain the level of control achieved on or before April 2, 1997. For all other processes meeting the conditions of paragraph (a)(3)(ii)(C)(3) of this section, uncontrolled HAP emissions from the sum of all process vents within the process must be reduced by 95 percent or greater by weight.

(1) Processes containing a process vent that met the conditions of paragraph (a)(3)(i) of this section on or before April 2, 1997; and

(2) Processes that are controlled to greater than or equal to 93 percent by weight, but less than 98 percent by weight; and

(3) Processes with a hydrogenation vent that, in conjunction with all other process vents from the process that do not meet the conditions of paragraph (a)(3)(i) of this section, cannot meet the requirements of paragraph (a)(1) or (2) of this section.

(4) *Planned routine maintenance.* For each PMPU that is controlled with a CCCD, the owner or operator must comply with the provisions specified in either paragraph (a)(4)(i), (ii), or (iii) of this section during periods of planned routine maintenance of the CCCD. The owner or operator is not required to comply with the same provision for all of the PMPU's controlled by the CCCD.

(i) Shutdown the affected process.

(ii) Comply with the requirements of paragraphs (a)(1) through (3) of this section by using other means.

(iii) For a non-dedicated PMPU, implement the procedures described in paragraphs (a)(4)(iii)(A) through (C) of this section for those process vents that are normally controlled by the CCCD. This option is not available for process vents from dedicated PMPU's.

(A) If the owner or operator uses a CCCD to comply with the 93 percent reduction requirement in paragraph (a)(1)(i) or (ii) of this section, the outlet concentration limit in paragraph (a)(1)(ii)(A) of this section, the alternative standard as specified in paragraphs (a)(1)(ii)(D) and (c) of this section, or the annual mass limit in paragraph (a)(2) of this section, implement the provisions in §63.1252(h) during planned routine maintenance of the CCCD.

(B) If the owner or operator reduces HAP emissions from process vents by using a CCCD that is also a control device specified in §63.1257(a)(4), implement the provisions in §63.1252(h) during planned routine maintenance of the CCCD.

(C) If the owner or operator uses a CCCD to reduce emissions from a process vent subject to paragraph (a)(3) of this section, implement the planned routine maintenance provisions in §63.1252(h) for that vent only if the reason the planned routine maintenance is needed, and the reason it cannot be performed at a time when the vent subject to paragraph (a)(3) of this section is not operating, has been described in the Notification of Compliance Status Report or a periodic report submitted before the planned routine maintenance event.

(b) *New sources.* (1) Except as provided in paragraph (b)(2) of this section, uncontrolled HAP emissions from the sum of all process vents within a process at a new affected source shall be reduced by 98 percent or greater by weight or controlled in accordance with any of requirements of paragraphs (a)(1)(ii)(A) through (D) of this section. Initial compliance with the required emission limit or reduction is demonstrated in accordance with the initial compliance procedures in §63.1257(d), and continuous compliance is demonstrated in accordance with the monitoring requirements described in §63.1258.

(2) *Annual mass limit.* The actual HAP emissions from the sum of all process vents for which the owner or operator is not complying with paragraph (b)(1) of this section are limited to 900 kg in any 365-day period.

(c) *Alternative standard.* As an alternative standard, the owner or operator of an existing or new affected source may comply with the process vent standards by routing vents from a process to a combustion control device achieving an outlet TOC concentration, as calibrated on methane or the predominant HAP, of 20 ppmv or less, and an outlet concentration of hydrogen halides and halogens of 20 ppmv or less. If the owner or operator is routing emissions to a noncombustion control device, it must achieve an outlet TOC concentration, as calibrated on methane or the predominant HAP, of 50 ppmv or less, and an outlet concentration of hydrogen halides and halogens of 50 ppmv or less. Any process vents within a process that are not routed to this control device must be controlled in accordance with the provisions of paragraph (a) or (b) of this section, as applicable. Initial compliance with the outlet concentrations is demonstrated in accordance with the initial compliance procedures described in §63.1257(d)(1)(iv), and continuous compliance is demonstrated in accordance with the emission monitoring requirements described in §63.1258(b)(5).

[65 FR 52601, Aug. 29, 2000, as amended at 66 FR 40132, Aug. 2, 2001]

§ 63.1255 Standards: Equipment leaks.

(a) *General equipment leak requirements.* (1) The provisions of this section apply to pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, instrumentation systems, control devices, and closed-vent systems required by this section that are intended to operate in organic hazardous air pollutant service 300 hours or more during the calendar year within a source subject to the provisions of this subpart.

(2) *Consistency with other regulations.* After the compliance date for a process, equipment subject to both this section and either of the following will be required to comply only with the provisions of this subpart:

(i) 40 CFR Part 60.

(ii) 40 CFR Part 61.

(3) [Reserved]

(4) The provisions in §63.1(a)(3) of subpart A of this part do not alter the provisions in paragraph (a)(2) of this section.

(5) Lines and equipment not containing process fluids are not subject to the provisions of this section. Utilities, and other nonprocess lines, such as heating and cooling systems which do not combine their materials with those in the processes they serve, are not considered to be part of a process.

(6) The provisions of this section do not apply to bench-scale processes, regardless of whether the processes are located at the same plant site as a process subject to the provisions of this subpart.

(7) Equipment to which this section applies shall be identified such that it can be distinguished readily from equipment that is not subject to this section. Identification of the equipment does not require physical tagging of the equipment. For example, the equipment may be identified on a plant site plan, in log entries, or by designation of process boundaries by some form of weatherproof identification. If changes are made to the affected source subject to the leak detection requirements, equipment identification for each type of component shall be updated, if needed, within 90 calendar days or by the next Periodic Report following the end of the monitoring period for that component, whichever is later.

(8) Equipment that is in vacuum service is excluded from the requirements of this section.

(9) Equipment that is in organic HAP service, but is in such service less than 300 hours per calendar year, is excluded from the requirements of this section if it is identified as required in paragraph (g)(9) of this section.

(10) When each leak is detected by visual, audible, or olfactory means, or by monitoring as described in §63.180(b) or (c), the following requirements apply:

(i) A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.

(ii) The identification on a valve in light liquid or gas/vapor service may be removed after it has been monitored as specified in paragraph (e)(7)(iii) of this section, and no leak has been detected during the follow-up monitoring.

(iii) The identification on equipment, except on a valve in light liquid or gas/vapor service, may be removed after it has been repaired.

(11) Except as provided in paragraph (a)(11)(i) of this section, all terms in this subpart that define a period of time for completion of required tasks (e.g., weekly, monthly, quarterly, annual) refer to the standard calendar periods unless specified otherwise in the section or paragraph that imposes the requirement.

(i) If the initial compliance date does not coincide with the beginning of the standard calendar period, an owner or operator may elect to utilize a period beginning on the compliance date, or may elect to comply in accordance with the provisions of paragraph (a)(11)(ii) or (iii) of this section.

(ii) Time periods specified in this subpart for completion of required tasks may be changed by mutual agreement between the owner or operator and the Administrator, as specified in subpart A of this part. For each time period that is changed by agreement, the revised period shall remain in effect until it is changed. A new request is not necessary for each recurring period.

(iii) Except as provided in paragraph (a)(11)(i) or (ii) of this section, where the period specified for compliance is a standard calendar period, if the initial compliance date does not coincide with the beginning of the calendar period, compliance shall be required according to the schedule specified in paragraph (a)(11)(iii)(A) or (B) of this section, as appropriate.

(A) Compliance shall be required before the end of the standard calendar period within which the initial compliance date occurs if there remain at least 3 days for tasks that must be performed weekly, at least 2 weeks for tasks that must be performed monthly, at least 1 month for tasks that must be performed each quarter, or at least 3 months for tasks that must be performed annually; or

(B) In all other cases, compliance shall be required before the end of the first full standard calendar period after the period within which the initial compliance date occurs.

(iv) In all instances where a provision of this subpart requires completion of a task during each of multiple successive periods, an owner or operator may perform the required task at any time during each period, provided the task is conducted at a reasonable interval after completion of the task during the previous period.

(12) In all cases where the provisions of this subpart require an owner or operator to repair leaks by a specified time after the leak is detected, it is a violation of this section to fail to take action to repair the leaks within the specified time. If action is taken to repair the leaks within the specified time, failure of that action to successfully repair the leak is not a violation of this section. However, if the repairs are unsuccessful, a leak is detected and the owner or operator shall take further action as required by applicable provisions of this section.

(b) *References.* (1) The owner or operator of a source subject to this section shall comply with the provisions of subpart H of this part, as specified in paragraphs (b)(2) through (4) of this section. The term “process unit” as used in subpart H of this part shall be considered to be defined the same as “group of processes” for sources subject to this subpart GGG. The term “fuel gas system,” as used in subpart H of this part, shall not apply for the purposes of this subpart GGG.

(2) Sections 63.160, 63.161, 63.162, 63.163, 63.167, 63.168, 63.170, 63.173, 63.175, 63.176, 63.181, and 63.182 shall not apply for the purposes of this subpart GGG. The owner or operator shall comply with the provisions specified in paragraphs (b)(2)(i) through (viii) of this section.

(i) Sections 63.160 and 63.162 shall not apply; instead, the owner or operator shall comply with paragraph (a) of this section;

(ii) Section 63.161 shall not apply; instead, the owner or operator shall comply with §63.1251;

(iii) Sections 63.163 and 63.173 shall not apply; instead, the owner or operator shall comply with paragraph (c) of this section;

(iv) Section 63.167 shall not apply; instead, the owner or operator shall comply with paragraph (d) of this section;

(v) Section 63.168 shall not apply; instead, the owner or operator shall comply with paragraph (e) of this section;

(vi) Section 63.170 shall not apply; instead, the owner or operator shall comply with §63.1254;

(vii) Section 63.181 shall not apply; instead, the owner or operator shall comply with paragraph (g) of this section; and

(viii) Section 63.182 shall not apply; instead, the owner or operator shall comply with paragraph (h) of this section.

(3) The owner or operator shall comply with §§63.164, 63.165, 63.166, 63.169, 63.177, and 63.179 in their entirety, except that when these sections reference other sections of subpart H of this part, the references shall mean the sections specified in paragraphs (b)(2) and (4) of this section. Section 63.164 applies to compressors. Section 63.165 applies to pressure relief devices in gas/vapor service. Section 63.166 applies to sampling connection systems. Section 63.169 applies to pumps, valves, connectors, and agitators in heavy liquid service; instrumentation systems; and pressure relief devices in liquid service. Section 63.177 applies to general alternative means of emission limitation. Section 63.179 applies to alternative means of emission limitation for enclosed-vented process units.

(4) The owner or operator shall comply with §§63.171, 63.172, 63.174, 63.178, and 63.180, except as specified in paragraphs (b)(4)(i) through (vi) of this section.

(i) Section 63.171 shall apply, except §63.171(a) shall not apply. Instead, delay of repair of equipment for which leaks have been detected is allowed if one of the conditions in paragraphs (b)(4)(i)(A) through (B) exists:

(A) The repair is technically infeasible without a process shutdown. Repair of this equipment shall occur by the end of the next scheduled process shutdown.

(B) The owner or operator determines that repair personnel would be exposed to an immediate danger if attempting to repair without a process shutdown. Repair of this equipment shall occur by the end of the next scheduled process shutdown.

(ii) Section 63.172 shall apply for closed-vent systems used to comply with this section, and for control devices used to comply with this section only, except:

(A) Section 63.172(k) and (l) shall not apply. The owner or operator shall instead comply with paragraph (f) of this section.

(B) Owners or operators may, instead of complying with the provisions of §63.172(f), design a closed-vent system to operate at a pressure below atmospheric pressure. The system shall be equipped with at least one pressure gage or other pressure measurement device that can be read from a readily accessible location to verify that negative pressure is being maintained in the closed-vent system when the associated control device is operating.

(C) The requirements apply at all times, except as specified in §63.1250(g). The owner or operator may not comply with the planned routine maintenance provisions in §63.1252(h).

(iii) Section 63.174 shall apply except:

(A) Section 63.174(f), (g), and (h) shall not apply. Instead of §63.174(f), (g), and (h), the owner or operator shall comply with paragraph (f) of this section. Section 63.174(b)(3) shall not apply. Instead of §63.174(b)(3), the owner or operator shall comply with paragraphs (b)(4)(iii)(B) through (F) of this section.

(B) If the percent leaking connectors in a group of processes was greater than or equal to 0.5 percent during the initial monitoring period, monitoring shall be performed once per year until the percent leaking connectors is less than 0.5 percent.

(C) If the percent leaking connectors in the group of processes was less than 0.5 percent, but equal to or greater than 0.25 percent, during the initial or last required monitoring period, the owner or operator may elect to monitor once every 4 years. An owner or operator may comply with the requirements of this paragraph by monitoring at least 40 percent of the connectors in the first 2 years and the remainder of the connectors within the next 2 years. The percent leaking connectors will be calculated for the total of all required monitoring performed during the 4-year period.

(D) Except as provided in paragraph (b)(4)(iii)(B) of this section, if leaking connectors comprise at least 0.5 percent but less than 1.0 percent of the connectors during the last monitoring period, the owner or operator shall monitor at least once every 2 years for the next monitoring period. At the end of that 2-year monitoring period, if the percent leaking connectors is greater than or equal to 0.5 percent, the owner or operator shall monitor once per year until the percent leaking connectors is less than 0.5 percent. If, at the end of a monitoring period, the percent leaking connectors is less than 0.5 percent, the owner or operator shall monitor in accordance with paragraph (b)(4)(iii)(C) or (F) of this section, as appropriate.

(E) If an owner or operator determines that 1 percent or greater of the connectors in a group of processes are leaking, the owner or operator shall monitor the connectors once per year. The owner or operator may elect to use the provisions of paragraph (b)(4)(iii)(C), (D), or (F) of this section, as appropriate, after a monitoring period in which less than 1 percent of the connectors are determined to be leaking.

(F) The owner or operator may elect to perform monitoring once every 8 years if the percent leaking connectors in the group of processes was less than 0.25 percent during the initial or last required monitoring period. An owner or operator shall monitor at least 50 percent of the connectors in the first 4 years and the remainder of the connectors within the next 4 years. If the percent leaking connectors in the first 4 years is equal to or greater than 0.35 percent, the monitoring program shall revert at that time to the appropriate monitoring frequency specified in paragraph (b)(4)(iii)(C), (D), or (E) of this section.

(iv) Section 63.178 shall apply except:

(A) Section 63.178(b), requirements for pressure testing, may be applied to all processes (not just batch processes) and to supply lines between storage and processing areas.

(B) For pumps, the phrase “at the frequencies specified in Table 1 of this subpart” in §63.178(c)(3)(iii) shall mean “quarterly” for the purposes of this subpart.

(v) Section 63.180 shall apply except §63.180(b)(4)(ii)(A) through (C) shall not apply. Instead, calibration gases shall be a mixture of methane and air at a concentration of approximately, but less than, 10,000 parts per million methane for agitators; 2,000 parts per million for pumps; and 500 parts per million for all other equipment, except as provided in §63.180(b)(4)(iii).

(vi) When §§63.171, 63.172, 63.174, 63.178, and 63.180 reference other sections in subpart H of this part, the references shall mean those sections specified in paragraphs (b)(2) and (b)(4)(i) through (v) of this section, as applicable.

(c) *Standards for pumps in light liquid service and agitators in gas/vapor service and in light liquid service.* (1) The provisions of this section apply to each pump that is in light organic HAP liquid service, and to each agitator in organic HAP gas/vapor service or in light organic HAP liquid service.

(2)(i) *Monitoring.* Each pump and agitator subject to this section shall be monitored quarterly to detect leaks by the method specified in §63.180(b) except as provided in §§63.177, 63.178, paragraph (f) of this section, and paragraphs (c)(5) through (9) of this section.

(ii) *Leak definition.* The instrument reading, as determined by the method as specified in §63.180(b), that defines a leak is:

(A) For agitators, an instrument reading of 10,000 parts per million or greater.

(B) For pumps, an instrument reading of 2,000 parts per million or greater.

(iii) *Visual Inspections.* Each pump and agitator shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump or agitator seal. If there are indications of liquids dripping from the pump or agitator seal at the time of the weekly inspection, the owner or operator shall follow the procedure specified in either paragraph (c)(2)(iii)(A) or (B) of this section prior to the next weekly inspection.

(A) The owner or operator shall monitor the pump or agitator by the method specified in §63.180(b). If the instrument reading indicates a leak as specified in paragraph (c)(2)(ii) of this section, a leak is detected.

(B) The owner or operator shall eliminate the visual indications of liquids dripping.

(3) *Repair provisions.* (i) When a leak is detected pursuant to paragraph (c)(2)(i), (c)(2)(iii)(A), (c)(5)(iv)(A), or (c)(5)(vi)(B) of this section, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in paragraph (b)(4)(i) of this section.

(ii) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected. First attempts at repair include, but are not limited to, the following practices where practicable:

(A) Tightening of packing gland nuts.

(B) Ensuring that the seal flush is operating at design pressure and temperature.

(4) *Calculation of percent leakers.* (i) The owner or operator shall decide no later than the end of the first monitoring period what groups of processes will be developed. Once the owner or operator has decided, all subsequent percent calculations shall be made on the same basis.

(ii) If, calculated on a 1-year rolling average, the greater of either 10 percent or three of the pumps in a group of processes leak, the owner or operator shall monitor each pump once per month, until the calculated 1-year rolling average value drops below 10 percent or three pumps, as applicable.

(iii) The number of pumps in a group of processes shall be the sum of all the pumps in organic HAP service, except that pumps found leaking in a continuous process within 1 quarter after startup of the pump shall not count in the percent leaking pumps calculation for that one monitoring period only.

(iv) Percent leaking pumps shall be determined by the following Equation 3:

$$\%P_L = [(P_L - P_S) / (P_T - P_S)] \times 100 \text{ (Eq. 3)}$$

Where:

$\%P_L$ = percent leaking pumps

P_L = number of pumps found leaking as determined through periodic monitoring as required in paragraphs (c)(2)(i) and (ii) of this section.

P_T = total pumps in organic HAP service, including those meeting the criteria in paragraphs (c)(5) and (6) of this section.

P_S = number of pumps in a continuous process leaking within 1 quarter of startup during the current monitoring period.

(5) *Exemptions.* Each pump or agitator equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraphs (c)(1) through (c)(4)(iii) of this section, provided the following requirements are met:

(i) Each dual mechanical seal system is:

(A) Operated with the barrier fluid at a pressure that is at all times greater than the pump/agitator stuffing box pressure; or

(B) Equipped with a barrier fluid degassing reservoir that is connected by a closed-vent system to a control device that complies with the requirements of paragraph (b)(4)(ii) of this section; or

(C) Equipped with a closed-loop system that purges the barrier fluid into a process stream.

(ii) The barrier fluid is not in light liquid service.

(iii) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

(iv) Each pump/agitator is checked by visual inspection each calendar week for indications of liquids dripping from the pump/agitator seal. If there are indications of liquids dripping from the pump or agitator seal at the time of the weekly inspection, the owner or operator shall follow the procedures specified in either paragraph (c)(5)(iv)(A) or (B) of this section prior to the next required inspection.

(A) The owner or operator shall monitor the pump or agitator using the method specified in §63.180(b) to determine if there is a leak of organic HAP in the barrier fluid. If the instrument reading indicates a leak, as specified in paragraph (c)(2)(ii) of this section, a leak is detected.

(B) The owner or operator shall eliminate the visual indications of liquids dripping.

(v) Each sensor as described in paragraph (c)(5)(iii) of this section is observed daily or is equipped with an alarm unless the pump is located within the boundary of an unmanned plant site.

(vi)(A) The owner or operator determines, based on design considerations and operating experience, criteria applicable to the presence and frequency of drips and to the sensor that indicate failure of the seal system, the barrier fluid system, or both.

(B) If indications of liquids dripping from the pump/agitator seal exceed the criteria established in paragraph (c)(5)(vi)(A) of this section, or if, based on the criteria established in paragraph (c)(5)(vi)(A) of this section, the sensor indicates failure of the seal system, the barrier fluid system, or both, a leak is detected.

(vii) When a leak is detected pursuant to paragraph (c)(5)(iv)(A) or (B) of this section, the leak must be repaired as specified in paragraph (c)(3) of this section.

(6) Any pump/agitator that is designed with no externally actuated shaft penetrating the pump/agitator housing is exempt from the requirements of paragraphs (c)(1) through (3) of this section.

(7) Any pump/agitator equipped with a closed-vent system capable of capturing and transporting any leakage from the seal or seals back to the process or to a control device that complies with the requirements of paragraph (b)(4)(ii) of this section is exempt from the requirements of paragraphs (c)(2) through (5) of this section.

(8) Any pump/agitator that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of paragraphs (c)(2)(iii) and (c)(5)(iv) of this section, and the daily requirements of paragraph (c)(5)(v) of this section, provided that each pump/agitator is visually inspected as often as practicable and at least monthly.

(9) If more than 90 percent of the pumps in a group of processes meet the criteria in either paragraph (c)(5) or (6) of this section, the group of processes is exempt from the requirements of paragraph (c)(4) of this section.

(d) *Standards: Open-ended valves or lines.* (1)(i) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in §63.177 and paragraphs (d)(4) through (6) of this section.

(ii) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line, or during maintenance or repair. The cap, blind flange, plug, or second valve shall be in place within 1 hour of cessation of operations requiring process fluid flow through the open-ended valve or line, or within 1 hour of cessation of maintenance or repair. The owner or operator is not required to keep a record documenting compliance with the 1-hour requirement.

(2) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.

(3) When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (d)(1) of this section at all other times.

(4) Open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset are exempt from the requirements of paragraphs (d)(1) through (d)(3) of this section.

(5) Open-ended valves or lines containing materials which would autocatalytically polymerize are exempt from the requirements of paragraphs (d)(1) through (d)(3) of this section.

(6) Open-ended valves or lines containing materials which could cause an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in paragraphs (d)(1) through (d)(3) of this section are exempt from the requirements of paragraphs (d)(1) through (d)(3) of this section.

(e) *Standards: Valves in gas/vapor service and in light liquid service.* (1) The provisions of this section apply to valves that are either in gas organic HAP service or in light liquid organic HAP service.

(2) For existing and new affected sources, all valves subject to this section shall be monitored, except as provided in paragraph (f) of this section and in §63.177, by no later than 1 year after the compliance date.

(3) *Monitoring.* The owner or operator of a source subject to this section shall monitor all valves, except as provided in paragraph (f) of this section and in §63.177, at the intervals specified in paragraph (e)(4) of this section and shall comply with all other provisions of this section, except as provided in paragraph (b)(4)(i) of this section, §§63.178 and 63.179.

(i) The valves shall be monitored to detect leaks by the method specified in §63.180(b).

(ii) An instrument reading of 500 parts per million or greater defines a leak.

(4) *Subsequent monitoring frequencies.* After conducting the initial survey required in paragraph (e)(2) of this section, the owner or operator shall monitor valves for leaks at the intervals specified below:

(i) For a group of processes with 2 percent or greater leaking valves, calculated according to paragraph (e)(6) of this section, the owner or operator shall monitor each valve once per month, except as specified in paragraph (e)(9) of this section.

(ii) For a group of processes with less than 2 percent leaking valves, the owner or operator shall monitor each valve once each quarter, except as provided in paragraphs (e)(4)(iii) through (e)(4)(v) of this section.

(iii) For a group of processes with less than 1 percent leaking valves, the owner or operator may elect to monitor each valve once every 2 quarters.

(iv) For a group of processes with less than 0.5 percent leaking valves, the owner or operator may elect to monitor each valve once every 4 quarters.

(v) For a group of processes with less than 0.25 percent leaking valves, the owner or operator may elect to monitor each valve once every 2 years.

(5) *Calculation of percent leakers.* For a group of processes to which this subpart applies, an owner or operator may choose to subdivide the valves in the applicable group of processes and apply the provisions of paragraph (e)(4) of this section to each subgroup. If the owner or operator elects to subdivide the valves in the applicable group of processes, then the provisions of paragraphs (e)(5)(i) through (e)(5)(viii) of this section apply.

(i) The overall performance of total valves in the applicable group of processes must be less than 2 percent leaking valves, as detected according to paragraphs (e)(3) (i) and (ii) of this section and as calculated according to paragraphs (e)(6) (ii) and (iii) of this section.

(ii) The initial assignment or subsequent reassignment of valves to subgroups shall be governed by the provisions of paragraphs (e)(5)(ii) (A) through (C) of this section.

(A) The owner or operator shall determine which valves are assigned to each subgroup. Valves with less than 1 year of monitoring data or valves not monitored within the last 12 months must be placed initially into the most frequently monitored subgroup until at least 1 year of monitoring data has been obtained.

(B) Any valve or group of valves can be reassigned from a less frequently monitored subgroup to a more frequently monitored subgroup provided that the valves to be reassigned were monitored during the most recent monitoring period for the less frequently monitored subgroup. The monitoring results must be included with the less frequently monitored subgroup's monitoring event and associated next percent leaking valves calculation for that group.

(C) Any valve or group of valves can be reassigned from a more frequently monitored subgroup to a less frequently monitored subgroup provided that the valves to be reassigned have not leaked for the period of the less frequently monitored subgroup (e.g., for the last 12 months, if the valve or group of valves is to be reassigned to a subgroup being monitored annually). Nonrepairable valves may not be reassigned to a less frequently monitored subgroup.

(iii) The owner or operator shall determine every 6 months if the overall performance of total valves in the applicable group of processes is less than 2 percent leaking valves and so indicate the performance in the next periodic report. If the overall performance of total valves in the applicable group of processes is 2 percent leaking valves or greater, the owner or operator shall revert to the program required in paragraphs (e)(2) through (e)(4) of this section. The overall performance of total

valves in the applicable group of processes shall be calculated as a weighted average of the percent leaking valves of each subgroup according to the following Equation 4:

$$\%V_{LO} = \frac{\sum_{i=1}^n (\%V_{Li} \times V_i)}{\sum_{i=1}^n V_i} \quad (Eq. 4)$$

where:

$\%V_{LO}$ = overall performance of total valves in the applicable process or group of processes

$\%V_{Li}$ = percent leaking valves in subgroup i, most recent value calculated according to the procedures in paragraphs (e)(6)(ii) and (iii) of this section

V_i = number of valves in subgroup i

(iv) *Records.* In addition to records required by paragraph (g) of this section, the owner or operator shall maintain records specified in paragraphs (e)(5)(iv)(A) through (D) of this section.

(A) Which valves are assigned to each subgroup,

(B) Monitoring results and calculations made for each subgroup for each monitoring period,

(C) Which valves are reassigned and when they were reassigned, and

(D) The results of the semiannual overall performance calculation required in paragraph (e)(5)(iii) of this section.

(v) The owner or operator shall notify the Administrator no later than 30 days prior to the beginning of the next monitoring period of the decision to subgroup valves. The notification shall identify the participating processes and the valves assigned to each subgroup.

(vi) *Semiannual reports.* In addition to the information required by paragraph (h)(3) of this section, the owner or operator shall submit in the periodic reports the information specified in paragraphs (e)(5)(vi)(A) and (B) of this section.

(A) Valve reassignments occurring during the reporting period, and

(B) Results of the semiannual overall performance calculation required by paragraph (e)(5)(iii) of this section.

(vii) To determine the monitoring frequency for each subgroup, the calculation procedures of paragraph (e)(6)(iii) of this section shall be used.

(viii) Except for the overall performance calculations required by paragraphs (e)(5)(i) and (e)(5)(iii) of this section, each subgroup shall be treated as if it were a process for the purposes of applying the provisions of this section.

(6)(i) The owner or operator shall decide no later than the implementation date of this subpart or upon revision of an operating permit how to group the processes. Once the owner or operator has decided, all subsequent percentage calculations shall be made on the same basis.

(ii) Percent leaking valves for each group of processes or subgroup shall be determined by the following Equation 5:

$$\%V_L = [V_L/V_T] \times 100 \text{ (Eq. 5)}$$

Where:

$\%V_L$ = percent leaking valves as determined through periodic monitoring required in paragraphs (e)(2) through (4) of this section.

V_T = total valves monitored, in a monitoring period excluding valves monitored as required by (e)(7)(iii) of this section

(iii) When determining monitoring frequency for each group of processes or subgroup subject to monthly, quarterly, or semiannual monitoring frequencies, the percent leaking valves shall be the arithmetic average of the percent leaking valves from the last two monitoring periods. When determining monitoring frequency for each group of processes or subgroup subject to annual or biennial (once every 2 years) monitoring frequencies, the percent leaking valves shall be the arithmetic average of the percent leaking valves from the last three monitoring periods.

(iv)(A) Nonrepairable valves shall be included in the calculation of percent leaking valves the first time the valve is identified as leaking and nonrepairable and as required to comply with paragraph (e)(6)(iv)(B) of this section. Otherwise, a number of nonrepairable valves (identified and included in the percent leaking calculation in a previous period) up to a maximum of 1 percent of the total number of valves in organic HAP service at a process may be excluded from calculation of percent leaking valves for subsequent monitoring periods.

(B) If the number of nonrepairable valves exceeds 1 percent of the total number of valves in organic HAP service at a process, the number of nonrepairable valves exceeding 1 percent of the total number of valves in organic HAP service shall be included in the calculation of percent leaking valves.

(7) *Repair provisions.* (i) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in paragraph (b)(4)(i) of this section.

(ii) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(iii) When a leak is repaired, the valve shall be monitored at least once within the first 3 months after its repair. Days that the valve is not in organic HAP service shall not be considered part of this 3 month period. The monitoring required by this paragraph is in addition to the monitoring required to satisfy the definitions of "repaired" and "first attempt at repair."

(A) The monitoring shall be conducted as specified in §63.180(b) and (c) as appropriate to determine whether the valve has resumed leaking.

(B) Periodic monitoring required by paragraphs (e)(2) through (4) of this section may be used to satisfy the requirements of paragraph (e)(7)(iii) of this section, if the timing of the monitoring period coincides with the time specified in paragraph (e)(7)(iii) of this section. Alternatively, other monitoring may be performed to satisfy the requirements of paragraph (e)(7)(iii) of this section, regardless of whether the timing of the monitoring period for periodic monitoring coincides with the time specified in paragraph (e)(7)(iii) of this section.

(C) If a leak is detected by monitoring that is conducted pursuant to paragraph (e)(7)(iii) of this section, the owner or operator shall follow the provisions of paragraphs (e)(7)(iii)(C)(1) and (2) of this section to determine whether that valve must be counted as a leaking valve for purposes of paragraph (e)(6) of this section.

(1) If the owner or operator elects to use periodic monitoring required by paragraphs (e)(2) through (4) of this section to satisfy the requirements of paragraph (e)(7)(iii) of this section, then the valve shall be counted as a leaking valve.

(2) If the owner or operator elects to use other monitoring prior to the periodic monitoring required by paragraphs (e)(2) through (4) of this section to satisfy the requirements of paragraph (e)(7)(iii) of this section, then the valve shall be counted as a leaking valve unless it is repaired and shown by periodic monitoring not to be leaking.

(8) First attempts at repair include, but are not limited to, the following practices where practicable:

- (i) Tightening of bonnet bolts,
- (ii) Replacement of bonnet bolts,
- (iii) Tightening of packing gland nuts, and
- (iv) Injection of lubricant into lubricated packing.

(9) Any equipment located at a plant site with fewer than 250 valves in organic HAP service in the affected source is exempt from the requirements for monthly monitoring specified in paragraph (e)(4)(i) of this section. Instead, the owner or operator shall monitor each valve in organic HAP service for leaks once each quarter, or comply with paragraph (e)(4)(iii), (iv), or (v) of this section, except as provided in paragraph (f) of this section.

(f) Unsafe to monitor/inspect, difficult to monitor/inspect, and inaccessible equipment. (1) Equipment that is designated as unsafe to monitor, unsafe to inspect, difficult to monitor, difficult to inspect, or inaccessible is exempt from the monitoring requirements as specified in paragraphs (f)(1)(i) through (iv) of this section provided the owner or operator meets the requirements specified in paragraph (f)(2), (3), or (4) of this section, as applicable. All equipment must be assigned to a group of processes. Ceramic or ceramic-lined connectors are subject to the same requirements as inaccessible connectors.

- (i) For pumps and agitators, paragraphs (c)(2), (3), and (4) of this section do not apply.
- (ii) For valves, paragraphs (e)(2) through (7) of this section do not apply.
- (iii) For connectors, §63.174(b) through (e) and paragraphs (b)(4)(iii)(B) through (F) of this section do not apply.
- (iv) For closed-vent systems, §63.172(f)(1) and (2) and §63.172(g) do not apply.

(2) Equipment that is unsafe to monitor or unsafe to inspect. (i) Valves, connectors, agitators, and pumps may be designated as unsafe to monitor if the owner or operator determines that monitoring personnel would be exposed to an immediate danger as a consequence of complying with the monitoring requirements referred to in paragraphs (f)(1)(i) through (iii) of this section.

(ii) Any part of a closed-vent system may be designated as unsafe to inspect if the owner or operator determines that monitoring personnel would be exposed to an immediate danger as a consequence of complying with the monitoring requirements referred to in paragraph (f)(1)(iv) of this section.

(iii) The owner or operator of equipment that is designated as unsafe to monitor must have a written plan that requires monitoring of the equipment as frequently as practicable during safe to monitor times, but not more frequently than the periodic monitoring schedule otherwise applicable to the group of processes in which the equipment is located.

(iv) For any parts of a closed-vent system designated as unsafe to inspect, the owner or operator must have a written plan that requires inspection of the closed-vent systems as frequently as practicable during safe to inspect times, but not more frequently than annually.

(3) Equipment that is difficult to monitor or difficult to inspect. (i) A valve, agitator, or pump may be designated as difficult to monitor if the owner or operator determines that the valve, agitator, or pump cannot be monitored without elevating the

monitoring personnel more than 2 meters above a support surface, or it is not accessible in a safe manner when it is in organic HAP service.

(ii) Any part of a closed-vent system may be designated as difficult to inspect if the owner or operator determines that the equipment cannot be inspected without elevating the monitoring personnel more than 2 meters above a support surface, or it is not accessible in a safe manner when it is in organic HAP service.

(iii) At an existing source, any valve, agitator or pump within a group of processes that meets the criteria of paragraph (f)(3)(i) of this section may be designated as difficult to monitor, and any parts of a closed-vent system that meet the requirements of paragraph (f)(3)(ii) of this section may be designated as difficult to inspect. At a new affected source, an owner or operator may designate no more than 3 percent of valves as difficult to monitor.

(iv) The owner or operator of valves, agitators, or pumps designated as difficult to monitor must have a written plan that requires monitoring of the equipment at least once per calendar year or on the periodic monitoring schedule otherwise applicable to the group of processes in which the equipment is located, whichever is less frequent. For any part of a closed-vent system designated as difficult to inspect, the owner or operator must have a written plan that requires inspection of the closed-vent system at least once every 5 years.

(4) *Inaccessible, ceramic, or ceramic-lined connectors.* (i) A connector may be designated as inaccessible if it is:

(A) Buried;

(B) Insulated in a manner that prevents access to the connector by a monitor probe;

(C) Obstructed by equipment or piping that prevents access to the connector by a monitor probe;

(D) Unable to be reached from a wheeled scissor-lift or hydraulic-type scaffold which would allow access to equipment up to 7.6 meters (25 feet) above the ground; or

(E) Not able to be accessed at any time in a safe manner to perform monitoring. Unsafe access includes, but is not limited to, the use of a wheeled scissor-lift on unstable or uneven terrain, the use of a motorized man-lift basket in areas where an ignition potential exists, or access would require near proximity to hazards such as electrical lines, or would risk damage to equipment.

(ii) A connector may be designated as inaccessible if it would require elevating the monitoring personnel more than 2 meters above a permanent support surface or would require the erection of scaffold.

(iii) At an existing source, any connector that meets the criteria of paragraph (f)(4)(i) or (ii) of this section may be designated as inaccessible. At a new affected source, an owner or operator may designate no more than 3 percent of connectors as inaccessible.

(iv) If any inaccessible, ceramic, or ceramic-lined connector is observed by visual, audible, olfactory, or other means to be leaking, the leak shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in paragraph (b)(4)(i) of this section.

(v) Any connector that is inaccessible or that is ceramic or ceramic-lined is exempt from the recordkeeping and reporting requirements of paragraphs (g) and (h) of this section.

(g) *Recordkeeping requirements.* (1) An owner or operator of more than one group of processes subject to the provisions of this section may comply with the recordkeeping requirements for the groups of processes in one recordkeeping system if the system identifies with each record the program being implemented (e.g., quarterly monitoring) for each type of equipment. All records and information required by this section shall be maintained in a manner that can be readily accessed at the plant

site. This could include physically locating the records at the plant site or accessing the records from a central location by computer at the plant site.

(2) *General recordkeeping.* Except as provided in paragraph (g)(5)(i) of this section and in paragraph (a)(9) of this section, the following information pertaining to all equipment subject to the requirements in this section shall be recorded:

(i)(A) A list of identification numbers for equipment (except connectors that are subject to paragraph (f)(4) of this section) subject to the requirements of this section. Except for equipment subject to the recordkeeping requirements in paragraphs (g)(2)(ii) through (viii) of this section, equipment need not be individually identified if, for a particular type of equipment, all items of that equipment in a designated area or length of pipe subject to the provisions of this section are identified as a group, and the number of subject items of equipment is indicated. The list for each type of equipment shall be completed no later than the completion of the initial survey required for that component. The list of identification numbers shall be updated, if needed, to incorporate equipment changes identified during the course of each monitoring period within 90 calendar days, or by the next Periodic Report, following the end of the monitoring period for the type of equipment component monitored, whichever is later.

(B) A schedule for monitoring connectors subject to the provisions of §63.174(a) and valves subject to the provisions of paragraph (e)(4) of this section.

(C) Physical tagging of the equipment to indicate that it is in organic HAP service is not required. Equipment subject to the provisions of this section may be identified on a plant site plan, in log entries, or by other appropriate methods.

(ii)(A) A list of identification numbers for equipment that the owner or operator elects to equip with a closed-vent system and control device, under the provisions of paragraph (c)(7) of this section, §63.164(h), or §63.165(c).

(B) A list of identification numbers for compressors that the owner or operator elects to designate as operating with an instrument reading of less than 500 parts per million above background, under the provisions of §63.164(i).

(iii)(A) A list of identification numbers for pressure relief devices subject to the provisions in §63.165(a).

(B) A list of identification numbers for pressure relief devices equipped with rupture disks, under the provisions of §63.165(d).

(iv) Identification of instrumentation systems subject to the provisions of this section. Individual components in an instrumentation system need not be identified.

(v) The following information shall be recorded for each dual mechanical seal system:

(A) Design criteria required by paragraph (c)(5)(vi)(A) of this section and §63.164(e)(2), and an explanation of the design criteria; and

(B) Any changes to these criteria and the reasons for the changes.

(vi) A list of equipment designated as unsafe to monitor/inspect or difficult to monitor/inspect under paragraph (f) of this section and a copy of the plan for monitoring or inspecting this equipment.

(vii) A list of connectors removed from and added to the process, as described in §63.174(i)(1), and documentation of the integrity of the weld for any removed connectors, as required in §63.174(j). This is not required unless the net credits for removed connectors is expected to be used.

(viii) For equipment that the owner or operator elects to monitor as provided under §63.178(c), a list of equipment added to batch product processes since the last monitoring period required in §63.178(c)(3)(ii) and (iii). This list must be completed

for each type of equipment within 90 calendar days, or by the next Periodic Report, following the end of the monitoring period for the type of equipment monitored, whichever is later. Also, if the owner or operator elects to adjust monitoring frequency by the time in use, as provided in §63.178(c)(3)(iii), records demonstrating the proportion of the time during the calendar year the equipment is in use in a manner subject to the provisions of this section are required. Examples of suitable documentation are records of time in use for individual pieces of equipment or average time in use for the process unit.

(3) *Records of visual inspections.* For visual inspections of equipment subject to the provisions of paragraphs (c)(2)(iii) and (c)(5)(iv) of this section, the owner or operator shall document that the inspection was conducted and the date of the inspection. The owner or operator shall maintain records as specified in paragraph (g)(4) of this section for leaking equipment identified in this inspection, except as provided in paragraph (g)(5) of this section. These records shall be retained for 2 years.

(4) *Monitoring records.* When each leak is detected as specified in paragraph (c) of this section and §63.164, paragraph (e) of this section and §63.169, and §§63.172 and 63.174, the following information shall be recorded and kept for 5 years (at least 2 years onsite, with the remaining 3 years either onsite or offsite):

- (i) The instrument and the equipment identification number and the operator name, initials, or identification number.
- (ii) The date the leak was detected and the date of the first attempt to repair the leak.
- (iii) The date of successful repair of the leak.
- (iv) The maximum instrument reading measured by Method 21 of 40 CFR Part 60, appendix A, after the leak is successfully repaired or determined to be nonrepairable.
- (v) “Repair delayed” and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.
 - (A) The owner or operator may develop a written procedure that identifies the conditions that justify a delay of repair. The written procedures shall be included in a document that is maintained at the plant site. Reasons for delay of repair may be documented by citing the relevant sections of the written procedure.
 - (B) If delay of repair was caused by depletion of stocked parts, there must be documentation that the spare parts were sufficiently stocked onsite before depletion and the reason for depletion.
- (vi) If repairs were delayed, dates of process shutdowns that occur while the equipment is unrepaired.
- (vii)(A) If the alternative in §63.174(c)(1)(ii) is not in use for the monitoring period, identification, either by list, location (area or grouping), or tagging of connectors disturbed since the last monitoring period required in §63.174(b), as described in §63.174(c)(1).
 - (B) The date and results of follow-up monitoring as required in §63.174(c)(1)(i) and (c)(2)(ii). If identification of disturbed connectors is made by location, then all connectors within the designated location shall be monitored.
- (viii) The date and results of the monitoring required in §63.178(c)(3)(i) for equipment added to a batch process since the last monitoring period required in §63.178(c)(3)(ii) and (iii). If no leaking equipment is found in this monitoring, the owner or operator shall record that the inspection was performed. Records of the actual monitoring results are not required.
- (ix) Copies of the periodic reports as specified in paragraph (h)(3) of this section, if records are not maintained on a computerized data base capable of generating summary reports from the records.

(5) *Records of pressure tests.* The owner or operator who elects to pressure test a process equipment train or supply lines between storage and processing areas to demonstrate compliance with this section is exempt from the requirements of

paragraphs (g)(2), (3), (4), and (6) of this section. Instead, the owner or operator shall maintain records of the following information:

(i) The identification of each product, or product code, produced during the calendar year. It is not necessary to identify individual items of equipment in the process equipment train.

(ii) Physical tagging of the equipment to identify that it is in organic HAP service and subject to the provisions of this section is not required. Equipment in a process subject to the provisions of this section may be identified on a plant site plan, in log entries, or by other appropriate methods.

(iii) The dates of each pressure test required in §63.178(b), the test pressure, and the pressure drop observed during the test.

(iv) Records of any visible, audible, or olfactory evidence of fluid loss.

(v) When a process equipment train does not pass two consecutive pressure tests, the following information shall be recorded in a log and kept for 2 years:

(A) The date of each pressure test and the date of each leak repair attempt.

(B) Repair methods applied in each attempt to repair the leak.

(C) The reason for the delay of repair.

(D) The expected date for delivery of the replacement equipment and the actual date of delivery of the replacement equipment.

(E) The date of successful repair.

(6) *Records of compressor and relief device compliance tests.* The dates and results of each compliance test required for compressors subject to the provisions in §63.164(i) and the dates and results of the monitoring following a pressure release for each pressure relief device subject to the provisions in §§63.165(a) and (b). The results shall include:

(i) The background level measured during each compliance test.

(ii) The maximum instrument reading measured at each piece of equipment during each compliance test.

(7) *Records for closed-vent systems.* The owner or operator shall maintain records of the information specified in paragraphs (g)(7)(i) through (iii) of this section for closed-vent systems and control devices subject to the provisions of paragraph (b)(4)(ii) of this section. The records specified in paragraph (g)(7)(i) of this section shall be retained for the life of the equipment. The records specified in paragraphs (g)(7)(ii) and (g)(7)(iii) of this section shall be retained for 2 years.

(i) The design specifications and performance demonstrations specified in paragraphs (g)(7)(i)(A) through (g)(7)(i)(D) of this section.

(A) Detailed schematics, design specifications of the control device, and piping and instrumentation diagrams.

(B) The dates and descriptions of any changes in the design specifications.

(C) The flare design (i.e., steam assisted, air assisted, or nonassisted) and the results of the compliance demonstration required by §63.11(b).

(D) A description of the parameter or parameters monitored, as required in paragraph (b)(4)(ii) of this section, to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring.

(ii) Records of operation of closed-vent systems and control devices.

(A) Dates and durations when the closed-vent systems and control devices required in paragraph (c) of this section and §§63.164 through 63.166 are not operated as designed as indicated by the monitored parameters, including periods when a flare pilot light system does not have a flame.

(B) Dates and durations during which the monitoring system or monitoring device is inoperative.

(C) Dates and durations of startups and shutdowns of control devices required in paragraph (c)(7) of this section and §§63.164 through 63.166.

(iii) Records of inspections of closed-vent systems subject to the provisions of §63.172.

(A) For each inspection conducted in accordance with the provisions of §63.172(f)(1) or (f)(2) during which no leaks were detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(B) For each inspection conducted in accordance with the provisions of §63.172(f)(1) or (f)(2) during which leaks were detected, the information specified in paragraph (g)(4) of this section shall be recorded.

(8) *Records for components in heavy liquid service.* Information, data, and analysis used to determine that a piece of equipment or process is in heavy liquid service shall be recorded. Such a determination shall include an analysis or demonstration that the process fluids do not meet the criteria of “in light liquid or gas service.” Examples of information that could document this include, but are not limited to, records of chemicals purchased for the process, analyses of process stream composition, engineering calculations, or process knowledge.

(9) *Records of exempt components.* Identification, either by list, location (area or group) of equipment in organic HAP service less than 300 hours per year subject to the provisions of this section.

(10) *Records of alternative means of compliance determination.* Owners and operators choosing to comply with the requirements of §63.179 shall maintain the following records:

(i) Identification of the process(es) and the organic HAP they handle.

(ii) A schematic of the process, enclosure, and closed-vent system.

(iii) A description of the system used to create a negative pressure in the enclosure to ensure that all emissions are routed to the control device.

(h) *Reporting requirements.* (1) Each owner or operator of a source subject to this section shall submit the reports listed in paragraphs (h)(1)(i) through (ii) of this section.

(i) A Notification of Compliance Status Report described in paragraph (h)(2) of this section,

(ii) Periodic reports described in paragraph (h)(3) of this section.

(2) *Notification of compliance status report.* Each owner or operator of a source subject to this section shall submit the information specified in paragraphs (h)(2)(i) through (iii) of this section in the Notification of Compliance Status Report described in §63.1260(f).

(i) The notification shall provide the information listed in paragraphs (h)(2)(i)(A) through (C) of this section for each process subject to the requirements of paragraphs (b) through (g) of this section.

(A) Process group identification.

(B) Number of each equipment type (e.g., valves, pumps) in organic HAP service, excluding equipment in vacuum service.

(C) Method of compliance with the standard (for example, “monthly leak detection and repair” or “equipped with dual mechanical seals”).

(ii) The notification shall provide the information listed in paragraphs (h)(2)(ii)(A) and (B) of this section for each process subject to the requirements of paragraph (b)(4)(iv) of this section and §63.178(b).

(A) Products or product codes subject to the provisions of this section, and

(B) Planned schedule for pressure testing when equipment is configured for production of products subject to the provisions of this section.

(iii) The notification shall provide the information listed in paragraphs (h)(2)(iii)(A) and (B) of this section for each process subject to the requirements in §63.179.

(A) Process identification.

(B) A description of the system used to create a negative pressure in the enclosure and the control device used to comply with the requirements of paragraph (b)(4)(ii) of this section.

(iv) Section 63.9(j) shall not apply to the Notification of Compliance Status report described in this paragraph (h)(2).

(3) *Periodic reports.* The owner or operator of a source subject to this section shall submit Periodic Reports.

(i) A report containing the information in paragraphs (h)(3)(ii), (iii), and (iv) of this section shall be submitted semiannually. The first report shall be submitted no later than 240 days after the Notification of Compliance Status Report is due and shall cover the 6-month period beginning on the date the Notification of Compliance Status Report is due. Each subsequent report shall cover the 6-month period following the preceding period.

(ii) For equipment complying with the provisions of paragraphs (b) through (g) of this section, except paragraph (b)(4)(iv) of this section and §63.179, the summary information listed in paragraphs (h)(3)(ii)(A) through (L) of this section for each monitoring period during the 6-month period.

(A) The number of valves for which leaks were detected as described in paragraph (e)(3) of this section, the percent leakers, and the total number of valves monitored;

(B) The number of valves for which leaks were not repaired as required in paragraph (e)(7) of this section, identifying the number of those that are determined nonrepairable;

(C) Separately, the number of pumps and agitators for which leaks were detected as described in paragraph (c)(2) of this section, the total number of pumps and agitators monitored, and, for pumps, the percent leakers;

(D) Separately, the number of pumps and agitators for which leaks were not repaired as required in paragraph (c)(3) of this section;

(E) The number of compressors for which leaks were detected as described in §63.164(f);

- (F) The number of compressors for which leaks were not repaired as required in §63.164(g);
- (G) The number of connectors for which leaks were detected as described in §63.174(a), the percent of connectors leaking, and the total number of connectors monitored;
- (H) The number of connectors for which leaks were not repaired as required in §63.174(d), identifying the number of those that are determined nonreparable;
- (I) The facts that explain any delay of repairs and, where appropriate, why a process shutdown was technically infeasible.
- (J) The results of all monitoring to show compliance with §§63.164(i), 63.165(a), and 63.172(f) conducted within the semiannual reporting period.
- (K) If applicable, the initiation of a monthly monitoring program under either paragraph (c)(4)(ii) or paragraph (e)(4)(i) of this section.
- (L) If applicable, notification of a change in connector monitoring alternatives as described in §63.174(c)(1).
- (iii) For owners or operators electing to meet the requirements of §63.178(b), the report shall include the information listed in paragraphs (h)(3)(iii)(A) through (E) of this paragraph for each process.
- (A) Product process equipment train identification;
- (B) The number of pressure tests conducted;
- (C) The number of pressure tests where the equipment train failed either the retest or two consecutive pressure tests;
- (D) The facts that explain any delay of repairs; and
- (E) The results of all monitoring to determine compliance with §63.172(f) of subpart H.
- (iv) Any revisions to items reported in earlier Notification of Compliance Status report, if the method of compliance has changed since the last report.

[63 FR 50326, Sept. 21, 1998, as amended at 65 FR 52603, Aug. 29, 2000; 66 FR 40132, Aug. 2, 2001; 76 FR 22600, Apr. 21, 2011]

§ 63.1256 Standards: Wastewater.

(a) *General.* Each owner or operator of any affected source (existing or new) shall comply with the general wastewater requirements in paragraphs (a)(1) through (3) of this section and the maintenance wastewater provisions in paragraph (a)(4) of this section. An owner or operator may transfer wastewater to a treatment operation not owned by the owner or operator in accordance with paragraph (a)(5) of this section.

(1) *Identify wastewater that requires control.* For each POD, the owner or operator shall comply with the requirements in either paragraph (a)(1)(i) or (ii) of this section to determine whether a wastewater stream is an affected wastewater stream that requires control for soluble and/or partially soluble HAP compounds or to designate the wastewater stream as an affected wastewater stream, respectively. The owner or operator may use a combination of the approaches in paragraphs (a)(1)(i) and (ii) of this section for different affected wastewater generated at the source.

(i) *Determine characteristics of a wastewater stream.* At new and existing sources, a wastewater stream is an affected wastewater stream if the annual average concentration and annual load exceed any of the criteria specified in paragraph

(a)(1)(i)(A) through (C) of this section. At new sources, a wastewater stream is subject to additional control requirements if the annual average concentration and annual load exceed the criteria specified in paragraphs (a)(1)(i)(D) of this section. The owner or operator shall comply with the provisions of §63.1257(e)(1) to determine the annual average concentrations and annual load of partially soluble and soluble HAP compounds.

(A) The wastewater stream contains partially soluble HAP compounds at an annual average concentration greater than 1,300 ppmw, and the total soluble and partially soluble HAP load in all wastewater from the PMPU exceeds 0.25 Mg/yr.

(B) The wastewater stream contains partially soluble and/or soluble HAP compounds at an annual average concentration greater than 5,200 ppmw, and the total soluble and partially soluble HAP load in all wastewater from the PMPU exceeds 0.25 Mg/yr.

(C) The wastewater stream contains partially soluble and/or soluble HAP at an annual average concentration of greater than 10,000 ppmw, and the total partially soluble and/or soluble HAP load in all wastewater from the affected source is greater than 1 Mg/yr.

(D) The wastewater stream contains soluble HAP compounds at an annual average concentration greater than 110,000 ppmw, and the total soluble and partially soluble HAP load in all wastewater from the PMPU exceeds 1 Mg/yr.

(ii) *Designate wastewater as affected wastewater.* For existing sources, the owner or operator may elect to designate wastewater streams as meeting the criteria of either paragraphs (a)(1)(i)(A),(B), or (C) of this section. For new sources, the owner or operator may elect to designate wastewater streams meeting the criterion in paragraph (a)(1)(i)(D) or for wastewater known to contain no soluble HAP, as meeting the criterion in paragraph (a)(1)(i)(A) of this section. For designated wastewater the procedures specified in paragraphs (a)(1)(ii)(A) and (B) of this section shall be followed, except as specified in paragraphs (g)(8)(i), (g)(9)(i), and (g)(10) of this section. The owner or operator is not required to determine the annual average concentration or load for each designated wastewater stream for the purposes of this section.

(A) From the POD for the wastewater stream that is designated as an affected wastewater stream to the location where the owner or operator elects to designate such wastewater stream as an affected wastewater stream, the owner or operator shall comply with all applicable emission suppression requirements specified in paragraphs (b) through (f) of this section.

(B) From the location where the owner or operator designates a wastewater stream as an affected wastewater stream, such wastewater stream shall be managed in accordance with all applicable emission suppression requirements specified in paragraphs (b) through (f) of this section and with the treatment requirements in paragraph (g) of this section.

(iii) *Scrubber effluent.* Effluent from a water scrubber that has been used to control Table 2 HAP-containing vent streams that are controlled in order to meet the process vent requirements in §63.1254 of this subpart is considered an affected wastewater stream.

(2) *Requirements for affected wastewater.* (i) An owner or operator of a facility shall comply with the applicable requirements for wastewater tanks, surface impoundments, containers, individual drain systems, and oil/water separators as specified in paragraphs (b) through (f) of this section, except as provided in paragraph (g)(3) of this section.

(ii) Comply with the applicable requirements for control of soluble and partially soluble compounds as specified in paragraph (g) of this section. Alternatively, the owner or operator may elect to comply with the treatment provisions specified in paragraph (a)(5) of this section.

(iii) Comply with the applicable monitoring and inspection requirements specified in §63.1258.

(iv) Comply with the applicable recordkeeping and reporting requirements specified in §§63.1259 and 63.1260.

(3) *Requirements for multiphase discharges.* The owner or operator shall not discharge a separate phase that can be isolated through gravity separation from the aqueous phase to a waste management or treatment unit, unless the stream is discharged to a treatment unit in compliance with paragraph (g)(13) of this section.

(4) *Maintenance wastewater requirements.* Each owner or operator of a source subject to this subpart shall comply with the requirements of paragraphs (a)(4)(i) through (iv) of this section for maintenance wastewater containing partially soluble or soluble HAP listed in Tables 2 and 3 of this subpart. Maintenance wastewater is exempt from all other provisions of this subpart.

(i) The owner or operator shall prepare a description of maintenance procedures for management of wastewater generated from the emptying and purging of equipment in the process during temporary shutdowns for inspections, maintenance, and repair (*i.e.*, a maintenance turnaround) and during periods which are not shutdowns (*i.e.*, routine maintenance). The descriptions shall be included in a document that is maintained at the plant site and shall:

(A) Specify the process equipment or maintenance tasks that are anticipated to create wastewater during maintenance activities; and

(B) Specify the procedures that will be followed to properly manage the wastewater and minimize organic HAP emissions to the atmosphere; and

(C) Specify the procedures to be followed when clearing materials from process equipment.

(ii) The owner or operator shall modify and update the information required by paragraph (a)(4)(i) of this section as needed following each maintenance procedure based on the actions taken and the wastewater generated in the preceding maintenance procedure.

(5) *Offsite treatment or onsite treatment not owned or operated by the source.* The owner or operator may elect to transfer affected wastewater streams or a residual removed from such affected wastewater to an onsite treatment operation not owned or operated by the owner or operator of the source generating the wastewater or residual, or to an offsite treatment operation.

(i) The owner or operator transferring the wastewater or residual shall:

(A) Comply with the provisions specified in paragraphs (b) through (f) of this section for each waste management unit that receives or manages affected wastewater or a residual removed from affected wastewater prior to shipment or transport.

(B) Include a notice with each shipment or transport of affected wastewater or residual removed from affected wastewater. The notice shall state that the affected wastewater or residual contains organic HAP that are to be treated in accordance with the provisions of this subpart. When the transport is continuous or ongoing (for example, discharge to a publicly-owned treatment works), the notice shall be submitted to the treatment operator initially and whenever there is a change in the required treatment. The owner or operator shall keep a record of the notice in accordance with §63.1259(g).

(ii) The owner or operator may not transfer the affected wastewater or residual unless the transferee has submitted to the EPA a written certification that the transferee will manage and treat any affected wastewater or residual removed from affected wastewater received from a source subject to the requirements of this subpart in accordance with the requirements of either:

(A) Paragraphs (b) through (i) of this section; or

(B) Subpart D of this part if alternative emission limitations have been granted the transferor in accordance with those provisions; or

(C) Section 63.6(g); or

(D) If the affected wastewater streams or residuals removed from affected wastewater streams received by the transferee contain less than 50 ppmw of partially soluble HAP, then the transferee must, at a minimum, manage and treat the affected wastewater streams and residuals in accordance with one of the following:

(1) Comply with paragraph (g)(10) of this section and cover the waste management units up to the activated sludge unit; or

(2) Comply with paragraphs (g)(11)(i), (ii), and (h) of this section and cover the waste management units up to the activated sludge unit; or

(3) Comply with paragraph (g)(10) of this section provided that the owner or operator of the affected source demonstrates that less than 5 percent of the total soluble HAP is emitted from waste management units up to the activated sludge unit; or

(4) Comply with paragraphs (g)(11)(i), (ii), and (h) of this section provided that the owner or operator of the affected source demonstrates that less than 5 percent of the total soluble HAP is emitted from waste management units up to the activated sludge unit.

(iii) The certifying entity may revoke the written certification by sending a written statement to the EPA and the owner or operator giving at least 90 days notice that the certifying entity is rescinding acceptance of responsibility for compliance with the regulatory provisions listed in this paragraph. Upon expiration of the notice period, the owner or operator may not transfer the wastewater stream or residual to the treatment operation.

(iv) By providing this written certification to the EPA, the certifying entity accepts responsibility for compliance with the regulatory provisions listed in paragraph (a)(5)(ii) of this section with respect to any shipment of wastewater or residual covered by the written certification. Failure to abide by any of those provisions with respect to such shipments may result in enforcement action by the EPA against the certifying entity in accordance with the enforcement provisions applicable to violations of these provisions by owners or operators of sources.

(v) Written certifications and revocation statements, to the EPA from the transferees of wastewater or residuals shall be signed by the responsible official of the certifying entity, provide the name and address of the certifying entity, and be sent to the appropriate EPA Regional Office at the addresses listed in §63.13. Such written certifications are not transferable by the treater.

(b) *Wastewater tanks.* For each wastewater tank that receives, manages, or treats affected wastewater or a residual removed from affected wastewater, the owner or operator shall comply with the requirements of either paragraph (b)(1) or (2) of this section as specified in Table 6 of this subpart.

(1) The owner or operator shall operate and maintain a fixed roof except when the contents of the wastewater tank are heated, treated by means of an exothermic reaction, or sparged, during which time the owner or operator shall comply with the requirements specified in paragraph (b)(2) of this section. For the purposes of this paragraph, the requirements of paragraph (b)(2) of this section are satisfied by operating and maintaining a fixed roof if the owner or operator demonstrates that the total soluble and partially soluble HAP emissions from the wastewater tank are no more than 5 percent higher than the emissions would be if the contents of the wastewater tank were not heated, treated by an exothermic reaction, or sparged.

(2) The owner or operator shall comply with the requirements in paragraphs (b)(3) through (9) of this section and shall operate and maintain one of the emission control techniques listed in paragraphs (b)(2)(i) through (iii) of this section.

(i) A fixed roof and a closed-vent system that routes the organic HAP vapors vented from the wastewater tank to a control device; or

(ii) A fixed roof and an internal floating roof that meets the requirements specified in §63.119(b), with the differences noted in §63.1257(c)(3)(i) through (iii) for the purposes of this subpart; or

(iii) An external floating roof that meets the requirements specified in §§63.119(c), 63.120(b)(5), and 63.120(b)(6), with the differences noted in §63.1257(c)(3)(i) through (v) for the purposes of this subpart.

(3) If the owner or operator elects to comply with the requirements of paragraph (b)(2)(i) of this section, the fixed roof shall meet the requirements of paragraph (b)(3)(i) of this section, the control device shall meet the requirements of paragraph (b)(3)(ii) of this section, and the closed-vent system shall meet the requirements of paragraph (b)(3)(iii) of this section.

(i) The fixed roof shall meet the following requirements:

(A) Except as provided in paragraph (b)(3)(iv) of this section, the fixed roof and all openings (e.g., access hatches, sampling ports, and gauge wells) shall be maintained in accordance with the requirements specified in §63.1258(h).

(B) Each opening shall be maintained in a closed position (e.g., covered by a lid) at all times that the wastewater tank contains affected wastewater or residual removed from affected wastewater except when it is necessary to use the opening for wastewater sampling, removal, or for equipment inspection, maintenance, or repair.

(ii) The control device shall be designed, operated, and inspected in accordance with the requirements of paragraph (h) of this section.

(iii) Except as provided in paragraph (b)(3)(iv) of this section, the closed-vent system shall be inspected in accordance with the requirements of §63.1258(h).

(iv) For any fixed roof tank and closed-vent system that is operated and maintained under negative pressure, the owner or operator is not required to comply with the requirements specified in §63.1258(h).

(4) If the owner or operator elects to comply with the requirements of paragraph (b)(2)(ii) of this section, the floating roof shall be inspected according to the procedures specified in §63.120(a)(2) and (3), with the differences noted in §63.1257(c)(3)(iv) for the purposes of this subpart.

(5) Except as provided in paragraph (b)(6) of this section, if the owner or operator elects to comply with the requirements of paragraph (b)(2)(iii) of this section, seal gaps shall be measured according to the procedures specified in §63.120(b)(2)(i) through (b)(4) and the wastewater tank shall be inspected to determine compliance with §63.120(b)(5) and (6) according to the schedule specified in §63.120(b)(1)(i) through (iii).

(6) If the owner or operator determines that it is unsafe to perform the seal gap measurements specified in §63.120(b)(2)(i) through (b)(4) or to inspect the wastewater tank to determine compliance with §63.120(b)(5) and (6) because the floating roof appears to be structurally unsound and poses an imminent or potential danger to inspecting personnel, the owner or operator shall comply with the requirements in either paragraph (b)(6)(i) or (ii) of this section.

(i) The owner or operator shall measure the seal gaps or inspect the wastewater tank within 30 calendar days of the determination that the floating roof is unsafe.

(ii) The owner or operator shall empty and remove the wastewater tank from service within 45 calendar days of determining that the roof is unsafe. If the wastewater tank cannot be emptied within 45 calendar days, the owner or operator may utilize up to two extensions of up to 30 additional calendar days each. Documentation of a decision to utilize an extension shall include an explanation of why it was unsafe to perform the inspection or seal gap measurement, shall document that alternate storage capacity is unavailable, and shall specify a schedule of actions that will ensure that the wastewater tank will be emptied as soon as possible.

(7) Except as provided in paragraph (b)(6) of this section, each wastewater tank shall be inspected initially, and semiannually thereafter, for improper work practices in accordance with §63.1258(g). For wastewater tanks, improper work practice includes, but is not limited to, leaving open any access door or other opening when such door or opening is not in use.

(8) Except as provided in paragraph (b)(6) of this section, each wastewater tank shall be inspected for control equipment failures as defined in paragraph (b)(8)(i) of this section according to the schedule in paragraphs (b)(8)(ii) and (iii) of this section in accordance with §63.1258(g).

(i) Control equipment failures for wastewater tanks include, but are not limited to, the conditions specified in paragraphs (b)(8)(i)(A) through (I) of this section.

(A) The floating roof is not resting on either the surface of the liquid or on the leg supports.

(B) There is stored liquid on the floating roof.

(C) A rim seal is detached from the floating roof.

(D) There are holes, tears, cracks or gaps in the rim seal or seal fabric of the floating roof.

(E) There are visible gaps between the seal of an internal floating roof and the wall of the wastewater tank.

(F) There are gaps between the metallic shoe seal or the liquid mounted primary seal of an external floating roof and the wall of the wastewater tank that exceed 212 square centimeters per meter of tank diameter or the width of any portion of any gap between the primary seal and the tank wall exceeds 3.81 centimeters.

(G) There are gaps between the secondary seal of an external floating roof and the wall of the wastewater tank that exceed 21.2 square centimeters per meter of tank diameter or the width of any portion of any gap between the secondary seal and the tank wall exceeds 1.27 centimeters.

(H) Where a metallic shoe seal is used on an external floating roof, one end of the metallic shoe does not extend into the stored liquid or one end of the metallic shoe does not extend a minimum vertical distance of 61 centimeters above the surface of the stored liquid.

(I) A gasket, joint, lid, cover, or door has a crack or gap, or is broken.

(ii) The owner or operator shall inspect for the control equipment failures in paragraphs (b)(8)(i)(A) through (H) according to the schedule specified in paragraphs (b)(4) and (5) of this section.

(iii) The owner or operator shall inspect for the control equipment failures in paragraph (b)(8)(i)(I) of this section initially, and semiannually thereafter.

(9) Except as provided in paragraph (i) of this section, when an improper work practice or a control equipment failure is identified, first efforts at repair shall be made no later than 5 calendar days after identification and repair shall be completed within 45 calendar days after identification. If a failure that is detected during inspections required by this section cannot be repaired within 45 calendar days and if the tank cannot be emptied within 45 calendar days, the owner or operator may utilize up to two extensions of up to 30 additional calendar days each. Documentation of a decision to utilize an extension shall include a description of the failure, shall document that alternate storage capacity is unavailable, and shall specify a schedule of actions that will ensure that the control equipment will be repaired or the tank will be emptied as soon as practical.

(10) The emission limits specified in §63.1256 (b)(2) and (h) for control devices used to control emissions from wastewater tanks do not apply during periods of planned routine maintenance of the control device(s) of no more than 240 hours in any 365-day period. The owner or operator may submit an application to the Administrator requesting an extension of this time limit to a total of 360 hours in any 365-day period. The application must explain why the extension is needed, it must specify that no affected wastewater will be added to the tank between the time the 240-hour limit is exceeded and the control device is again operational, and it must be submitted at least 60 days before the 240-hour limit will be exceeded. Wastewater tanks shall not be sparged with air or other gases without an operational control device.

(c) *Surface impoundments.* For each surface impoundment that receives, manages, or treats affected wastewater or a residual removed from affected wastewater, the owner or operator shall comply with the requirements of paragraphs (c)(1), (2), and (3) of this section.

(1) The owner or operator shall operate and maintain on each surface impoundment either a cover (e.g., air-supported structure or rigid cover) and a closed-vent system that routes the organic hazardous air pollutants vapors vented from the surface impoundment to a control device in accordance with paragraphs (c)(1)(i), (ii), (iv), and (v) of this section, or a floating flexible membrane cover as specified in paragraph (c)(1)(ii) of this section.

(i) The cover and all openings shall meet the following requirements:

(A) Except as provided in paragraph (c)(1)(v) of this section, the cover and all openings (e.g., access hatches, sampling ports, and gauge wells) shall be maintained in accordance with the requirements specified in §63.1258(h).

(B) Each opening shall be maintained in a closed position (e.g., covered by a lid) at all times that affected wastewater or residual removed from affected wastewater is in the surface impoundment except when it is necessary to use the opening for sampling, removal, or for equipment inspection, maintenance, or repair.

(C) The cover shall be used at all times that affected wastewater or residual removed from affected wastewater is in the surface impoundment except during removal of treatment residuals in accordance with 40 CFR 268.4 or closure of the surface impoundment in accordance with 40 CFR 264.228.

(ii) Floating flexible membrane covers shall meet the requirements specified in paragraphs (c)(1)(ii)(A) through (F) of this section.

(A) The floating flexible cover shall be designed to float on the liquid surface during normal operations, and to form a continuous barrier over the entire surface area of the liquid.

(B) The cover shall be fabricated from a synthetic membrane material that is either:

(1) High density polyethylene (HDPE) with a thickness no less than 2.5 millimeters (100 mils); or

(2) A material or a composite of different materials determined to have both organic permeability properties that are equivalent to those of the material listed in paragraph (c)(1)(ii)(B)(1) of this section, and chemical and physical properties that maintain the material integrity for the intended service life of the material.

(C) The cover shall be installed in a manner such that there are no visible cracks, holes, gaps, or other open spaces between cover section seams or between the interface of the cover edge and its foundation mountings.

(D) Except as provided for in paragraph (c)(1)(ii)(E) of this section, each opening in the floating membrane cover shall be equipped with a closure device designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device.

(E) The floating membrane cover may be equipped with one or more emergency cover drains for removal of stormwater. Each emergency cover drain shall be equipped with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening or a flexible fabric sleeve seal.

(F) The closure devices shall be made of suitable materials that will minimize exposure of organic HAP to the atmosphere, to the extent practical, and will maintain the integrity of the equipment throughout its intended service life. Factors to be considered in designing the closure devices shall include: the effects of any contact with the liquid and its vapor managed in

the surface impoundment; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the surface impoundment on which the floating membrane cover is installed.

(G) Whenever affected wastewater or residual from affected wastewater is in the surface impoundment, the floating membrane cover shall float on the liquid and each closure device shall be secured in the closed position. Opening of closure devices or removal of the cover is allowed to provide access to the surface impoundment for performing routine inspection, maintenance, or other activities needed for normal operations and/or to remove accumulated sludge or other residues from the bottom of surface impoundment. Openings shall be maintained in accordance with §63.1258(h).

(iii) The control device shall be designed, operated, and inspected in accordance with paragraph (h) of this section.

(iv) Except as provided in paragraph (c)(1)(v) of this section, the closed-vent system shall be inspected in accordance with §63.1258(h).

(v) For any cover and closed-vent system that is operated and maintained under negative pressure, the owner or operator is not required to comply with the requirements specified in §63.1258(h).

(2) Each surface impoundment shall be inspected initially, and semiannually thereafter, for improper work practices and control equipment failures in accordance with §63.1258(g).

(i) For surface impoundments, improper work practice includes, but is not limited to, leaving open any access hatch or other opening when such hatch or opening is not in use.

(ii) For surface impoundments, control equipment failure includes, but is not limited to, any time a joint, lid, cover, or door has a crack or gap, or is broken.

(3) Except as provided in paragraph (i) of this section, when an improper work practice or a control equipment failure is identified, first efforts at repair shall be made no later than 5 calendar days after identification and repair shall be completed within 45 calendar days after identification.

(d) *Containers.* For each container that receives, manages, or treats affected wastewater or a residual removed from affected wastewater, the owner or operator shall comply with the requirements of paragraphs (d)(1) through (5) of this section.

(1) The owner or operator shall operate and maintain a cover on each container used to handle, transfer, or store affected wastewater or a residual removed from affected wastewater in accordance with the following requirements:

(i) Except as provided in paragraph (d)(3)(iv) of this section, if the capacity of the container is greater than 0.42 m³, the cover and all openings (e.g., bungs, hatches, sampling points, and pressure relief valves) shall be controlled in accordance with the requirements of either paragraph (d)(1)(i)(A) or (d)(1)(i)(B) of this section.

(A) The requirements specified in §63.1258(h); or

(B) The requirements of subpart PP of this part for containers using level 2 controls that meet the definitions in §63.923(b)(1) or (2).

(ii) If the capacity of the container is less than or equal to 0.42 m³, the owner or operator shall comply with either paragraph (d)(1)(ii)(A) or (B) of this section.

(A) The container must meet existing Department of Transportation specifications and testing requirements under 49 CFR Part 178; or

(B) Except as provided in paragraph (d)(3)(iv) of this section, the cover and all openings shall be maintained without leaks as specified in §63.1258(h).

(iii) The cover and all openings shall be maintained in a closed position (e.g., covered by a lid) at all times that affected wastewater or a residual removed from affected wastewater is in the container except when it is necessary to use the opening for filling, removal, inspection, sampling, or pressure relief events related to safety considerations.

(2) *Filling of large containers.* Pumping affected wastewater or a residual removed from affected wastewater into a container with a capacity greater than or equal to 0.42 m³ shall be conducted in accordance with the conditions in paragraphs (d)(2)(i) and (ii) of this section.

(i) Comply with any one of the procedures specified in paragraph (d)(2)(i)(A), (B), or (C) of this section.

(A) Use a submerged fill pipe. The submerged fill pipe outlet shall extend to no more than 6 inches or within two fill pipe diameters of the bottom of the container while the container is being filled.

(B) Locate the container within an enclosure with a closed-vent system that routes the organic HAP vapors vented from the container to a control device.

(C) Use a closed-vent system to vent the displaced organic vapors vented from the container to a control device or back to the equipment from which the wastewater is transferred.

(ii) The cover shall remain in place and all openings shall be maintained in a closed position except for those openings required for the submerged fill pipe and for venting of the container to prevent physical damage or permanent deformation of the container or cover.

(3) During treatment of affected wastewater or a residual removed from affected wastewater, including aeration, thermal or other treatment, in a container, whenever it is necessary for the container to be open, the container shall be located within an enclosure with a closed-vent system that routes the organic HAP vapors vented from the container to a control device.

(i) Except as provided in paragraph (d)(3)(iv) of this section, the enclosure and all openings (e.g., doors, hatches) shall be maintained in accordance with the requirements specified in §63.1258(h).

(ii) The control device shall be designed, operated, and inspected in accordance with paragraph (h) of this section.

(iii) Except as provided in paragraph (d)(3)(iv) of this section, the closed-vent system shall be inspected in accordance with §63.1258(h).

(iv) For any enclosure and closed-vent system that is operated and maintained under negative pressure, the owner or operator is not required to comply with the requirements specified in §63.1258(h).

(4) Each container shall be inspected initially, and semiannually thereafter, for improper work practices and control equipment failures in accordance with §63.1258(g).

(i) For containers, improper work practice includes, but is not limited to, leaving open any access hatch or other opening when such hatch or opening is not in use.

(ii) For containers, control equipment failure includes, but is not limited to, any time a cover or door has a gap or crack, or is broken.

(5) Except as provided in paragraph (i) of this section, when an improper work practice or a control equipment failure is identified, first efforts at repair shall be made no later than 5 calendar days after identification and repair shall be completed within 15 calendar days after identification.

(e) *Individual drain systems.* For each individual drain system that receives or manages affected wastewater or a residual removed from affected wastewater, the owner or operator shall comply with the requirements of paragraphs (e) (1), (2), and (3) or with paragraphs (e) (4), (5), and (6) of this section.

(1) If the owner or operator elects to comply with this paragraph, the owner or operator shall operate and maintain on each opening in the individual drain system a cover and if vented, route the vapors to a process or through a closed-vent system to a control device. The owner or operator shall comply with the requirements of paragraphs (e)(1) (i) through (v) of this section.

(i) The cover and all openings shall meet the following requirements:

(A) Except as provided in paragraph (e)(1)(iv) of this section, the cover and all openings (e.g., access hatches, sampling ports) shall be maintained in accordance with the requirements specified in §63.1258(h).

(B) The cover and all openings shall be maintained in a closed position at all times that affected wastewater or a residual removed from affected wastewater is in the drain system except when it is necessary to use the opening for sampling or removal, or for equipment inspection, maintenance, or repair.

(ii) The control device shall be designed, operated, and inspected in accordance with paragraph (h) of this section.

(iii) Except as provided in paragraph (e)(1)(iv) of this section, the closed-vent system shall be inspected in accordance with §63.1258(h).

(iv) For any cover and closed-vent system that is operated and maintained under negative pressure, the owner or operator is not required to comply with the requirements specified in §63.1258(h).

(v) The individual drain system shall be designed and operated to segregate the vapors within the system from other drain systems and the atmosphere.

(2) Each individual drain system shall be inspected initially, and semiannually thereafter, for improper work practices and control equipment failures, in accordance with §63.1258(g).

(i) For individual drain systems, improper work practice includes, but is not limited to, leaving open any access hatch or other opening when such hatch or opening is not in use for sampling or removal, or for equipment inspection, maintenance, or repair.

(ii) For individual drain systems, control equipment failure includes, but is not limited to, any time a joint, lid, cover, or door has a gap or crack, or is broken.

(3) Except as provided in paragraph (i) of this section, when an improper work practice or a control equipment failure is identified, first efforts at repair shall be made no later than 5 calendar days after identification and repair shall be completed within 15 calendar days after identification.

(4) If the owner or operator elects to comply with this paragraph, the owner or operator shall comply with the requirements in paragraphs (e)(4) (i) through (iii) of this section:

(i) Each drain shall be equipped with water seal controls or a tightly fitting cap or plug. The owner or operator shall comply with paragraphs (e)(4)(i)(A) and (B) of this section.

(A) For each drain equipped with a water seal, the owner or operator shall ensure that the water seal is maintained. For example, a flow-monitoring device indicating positive flow from a main to a branch water line supplying a trap or water being continuously dripped into the trap by a hose could be used to verify flow of water to the trap. Visual observation is also an acceptable alternative.

(B) If a water seal is used on a drain receiving affected wastewater, the owner or operator shall either extend the pipe discharging the wastewater below the liquid surface in the water seal of the receiving drain, or install a flexible shield (or other enclosure which restricts wind motion across the open area between the pipe and the drain) that encloses the space between the pipe discharging the wastewater to the drain receiving the wastewater. (Water seals which are used on hubs receiving wastewater that is not subject to the provisions of this subpart for the purpose of eliminating cross ventilation to drains carrying affected wastewater are not required to have a flexible shield or extended subsurface discharging pipe.)

(ii) Each junction box shall be equipped with a tightly fitting solid cover (i.e., no visible gaps, cracks, or holes) which shall be kept in place at all times except during inspection and maintenance. If the junction box is vented, the owner or operator shall comply with the requirements in paragraph (e)(4)(ii) (A) or (B) of this section.

(A) The junction box shall be vented to a process or through a closed-vent system to a control device. The closed-vent system shall be inspected in accordance with the requirements of §63.1258(h) and the control device shall be designed, operated, and inspected in accordance with the requirements of paragraph (h) of this section.

(B) If the junction box is filled and emptied by gravity flow (i.e., there is no pump) or is operated with no more than slight fluctuations in the liquid level, the owner or operator may vent the junction box to the atmosphere provided that the junction box complies with the requirements in paragraphs (e)(4)(ii)(B) (1) and (2) of this section.

(1) The vent pipe shall be at least 90 centimeters in length and no greater than 10.2 centimeters in nominal inside diameter.

(2) Water seals shall be installed and maintained at the wastewater entrance(s) to or exit from the junction box restricting ventilation in the individual drain system and between components in the individual drain system. The owner or operator shall demonstrate (e.g., by visual inspection or smoke test) upon request by the Administrator that the junction box water seal is properly designed and restricts ventilation.

(iii) The owner or operator shall operate and maintain sewer lines as specified in paragraphs (e)(4)(iii)(A) and (B) of this section.

(A) Except as specified in paragraph (e)(4)(iii)(B) of this section, each sewer line shall not be open to the atmosphere and shall be covered or enclosed in a manner so as to have no visible gaps or cracks in joints, seals, or other emission interfaces.

Note: This provision applies to sewers located inside and outside of buildings.

(B) A sewer line connected to drains that are in compliance with paragraph (e)(4)(i) of this section may be vented to the atmosphere, provided that the sewer line entrance to the first downstream junction box is water sealed and the sewer line vent pipe is designed as specified in paragraph (e)(4)(ii)(B)(1) of this section.

(5) Equipment used to comply with paragraphs (e)(4) (i), (ii), or (iii) of this section shall be inspected as follows:

(i) Each drain using a tightly fitting cap or plug shall be visually inspected initially, and semiannually thereafter, to ensure caps or plugs are in place and that there are no gaps, cracks, or other holes in the cap or plug.

(ii) Each junction box shall be visually inspected initially, and semiannually thereafter, to ensure that there are no gaps, cracks, or other holes in the cover.

(iii) The unburied portion of each sewer line shall be visually inspected initially, and semiannually thereafter, for indication of cracks or gaps that could result in air emissions.

(6) Except as provided in paragraph (i) of this section, when a gap, hole, or crack is identified in a joint or cover, first efforts at repair shall be made no later than 5 calendar days after identification, and repair shall be completed within 15 calendar days after identification.

(f) *Oil-water separators.* For each oil-water separator that receives, manages, or treats affected wastewater or a residual removed from affected wastewater, the owner or operator shall comply with the requirements of paragraphs (f)(1) through (6) of this section.

(1) The owner or operator shall maintain one of the following:

(i) A fixed roof and a closed-vent system that routes the organic HAP vapors vented from the oil-water separator to a control device. The fixed roof, closed-vent system, and control device shall meet the requirements specified in paragraph (f)(2) of this section;

(ii) A floating roof that meets the requirements in 40 CFR 60.693–2(a)(1)(i), (a)(1)(ii), (a)(2), (a)(3), and (a)(4). For portions of the oil-water separator where it is infeasible to construct and operate a floating roof, such as over the weir mechanism, the owner or operator shall operate and maintain a fixed roof, closed-vent system, and control device that meet the requirements specified in paragraph (f)(2) of this section.

(2) A fixed roof shall meet the requirements of paragraph (f)(2)(i) of this section, a control device shall meet the requirements of paragraph (f)(2)(ii) of this section, and a closed-vent system shall meet the requirements of (f)(2)(iii) of this section.

(i) The fixed roof shall meet the following requirements:

(A) Except as provided in (f)(2)(iv) of this section, the fixed roof and all openings (e.g., access hatches, sampling ports, and gauge wells) shall be maintained in accordance with the requirements specified in §63.1258(h).

(B) Each opening shall be maintained in a closed, sealed position (e.g., covered by a lid that is gasketed and latched) at all times that the oil-water separator contains affected wastewater or a residual removed from affected wastewater except when it is necessary to use the opening for sampling or removal, or for equipment inspection, maintenance, or repair.

(ii) The control device shall be designed, operated, and inspected in accordance with the requirements of paragraph (h) of this section.

(iii) Except as provided in paragraph (f)(2)(iv) of this section, the closed-vent system shall be inspected in accordance with the requirements of §63.1258(h).

(iv) For any fixed-roof and closed-vent system that is operated and maintained under negative pressure, the owner or operator is not required to comply with the requirements of §63.1258(h).

(3) If the owner or operator elects to comply with the requirements of paragraph (f)(1)(ii) of this section, seal gaps shall be measured according to the procedures specified in 40 CFR Part 60, subpart QQQ §60.696(d)(1) and the schedule specified in paragraphs (f)(3)(i) and (ii) of this section.

(i) Measurement of primary seal gaps shall be performed within 60 calendar days after installation of the floating roof and introduction of affected wastewater or a residual removed from affected wastewater and once every 5 years thereafter.

(ii) Measurement of secondary seal gaps shall be performed within 60 calendar days after installation of the floating roof and introduction of affected wastewater or a residual removed from affected wastewater and once every year thereafter.

(4) Each oil-water separator shall be inspected initially, and semiannually thereafter, for improper work practices in accordance with §63.1258(g). For oil-water separators, improper work practice includes, but is not limited to, leaving open or ungasketed any access door or other opening when such door or opening is not in use.

(5) Each oil-water separator shall be inspected for control equipment failures as defined in paragraph (f)(5)(i) of this section according to the schedule specified in paragraphs (f)(5)(ii) and (iii) of this section.

(i) For oil-water separators, control equipment failure includes, but is not limited to, the conditions specified in paragraphs (f)(5)(i)(A) through (G) of this section.

(A) The floating roof is not resting on either the surface of the liquid or on the leg supports.

(B) There is stored liquid on the floating roof.

(C) A rim seal is detached from the floating roof.

(D) There are holes, tears, or other open spaces in the rim seal or seal fabric of the floating roof.

(E) There are gaps between the primary seal and the separator wall that exceed 67 square centimeters per meter of separator wall perimeter or the width of any portion of any gap between the primary seal and the separator wall exceeds 3.8 centimeters.

(F) There are gaps between the secondary seal and the separator wall that exceed 6.7 square centimeters per meter of separator wall perimeter or the width of any portion of any gap between the secondary seal and the separator wall exceeds 1.3 centimeters.

(G) A gasket, joint, lid, cover, or door has a gap or crack, or is broken.

(ii) The owner or operator shall inspect for the control equipment failures in paragraphs (f)(5)(i)(A) through (F) according to the schedule specified in paragraph (f)(3) of this section.

(iii) The owner or operator shall inspect for control equipment failures in paragraph (f)(5)(i)(G) of this section initially, and semiannually thereafter.

(6) Except as provided in paragraph (i) of this section, when an improper work practice or a control equipment failure is identified, first efforts at repair shall be made no later than 5 calendar days after identification and repair shall be completed within 45 calendar days after identification.

(g) Performance standards for treatment processes managing wastewater and/or residuals removed from wastewater. This section specifies the performance standards for treating affected wastewater. The owner or operator shall comply with the requirements as specified in paragraphs (g)(1) through (6) of this section. Where multiple compliance options are provided, the options may be used in combination for different wastewater and/or for different compounds (e.g., soluble versus partially soluble compounds) in the same wastewater, except where otherwise provided in this section. Once affected wastewater or a residual removed from affected wastewater has been treated in accordance with this subpart, it is no longer subject to the requirements of this subpart.

(1) *Existing source.* For a wastewater stream at an existing source that exceeds or is designated to exceed the concentration and load criteria in paragraph (a)(1)(i)(A) of this section, the owner or operator shall comply with a control option in paragraph (g)(8) of this section. For a wastewater stream at an existing source that exceeds the concentration and load criteria in either paragraph (a)(1)(i)(B) or (C) of this section, the owner or operator shall comply with a control option in paragraph (g)(8) of this section and a control option in paragraph (g)(9) of this section. As an alternative to the control options in

paragraphs (g)(8) and (g)(9) of this section, the owner or operator may comply with a control option in either paragraph (g)(10), (11) or (13) of this section, as applicable.

(2) *New source.* For a wastewater stream at a new source that exceeds or is designated to exceed the concentration and load criteria in paragraph (a)(1)(i)(A) of this section, the owner or operator shall comply with a control option in paragraph (g)(8) of this section. For wastewater at a new source that exceeds the concentration and load criteria in either paragraph (a)(1)(i)(B) or (C) of this section, but does not exceed the criteria in paragraph (a)(1)(i)(D) of this section, the owner or operator shall comply with a control option in paragraph (g)(8) of this section and a control option in paragraph (g)(9) of this section. As an alternative to the control options in paragraphs (g)(8) and/or (9) of this section, the owner or operator may comply with a control option in either paragraph (g)(10), (11), or (13) of this section, as applicable. For a wastewater stream at a new source that exceeds or is designated to exceed the concentration and load criteria in paragraph (a)(1)(i)(D) of this section, the owner or operator shall comply with a control option in paragraph (g)(12) or (13) of this section.

(3) *Biological treatment processes.* Biological treatment processes in compliance with this section may be either open or closed biological treatment processes as defined in §63.1251. An open biological treatment process in compliance with this section need not be covered and vented to a control device. An open or a closed biological treatment process in compliance with this section and using §63.1257(e)(2)(iii)(E) or (F) to demonstrate compliance is not subject to the requirements of paragraphs (b) and (c) of this section. A closed biological treatment process in compliance with this section and using §63.1257(e)(2)(iii)(G) to demonstrate compliance shall comply with the requirements of paragraphs (b) and (c) of this section. Waste management units upstream of an open or closed biological treatment process shall meet the requirements of paragraphs (b) through (f) of this section, as applicable.

(4) *Performance tests and design evaluations.* If the Resource Conservation and Recovery Act (RCRA) option [paragraph (g)(13) of this section] or the enhanced biological treatment process for soluble HAP compounds option [paragraph (g)(10) of this section] is selected to comply with this section, neither a design evaluation nor a performance test is required. For any other nonbiological treatment process, and for closed biological treatment processes as defined in §63.1251, the owner or operator shall conduct either a design evaluation as specified in §63.1257(e)(2)(ii) or performance test as specified in §63.1257(e)(2)(iii). For each open biological treatment process as defined in §63.1251, the owner or operator shall conduct a performance test as specified in §63.1257(e)(2)(iii)(E) or (F).

(5) *Control device requirements.* When gases are vented from the treatment process, the owner or operator shall comply with the applicable control device requirements specified in paragraph (h) of this section and §63.1257(e)(3), and the applicable leak inspection provisions specified in §63.1258(h). This requirement is in addition to the requirements for treatment systems specified in paragraphs (g)(8) through (14) of this section. This requirement does not apply to any open biological treatment process that meets the mass removal requirements.

(6) *Residuals: general.* When residuals result from treating affected wastewater, the owner or operator shall comply with the requirements for residuals specified in paragraph (g)(14) of this section.

(7) *Treatment using a series of treatment processes.* In all cases where the wastewater provisions in this subpart allow or require the use of a treatment process or control device to comply with emissions limitations, the owner or operator may use multiple treatment processes or control devices, respectively. For combinations of treatment processes where the wastewater stream is conveyed by hard-piping, the owner or operator shall comply with either the requirements of paragraph (g)(7)(i) or (ii) of this section. For combinations of treatment processes where the wastewater stream is not conveyed by hard-piping, the owner or operator shall comply with the requirements of paragraph (g)(7)(ii) of this section. For combinations of control devices, the owner or operator shall comply with the requirements of paragraph (g)(7)(i) of this section.

(i) *Compliance across the combination of all treatment units or control devices in series.* (A) For combinations of treatment processes, the wastewater stream shall be conveyed by hard-piping between the treatment processes. For combinations of control devices, the vented gas stream shall be conveyed by hard-piping between the control devices.

(B) For combinations of treatment processes, each treatment process shall meet the applicable requirements of paragraphs (b) through (f) of this section, except as provided in paragraph (g)(3) of this section.

(C) The owner or operator shall identify, and keep a record of, the combination of treatment processes or of control devices, including identification of the first and last treatment process or control device. The owner or operator shall include this information as part of the treatment process description reported in the Notification of Compliance Status.

(D) The performance test or design evaluation shall determine compliance across the combination of treatment processes or control devices. If a performance test is conducted, the “inlet” shall be the point at which the wastewater stream or residual enters the first treatment process, or the vented gas stream enters the first control device. The “outlet” shall be the point at which the treated wastewater stream exits the last treatment process, or the vented gas stream exits the last control device.

(ii) *Compliance across individual units.* (A) For combinations of treatment processes, each treatment process shall meet the applicable requirements of paragraphs (b) through (f) of this section except as provided in paragraph (g)(3) of this section.

(B) The owner or operator shall identify, and keep a record of, the combination of treatment processes, including identification of the first and last treatment process. The owner or operator shall include this information as part of the treatment process description reported in the Notification of Compliance Status report.

(C) The owner or operator shall determine the mass removed or destroyed by each treatment process. The performance test or design evaluation shall determine compliance for the combination of treatment processes by adding together the mass removed or destroyed by each treatment process and determine the overall control efficiency of the treatment system.

(8) *Control options: Wastewater containing partially soluble HAP compounds.* The owner or operator shall comply with either paragraph (g)(8)(i) or (ii) of this section for the control of partially soluble HAP compounds at new or existing sources.

(i) *50 ppmw concentration option.* The owner or operator shall comply with paragraphs (g)(8)(i)(A) and (B) of this section.

(A) Reduce, by removal or destruction, the concentration of total partially soluble HAP compounds to a level less than 50 ppmw as determined by the procedures specified in §63.1257(e)(2)(iii)(B).

(B) This option shall not be used when the treatment process is a biological treatment process. This option shall not be used when the wastewater is designated as an affected wastewater as specified in paragraph (a)(1)(ii) of this section. Dilution shall not be used to achieve compliance with this option.

(ii) *Percent mass removal/destruction option.* The owner or operator shall reduce, by removal or destruction, the mass of total partially soluble HAP compounds by 99 percent or more. The removal destruction efficiency shall be determined by the procedures specified in §63.1257(e)(2)(ii) or (iii)(C) for noncombustion, nonbiological treatment processes; §63.1257(e)(2)(ii) or (iii)(D) for combustion processes; §63.1257(e)(2)(iii)(F) for open biological treatment processes; and §63.1257(e)(2)(ii) or (iii)(G) for closed biological treatment processes.

(9) *Control options: Wastewater containing soluble HAP compounds.* The owner or operator shall comply with either paragraph (g)(9)(i) or (ii) of this section for the control of soluble HAP compounds at new or existing sources.

(i) *520 ppmw concentration option.* The owner or operator shall comply with paragraphs (g)(9)(i)(A) and (B) of this section.

(A) Reduce, by removal or destruction, the concentration of total soluble HAP compounds to a level less than 520 ppmw as determined in the procedures specified in §63.1257(e)(2)(iii)(B).

(B) This option shall not be used when the treatment process is a biological treatment process. This option shall not be used when the wastewater is designated as an affected wastewater as specified in paragraph (a)(1)(ii) of this section. Dilution shall not be used to achieve compliance with this option.

(ii) *Percent mass removal/destruction option.* The owner or operator shall reduce the mass of total soluble HAP by 90 percent or more, either by removal or destruction. The removal/destruction efficiency shall be determined by the procedures in

§63.1257(e)(2)(ii) or (e)(2)(iii)(C) for noncombustion, nonbiological treatment processes; §63.1257(e)(2)(ii) or (e)(2)(iii)(D) for combustion processes; §63.1257(e)(2)(iii)(F) for open biological treatment processes; and §63.1257(e)(2)(ii) or (e)(2)(iii)(G) for closed, biological treatment processes.

(10) *Control option: Enhanced biotreatment for wastewater containing soluble HAP.* The owner or operator may elect to treat affected wastewater streams containing soluble HAP in an enhanced biological treatment system, as defined in §63.1251, provided the wastewater stream contains less than 50 ppmw partially soluble HAP, or the owner or operator complies with the requirements of paragraph (g)(8) of this section before treating the affected wastewater stream in the enhanced biological treatment system. This option shall not be used when the wastewater is designated as an affected wastewater as specified in paragraph (a)(1)(ii) of this section. These treatment processes are exempt from the design evaluation or performance tests requirements specified in paragraph (g)(4) of this section.

(11) *95-percent mass reduction option, for biological treatment processes.* The owner or operator of a new or existing source using biological treatment for any affected wastewater shall reduce the mass of total soluble and partially soluble HAP sent to that biological treatment unit by at least 95 percent. All wastewater as defined in §63.1251 entering such a biological treatment unit from PMPU's subject to this subpart shall be included in the demonstration of the 95-percent mass removal. The owner or operator shall comply with paragraphs (g)(11)(i) through (iv) of this section.

(i) Except as provided in paragraph (g)(11)(iv) of this section, the owner or operator shall ensure that all wastewater from PMPU's subject to this subpart entering a biological treatment unit are treated to destroy at least 95-percent total mass of all soluble and partially soluble HAP compounds.

(ii) For open biological treatment processes, compliance shall be determined using the procedures specified in §63.1257(e)(2)(iii)(E). For closed aerobic biological treatment processes, compliance shall be determined using the procedures specified in §63.1257(e)(2)(ii), (iii)(E), or (iii)(G). For closed anaerobic biological treatment processes, compliance shall be determined using the procedures specified in §63.1257(e)(2)(ii) or (iii)(G).

(iii) For each treatment process or waste management unit that receives, manages, or treats wastewater subject to this paragraph, from the POD to the biological treatment unit, the owner or operator shall comply with paragraphs (b) through (f) of this section for control of air emissions. When complying with this paragraph, the term affected wastewater in paragraphs (b) through (f) of this section shall mean all wastewater from PMPU's, not just affected wastewater.

(iv) If wastewater is in compliance with the requirements in paragraph (g)(8), (9), or (12) of this section before entering the biological treatment unit, the hazardous air pollutants mass of that wastewater is not required to be included in the total mass flow rate entering the biological treatment unit for the purpose of demonstrating compliance.

(12) *Percent mass removal/destruction option for soluble HAP compounds at new sources.* The owner or operator of a new source shall reduce, by removal or destruction, the mass flow rate of total soluble HAP from affected wastewater by 99 percent or more. The removal/destruction efficiency shall be determined by the procedures in §63.1257(e)(2)(ii) or (iii)(C) for noncombustion, nonbiological treatment processes; §63.1257(e)(2)(ii) and (iii)(D) for combustion processes; §63.1257(e)(2)(iii)(F) for open biological treatment processes; and §63.1257(e)(2)(ii) or (iii)(G) for closed biological treatment processes.

(13) *Treatment in a RCRA unit option.* The owner or operator shall treat the affected wastewater or residual in a unit identified in, and complying with, paragraph (g)(13)(i), (ii), or (iii) of this section. These units are exempt from the design evaluation or performance tests requirements specified in paragraph (g)(4) of this section and §63.1257(e)(2), and from the monitoring requirements specified in paragraph (a)(2)(iii) of this section, as well as recordkeeping and reporting requirements associated with monitoring and performance tests.

(i) The wastewater or residual is discharged to a hazardous waste incinerator for which the owner or operator has been issued a final permit under 40 CFR Part 270 and complies with the requirements of 40 CFR Part 264, subpart O, or has certified compliance with the interim status requirements of 40 CFR Part 265, subpart O;

(ii) The wastewater or residual is discharged to a process heater or boiler burning hazardous waste for which the owner or operator:

(A) Has been issued a final permit under 40 CFR Part 270 and complies with the requirements of 40 CFR Part 266, subpart H; or

(B) Has certified compliance with the interim status requirements of 40 CFR Part 266, subpart H.

(iii) The wastewater or residual is discharged to an underground injection well for which the owner or operator has been issued a final permit under 40 CFR Part 270 or 40 CFR Part 144 and complies with the requirements of 40 CFR Part 122. The owner or operator shall comply with all applicable requirements of this subpart prior to the point where the wastewater enters the underground portion of the injection well.

(14) *Residuals*. For each residual removed from affected wastewater, the owner or operator shall control for air emissions by complying with paragraphs (b) through (f) of this section and by complying with one of the provisions in paragraphs (g)(14)(i) through (iv) of this section.

(i) Recycle the residual to a production process or sell the residual for the purpose of recycling. Once a residual is returned to a production process, the residual is no longer subject to this section.

(ii) Return the residual to the treatment process.

(iii) Treat the residual to destroy the total combined mass flow rate of soluble and/or partially soluble HAP compounds by 99 percent or more, as determined by the procedures specified in §63.1257(e)(2)(iii)(C) or (D).

(iv) Comply with the requirements for RCRA treatment options specified in paragraph (g)(13) of this section.

(h) *Control devices*. For each control device or combination of control devices used to comply with the provisions in paragraphs (b) through (f) and (g)(5) of this section, the owner or operator shall operate and maintain the control device or combination of control devices in accordance with the requirements of paragraphs (h)(1) through (5) of this section.

(1) Whenever organic HAP emissions are vented to a control device which is used to comply with the provisions of this subpart, such control device shall be operating.

(2) The control device shall be designed and operated in accordance with paragraph (h)(2) (i), (ii), (iii), (iv), or (v) of this section, as demonstrated by the provisions in §63.1257(e)(3).

(i) An enclosed combustion device (including but not limited to a vapor incinerator, boiler, or process heater) shall meet the conditions in paragraph (h)(2)(i) (A), (B), or (C) of this section, alone or in combination with other control devices. If a boiler or process heater is used as the control device, then the vent stream shall be introduced into the flame zone of the boiler or process heater.

(A) Reduce the organic HAP emissions vented to the control device by 95 percent by weight or greater;

(B) Achieve an outlet TOC concentration of 20 ppmv on a dry basis corrected to 3 percent oxygen. The owner or operator shall use either Method 18 of 40 CFR Part 60, appendix A, or any other method or data that has been validated according to the applicable procedures in Method 301 of appendix A of this part; or

(C) Provide a minimum residence time of 0.5 seconds at a minimum temperature of 760 °C.

(ii) A vapor recovery system (including but not limited to a carbon adsorption system or condenser), alone or in combination with other control devices, shall reduce the organic HAP emissions vented to the control device by 95 percent by weight or

greater or achieve an outlet TOC concentration of 20 ppmv. The 20 ppmv performance standard is not applicable to compliance with the provisions of paragraphs (c) or (d) of this section.

(iii) A flare shall comply with the requirements of §63.11(b).

(iv) A scrubber, alone or in combination with other control devices, shall reduce the organic HAP emissions in such a manner that 95 weight-percent is either removed, or destroyed by chemical reaction with the scrubbing liquid, or achieve an outlet TOC concentration of 20 ppmv. The 20 ppmv performance standard is not applicable to compliance with the provisions of paragraphs (c) or (d) of this section.

(v) Any other control device used shall, alone or in combination with other control devices, reduce the organic HAP emissions vented to the control device by 95 percent by weight or greater or achieve an outlet TOC concentration of 20 ppmv. The 20 ppmv performance standard is not applicable to compliance with the provisions of paragraphs (c) or (d) of this section.

(3) If the control device is a combustion device, the owner or operator shall comply with the requirements in §63.1252(g) to control halogenated vent streams.

(4) Except as provided in paragraph (i) of this section, if gaps, cracks, tears, or holes are observed in ductwork, piping, or connections to covers and control devices during an inspection, a first effort to repair shall be made as soon as practical but no later than 5 calendar days after identification. Repair shall be completed no later than 15 calendar days after identification or discovery of the defect.

(5) The provisions in paragraphs (h)(1) through (4) of this section apply at all times, except as specified in §63.1250(g). The owner or operator may not comply with the planned routine maintenance provisions in §63.1252(h) for vent streams from waste management units.

(i) *Delay of repair.* Delay of repair of equipment for which a control equipment failure or a gap, crack, tear, or hole has been identified, is allowed if the repair is technically infeasible without a shutdown, as defined in §63.1251, or if the owner or operator determines that emissions of purged material from immediate repair would be greater than the emissions likely to result from delay of repair. Repair of this equipment shall occur by the end of the next shutdown.

(1) Delay of repair of equipment for which a control equipment failure or a gap, crack, tear, or hole has been identified, is allowed if the equipment is emptied or is no longer used to treat or manage affected wastewater or residuals removed from affected wastewater.

(2) Delay of repair of equipment for which a control equipment failure or a gap, crack, tear, or hole has been identified is also allowed if additional time is necessary due to the unavailability of parts beyond the control of the owner or operator. Repair shall be completed as soon as practical. The owner or operator who uses this provision shall comply with the requirements of §63.1259(h) to document the reasons that the delay of repair was necessary.

[63 FR 50326, Sept. 21, 1998, as amended at 65 FR 52607, Aug. 29, 2000; 66 FR 40133, Aug. 2, 2001; 70 FR 25670, May 13, 2005; 71 FR 20459, Apr. 20, 2006; 76 FR 22600, Apr. 21, 2011]

§ 63.1257 Test methods and compliance procedures.

(a) *General.* Except as specified in paragraph (a)(5) of this section, the procedures specified in paragraphs (c), (d), (e), and (f) of this section are required to demonstrate initial compliance with §§63.1253, 63.1254, 63.1256, and 63.1252(e), respectively. The provisions in paragraphs (a)(2) and (3) apply to performance tests that are specified in paragraphs (c), (d), and (e) of this section. The provisions in paragraph (a)(5) of this section are used to demonstrate initial compliance with the alternative standards specified in §§63.1253(d) and 63.1254(c). The provisions in paragraph (a)(6) of this section are used to comply with the outlet concentration requirements specified in §§63.1253(c), 63.1254(a)(2)(i), and (a)(3)(ii)(B), 63.1254(b)(i), and 63.1256(h)(2). Performance tests shall be conducted under such conditions representative of performance

of the affected source for the period being tested. Upon request, the owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

(1) *Design evaluation.* To demonstrate that a control device meets the required control efficiency, a design evaluation must address the composition and organic HAP concentration of the vent stream entering the control device. A design evaluation also must address other vent stream characteristics and control device operating parameters as specified in any one of paragraphs (a)(1) (i) through (vi) of this section, depending on the type of control device that is used. If the vent stream is not the only inlet to the control device, the efficiency demonstration also must consider all other vapors, gases, and liquids, other than fuels, received by the control device.

(i) For an enclosed combustion device used to comply with the provisions of 63.1253 (b)(2) or (c)(2), or 63.1256(h)(2)(i)(C) with a minimum residence time of 0.5 seconds and a minimum temperature of 760 °C, the design evaluation must document that these conditions exist.

(ii) For a combustion control device that does not satisfy the criteria in paragraph (a)(1)(i) of this section, the design evaluation must document control efficiency and address the following characteristics, depending on the type of control device:

(A) For a thermal vapor incinerator, the design evaluation must consider the autoignition temperature of the organic HAP, must consider the vent stream flow rate, and must establish the design minimum and average temperature in the combustion zone and the combustion zone residence time.

(B) For a catalytic vapor incinerator, the design evaluation shall consider the vent stream flow rate and shall establish the design minimum and average temperatures across the catalyst bed inlet and outlet.

(C) For a boiler or process heater, the design evaluation shall consider the vent stream flow rate; shall establish the design minimum and average flame zone temperatures and combustion zone residence time; and shall describe the method and location where the vent stream is introduced into the flame zone.

(iii) For a condenser, the design evaluation shall consider the vent stream flow rate, relative humidity, and temperature and shall establish the design outlet organic HAP compound concentration level, design average temperature of the condenser exhaust vent stream, and the design average temperatures of the coolant fluid at the condenser inlet and outlet. The temperature of the gas stream exiting the condenser must be measured and used to establish the outlet organic HAP concentration.

(iv) For a carbon adsorption system that regenerates the carbon bed directly onsite in the control device such as a fixed-bed adsorber, the design evaluation shall consider the vent stream flow rate, relative humidity, and temperature and shall establish the design exhaust vent stream organic compound concentration level, adsorption cycle time, number and capacity of carbon beds, type and working capacity of activated carbon used for carbon beds, design total regeneration stream mass or volumetric flow over the period of each complete carbon bed regeneration cycle, design carbon bed temperature after regeneration, design carbon bed regeneration time, and design service life of carbon. For vacuum desorption, the pressure drop shall be included.

(v) For a carbon adsorption system that does not regenerate the carbon bed directly onsite in the control device such as a carbon canister, the design evaluation shall consider the vent stream mass or volumetric flow rate, relative humidity, and temperature and shall establish the design exhaust vent stream organic compound concentration level, capacity of carbon bed, type and working capacity of activated carbon used for carbon bed, and design carbon replacement interval based on the total carbon working capacity of the control device and source operating schedule.

(vi) For a scrubber, the design evaluation shall consider the vent stream composition; constituent concentrations; liquid-to-vapor ratio; scrubbing liquid flow rate and concentration; temperature; and the reaction kinetics of the constituents with the scrubbing liquid. The design evaluation shall establish the design exhaust vent stream organic compound concentration level

and will include the additional information in paragraphs (a)(1)(vi)(A) and (B) of this section for trays and a packed column scrubber.

(A) Type and total number of theoretical and actual trays;

(B) Type and total surface area of packing for entire column, and for individual packed sections if column contains more than one packed section.

(2) *Calculation of TOC or total organic HAP concentration.* The TOC concentration or total organic HAP concentration is the sum of the concentrations of the individual components. If compliance is being determined based on TOC, the owner or operator shall compute TOC for each run using Equation 6 of this subpart. If compliance with the wastewater provisions is being determined based on total organic HAP, the owner or operator shall compute total organic HAP using Equation 6 of this subpart, except that only the organic HAP compounds shall be summed; when determining compliance with paragraph (e)(3)(i) of this section, only the soluble and partially soluble HAP compounds shall be summed.

$$CG_T = \frac{1}{m} \sum_{j=1}^m \left(\sum_{i=1}^n CGS_{i,j} \right) \quad (\text{Eq. 6})$$

where:

CG_T =total concentration of TOC in vented gas stream, average of samples, dry basis, ppmv

$CGS_{i,j}$ =concentration of sample components in vented gas stream for sample j, dry basis, ppmv

i=identifier for a compound

n=number of components in the sample

j=identifier for a sample

m=number of samples in the sample run

(3) *Outlet concentration correction for supplemental gases* —(i) *Combustion devices.* Except as provided in §63.1258(b)(5)(ii)(A), for a combustion device used to comply with an outlet concentration standard, the actual TOC, organic HAP, and hydrogen halide and halogen must be corrected to 3 percent oxygen if supplemental gases, as defined in §63.1251, are added to the vent stream or manifold. The integrated sampling and analysis procedures of Method 3B of 40 CFR Part 60, appendix A, shall be used to determine the actual oxygen concentration (% O_{2d}). The samples shall be taken during the same time that the TOC or total organic HAP or hydrogen halides and halogen samples are taken. The concentration corrected to 3 percent oxygen (C_d) shall be computed using Equation 7A of this subpart:

$$C_c = C_m \left(\frac{17.9}{20.9 - \%O_{2d}} \right) \quad (\text{Eq. 7A})$$

Where:

C_c = concentration of TOC or total organic HAP or hydrogen halide and halogen corrected to 3 percent oxygen, dry basis, ppmv

C_m = total concentration of TOC or total organic HAP or hydrogen halide and halogen in vented gas stream, average of samples, dry basis, ppmv

%O_{2d}= concentration of oxygen measured in vented gas stream, dry basis, percent by volume

(ii) *Noncombustion devices.* Except as provided in §63.1258(b)(5)(ii)(B), if a control device other than a combustion device is used to comply with a TOC, organic HAP, or hydrogen halide outlet concentration standard, the owner or operator must correct the actual concentration for supplemental gases using Equation 7B of this subpart; process knowledge and representative operating data may be used to determine the fraction of the total flow due to supplemental gas.

$$C_a = C_m \left(\frac{V_s + V_a}{V_a} \right) \quad (\text{Eq. 7B})$$

Where:

C_a= corrected outlet TOC, organic HAP, and hydrogen halides and halogens concentration, dry basis, ppmv

C_m= actual TOC, organic HAP, and hydrogen halides and halogens concentration measured at control device outlet, dry basis, ppmv

V_a= total volumetric flow rate of all gas streams vented to the control device, except supplemental gases

V_s= total volumetric flow rate of supplemental gases

(4) *Exemptions from compliance demonstrations.* An owner or operator using any control device specified in paragraphs (a)(4)(i) through (iv) of this section is exempt from the initial compliance provisions in paragraphs (c), (d), and (e) of this section.

(i) A boiler or process heater with a design heat input capacity of 44 megawatts or greater.

(ii) A boiler or process heater into which the emission stream is introduced with the primary fuel.

(iii) A boiler or process heater burning hazardous waste for which the owner or operator:

(A) Has been issued a final permit under 40 CFR Part 270 and complies with the requirements of 40 CFR Part 266, subpart H, or

(B) Has certified compliance with the interim status requirements of 40 CFR Part 266, subpart H.

(iv) A hazardous waste incinerator for which the owner or operator has been issued a final permit under 40 CFR Part 270 and complies with the requirements of 40 CFR Part 264, subpart O, or has certified compliance with the interim status requirements of 40 CFR Part 265, subpart O.

(5) *Initial compliance with alternative standard.* Initial compliance with the alternative standards in §§63.1253(d) and 63.1254(c) for combustion devices is demonstrated when the outlet TOC concentration is 20 ppmv or less, and the outlet hydrogen halide and halogen concentration is 20 ppmv or less. Initial compliance with the alternative standards in §§63.1253(d) and 63.1254(c) for noncombustion devices is demonstrated when the outlet TOC concentration is 50 ppmv or less, and the outlet hydrogen halide and hydrogen concentration is 50 ppmv or less. To demonstrate initial compliance, the owner or operator shall be in compliance with the monitoring provisions in §63.1258(b)(5) on the initial compliance date. The owner or operator shall use Method 18 to determine the predominant organic HAP in the emission stream if the TOC monitor is calibrated on the predominant HAP.

(6) *Initial compliance with the 20 ppmv outlet limit.* Initial compliance with the 20 ppmv TOC and hydrogen halide and halogen concentration is demonstrated when the outlet TOC concentration is 20 ppmv or less, and the outlet hydrogen halide

and halogen concentration is 20 ppmv or less. To demonstrate initial compliance, the operator shall use test methods described in paragraph (b) of this section. The owner or operator shall comply with the monitoring provisions in §63.1258(b)(1) through (4) on the initial compliance date.

(b) *Test methods.* When testing is conducted to measure emissions from an affected source, the test methods specified in paragraphs (b)(1) through (10) of this section shall be used.

(1) EPA Method 1 or 1A of appendix A of part 60 is used for sample and velocity traverses.

(2) EPA Method 2, 2A, 2C, or 2D of appendix A of part 60 is used for velocity and volumetric flow rates.

(3) EPA Method 3 of appendix A of part 60 is used for gas analysis.

(4) EPA Method 4 of appendix A of part 60 is used for stack gas moisture.

(5) [Reserved]

(6) The following methods are specified for concentration measurements:

(i) Method 18 may be used to determine HAP concentration in any control device efficiency determination.

(ii) Method 25 of appendix A of part 60 may be used to determine total gaseous nonmethane organic concentration for control efficiency determinations in combustion devices.

(iii) Method 26 or 26A of appendix A of part 60 shall be used to determine hydrogen chloride, hydrogen halide and halogen concentrations in control device efficiency determinations or in the 20 ppmv outlet hydrogen halide concentration standard.

(iv) Method 25A of appendix A of part 60 may be used to determine the HAP or TOC concentration for control device efficiency determinations under the conditions specified in Method 25 of appendix A for direct measurement of an effluent with a flame ionization detector, or in demonstrating compliance with the 20 ppmv TOC outlet standard. If Method 25A is used to determine the concentration of TOC for the 20 ppmv standard, the instrument shall be calibrated on methane or the predominant HAP. If calibrating on the predominant HAP, the use of Method 25A shall comply with paragraphs (b)(6)(iv)(A) through (C) of this section.

(A) The organic HAP used as the calibration gas for Method 25A, 40 CFR Part 60, appendix A, shall be the single organic HAP representing the largest percent by volume.

(B) The use of Method 25A, 40 CFR Part 60, appendix A, is acceptable if the response from the high level calibration gas is at least 20 times the standard deviation of the response from the zero calibration gas when the instrument is zeroed on the most sensitive scale.

(C) The span value of the analyzer must be less than 100 ppmv.

(7) *Testing conditions for continuous processes.* Testing of emissions on equipment operating as part of a continuous process will consist of three 1-hour runs. Gas stream volumetric flow rates shall be measured every 15 minutes during each 1-hour run. The HAP concentration shall be determined from samples collected in an integrated sample over the duration of each 1-hour test run, or from grab samples collected simultaneously with the flow rate measurements (every 15 minutes). If an integrated sample is collected for laboratory analysis, the sampling rate shall be adjusted proportionally to reflect variations in flow rate. For continuous gas streams, the emission rate used to determine compliance shall be the average emission rate of the three test runs.

(8) *Testing and compliance determination conditions for batch processes.* Testing of emissions on equipment where the flow of gaseous emissions is intermittent (batch operations) shall be conducted as specified in paragraphs (b)(8)(i) through (iii) of this section.

(i) Except as provided in paragraph (b)(9) of this section for condensers, testing shall be conducted at absolute worst-case conditions or hypothetical worst-case conditions. Gas stream volumetric flow rates shall be measured at 15-minute intervals. The HAP or TOC concentration shall be determined from samples collected in an integrated sample over the duration of the test, or from grab samples collected simultaneously with the flow rate measurements (every 15 minutes). If an integrated sample is collected for laboratory analysis, the sampling rate shall be adjusted proportionally to reflect variations in flow rate. The absolute worst-case or hypothetical worst-case conditions shall be characterized by the criteria presented in paragraphs (b)(8)(i)(A) and (B) of this section. In all cases, a site-specific plan shall be submitted to the Administrator for approval prior to testing in accordance with §63.7(c) and §63.1260(l). The test plan shall include the emission profile described in paragraph (b)(8)(ii) of this section.

(A) Absolute worst-case conditions are defined by the criteria presented in paragraph (b)(8)(i)(A)(1) or (2) of this section if the maximum load is the most challenging condition for the control device. Otherwise, absolute worst-case conditions are defined by the conditions in paragraph (b)(8)(i)(A)(3) of this section. The owner or operator must consider all relevant factors, including load and compound-specific characteristics in defining absolute worst-case conditions.

(1) The period in which the inlet to the control device will contain at least 50 percent of the maximum HAP load (in lb) capable of being vented to the control device over any 8 hour period. An emission profile as described in paragraph (b)(8)(ii)(A) of this section shall be used to identify the 8-hour period that includes the maximum projected HAP load.

(2) A 1-hour period of time in which the inlet to the control device will contain the highest HAP mass loading rate, in lb/hr, capable of being vented to the control device. An emission profile as described in paragraph (b)(8)(ii)(A) of this section shall be used to identify the 1-hour period of maximum HAP loading.

(3) The period of time when the HAP loading or stream composition (including non-HAP) is most challenging for the control device. These conditions include, but are not limited to the following:

(i) Periods when the stream contains the highest combined VOC and HAP load, in lb/hr, described by the emission profiles in paragraph (b)(8)(ii) of this section;

(ii) Periods when the streams contain HAP constituents that approach limits of solubility for scrubbing media;

(iii) Periods when the streams contain HAP constituents that approach limits of adsorptivity for carbon adsorption systems.

(B) Hypothetical worst-case conditions are simulated test conditions that, at a minimum, contain the highest hourly HAP load of emissions that would be predicted to be vented to the control device from the emissions profile described in paragraph (b)(8)(ii)(B) or (C) of this section.

(ii) *Emissions profile.* The owner or operator may choose to perform tests only during those periods of the worst-case conditions that the owner or operator selects to control as part of achieving the required emission reduction. The owner or operator must develop an emission profile for the vent to the control device that describes the characteristics of the vent stream at the inlet to the control device under worst case conditions. The emission profile shall be developed based on any one of the procedures described in (b)(8)(ii)(A) through (C) of this section, as required by paragraph (b)(8)(i).

(A) *Emission profile by process.* The emission profile must consider all emission episodes that could contribute to the vent stack for a period of time that is sufficient to include all processes venting to the stack and shall consider production scheduling. The profile shall describe the HAP load to the device that equals the highest sum of emissions from the episodes that can vent to the control device in any given hour. Emissions per episode shall be calculated using the procedures specified in paragraph (d)(2) of this section. Emissions per episode shall be divided by the duration of the episode only if the duration of the episode is longer than 1 hour.

(B) *Emission profile by equipment.* The emission profile must consist of emissions that meet or exceed the highest emissions, in lb/hr, that would be expected under actual processing conditions. The profile shall describe equipment configurations used to generate the emission events, volatility of materials processed in the equipment, and the rationale used to identify and characterize the emission events. The emissions may be based on using a compound more volatile than compounds actually used in the process(es), and the emissions may be generated from all equipment in the process(es) or only selected equipment.

(C) *Emission profile by capture and control device limitation.* The emission profile shall consider the capture and control system limitations and the highest emissions, in lb/hr, that can be routed to the control device, based on maximum flowrate and concentrations possible because of limitations on conveyance and control equipment (e.g., fans, LEL alarms and safety bypasses).

(iii) Three runs, at a minimum of 1 hour each and a maximum of 8 hours each, are required for performance testing. Each run must occur over the same worst-case conditions, as defined in paragraph (b)(8)(i) of this section.

(9) *Testing requirements for condensers.* For emission streams controlled using condensers, continuous direct measurement of condenser outlet gas temperature to be used in determining concentrations per the design evaluation described in §63.1257(a)(1)(iii) is required.

(10) *Wastewater testing.* Wastewater analysis shall be conducted in accordance with paragraph (b)(10)(i), (ii), (iii), (iv), or (v) of this section.

(i) *Method 305.* Use procedures specified in Method 305 of 40 CFR Part 63, appendix A, and comply with requirements specified in paragraph (b)(10)(vi) of this section.

(ii) *EPA Method 624, 625, 1624, 1625, 1666, or 1671.* Use procedures specified in EPA Method 624, 625, 1624, 1625, 1666, or 1671 of 40 CFR Part 136, appendix A, and comply with requirements in paragraph (b)(10)(vi) of this section.

(iii) *Method 8260 or 8270.* Use procedures specified in Method 8260 or 8270 in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication No. SW-846, Third Edition, September 1986, as amended by Update I, November 15, 1992. As an alternative, an owner or operator may use any more recent, updated version of Method 8260 or 8270 approved by the EPA. For the purpose of using Method 8260 or 8270 to comply with this subpart, the owner or operator must maintain a formal quality assurance program consistent with either Section 8 of Method 8260 or Method 8270, and this program must include the following elements related to measuring the concentrations of volatile compounds:

(A) Documentation of site-specific procedures to minimize the loss of compounds due to volatilization, biodegradation, reaction, or sorption during the sample collection, storage, and preparation steps.

(B) Documentation of specific quality assurance procedures followed during sampling, sample preparation, sample introduction, and analysis.

(C) Measurement of the average accuracy and precision of the specific procedures, including field duplicates and field spiking of the material source before or during sampling with compounds having similar chemical characteristics to the target analytes.

(iv) *Other EPA methods.* Use procedures specified in the method, validate the method using the procedures in paragraph (b)(10)(iv)(A) or (B) of this section, and comply with the procedures in paragraph (b)(10)(vi) of this section.

(A) Validate the method according to section 5.1 or 5.3 of Method 301 of 40 CFR Part 63, appendix A.

(B) Follow the procedure as specified in “Alternative Validation Procedure for EPA Waste Methods” 40 CFR Part 63, appendix D.

(v) *Methods other than an EPA method.* Use procedures specified in the method, validate the method using the procedures in paragraph (b)(10)(iv)(A) of this section, and comply with the requirements in paragraph (b)(10)(vi) of this section.

(vi) *Sampling plan.* The owner or operator shall prepare a sampling plan. Wastewater samples shall be collected using sampling procedures which minimize loss of organic compounds during sample collection and analysis and maintain sample integrity. The sample plan shall include procedures for determining recovery efficiency of the relevant partially soluble and soluble HAP compounds. An example of an acceptable sampling plan would be one that incorporates similar sampling and sample handling requirements to those of Method 25D of 40 CFR Part 60, appendix A. The sampling plan shall be maintained at the facility.

(c) *Initial compliance with storage tank provisions.* The owner or operator of an affected storage tank shall demonstrate initial compliance with §63.1253(b) or (c), as applicable, by fulfilling the requirements of paragraph (c)(1), or (c)(2), or (c)(3) of this section.

(1) *Performance test.* If this option is chosen to demonstrate initial compliance with the percent reduction requirement of §63.1253(b)(1) or (c)(1)(i), the efficiency of the control device shall be calculated using performance test data as specified in paragraphs (c)(1)(i) through (iii) of this section. To demonstrate initial compliance with the outlet concentration requirements in §63.1253(b)(2) and (c)(2), the owner or operator must conduct a performance test and fulfill the requirements of paragraph (a)(6) of this section.

(i) Equations 8 and 9 of this subpart shall be used to calculate the mass rate of total HAP reasonably expected maximum filling rate at the inlet and outlet of the control device for standard conditions of 20 °C: where:

$$E_i = K_2 \left(\sum_{j=1}^n C_{ij} M_{ij} \right) Q_i \quad (Eq. 8) \quad E_o = K_2 \left(\sum_{j=1}^n C_{oj} M_{oj} \right) Q_o \quad (Eq. 9)$$

where:

C_{ij} , C_{oj} = concentration of sample component j of the gas stream at the inlet and outlet of the control device, respectively, dry basis, ppmv

E_i , E_o = mass rate of total HAP at the inlet and outlet of the control device, respectively, dry basis, kg/hr

M_{ij} , M_{oj} = molecular weight of sample component j of the gas stream at the inlet and outlet of the control device, respectively, gram/gram-mole

Q_i , Q_o = flow rate of gas stream at the inlet and outlet of the control device, respectively, dry standard cubic meter per minute

K_2 = constant, 2.494×10^{-6} (parts per million)⁻¹(gram-mole per standard cubic meter) (kilogram/gram) (minute/hour), where standard temperature is 20 °C

n = number of sample components in the gas stream

(ii) The percent reduction in total HAP shall be calculated using Equation 10 of this subpart:

$$R = \frac{E_i - E_o}{E_i} (100) \quad (Eq. 10)$$

where:

R = control efficiency of control device, percent

E_i = mass rate of total HAP at the inlet to the control device as calculated under paragraph (c)(1)(i) of this section, kilograms organic HAP per hour

E_o = mass rate of total HAP at the outlet of the control device, as calculated under paragraph (c)(1)(i) of this section, kilograms organic HAP per hour

(iii) A performance test is not required to be conducted if the control device used to comply with §63.1253 (storage tank provisions) is also used to comply with §63.1254 (process vent provisions), and compliance with §63.1254 has been demonstrated in accordance with paragraph (d) of this section.

(2) *Design evaluation.* If this option is chosen to demonstrate initial compliance with the percent reduction requirement of §63.1253(b) or (c), a design evaluation shall be prepared in accordance with the provisions in paragraph (a)(1) of this section. The design evaluation shall include documentation demonstrating that the control device being used achieves the required control efficiency during reasonably expected maximum filling rate.

(3) *Floating roof.* If the owner or operator of an affected source chooses to comply with the provisions of §63.1253(b) or (c) by installing a floating roof, the owner or operator shall comply with the procedures described in §§63.119(b), (c), (d), and 63.120(a), (b), and (c), with the differences noted in paragraphs (c)(3)(i) through (v) of this section for the purposes of this subpart.

(i) When the term “storage vessel” is used in §§63.119 and 63.120, the definition of “storage tank” in §63.1251 shall apply for the purposes of this subpart.

(ii) When December 31, 1992 is referred to in §63.119, April 2, 1997 shall apply instead for the purposes of this subpart.

(iii) When April 22, 1994 is referred to in §63.119, September 21, 1998 shall apply instead for the purposes of this subpart.

(iv) When the phrase “the compliance date specified in §63.100 of subpart F of this part” is referred to in §63.120, the phrase “the compliance date specified in §63.1250” shall apply for the purposes of this subpart.

(v) When the phrase “the maximum true vapor pressure of the total organic HAP's in the stored liquid falls below the values defining Group 1 storage vessels specified in table 5 or table 6 of this subpart” is referred to in §63.120(b)(1)(iv), the phrase “the maximum true vapor pressure of the total organic HAP in the stored liquid falls below 13.1 kPa” shall apply for the purposes of this subpart.

(4) *Initial compliance with alternative standard.* Initial compliance with §63.1253(d) is demonstrated by fulfilling the requirements of paragraph (a)(5) of this section.

(5) *Planned maintenance.* The owner or operator shall demonstrate compliance with the requirements of §63.1253(e) by including the periods of planned routine maintenance specified by date and time in each Periodic Report required by §63.1260.

(d) *Initial compliance with process vent provisions.* An owner or operator of an affected source complying with the process vent standards in §63.1254 shall demonstrate compliance using the procedures described in paragraphs (d)(1) through (4) of this section.

(1) Except as provided in paragraph (a)(4) of this section, initial compliance with the process vent standards in §63.1254 shall be demonstrated using the procedures specified in paragraphs (d)(1)(i) through (iv), as applicable.

(i) Initial compliance with §63.1254(a)(2)(i) is demonstrated when the actual emissions of HAP from the sum of all process vents within a process is less than or equal to 900 kg/yr. Initial compliance with §63.1254(a)(2)(ii) is demonstrated when the actual emissions of HAP from the sum of all process vents in compliance with §63.1254(a)(2)(i) is less than or equal to 1,800 kg/yr. Uncontrolled HAP emissions and controlled HAP emissions shall be determined using the procedures described in paragraphs (d)(2) and (3) of this section. Controlled emissions during periods of planned routine maintenance of a CCCD as specified in §63.1252(h), must be calculated assuming the HAP emissions are reduced by 93 percent.

(ii) Initial compliance with the percent reduction requirements in §63.1254(a)(1)(i), (a)(3), and (b) is demonstrated by:

(A) Determining controlled HAP emissions using the procedures described in paragraph (d)(3) of this section, and uncontrolled HAP emissions determined using the procedures described in paragraph (d)(2) of this section, and demonstrating that the reductions required by §63.1254(a)(1)(i), (a)(3), and (b) are met; or

(B) Controlling the process vents using a device meeting the criteria specified in paragraph (a)(4) of this section.

(iii) Initial compliance with the outlet concentration requirements in §63.1254(a)(1)(ii)(A), (a)(3), and (b)(1) is demonstrated when the outlet TOC concentration is 20 ppmv or less and the outlet hydrogen halide and halogen concentration is 20 ppmv or less. The owner or operator shall demonstrate compliance by fulfilling the requirements in paragraph (a)(6) of this section.

(iv) Initial compliance with §63.1254(c) is demonstrated by fulfilling the requirements of paragraph (a)(5) of this section.

(2) *Uncontrolled emissions.* An owner or operator of an affected source complying with the emission limitation required by §63.1254(a)(1), or emissions reductions specified in §63.1254(a)(2), (a)(3), or (b), for each process vent within a process, shall calculate uncontrolled emissions from all equipment in the process according to the procedures described in paragraph (d)(2)(i) or (ii) of this section, as appropriate.

(i) *Emission estimation procedures.* Owners or operators shall determine uncontrolled emissions of HAP using measurements and/or calculations for each batch emission episode within each unit operation according to the engineering evaluation methodology in paragraphs (d)(2)(i)(A) through (H) of this section. Except where variations are noted, individual HAP partial pressures in multicomponent systems shall be determined by the following methods: If the components are miscible in one another, use Raoult's law to calculate the partial pressures; if the solution is a dilute aqueous mixture, use Henry's law to calculate partial pressures; if Raoult's law or Henry's law are not appropriate or available, use experimentally obtained activity coefficients or models such as the group-contribution models, to predict activity coefficients, or assume the components of the system behave independently and use the summation of all vapor pressures from the HAP as the total HAP partial pressure. Chemical property data can be obtained from standard reference texts.

(A) *Vapor displacement.* Emissions from vapor displacement due to transfer of material shall be calculated using Equation 11 of this subpart. The individual HAP partial pressures may be calculated using Raoult's law.

$$E = \frac{(V)}{(R)(T)} \times \sum_{i=1}^n (P_i)(MW_i) \quad (Eq. 11)$$

where:

E = mass of HAP emitted

V = volume of gas displaced from the vessel

R = ideal gas law constant

T = temperature of the vessel vapor space; absolute

P_i = partial pressure of the individual HAP

MW_i = molecular weight of the individual HAP

n = number of HAP compounds in the emission stream i = identifier for a HAP compound

(B) *Purging*. Emissions from purging shall be calculated using Equation 12 of this subpart. The partial pressures of individual condensable compounds may be calculated using Raoult's law, the pressure of the vessel vapor space may be set equal to 760 mmHg, and the partial pressure of HAP shall be assumed to be 25 percent of the saturated value if the purge flow rate is greater than 100 standard cubic feet per minute (scfm).

$$E = \sum_{i=1}^n P_i MW_i \times \frac{(V)(t)}{(R)(T)} \times \frac{P_T}{P_T - \sum_{j=1}^m (P_j)} \quad (\text{Eq. 12})$$

Where:

E = mass of HAP emitted

V = purge flow rate at the temperature and pressure of the vessel vapor space

R = ideal gas law constant

T = temperature of the vessel vapor space; absolute

P_i = partial pressure of the individual HAP

P_j = partial pressure of individual condensable VOC compounds (including HAP)

P_T = pressure of the vessel vapor space

MW_i = molecular weight of the individual HAP

t = time of purge

n = number of HAP compounds in the emission stream

i = identifier for a HAP compound

j = identifier for a condensable compound

m = number of condensable compounds (including HAP) in the emission stream

(C) *Heating*. Emissions caused by the heating of a vessel to a temperature equal to or lower than 10 K below the boiling point shall be calculated using the procedures in either paragraph (d)(2)(i)(C)(1) or (3) of this section. Emissions caused by heating a vessel to a temperature that is higher than 10 K below the boiling point and less than the boiling point, must be

calculated using the procedures in either paragraph (d)(2)(i)(C) (2) or (3) of this section. If the contents of a vessel are heated to the boiling point, emissions must be calculated using the procedures in paragraph (d)(2)(i)(C)(4) of this section.

(1) This paragraph describes procedures to calculate emissions if the final temperature to which the vessel contents are heated is 10 K below the boiling point of the HAP in the vessel, or lower. The owner or operator shall calculate the mass of HAP emitted per episode using either Equation 13 or 14 of this subpart. The moles of noncondensable gas displaced are calculated using Equation 15 of this subpart. The initial and final pressure of the noncondensable gas in the vessel shall be calculated using Equation 16 of this subpart. The average molecular weight of HAP in the displaced gas shall be calculated using Equation 17 of this subpart.

$$E = \frac{\sum_{i=1}^n ((P_i^*) (x_i) (MW_i))}{760 - \sum_{j=1}^m ((P_j^*) (x_j))} \times \Delta\eta \quad (\text{Eq. 13})$$

$$E = \frac{\sum_{i=1}^n (P_i)_{T_1} + \sum_{i=1}^n (P_i)_{T_2}}{2} \times \Delta\eta \times MW_{HAP} \quad (\text{Eq. 14}) \quad \Delta\eta = \frac{V}{R} \left[\left(\frac{Pa_1}{T_1} \right) - \left(\frac{Pa_2}{T_2} \right) \right] \quad (\text{Eq. 15})$$

$$Pa_2 = Pa_1 - \sum_{j=1}^m (P_j)_{T_2} \quad (\text{Eq. 16}) \quad MW_{HAP} = \frac{\sum_{i=1}^n ((P_i)_{T_1} + (P_i)_{T_2}) MW_i}{\sum_{i=1}^n ((P_i)_{T_1} + (P_i)_{T_2})} \quad (\text{Eq. 17})$$

Where:

E = mass of HAP vapor displaced from the vessel being heated

x_i = mole fraction of each HAP in the liquid phase

x_j = mole fraction of each condensable VOC (including HAP) in the liquid phase

P_i^* = vapor pressure of each HAP in the vessel headspace at any temperature between the initial and final heatup temperatures, mmHg.

P_j^* = vapor pressure of each condensable VOC (including HAP) in the vessel headspace at any temperature between the initial and final heatup temperatures, mmHg.

760 = atmospheric pressure, mmHg

MW_{HAP} = the average molecular weight of HAP present in the displaced gas

$\Delta\eta$ = number of moles of noncondensable gas displaced

V = volume of free space in the vessel

R = ideal gas law constant

T_1 = initial temperature of vessel contents, absolute

T_2 = final temperature of vessel contents, absolute

P_{a_n} = partial pressure of noncondensable gas in the vessel headspace at initial (n=1) and final (n=2) temperature

P_{atm} = atmospheric pressure (when $\Delta\eta$ is used in Equation 13 of this subpart, P_{atm} may be set equal to 760 mmHg for any vessel)

$(P_j)_{T_n}$ = partial pressure of each condensable compound (including HAP) in the vessel headspace at the initial temperature (n=1) and final (n=2) temperature

m = number of condensable compounds (including HAP) in the displaced vapor

j = identifier for a condensable compound

$(P_i)_{T_n}$ = partial pressure of each HAP in the vessel headspace at initial (T_1) and final (T_2) temperature

MW_i = molecular weight of the individual HAP

n = number of HAP compounds in the emission stream

i = identifier for a HAP compound

(2) If the vessel contents are heated to a temperature that is higher than 10 K below the boiling point and less than the boiling point, emissions must be calculated using the procedures in paragraph (d)(2)(i)(C)(2)(i), or (ii), or (iii) of this section.

(i) Use Equation 13 of this subpart. In Equation 13 of this subpart, the HAP vapor pressures must be determined at the temperature 10 K below the boiling point. In the calculation of $\Delta\eta$ for Equation 13 of this subpart, T_2 must be the temperature 10 K below the boiling point, and P_{a_2} must be determined at the temperature 10 K below the boiling point.

(ii) Use Equation 14 of this subpart. In Equation 14 of this subpart, the HAP partial pressures must be determined at the temperature 10 K below the boiling point. In the calculation of $\Delta\eta$ for Equation 14 of this subpart, T_2 must be the temperature 10 K below the boiling point, and P_{a_2} must be determined at the temperature 10 K below the boiling point. In the calculation of MW_{HAP} , the HAP partial pressures must be determined at the temperature 10 K below the boiling point.

(iii) Use Equation 14 of this subpart over specific temperature increments. If the initial temperature is lower than 10 K below the boiling point, emissions must be calculated as the sum over two increments; one increment is from the initial temperature to 10 K below the boiling point, and the second is from 10 K below the boiling point to the lower of either the final temperature or the temperature 5 K below the boiling point. If the initial temperature is higher than 10 K below the boiling point, emissions are calculated over one increment from the initial temperature to the lower of either the final temperature or the temperature 5 K below the boiling point.

(3)(i) Emissions caused by heating a vessel are calculated using Equation 18 of this subpart.

$$E = MW_{HAP} \times \left(N_{avg} \times \ln \left(\frac{P_T - \sum_{i=1}^n (P_{i,1})}{P_T - \sum_{i=1}^n (P_{i,2})} \right) - (n_{i,2} - n_{i,1}) \right) \quad (Eq. 18)$$

Where:

E = mass of HAP vapor displaced from the vessel being heated

N_{avg} = average gas space molar volume during the heating process

P_T = total pressure in the vessel

$P_{i,1}$ = partial pressure of the individual HAP compounds at T_1

$P_{i,2}$ = partial pressure of the individual HAP compounds at T_2

MW_{HAP} = average molecular weight of the HAP compounds

$n_{i,1}$ = number of moles of condensable in the vessel headspace at T_1

$n_{i,2}$ = number of moles of condensable in the vessel headspace at T_2

n = number of HAP compounds in the emission stream

(ii) The average gas space molar volume during the heating process is calculated using Equation 19 of this subpart.

$$N_{avg} = \frac{VP_T}{2R} \left(\frac{1}{T_1} + \frac{1}{T_2} \right) \quad (Eq. 19)$$

Where:

N_{avg} = average gas space molar volume during the heating process

V = volume of free space in vessel

P_T = total pressure in the vessel

R = ideal gas law constant

T_1 = initial temperature of the vessel

T_2 = final temperature of the vessel

(iii) The difference in the number of moles of condensable in the vessel headspace between the initial and final temperatures is calculated using Equation 20 of this subpart.

$$(n_{i,2} - n_{i,1}) = \frac{V}{(R)(T_2)} \sum_{i=1}^n P_{i,2} - \frac{V}{(R)(T_1)} \sum_{i=1}^n P_{i,1} \quad (Eq. 20)$$

Where:

V = volume of free space in vessel

R = ideal gas law constant

T_1 = initial temperature in the vessel

T_2 = final temperature in the vessel

$P_{i,1}$ = partial pressure of the individual HAP compounds at T_1

$P_{i,2}$ = partial pressure of the individual HAP compounds at T_2

n = number of HAP compounds in the emission stream

(4) If the vessel contents are heated to the boiling point, emissions must be calculated using the procedure in paragraphs (d)(2)(i)(C)(4) (i) and (ii) of this section.

(i) Use either of the procedures in paragraph (d)(3)(i)(B)(3) of this section to calculate the emissions from heating to the boiling point (note that $P_{a_2}=0$ in the calculation of $\Delta\eta$); and

(ii) While boiling, the vessel must be operated with a properly operated process condenser. An initial demonstration that a process condenser is properly operated is required for some process condensers, as described in paragraph (d)(3)(iii) of this section.

(D) *Depressurization.* Emissions from depressurization shall be calculated using the procedures in either paragraphs (d)(2)(i)(D)(1) through (4), paragraphs (d)(2)(i)(D)(5) through (9), or paragraph (d)(2)(i)(D)(10) of this section.

(1) Equations 21 and 22 of this subpart are used to calculate the initial and final volumes of noncondensable gas present in the vessel, adjusted to atmospheric pressure. The HAP partial pressures may be calculated using Raoult's law.

$$V_{nc1} = \frac{VP_{nc1}}{760} \quad (Eq. 21) \quad V_{nc2} = \frac{VP_{nc2}}{760} \quad (Eq. 22)$$

Where:

V_{nc1} = initial volume of noncondensable gas in the vessel

V_{nc2} = final volume of noncondensable gas in the vessel

V = free volume in the vessel being depressurized

P_{nc1} = initial partial pressure of the noncondensable gas, as calculated using Equation 23 of this subpart, mmHg

P_{nc2} = final partial pressure of the noncondensable gas, as calculated using Equation 24 of this subpart, mmHg

760 = atmospheric pressure, mmHg

(2) The initial and final partial pressures of the noncondensable gas in the vessel are determined using Equations 23 and 24 of this subpart:

$$P_{nc1} = P_1 - \sum_{j=1}^n (P_j^*) (x_j) \quad (Eq. 23) \quad P_{nc2} = P_2 - \sum_{j=1}^n (P_j^*) (x_j) \quad (Eq. 24)$$

Where:

P_{nc1} = initial partial pressure of the noncondensable gas

P_{nc2} = final partial pressure of the noncondensable gas

P_1 = initial vessel pressure

P_2 = final vessel pressure

P_j^* = vapor pressure of each condensable (including HAP) in the emission stream

x_j = mole fraction of each condensable (including HAP) in the liquid phase

m = number of condensable compounds (including HAP) in the emission stream

j = identifier for a condensable compound

(3) The average ratio of moles of noncondensable to moles of an individual HAP in the emission stream is calculated using Equation 25 of this subpart; this calculation must be repeated for each HAP in the emission stream:

$$n_{Ri} = \frac{\left(\frac{P_{nc1}}{(P_i^*)(x_i)} + \frac{P_{nc2}}{(P_i^*)(x_i)} \right)}{2} \quad (\text{Eq. 25})$$

Where:

n_{Ri} = average ratio of moles of noncondensable to moles of individual HAP

P_{nc1} = initial partial pressure of the noncondensable gas, as calculated using Equation 23 of this subpart

P_{nc2} = final partial pressure of the noncondensable gas, as calculated using Equation 24 of this subpart

P_i^* = vapor pressure of each individual HAP

x_i = mole fraction of each individual HAP in the liquid phase.

n = number of HAP compounds

i = identifier for a HAP compound

(4) The mass of HAP emitted shall be calculated using Equation 26 of this subpart:

$$E = (V_{nc1} - V_{nc2}) \times \frac{P_{atm}}{RT} \times \sum_{i=1}^n \frac{MW_i}{n_{Ri}} \quad (\text{Eq. 26})$$

Where:

E = mass of HAP emitted

V_{nc1} = initial volume of noncondensable gas in the vessel, as calculated using Equation 21 of this subpart

V_{nc2} = final volume of noncondensable gas in the vessel, as calculated using Equation 22 of this subpart

n_{Ri} = average ratio of moles of noncondensable to moles of individual HAP, as calculated using Equation 25 of this subpart

P_{atm} = atmospheric pressure, standard

R = ideal gas law constant

T = temperature of the vessel, absolute

MW_i = molecular weight of each HAP

(5) The moles of HAP vapor initially in the vessel are calculated using the ideal gas law using Equation 27 of this subpart:

$$n_{HAP} = \frac{(Y_{HAP})(V)(P_1)}{RT} \quad (Eq. 27)$$

Where:

Y_{HAP} = mole fraction of HAP (the sum of the individual HAP fractions, ΣY_i)

V = free volume in the vessel being depressurized

P₁ = initial vessel pressure

R = ideal gas law constant

T = vessel temperature, absolute

(6) The initial and final moles of noncondensable gas present in the vessel are calculated using Equations 28 and 29 of this subpart:

$$n_1 = \frac{VP_{n1}}{RT} \quad (Eq. 28) \qquad n_2 = \frac{VP_{n2}}{RT} \quad (Eq. 29)$$

Where:

n₁ = initial number of moles of noncondensable gas in the vessel

n₂ = final number of moles of noncondensable gas in the vessel

V = free volume in the vessel being depressurized

P_{nc1} = initial partial pressure of the noncondensable gas, as calculated using Equation 23 of this subpart

P_{nc2} = final partial pressure of the noncondensable gas, as calculated using Equation 24 of this subpart

R = ideal gas law constant

T = temperature, absolute

(7) The initial and final partial pressures of the noncondensable gas in the vessel are determined using Equations 23 and 24 of this subpart.

(8) The moles of HAP emitted during the depressurization are calculated by taking an approximation of the average ratio of moles of HAP to moles of noncondensable and multiplying by the total moles of noncondensables released during the depressurization, using Equation 30 of this subpart:

$$n_{HAP} = \left(\frac{n_{HAP,1}}{n_1} + \frac{n_{HAP,2}}{n_2} \right) \frac{[n_1 - n_2]}{2} \quad (Eq. 30)$$

where:

n_{HAP} = moles of HAP emitted

n_1 = initial number of moles of noncondensable gas in the vessel, as calculated using Equation 28 of this subpart

n_2 = final number of moles of noncondensable gas in the vessel, as calculated using Equation 29 of this subpart

(9) The mass of HAP emitted can be calculated using Equation 31 of this subpart:

$$E = \eta_{HAP} * MW_{HAP} \quad (Eq. 31)$$

where:

E = mass of HAP emitted

η_{HAP} = moles of HAP emitted, as calculated using Equation 30 of this subpart

MW_{HAP} = average molecular weight of the HAP as calculated using Equation 17 of this subpart

(10) Emissions from depressurization may be calculated using equation 32 of this subpart:

$$E = \frac{V}{(R)(T)} \times \ln \left(\frac{P_1 - \sum_{j=1}^m (P_j)}{P_2 - \sum_{j=1}^m (P_j)} \right) \times \sum_{i=1}^n (P_i)(MW_i) \quad (Eq. 32)$$

Where:

V = free volume in vessel being depressurized

R = ideal gas law constant

T = temperature of the vessel, absolute

P₁ = initial pressure in the vessel

P₂ = final pressure in the vessel

P_j = partial pressure of the individual condensable compounds (including HAP)

MW_i = molecular weight of the individual HAP compounds

n = number of HAP compounds in the emission stream

m = number of condensable compounds (including HAP) in the emission stream

i = identifier for a HAP compound

j = identifier for a condensable compound.

(E) *Vacuum systems.* Emissions from vacuum systems may be calculated using Equation 33 of this subpart if the air leakage rate is known or can be approximated. The individual HAP partial pressures may be calculated using Raoult's Law.

$$E = \frac{(La)(t)}{MW_{nc}} \left(\frac{\sum_{i=1}^n P_i MW_i}{P_{system} - \sum_{j=1}^m P_j} \right) \quad (\text{Eq. 33})$$

Where:

E = mass of HAP emitted

P_{system} = absolute pressure of receiving vessel or ejector outlet conditions, if there is no receiver

P_i = partial pressure of the HAP at the receiver temperature or the ejector outlet conditions

P_j = partial pressure of condensable (including HAP) at the receiver temperature or the ejector outlet conditions

La = total air leak rate in the system, mass/time

MW_{nc} = molecular weight of noncondensable gas

t = time of vacuum operation

MW_i = molecular weight of the individual HAP in the emission stream, with HAP partial pressures calculated at the temperature of the receiver or ejector outlet, as appropriate

(F) *Gas evolution*. Emissions from gas evolution shall be calculated using Equation 12 of this subpart with V calculated using Equation 34 of this subpart:

$$V = \frac{(W_g)(R)(T)}{(P_T)(MW_g)} \quad (Eq. 34)$$

Where:

V = volumetric flow rate of gas evolution

W_g = mass flow rate of gas evolution

R = ideal gas law constant

T = temperature at the exit, absolute

P_T = vessel pressure

MW_g = molecular weight of the evolved gas

(G) *Air drying*. Emissions from air drying shall be calculated using Equation 35 of this subpart:

$$E = B \times \left(\frac{PS_1}{100 - PS_1} - \frac{PS_2}{100 - PS_2} \right) \quad (Eq. 35)$$

Where:

E = mass of HAP emitted

B = mass of dry solids

PS₁ = HAP in material entering dryer, weight percent

PS₂ = HAP in material exiting dryer, weight percent

(H) *Empty vessel purging*. Emissions from empty vessel purging shall be calculated using Equation 36 of this subpart (Note: The term e^{-Ft/v} can be assumed to be 0):

$$E = \left[\frac{V}{RT} \times \left(\sum_{i=1}^n (P_i)(MW_i) \right) \right] (1 - e^{-Ft/v}) \quad (Eq. 36)$$

Where:

V = volume of empty vessel

R = ideal gas law constant

T = temperature of the vessel vapor space; absolute

P_i = partial pressure of the individual HAP at the beginning of the purge

(MW_i) = molecular weight of the individual HAP

F = flowrate of the purge gas

t = duration of the purge

n = number of HAP compounds in the emission stream

i = identifier for a HAP compound

(ii) *Engineering assessments.* The owner or operator shall conduct an engineering assessment to calculate uncontrolled HAP emissions for each emission episode that is not due to vapor displacement, purging, heating, depressurization, vacuum operations, gas evolution, or air drying. For emission episodes caused by any of these types of activities, the owner or operator also may calculate uncontrolled HAP emissions based on an engineering assessment if the owner or operator can demonstrate to the Administrator that the methods in paragraph (d)(2)(i) of this section are not appropriate. Modified versions of the engineering evaluation methods in paragraphs (d)(2)(i)(A) through (H) may be used if the owner or operator demonstrates that they have been used to meet other regulatory obligations, and they do not affect applicability assessments or compliance determinations under this subpart GGG. One criterion the owner or operator could use to demonstrate that the methods in paragraph (d)(2)(i) of this section are not appropriate is if previous test data are available that show a greater than 20 percent discrepancy between the test value and the estimated value. An engineering assessment includes, but is not limited to, the following:

(A) Previous test results, provided the tests are representative of current operating practices at the process unit.

(B) Bench-scale or pilot-scale test data representative of the process under representative operating conditions.

(C) Maximum flow rate, HAP emission rate, concentration, or other relevant parameter specified or implied within a permit limit applicable to the process vent.

(D) Design analysis based on accepted chemical engineering principles, measurable process parameters, or physical or chemical laws or properties. Examples of analytical methods include, but are not limited to:

(1) Use of material balances based on process stoichiometry to estimate maximum organic HAP concentrations.

(2) Estimation of maximum flow rate based on physical equipment design such as pump or blower capacities.

(3) Estimation of HAP concentrations based on saturation conditions.

(E) All data, assumptions, and procedures used in the engineering assessment shall be documented in accordance with §63.1260(e). Data or other information supporting a finding that the emissions estimation equations are inappropriate shall be reported in the Precompliance report.

(3) *Controlled emissions.* An owner or operator shall determine controlled emissions using the procedures in either paragraph (d)(3)(i) or (ii) of this section.

(i) *Small control devices.* Except for condensers, controlled emissions for each process vent that is controlled using a small control device shall be determined by using the design evaluation described in paragraph (d)(3)(i)(A) of this section, or conducting a performance test in accordance with paragraph (d)(3)(ii) of this section. Whenever a small control device becomes a large control device, the owner or operator must comply with the provisions in paragraph (d)(3)(ii) of this section and submit the test report in the next Periodic report.

(A) *Design evaluation.* The design evaluation shall include documentation demonstrating that the control device being used achieves the required control efficiency under worst-case conditions, as determined from the emission profile described in §63.1257(b)(8)(ii). The control efficiency determined from this design evaluation shall be applied to uncontrolled emissions to estimate controlled emissions. The documentation must be conducted in accordance with the provisions in paragraph (a)(1) of this section. The design evaluation shall also include the value(s) and basis for the parameter(s) monitored under §63.1258.

(B) *Emission estimation equations.* An owner or operator using a condenser as a control device shall determine controlled emissions using exhaust gas temperature measurements and calculations for each batch emission episode within each unit operation according to the engineering methodology in paragraphs (d)(3)(i)(B)(1) through (8) of this section. Individual HAP partial pressures shall be calculated as specified in paragraph (d)(2)(i) of this section.

(1) Emissions from vapor displacement shall be calculated using Equation 11 of this subpart with T set equal to the temperature of the receiver and the HAP partial pressures determined at the temperature of the receiver.

(2) Emissions from purging shall be calculated using Equation 12 of this subpart with T set equal to the temperature of the receiver and the HAP partial pressures determined at the temperature of the receiver.

(3) Emissions from heating shall be calculated using either Equation 13 of this subpart or Equation 37 of this subpart. In Equation 13, the HAP vapor pressures shall be determined at the temperature of the receiver. In Equations 13 and 37 of this subpart, $\Delta\eta$ is equal to the number of moles of noncondensable displaced from the vessel, as calculated using Equation 15 of this subpart. In Equations 13 and 37 of this subpart, the HAP average molecular weight shall be calculated using Equation 17 with the HAP partial pressures determined at the temperature of the receiver.

$$E = \Delta\eta \times \frac{\sum_{i=1}^n P_i}{P_T - \sum_{j=1}^m P_j} \times MW_{HAP} \quad (Eq. 37)$$

Where:

E = mass of HAP emitted

$\Delta\eta$ = moles of noncondensable gas displaced

P_T = pressure in the receiver

P_i = partial pressure of the individual HAP at the receiver temperature

P_j = partial pressure of the individual condensable (including HAP) at the receiver temperature

n = number of HAP compounds in the emission stream

i = identifier for a HAP compound

MW_{HAP} = the average molecular weight of HAP in vapor exiting the receiver, as calculated using Equation 17 of this subpart

m = number of condensable compounds (including HAP) in the emission stream

(4)(i) Emissions from depressurization shall be calculated using Equation 38 of this subpart.

$$E = (V_{oc1} - V_{oc2}) \times \frac{\sum_{i=1}^n (P_i)}{P_T - \sum_{j=1}^m (P_j)} \times \frac{P_T}{RT} \times MW_{HAP} \quad (Eq. 38)$$

Where:

E = mass of HAP vapor emitted

V_{nc1} = initial volume of noncondensable in the vessel, corrected to the final pressure, as calculated using Equation 39 of this subpart

V_{nc2} = final volume of noncondensable in the vessel, as calculated using Equation 40 of this subpart

P_i = partial pressure of each individual HAP at the receiver temperature

P_j = partial pressure of each condensable (including HAP) at the receiver temperature

P_T = receiver pressure

T = temperature of the receiver

R = ideal gas law constant

MW_{HAP} = the average molecular weight of HAP calculated using Equation 17 of this subpart with partial pressures determined at the receiver temperature

i = identifier for a HAP compound

n = number of HAP compounds in the emission stream

m = number of condensable compounds (including HAP) in the emission stream

j = identifier for a condensable compound

(ii) The initial and final volumes of noncondensable gas present in the vessel, adjusted to the pressure of the receiver, are calculated using Equations 39 and 40 of this subpart.

$$V_{nc1} = \frac{VP_{nc1}}{P_T} \quad (Eq. 39) \quad V_{nc2} = \frac{VP_{nc2}}{P_T} \quad (Eq. 40)$$

Where:

V_{nc1} = initial volume of noncondensable gas in the vessel

V_{nc2} = final volume of noncondensable gas in the vessel

V = free volume in the vessel being depressurized

P_{nc1} = initial partial pressure of the noncondensable gas, as calculated using Equation 41 of this subpart

P_{nc2} = final partial pressure of the noncondensable gas, as calculated using Equation 42 of this subpart

P_T = pressure of the receiver

(iii) Initial and final partial pressures of the noncondensable gas in the vessel are determined using Equations 41 and 42 of this subpart.

$$P_{nc1} = P_1 - \sum_{j=1}^m P_j \quad (Eq. 41)$$

$$P_{nc2} = P_2 - \sum_{j=1}^m P_j \quad (Eq. 42)$$

Where:

P_{nc1} = initial partial pressure of the noncondensable gas in the vessel

P_{nc2} = final partial pressure of the noncondensable gas in the vessel

P_1 = initial vessel pressure

P_2 = final vessel pressure

P_j = partial pressure of each condensable compound (including HAP) in the vessel

m = number of condensable compounds (including HAP) in the emission stream

j = identifier for a condensable compound

(5) Emissions from vacuum systems shall be calculated using Equation 33 of this subpart.

(6) Emissions from gas evolution shall be calculated using Equation 12 with V calculated using Equation 34 of this subpart, T set equal to the receiver temperature, and the HAP partial pressures determined at the receiver temperature. The term for time, t, in Equation 12 of this subpart is not needed for the purposes of this calculation.

(7) Emissions from air drying shall be calculated using Equation 11 of this subpart with V equal to the air flow rate and P_i determined at the receiver temperature.

(8) Emissions from empty vessel purging shall be calculated using equation 43 of this subpart:

$$E = \frac{V}{R} \left[\left(\sum_{i=1}^n \frac{(P_i)_{T_1} (MW_i)}{T_1} \right) (-e^{-R/V}) - \left(\sum_{i=1}^n \frac{(P_i)_{T_2} (MW_i)}{T_2} \right) \left(\ln \left(\frac{\sum_{i=1}^n (P_i)_{T_2}}{\sum_{i=1}^n (P_i)_{T_1}} + 1 \right) \right) \right] \quad (Eq. 43)$$

Where:

V = volume of empty vessel

R = ideal gas law constant

T_1 = temperature of the vessel vapor space at beginning of purge

T_2 = temperature of the receiver, absolute

$(P_i)_{T1}$ = partial pressure of the individual HAP at the beginning of the purge

$(P_i)_{T_2}$ = partial pressure of the individual HAP at the receiver temperature

MW_i = molecular weight of the individual HAP

F = flowrate of the purge gas

t = duration of the purge

n = number of HAP compounds in the emission stream

i = identifier for a HAP compound

(ii) *Large control devices.* Except for condensers, controlled emissions for each process vent that is controlled using a large control device shall be determined by applying the control efficiency of the large control device to the estimated uncontrolled emissions. The control efficiency shall be determined by conducting a performance test on the control device as described in paragraphs (d)(3)(ii)(A) through (C) of this section, or by using the results of a previous performance test as described in paragraph (d)(4) of this section. If the control device is intended to control only hydrogen halides and halogens, the owner or operator may assume the control efficiency of organic HAP is zero percent. If the control device is intended to control only organic HAP, the owner or operator may assume the control efficiency for hydrogen halides and halogen is zero percent. Owners and operators are not required to conduct performance tests for devices described in paragraphs (a)(4) and (d)(4) of this section that are large control devices, as defined in §63.1251.

(A) The performance test shall be conducted by performing emission testing on the inlet and outlet of the control device following the test methods and procedures of §63.1257(b). Concentrations shall be calculated from the data obtained through emission testing according to the procedures in paragraph (a)(2) of this section.

(B) Performance testing shall be conducted under absolute, or hypothetical worst-case conditions, as defined in paragraphs (b)(8)(i)(A) through (B) of this section.

(C) The owner or operator may elect to conduct more than one performance test on the control device for the purpose of establishing more than one operating condition at which the control device achieves the required control efficiency.

(iii) *Initial compliance demonstration for condensers —(A) Air pollution control devices.* During periods in which a condenser functions as an air pollution control device, controlled emissions shall be calculated using the emission estimation equations described in paragraph (d)(3)(i)(B) of this section.

(B) *Process condensers.* During periods when the condenser is operating as a process condenser, the owner or operator is required to demonstrate that the process condenser is properly operated if the process condenser meets either of the criteria described in paragraphs (d)(3)(iii)(B)(1) and (2) of this section. The owner or operator must either measure the condenser exhaust gas temperature and show it is less than the boiling or bubble point of the substance(s) in the vessel, or perform a material balance around the vessel and condenser to show that at least 99 percent of the material vaporized while boiling is condensed. The initial demonstration shall be conducted for all appropriate operating scenarios and documented in the Notification of Compliance Status report described in §63.1260(f).

(1) The process condenser is not followed by an air pollution control device; or

(2) The air pollution control device following the process condenser is not a condenser or is not meeting the alternative standard of §63.1254(c).

(4) An owner or operator is not required to conduct a performance test for the following:

(i) Any control device for which a previous performance test was conducted, provided the test was conducted using the same procedures specified in §63.1257(b) over conditions typical of the appropriate worst-case, as defined in §63.1257(b)(8)(i). The results of the previous performance test shall be used to demonstrate compliance.

(e) *Compliance with wastewater provisions* —(1) *Determining annual average concentration and annual load.* To determine the annual average concentration and annual load of partially soluble and/or soluble HAP compounds in a wastewater stream, as required by §63.1256(a)(1), an owner or operator shall comply with the provisions in paragraphs (e)(1)(i) through (iii) of this section. A wastewater stream is exempt from the requirements of §63.1256(a)(2) if the owner or operator determines the annual average concentration and annual load are below all of the applicability cutoffs specified in §63.1256(a)(1)(i)(A) through (D). For annual average concentration, only initial rinses are included. Concentration measurements based on Method 305 shall be adjusted by dividing each concentration by the compound-specific Fm factor listed in Table 8 of this subpart. Concentration measurements based on methods other than Method 305 may not be adjusted by the compound-specific Fm factor listed in Table 8 of this subpart.

(i) *Annual average concentration definition.* (A) When complying with §63.1256(a)(1)(i)(A), the annual average concentration means the total mass of partially soluble HAP compounds occurring in the wastewater stream during the calendar year divided by the total mass of the wastewater stream discharged during the same calendar year.

(B) When complying with §63.1256(a)(1)(i) (B) or (C), the annual average concentration means the total mass of partially soluble and/or soluble HAP compounds occurring in the wastewater stream during the calendar year divided by the total mass of the wastewater stream discharged during the same calendar year.

(C) When complying with §63.1256(a)(1)(i)(D), the annual average concentration means the total mass of soluble HAP compounds occurring in the wastewater stream during the calendar year divided by the total mass of the wastewater stream discharged during the same calendar year.

(ii) *Determination of annual average concentration.* An owner or operator shall determine annual average concentrations of partially soluble and/or soluble HAP compounds in accordance with the provisions specified in paragraph (e)(1)(ii)(A), (B), or (C) of this section. The owner or operator may determine annual average concentrations by process simulation. Data and other information supporting the simulation shall be reported in the Precompliance Report for approval by the Administrator. The annual average concentration shall be determined either at the POD or downstream of the POD with adjustment for concentration changes made according to paragraph (e)(1)(ii)(D) of this section.

(A) *Test methods.* The concentration of partially soluble HAP, soluble HAP, or total HAP shall be measured using any of the methods described in paragraphs (b)(10)(i) through (iv) of this section.

(B) *Knowledge of the wastewater stream.* The concentration of partially soluble HAP, soluble HAP, or total HAP shall be calculated based on knowledge of the wastewater stream according to the procedures in paragraphs (e)(1)(ii)(B)(1) and (2) of this section. The owner or operator shall document concentrations in the Notification of Compliance Status report described in §63.1260(f).

(1) *Mass balance.* The owner or operator shall calculate the concentrations of HAP compounds in wastewater considering the total quantity of HAP discharged to the water, the amount of water at the POD, and the amounts of water and solvent lost to other mechanisms such as reactions, air emissions, or uptake in product or other processing materials. The quantities of HAP and water shall be based on batch sheets, manufacturing tickets, or FDA bills of materials. In cases where a chemical reaction occurs that generates or consumes HAP, the amount of HAP remaining after a reaction shall be based on stoichiometry assuming 100 percent theoretical consumption or yield, as applicable.

(2) *Published water solubility data.* For single components in water, owners and operators may use the water solubilities published in standard reference texts at the POD temperature to determine maximum HAP concentration.

(C) *Bench scale or pilot-scale test data.* The concentration of partially soluble HAP, soluble HAP, or total HAP shall be calculated based on bench scale or pilot-scale test data. The owner or operator shall provide sufficient information to

demonstrate that the bench-scale or pilot-scale test concentration data are representative of actual HAP concentrations. The owner or operator shall also provide documentation describing the testing protocol, and the means by which sample variability and analytical variability were accounted for in the determination of HAP concentrations. Documentation of the pilot-scale or bench scale analysis shall be provided in the precompliance report.

(D) *Adjustment for concentrations determined downstream of the POD.* The owner or operator shall make corrections to the annual average concentration when the concentration is determined downstream of the POD at a location where: two or more wastewater streams have been mixed; one or more wastewater streams have been treated; or, losses to the atmosphere have occurred. The owner or operator shall make the adjustments either to the individual data points or to the final annual average concentration.

(iii) *Determination of annual load.* An owner or operator shall calculate the partially soluble and/or soluble HAP load in a wastewater stream based on the annual average concentration determined in paragraph (e)(1)(ii) (A), (B), or (C) of this section and the total volume of the wastewater stream, based on knowledge of the wastewater stream in accordance with paragraphs (e)(1)(ii)(B) of this section. The owner or operator shall maintain records of the total liters of wastewater discharged per year as specified in §63.1259(b).

(2) *Compliance with treatment unit control provisions —(i) Performance tests and design evaluations-general.* To comply with the control options in §63.1256(g) (10) or (13), neither a design evaluation nor a performance test is required. For any other nonbiological treatment process, the owner or operator shall conduct either a design evaluation as specified in paragraph (e)(2)(ii) of this section, or a performance test as specified in paragraph (e)(2)(iii) of this section to demonstrate that each nonbiological treatment process used to comply with §63.1256(g) (8), (9), and/or (12) achieves the conditions specified for compliance. The owner or operator shall demonstrate by the procedures in either paragraph (e)(2) (ii) or (iii) of this section that each closed biological treatment process used to comply with §63.1256 (g)(8)(ii), (g)(9)(ii), (g)(11), or (g)(12) achieves the conditions specified for compliance. If an open biological treatment unit is used to comply with §63.1256 (g)(8)(ii), (g)(9)(ii), (g)(11), or (g)(12), the owner or operator shall comply with the performance test requirements in paragraph (e)(2)(iii) of this section.

(ii) *Design evaluation.* A design evaluation and supporting documentation that addresses the operating characteristics of the treatment process and that is based on operation at a wastewater stream flow rate and a concentration under which it would be most difficult to demonstrate compliance. For closed biological treatment processes, the percent reduction from removal/destruction in the treatment unit and control device shall be determined by a mass balance over the unit. The mass flow rate of soluble and/or partially soluble HAP compounds exiting the treatment process shall be the sum of the mass flow rate of soluble and/or partially soluble HAP compounds in the wastewater stream exiting the biological treatment process and the mass flow rate of the vented gas stream exiting the control device. The mass flow rate entering the treatment process minus the mass flow rate exiting the process determines the actual mass removal. Compounds that meet the requirements specified in paragraph (e)(2)(iii)(A)(4) of this section are not required to be included in the design evaluation; the term “performance test” in paragraph (e)(2)(iii)(A)(4) of this section shall mean “design evaluation” for the purposes of this paragraph.

(iii) *Performance tests.* Performance tests shall be conducted using test methods and procedures that meet the applicable requirements specified in paragraphs (e)(2)(iii)(A) through (G) of this section.

(A) *General.* This paragraph specifies the general procedures for performance tests that are conducted to demonstrate compliance of a treatment process with the control requirements specified in §63.1256(g).

(1) *Representative process unit operating conditions.* Compliance shall be demonstrated for representative operating conditions. Operations during periods of malfunction and periods of nonoperation shall not constitute representative conditions. The owner or operator shall record the process information that is necessary to document operating conditions during the test.

(2) *Representative treatment process operating conditions.* Performance tests shall be conducted when the treatment process is operating at a representative inlet flow rate and concentration. If the treatment process will be operating at several different sets of representative operating conditions, the owner or operator shall comply with paragraphs (e)(2)(iii)(A)(2)(i) and (ii)

of this section. The owner or operator shall record information that is necessary to document treatment process or control device operating conditions during the test.

(i) *Range of operating conditions.* If the treatment process will be operated at several different sets of representative operating conditions, performance testing over the entire range is not required. In such cases, the performance test results shall be supplemented with modeling and/or engineering assessments to demonstrate performance over the operating range.

(ii) *Consideration of residence time.* If concentration and/or flow rate to the treatment process are not relatively constant (i.e., comparison of inlet and outlet data will not be representative of performance), the owner or operator shall consider residence time, when determining concentration and flow rate.

(3) *Testing equipment.* All testing equipment shall be prepared and installed as specified in the applicable test methods, or as approved by the Administrator.

(4) *Compounds not required to be considered in performance tests.* Compounds that meet the requirements specified in (e)(2)(iii)(A)(4)(i), (ii), or (iii) of this section are not required to be included in the performance test. Concentration measurements based on Method 305 shall be adjusted by dividing each concentration by the compound-specific Fm factor listed in Table 8 of this subpart. Concentration measurements based on methods other than Method 305 shall not be adjusted by the compound-specific Fm factor listed in Table 8 of this subpart.

(i) Compounds not used or produced by the PMPU; or

(ii) Compounds with concentrations at the POD that are below 1 ppmw; or

(iii) Compounds with concentrations at the POD that are below the lower detection limit where the lower detection limit is greater than 1 ppmw. The method shall be an analytical method for wastewater which has the compound of interest as a target analyte.

(5) *Treatment using a series of treatment processes.* In all cases where the wastewater provisions in this subpart allow or require the use of a treatment process to comply with emissions limitations, the owner or operator may use multiple treatment processes. The owner or operator complying with the requirements of §63.1256(g)(7)(i), when wastewater is conveyed by hard-piping, shall comply with either paragraph (e)(2)(iii)(A)(5)(i) or (ii) of this section. The owner or operator complying with the requirements of §63.1256(g)(7)(ii) shall comply with the requirements of paragraph (e)(2)(iii)(A)(5)(ii) of this section.

(i) The owner or operator shall conduct the performance test across each series of treatment processes. For each series of treatment processes, inlet concentration and flow rate shall be measured either where the wastewater enters the first treatment process in a series of treatment processes, or prior to the first treatment process as specified in paragraph (e)(2)(iii)(A)(6) of this section. For each series of treatment processes, outlet concentration and flow rate shall be measured where the wastewater exits the last treatment process in the series of treatment processes, except when the last treatment process is an open or a closed aerobic biological treatment process demonstrating compliance by using the procedures in paragraphs (e)(2)(iii)(E) or (F) of this section. When the last treatment process is either an open or a closed aerobic biological treatment process demonstrating compliance by using the procedures in paragraphs (e)(2)(iii)(E) or (F) of this section, inlet and outlet concentrations and flow rates shall be measured at the inlet and outlet to the series of treatment processes prior to the biological treatment process and at the inlet to the biological treatment process, except as provided in paragraph (e)(2)(iii)(A)(6)(ii) of this section. The mass flow rate destroyed in the biological treatment process for which compliance is demonstrated using paragraph (e)(2)(iii)(E) or (F) of this section shall be added to the mass flow rate removed or destroyed in the series of treatment units before the biological treatment unit. This sum shall be used to calculate the overall control efficiency.

(ii) The owner or operator shall conduct the performance test across each treatment process in the series of treatment processes. The mass flow rate removed or destroyed by each treatment process shall be added together and the overall control efficiency calculated to determine whether compliance has been demonstrated using paragraphs (e)(2)(iii)(C), (D), (E), (F), or

(G) of this section, as applicable. If a biological treatment process is one of the treatment processes in the series of treatment processes, the inlet to the biological treatment process shall be the point at which the wastewater enters the biological treatment process, or the inlet to the equalization tank if all the criteria of paragraph (e)(2)(iii)(A)(6)(ii) of this section are met.

(6) The owner or operator determining the inlet for purposes of demonstrating compliance with paragraph (e)(2)(iii)(E), or (F) of this section may elect to comply with paragraph (e)(2)(iii)(A)(6)(i) or (ii) of this section.

(i) When wastewater is conveyed exclusively by hard-piping from the point of determination to a treatment process that is either the only treatment process or the first in a series of treatment processes (i.e., no treatment processes or other waste management units are used upstream of this treatment process to store, handle, or convey the wastewater), the inlet to the treatment process shall be at any location from the point of determination to where the wastewater stream enters the treatment process. When samples are taken upstream of the treatment process and before wastewater streams have converged, the owner or operator shall ensure that the mass flow rate of all affected wastewater is accounted for when using §63.1256(g)(8)(ii), (g)(9)(ii) or (g)(12) of this subpart to comply and that the mass flow rate of all wastewater, not just affected wastewater, is accounted for when using §63.1256(g)(11) to comply, except as provided in paragraph (e)(2)(iii)(A)(4) of this section.

(ii) The owner or operator may consider the inlet to the equalization tank as the inlet to the biological treatment process if the wastewater is conveyed by hard-piping from either the last previous treatment process or the point of determination to the equalization tank; and the wastewater is conveyed from the equalization tank exclusively by hard-piping to the biological treatment process and no treatment processes or other waste management units are used to store, handle, or convey the wastewater between the equalization tank and the biological treatment process; and the equalization tank is equipped with a fixed roof and a closed-vent system that routes emissions to a control device that meets the requirements of §63.1256(b)(1)(i) through (iv) and §63.1256(b)(2)(i). The outlet from the series of treatment processes prior to the biological treatment process is the point at which the wastewater exits the last treatment process in the series prior to the equalization tank, if the equalization tank and biological treatment process are part of a series of treatment processes. The owner or operator shall ensure that the mass flow rate of all affected wastewater is accounted for when using §63.1256(g)(9)(ii) or (12) to comply and that the mass flow rate of all wastewater, not just affected wastewater is accounted for when using §63.1256(g)(11) to comply, except as provided in paragraph (e)(2)(iii)(A)(4) of this section.

(B) *Noncombustion treatment process—concentration limits.* This paragraph applies to performance tests that are conducted to demonstrate compliance of a noncombustion treatment process with the ppmw wastewater stream concentration limits at the outlet of the treatment process. This compliance option is specified in §63.1256(g)(8)(i) and (9)(i). Wastewater samples shall be collected using sampling procedures which minimize loss of organic compounds during sample collection and analysis and maintain sample integrity per paragraph (b)(10)(vi) of this section. Samples shall be collected and analyzed using the procedures specified in paragraphs (b)(10)(i) through (vi) of this section. Samples may be grab samples or composite samples. Samples shall be taken at approximately equally spaced time intervals over a 1-hour period. Each 1-hour period constitutes a run, and the performance test shall consist of a minimum of three runs. Concentration measurements based on methods other than Method 305 may be adjusted by multiplying each concentration by the compound-specific Fm factor listed in Table 8 of this subpart. (For affected wastewater streams that contains both partially soluble and soluble HAP compounds, compliance is demonstrated only if the sum of the concentrations of partially soluble HAP compounds is less than 50 ppmw, and the sum of the concentrations of soluble HAP compounds is less than 520 ppmw.)

(C) *Noncombustion, nonbiological treatment process: percent mass removal/destruction option.* This paragraph applies to performance tests that are conducted to demonstrate compliance of a noncombustion, nonbiological treatment process with the percent mass removal limits specified in §63.1256(g)(8)(ii) and (9)(ii) for partially soluble and soluble HAP compounds, respectively. The owner or operator shall comply with the requirements specified in paragraphs (e)(2)(iii)(C)(1) through (5) of this section.

(1) *Concentration.* The concentration of partially soluble and/or soluble HAP compounds entering and exiting the treatment process shall be determined as provided in this paragraph. Wastewater samples shall be collected using sampling procedures which minimize loss of organic compounds during sample collection and analysis and maintain sample integrity per paragraph (b)(10)(vi) of this section. The method shall be an analytical method for wastewater which has the compound of

interest as a target analyte. Samples may be grab samples or composite samples. Samples shall be taken at approximately equally spaced time intervals over a 1-hour period. Each 1-hour period constitutes a run, and the performance test shall consist of a minimum of three runs. Concentration measurements based on Method 305 shall be adjusted by dividing each concentration by the compound-specific Fm factor listed in Table 8 of this subpart. Concentration measurements based on methods other than Method 305 shall not be adjusted by the compound-specific Fm factor listed in Table 8 of this subpart.

(2) *Flow rate.* The flow rate of the entering and exiting wastewater streams shall be determined using inlet and outlet flow meters, respectively. Where the outlet flow is not greater than the inlet flow, a single flow meter may be used, and may be used at either the inlet or outlet. Flow rate measurements shall be taken at the same time as the concentration measurements.

(3) *Calculation of mass flow rate—for noncombustion, nonbiological treatment processes.* The mass flow rates of partially soluble and/or soluble HAP compounds entering and exiting the treatment process are calculated using Equations 44 and 45 of this subpart.

$$QMW_a = \frac{\rho}{p \cdot 10^6} \left(\sum_{k=1}^p (Q_{a,k} \cdot C_{T,a,k}) \right) \quad (Eq. 44)$$

$$QMW_b = \frac{\rho}{p \cdot 10^6} \left(\sum_{k=1}^p (Q_{b,k} \cdot C_{T,b,k}) \right) \quad (Eq. 45)$$

Where:

QMW_a , QMW_b = mass flow rate of partially soluble or soluble HAP compounds, average of all runs, in wastewater entering (QMW_a) or exiting (QMW_b) the treatment process, kg/hr

ρ = density of the wastewater, kg/m³

$Q_{a,k}$, $Q_{b,k}$ = volumetric flow rate of wastewater entering ($Q_{a,k}$) or exiting ($Q_{b,k}$) the treatment process during each run k, m³/hr

$C_{T,a,k}$, $C_{T,b,k}$ = total concentration of partially soluble or soluble HAP compounds in wastewater entering ($C_{T,a,k}$) or exiting ($C_{T,b,k}$) the treatment process during each run k, ppm

p = number of runs

k = identifier for a run

10⁶ = conversion factor, mg/kg

(4) *Percent removal calculation for mass flow rate.* The percent mass removal across the treatment process shall be calculated as follows:

$$E = \frac{QMW_a - QMW_b}{QMW_a} \times 100 \quad (Eq. 46)$$

Where:

E = removal or destruction efficiency of the treatment process, percent

QMW_a , QMW_b = mass flow rate of partially soluble or soluble HAP compounds in wastewater entering (QMW_a) and exiting (QMW_b) the treatment process, kg/hr (as calculated using Equations 44 and 45 of this subpart)

(5) *Compare mass removal efficiency to required efficiency.* Compare the mass removal efficiency (calculated in Equation 46 of this subpart) to the required efficiency as specified in §63.1256(g)(8)(ii) or (9)(ii). If complying with

§63.1256(g)(8)(ii), compliance is demonstrated if the mass removal efficiency is 99 percent or greater. If complying with §63.1256(g)(9)(ii), compliance is demonstrated if the mass removal efficiency is 90 percent or greater.

(D) *Combustion treatment processes: percent mass removal/destruction option.* This paragraph applies to performance tests that are conducted to demonstrate compliance of a combustion treatment process with the percent mass destruction limits specified in §63.1256(g)(8)(ii) for partially soluble HAP compounds, and/or §63.1256(g)(9)(ii) for soluble HAP compounds. The owner or operator shall comply with the requirements specified in paragraphs (e)(2)(iii)(D)(1) through (8) of this section.

(1) *Concentration in wastewater stream entering the combustion treatment process.* The concentration of partially soluble and/or soluble HAP compounds entering the treatment process shall be determined as provided in this paragraph. Wastewater samples shall be collected using sampling procedures which minimize loss of organic compounds during sample collection and analysis and maintain sample integrity per paragraph (b)(10)(vi) of this section. The method shall be an analytical method for wastewater which has the compound of interest as a target analyte. Samples may be grab samples or composite samples. Samples shall be taken at approximately equally spaced time intervals over a 1-hour period. Each 1-hour period constitutes a run, and the performance test shall consist of a minimum of three runs. Concentration measurements based on Method 305 of appendix A of this part shall be adjusted by dividing each concentration by the compound-specific Fm factor listed in Table 8 of this subpart. Concentration measurements based on methods other than Method 305 shall not be adjusted by the compound-specific Fm factor listed in Table 8 of this subpart.

(2) *Flow rate of wastewater entering the combustion treatment process.* The flow rate of the wastewater stream entering the combustion treatment process shall be determined using an inlet flow meter. Flow rate measurements shall be taken at the same time as the concentration measurements.

(3) *Calculation of mass flow rate in wastewater stream entering combustion treatment processes.* The mass flow rate of partially soluble and/or soluble HAP compounds entering the treatment process is calculated as follows:

$$Q_{MW_a} = \frac{\rho}{p * 10^6} \left(\sum_{k=1}^p (Q_{a,k} * C_{T,a,k}) \right) \quad (Eq. 47)$$

Where:

Q_{MW_a} = mass flow rate of partially soluble or soluble HAP compounds entering the combustion unit, kg/hr

ρ = density of the wastewater stream, kg/m³

$Q_{a,k}$ = volumetric flow rate of wastewater entering the combustion unit during run k, m³ /hr

$C_{T,a,k}$ = total concentration of partially soluble or soluble HAP compounds in the wastewater stream entering the combustion unit during run k, ppmw

k = identifier for a run

p = number of runs

(4) *Concentration in vented gas stream exiting the combustion treatment process.* The concentration of partially soluble and/or soluble HAP compounds (or TOC) exiting the combustion treatment process in any vented gas stream shall be determined as provided in this paragraph. Samples may be grab samples or composite samples. Samples shall be taken at approximately equally spaced time intervals over a 1-hour period. Each 1-hour period constitutes a run, and the performance test shall consist of a minimum of three runs. Concentration measurements shall be determined using Method 18 of 40 CFR Part 60, appendix A. Alternatively, any other test method validated according to the procedures in Method 301 of appendix A of this part may be used.

(5) *Volumetric flow rate of vented gas stream exiting the combustion treatment process.* The volumetric flow rate of the vented gas stream exiting the combustion treatment process shall be determined using Method 2, 2A, 2C, or 2D of 40 CFR Part 60, appendix A, as appropriate. Volumetric flow rate measurements shall be taken at the same time as the concentration measurements.

(6) *Calculation of mass flow rate of vented gas stream exiting combustion treatment processes.* The mass flow rate of partially soluble and/or soluble HAP compounds in a vented gas stream exiting the combustion treatment process shall be calculated as follows:

$$QMG_b = K_2 * \left(\sum_{i=1}^n (CG_{b,i} * MW_i) \right) * QG_b \quad (Eq. 48)$$

Where:

QMG_b = mass rate of TOC (minus methane and ethane) or total partially soluble and/or soluble HAP, in vented gas stream, exiting (QMG_b) the combustion device, dry basis, kg/hr

$CG_{b,i}$ = concentration of TOC (minus methane and ethane) or total partially soluble and/or soluble HAP, in vented gas stream, exiting ($CG_{b,i}$) the combustion device, dry basis, ppmv

MW_i = molecular weight of a component, kilogram/kilogram-mole

QG_b = flow rate of gas stream exiting (QG_b) the combustion device, dry standard cubic meters per hour

K_2 = constant, 41.57×10^{-9} (parts per million)⁻¹ (gram-mole per standard cubic meter) (kilogram/gram), where standard temperature (gram-mole per standard cubic meter) is 20 °C

i = identifier for a compound

n = number of components in the sample

(7) *Destruction efficiency calculation.* The destruction efficiency of the combustion unit for partially soluble and/or soluble HAP compounds shall be calculated as follows:

$$E = \frac{QMW_a - QMG_b}{QMW_a} * 100 \quad (Eq. 49)$$

Where:

E = destruction efficiency of partially soluble or soluble HAP compounds for the combustion unit, percent

QMW_a = mass flow rate of partially soluble or soluble HAP compounds entering the combustion unit, kg/hr

QMG_b = mass flow rate of TOC (minus methane and ethane) or partially soluble and/or soluble HAP compounds in vented gas stream exiting the combustion treatment process, kg/hr

(8) *Compare mass destruction efficiency to required efficiency.* Compare the mass destruction efficiency (calculated in Equation 49 of this subpart) to the required efficiency as specified in §63.1256(g)(8)(ii) or (g)(9)(ii). If complying with §63.1256(g)(8)(ii), compliance is demonstrated if the mass destruction efficiency is 99 percent or greater. If complying with §63.1256(g)(9)(ii), compliance is demonstrated if the mass destruction efficiency is 90 percent or greater.

(E) *Open or closed aerobic biological treatment processes: 95-percent mass destruction option.* This paragraph applies to performance tests that are conducted for open or closed aerobic biological treatment processes to demonstrate compliance with the 95-percent mass destruction provisions in §63.1256(g)(11) for partially soluble and/or soluble HAP compounds.

(1) *Concentration in wastewater stream.* The concentration of partially soluble and/or soluble HAP as provided in this paragraph. Concentration measurements to determine E shall be taken as provided in paragraph (e)(2)(iii)(A)(5) of this section for a series of treatment processes. Wastewater samples shall be collected using sampling procedures which minimize loss of organic compounds during sample collection and analysis and maintain sample integrity per paragraph (b)(10)(vi) of this section. The method shall be an analytical method for wastewater which has the compound of interest as a target analyte. Samples may be grab samples or composite samples. Samples shall be taken at approximately equally spaced time intervals over a 1-hour period. Each 1-hour period constitutes a run, and the performance test shall consist of a minimum of three runs. Concentration measurements based on Method 305 shall be adjusted by dividing each concentration by the compound-specific Fm factor listed in Table 8 of this subpart. Concentration measurements based on methods other than Method 305 shall not be adjusted by the compound-specific Fm factor listed in Table 8 of this subpart.

(2) *Flow rate.* Flow rate measurements to determine E shall be taken as provided in paragraph (e)(2)(iii)(A)(5) of this section for a series of treatment processes. Flow rate shall be determined using inlet and outlet flow measurement devices. Where the outlet flow is not greater than the inlet flow, a single flow measurement device may be used, and may be used at either the inlet or outlet. Flow rate measurements shall be taken at the same time as the concentration measurements.

(3) *Destruction efficiency.* The owner or operator shall comply with the provisions in either paragraph (e)(2)(iii)(E)(3)(i) or (ii) of this section. Compliance is demonstrated if the destruction efficiency, E, is equal to or greater than 95 percent.

(i) If the performance test is performed across the open or closed biological treatment system only, compliance is demonstrated if E is equal to F_{bio} , where E is the destruction efficiency of partially soluble and/or soluble HAP compounds and F_{bio} is the site-specific fraction of partially soluble and/or soluble HAP compounds biodegraded. F_{bio} shall be determined as specified in paragraph (e)(2)(iii)(E)(4) of this section and appendix C of subpart G of this part.

(ii) If compliance is being demonstrated in accordance with paragraphs (e)(2)(iii)(A)(5)(i) or (ii) of this section, the removal efficiency shall be calculated using Equation 50 of this subpart. When complying with paragraph (e)(2)(iii)(A)(5)(i) of this section, the series of nonbiological treatment processes comprise one treatment process segment. When complying with paragraph (e)(2)(iii)(A)(5)(ii) of this section, each nonbiological treatment process is a treatment process segment.

$$E = \frac{\text{Nonbiotreatment HAP load removal} + \text{Biotreatment HAP load removal}}{\text{Total influent HAP load}} = \frac{\left(\sum_{i=1}^n (QMW_{a,i} - QMW_{b,i}) \right) + QMW_{bio}}{QMW_{in}} \quad (\text{Eq. 50})$$

Where:

$QMW_{a,i}$ = the soluble and/or partially soluble HAP load entering a treatment process segment

$QMW_{b,i}$ = the soluble and/or partially soluble HAP load exiting a treatment process segment

n = the number of treatment process segments

i = identifier for a treatment process element

QMW_{bio} = the inlet load of soluble and/or partially soluble HAP to the biological treatment process. The inlet is defined in accordance with paragraph (e)(2)(iii)(A)(6) of this section. If complying with paragraph (e)(2)(iii)(A)(6)(ii) of this section, QMW_{bio} is equal to $QMW_{b,n}$

F_{bio} = site-specific fraction of soluble and/or partially soluble HAP compounds biodegraded. F_{bio} shall be determined as specified in paragraph (e)(2)(iii)(E)(4) of this section and Appendix C of subpart G of this part.

QMW_{all} = the total soluble and/or partially soluble HAP load to be treated.

(4) *Site-specific fraction biodegraded* (F_{bio}). The procedures used to determine the compound-specific kinetic parameters for use in calculating F_{bio} differ for the compounds listed in Tables 2 and 3 of this subpart. An owner or operator shall calculate F_{bio} as specified in either paragraph (e)(2)(iii)(E)(4)(i) or (ii) of this section.

(i) For biological treatment processes that do not meet the definition for enhanced biological treatment in §63.1251, the owner or operator shall determine the F_{bio} for the compounds in Tables 2 and 3 of this subpart using any of the procedures in appendix C to part 63, except procedure 3 (inlet and outlet concentration measurements). (The symbol " F_{bio} " represents the site-specific fraction of an individual partially soluble or soluble HAP compound that is biodegraded.)

(ii) If the biological treatment process meets the definition of "enhanced biological treatment process" in §63.1251, the owner or operator shall determine F_{bio} for the compounds in Table 2 of this subpart using any of the procedures specified in appendix C to part 63. The owner or operator shall calculate F_{bio} for the compounds in Table 3 of this subpart using the defaults for first order biodegradation rate constants (K_1) in Table 9 of this subpart and follow the procedure explained in Form III of appendix C, 40 CFR Part 63, or any of the procedures specified in appendix C of 40 CFR Part 63.

(F) *Open or closed aerobic biological treatment processes: percent removal for partially soluble or soluble HAP compounds.* This paragraph applies to the use of performance tests that are conducted for open or closed aerobic biological treatment processes to demonstrate compliance with the percent removal provisions for either partially soluble HAP compounds in §63.1256(g)(8)(ii) or soluble HAP compounds in §63.1256(g)(9)(ii) or (g)(12). The owner or operator shall comply with the provisions in paragraph (e)(2)(iii)(E) of this section, except that compliance with §63.1256(g)(8)(ii) shall be demonstrated when E is equal to or greater than 99 percent, compliance with §63.1256(g)(9)(ii) shall be demonstrated when E is equal to or greater than 90 percent, and compliance with §63.1256(g)(12) shall be demonstrated when E is equal to or greater than 99 percent.

(G) *Closed biological treatment processes: percent mass removal option.* This paragraph applies to the use of performance tests that are conducted for closed biological treatment processes to demonstrate compliance with the percent removal provisions in §§63.1256(g)(8)(ii), (g)(9)(ii), (g)(11), or (g)(12). The owner or operator shall comply with the requirements specified in paragraphs (e)(2)(iii)(G)(1) through (4) of this section.

(1) Comply with the procedures specified in paragraphs (e)(2)(iii)(C)(1) through (3) of this section to determine characteristics of the wastewater entering the biological treatment unit, except that the term "partially soluble and/or soluble HAP" shall mean "soluble HAP" for the purposes of this section if the owner or operator is complying with §63.1256(g)(9)(ii) or (g)(12), and it shall mean "partially soluble HAP" if the owner or operator is complying with §63.1256(g)(8)(ii).

(2) Comply with the procedures specified in paragraphs (e)(2)(iii)(D)(4) through (6) of this section to determine the characteristics of gas vent streams exiting a control device, with the differences noted in paragraphs (e)(2)(iii)(G)(3)(i) and (ii) of this section.

(i) The term "partially soluble and/or soluble HAP" shall mean "soluble HAP" for the purposes of this section if the owner or operator is complying with §63.1256(g)(9)(ii) or (g)(12), and it shall mean "partially soluble HAP" if the owner or operator is complying with §63.1256(g)(8)(ii).

(ii) The term "combustion treatment process" shall mean "control device" for the purposes of this section.

(3) *Percent removal/destruction calculation.* The percent removal and destruction across the treatment unit and any control device(s) shall be calculated using Equation 51 of this subpart:

$$E = \frac{(QMW_a - (QMW_b + QMG_b))}{QMW_a} \quad (\text{Eq. 51})$$

Where:

E = removal and destruction efficiency of the treatment unit and control device(s), percent

QMW_a, QMW_b = mass flow rate of partially soluble and/or soluble HAP compounds in wastewater entering (QMW_a) and exiting (QMW_b) the treatment process, kilograms per hour (as calculated using Equations 44 and 45)

QMG_b = mass flow rate of partially soluble and/or soluble HAP compounds in vented gas stream exiting the control device, kg/hr

(4) *Compare mass removal/destruction efficiency to required efficiency.* Compare the mass removal/destruction efficiency (calculated using Equation 51 of this subpart) to the required efficiency as specified in §63.1256(g)(8)(ii), (g)(9)(ii), (g)(11), or (g)(12). If complying with §63.1256(g)(8)(ii), compliance is demonstrated if the mass removal/destruction is 99 percent or greater. If complying with §63.1256(g)(9)(ii), compliance is demonstrated if the mass removal/destruction efficiency is 90 percent or greater. If complying with §63.1256(g)(11), compliance is demonstrated if the mass removal/destruction efficiency is 95 percent or greater. If complying with §63.1256(g)(12), compliance is demonstrated if the mass removal/destruction efficiency is 99 percent or greater.

(3) *Compliance with control device provisions.* Except as provided in paragraph (e)(3)(iv) of this section, an owner or operator shall demonstrate that each control device or combination of control devices achieves the appropriate conditions specified in §63.1256(h)(2) by using one or more of the methods specified in paragraphs (e)(3)(i), (ii), or (iii) of this section.

(i) *Performance test for control devices other than flares.* This paragraph applies to performance tests that are conducted to demonstrate compliance of a control device with the efficiency limits specified in §63.1256(h)(2). If complying with the 95-percent reduction efficiency requirement, comply with the requirements specified in paragraphs (e)(3)(i) (A) through (J) of this section. If complying with the 20 ppm by volume requirement, comply with the requirements specified in paragraphs (e)(3)(i) (A) through (G) and (e)(3)(i)(J) of this section.

(A) *General.* The owner or operator shall comply with the general performance test provisions in paragraphs (e)(2)(iii)(A) (1) through (4) of this section, except that the term “treatment unit” shall mean “control device” for the purposes of this section.

(B) *Sampling sites.* Sampling sites shall be selected using Method 1 or 1A of 40 CFR Part 60, appendix A, as appropriate. For determination of compliance with the 95 percent reduction requirement, sampling sites shall be located at the inlet and the outlet of the control device. For determination of compliance with the 20 ppmv limit, the sampling site shall be located at the outlet of the control device.

(C) *Concentration in gas stream entering or exiting the control device.* The concentration of total organic HAP or TOC in a gas stream shall be determined as provided in this paragraph. Samples may be grab samples or composite samples (i.e., integrated samples). Samples shall be taken at approximately equally spaced time intervals over a 1-hour period. Each 1-hour period constitutes a run, and the performance test shall consist of a minimum of three runs. Concentration measurements shall be determined using Method 18 of 40 CFR Part 60, appendix A. Alternatively, any other test method validated according to the procedures in Method 301 of appendix A of this part may be used.

(D) *Volumetric flow rate of gas stream entering or exiting the control device.* The volumetric flow rate of the gas stream shall be determined using Method 2, 2A, 2C, or 2D of 40 CFR Part 60, appendix A, as appropriate. Volumetric flow rate measurements shall be taken at the same time as the concentration measurements.

(E) *Calculation of TOC concentration.* The owner or operator shall compute TOC in accordance with the procedures in paragraph (a)(2) of this section.

(F) *Calculation of total organic HAP concentration.* The owner or operator determining compliance based on total organic HAP concentration shall compute the total organic HAP concentration in accordance with the provisions in paragraph (a)(2) of this section.

(G) *Requirements for combustion control devices.* If the control device is a combustion device, the owner or operator shall correct TOC and organic HAP concentrations to 3 percent oxygen in accordance with the provisions in paragraph (a)(3) of this section, and demonstrate initial compliance with the requirements for halogenated streams in accordance with paragraph (a)(6) of this section.

(H) *Mass rate calculation.* The mass rate of either TOC (minus methane and ethane) or total organic HAP for each sample run shall be calculated using the following equations. Where the mass rate of TOC is being calculated, all organic compounds (minus methane and ethane) measured by methods specified in paragraph (e)(3)(i)(C) of this section are summed using Equations 52 and 53 of this subpart. Where the mass rate of total organic HAP is being calculated, only soluble and partially soluble HAP compounds shall be summed using Equations 52 and 53.

$$QMG_a = K_2 * \left(\sum_{i=1}^n (CG_{a,i}) * (MW_i) \right) * QG_a \quad (Eq. 52)$$

$$QMG_b = K_2 * \left(\sum_{i=1}^n (CG_{b,i}) * (MW_i) \right) * QG_b \quad (Eq. 53)$$

Where:

$CG_{a,i}, CG_{b,i}$ = concentration of TOC or total organic HAP, in vented gas stream, entering ($CG_{a,i}$) and exiting ($CG_{b,i}$) the control device, dry basis, ppmv

QMG_a, QMG_b = mass rate of TOC or total organic HAP, in vented gas stream, entering (QMG_a) and exiting (QMG_b) the control device, dry basis, kg/hr

M_{wi} = molecular weight of a component, kilogram/kilogram-mole

QG_a, QG_b = flow rate of gas stream entering (QG_a) and exiting (QG_b) the control device, dry standard cubic meters per hour

K_2 = constant, 41.57×10^{-9} (parts per million)⁻¹ (gram-mole per standard cubic meter) (kilogram/gram), where standard temperature (gram-mole per standard cubic meter) is 20 °C

i = identifier for a compound

n = number of components in the sample

(I) *Percent reduction calculation.* The percent reduction in TOC or total organic HAP for each sample run shall be calculated using Equation 54 of this subpart:

$$E = \frac{QMG_a - QMG_b}{QMG_a} (100\%) \quad (Eq. 54)$$

Where:

E=destruction efficiency of control device, percent

QMG_a, QMG_b =mass rate of TOC or total organic HAP, in vented gas stream entering and exiting (QMG_b) the control device, dry basis, kilograms per hour

(J) *Compare mass destruction efficiency to required efficiency.* If complying with the 95-percent reduction efficiency requirement, compliance is demonstrated if the mass destruction efficiency (calculated in Equation 51 of this subpart) is 95 percent or greater. If complying with the 20 ppmv limit, compliance is demonstrated if the outlet TOC concentration is 20 ppmv, or less.

(ii) *Design evaluation.* A design evaluation conducted in accordance with the provisions in paragraph (a)(1) of this section. Compounds that meet the requirements specified in paragraph (e)(2)(iii)(A)(4) of this section are not required to be included in the design evaluation.

(iii) *Compliance demonstration for flares.* When a flare is used to comply with §63.1256(h), the owner or operator shall comply with the flare provisions in §63.11(b). An owner or operator is not required to conduct a performance test to determine percent emission reduction or outlet organic HAP or TOC concentration when a flare is used.

(iv) *Exemptions from compliance demonstrations.* An owner or operator using any control device specified in paragraph (a)(4) of this section is exempt from the requirements in paragraphs (e)(3)(i) through (e)(3)(iii) of this section and from the requirements in §63.6(f).

(f) *Pollution prevention alternative standard.* The owner or operator shall demonstrate compliance with §63.1252(e)(2) using the procedures described in paragraph (f)(1) and (f)(3) of this section. The owner or operator shall demonstrate compliance with §63.1252(e)(3) using the procedures described in paragraphs (f)(2) and (f)(3) of this section.

(1) Compliance is demonstrated when the annual kg/kg factor, calculated according to the procedure in paragraphs (f)(1)(i) and (iii) of this section, is reduced by at least 75 percent as calculated according to the procedure in paragraph (f)(1)(i) and (ii) of this section.

(i) The production-indexed HAP consumption factors shall be calculated by dividing annual consumption of total HAP by the annual production rate, per process. The production-indexed total VOC consumption factor shall be calculated by dividing annual consumption of total VOC by the annual production rate, per process.

(ii) The baseline factor is calculated from yearly production and consumption data for the first 3-year period in which the PMPU was operational, beginning no earlier than the 1987 calendar year, or for a minimum period of 12 months from startup of the process until the present in which the PMPU was operational and data are available, beginning no earlier than the 1987 calendar year.

(iii) The annual factor is calculated on the following bases:

(A) For continuous processes, the annual factor shall be calculated every 30 days for the 12-month period preceding the 30th day (30-day rolling average).

(B) For batch processes, the annual factor shall be calculated either every 10 batches for the 12-month period preceding the 10th batch (10-batch rolling average) or a maximum of once per month, if the number of batches is greater than 10 batches per month. The annual factor shall be calculated every 5 batches if the number of batches is less than 10 for the 12-month period preceding the 10th batch and shall be calculated every year if the number of batches is less than 5 for the 12-month period preceding the 5th batch.

(2) Compliance is demonstrated when the requirements of paragraphs (f)(2)(i) through (iv) of this section are met.

(i) The annual kg/kg factor, calculated according to the procedure in paragraphs (f)(1)(i) and (f)(1)(iii) of this section, is reduced to a value equal to or less than 50 percent of the baseline factor calculated according to the procedure in paragraphs (f)(1)(i) and (ii) of this section.

(ii) The yearly reductions associated with add-on controls that meet the criteria of §§63.1252(h)(3)(ii)(A) through (D) must be equal to or greater than the amounts calculated in paragraphs (f)(2)(ii)(A) and (B) of this section:

(A) The mass of HAP calculated using Equation 55 of this subpart:

$$M = [\text{kg/kg}]_b (0.75 - P_R) (M_{\text{prod}}) \quad (\text{Eq. 55})$$

Where:

$[\text{kg/kg}]_b$ = the baseline production-indexed HAP consumption factor, in kg/kg

M_{prod} = the annual production rate, in kg/yr

M = the annual reduction required by add-on controls, in kg/yr

P_R = the fractional reduction in the annual kg/kg factor achieved using pollution prevention where P_R is ≥ 0.5

(B) The mass of VOC calculated using Equation 56 of this subpart:

$$\text{VOC}_{\text{reduced}} = (\text{VF}_{\text{base}} - \text{VF}_P - \text{VF}_{\text{annual}}) \times M_{\text{prod}} \quad (\text{Eq. 56})$$

Where:

$\text{VOC}_{\text{reduced}}$ = required VOC emission reduction from add-on controls, kg/yr

VF_{base} = baseline VOC factor, kg VOC emitted/kg production

VF_P = reduction in VOC factor achieved by pollution prevention, kg VOC emitted/kg production

$\text{VF}_{\text{annual}}$ = target annual VOC factor, kg VOC emitted/kg production

M_{prod} = production rate, kg/yr

(iii) Demonstration that the criteria in §63.1252(e)(3)(ii)(A) through (D) are met shall be accomplished through a description of the control device and of the material streams entering and exiting the control device.

(iv) The annual reduction achieved by the add-on control shall be quantified using the methods described in §63.1257(d).

(3) Each owner or operator of a PMPU complying with the P2 standard shall prepare a P2 demonstration summary that shall contain, at a minimum, the following information:

(i) Descriptions of the methodologies and forms used to measure and record daily consumption of HAP compounds reduced as part of the P2 standard.

(ii) Descriptions of the methodologies and forms used to measure and record daily production of products which are included in the P2 standard.

(iii) Supporting documentation for the descriptions provided in paragraphs (f)(3)(i) and (ii) including, but not limited to, operator log sheets and copies of daily, monthly, and annual inventories of materials and products.

(g) *Compliance with storage tank provisions by using emissions averaging.* An owner or operator with two or more affected storage tanks may demonstrate compliance with §63.1253, as applicable, by fulfilling the requirements of paragraphs (g)(1) through (4) of this section.

(1) The owner or operator shall develop and submit for approval an Implementation Plan containing all the information required in §63.1259(e) 6 months prior to the compliance date of the standard. The Administrator shall have 90 days to approve or disapprove the emissions averaging plan after which time the plan shall be considered approved.

(2) The annual mass rate of total organic HAP (E^{Ti} , E^{To}) shall be calculated for each storage tank included in the emissions average using the procedures specified in paragraph (c)(1), (2), or (3) of this section.

(3) Equations 57 and 58 of this subpart shall be used to calculate total HAP emissions for those tanks subject to §63.1253(b) or (c):

$$E_{Ti} = \sum_{j=1}^n E_{ij} \quad (\text{Eq. 57})$$
$$E_{To} = \sum_{j=1}^n E_{oj} \quad (\text{Eq. 58})$$

Where:

E_{ij} = yearly mass rate of total HAP at the inlet of the control device for tank j

E_{oj} = yearly mass rate of total HAP at the outlet of the control device for tank j

E_{Ti} = total yearly uncontrolled HAP emissions

E_{To} = total yearly actual HAP emissions

n = number of tanks included in the emissions average

(4) The overall percent reduction efficiency shall be calculated as follows:

$$R = \frac{E_{Ti} - D E_{To}}{E_{Ti}} 100\% \quad (\text{Eq. 59})$$

Where:

R = overall percent reduction efficiency

D = discount factor = 1.1 for all controlled storage tanks

(h) *Compliance with process vent provisions by using emissions averaging.* An owner or operator with two or more affected processes complying with §63.1254 by using emissions averaging shall demonstrate compliance with paragraphs (h)(1), (2) and (3) of this section.

(1) The owner or operator shall develop and submit for approval an Implementation Plan at least 6 months prior to the compliance date of the standard containing all the information required in §63.1259(e). The Administrator shall have 90 days to approve or disapprove the emissions averaging plan. The plan shall be considered approved if the Administrator either

approves the plan in writing, or fails to disapprove the plan in writing. The 90-day period shall begin when the Administrator receives the request. If the request is denied, the owner or operator must still be in compliance with the standard by the compliance date.

(2) Owners or operators shall calculate uncontrolled and controlled emissions of HAP by using the methods specified in paragraph (d)(2) and (3) of this section for each process included in the emissions average.

(3) Equations 60 and 61 of this subpart shall be used to calculate total HAP emissions:

$$E_{TU} = \sum_{i=1}^n E_{Ui} \quad (\text{Eq. 60})$$

$$E_{TC} = \sum_{i=1}^n E_{Ci} \quad (\text{Eq. 61})$$

Where:

E_{Ui} = yearly uncontrolled emissions from process i.

E_{Ci} = yearly actual emissions for process i.

E_{TU} = total yearly uncontrolled emissions.

E_{TC} = total yearly actual emissions.

n = number of processes included in the emissions average.

(4) The overall percent reduction efficiency shall be calculated using Equation 62 of this subpart:

$$R = \frac{E_{TU} - D E_{TC}}{E_{TU}} (100\%) \quad (\text{Eq. 62})$$

Where:

R = overall percent reduction efficiency

D = discount factor = 1.1 for all controlled emission points

[63 FR 50326, Sept. 21, 1998, as amended at 65 FR 52609, Aug. 29, 2000; 66 FR 40134, Aug. 2, 2001; 76 FR 22600, Apr. 21, 2011]

§ 63.1258 Monitoring Requirements.

(a) The owner or operator of any existing, new, or reconstructed affected source shall provide evidence of continued compliance with the standard as specified in this section. During the initial compliance demonstration, maximum or minimum operating parameter levels, as appropriate, shall be established for emission sources that will indicate the source is in compliance. Test data, calculations, or information from the evaluation of the control device design shall be used to establish the operating parameter level.

(b) *Monitoring for control devices* —(1) *Parameters to monitor*. Except as specified in paragraph (b)(1)(i) of this section, for each control device, the owner or operator shall install and operate monitoring devices and operate within the established parameter levels to ensure continued compliance with the standard. Monitoring parameters are specified for control scenarios in Table 4 of this subpart and in paragraphs (b)(1)(ii) through (xi) of this section.

(i) *Periodic verification*. For control devices that control vent streams totaling less than 1 ton/yr HAP emissions, before control, monitoring shall consist of a daily verification that the device is operating properly. If the control device is used to control batch process vents alone or in combination with other streams, the verification may be on a per batch basis. This verification shall include, but not be limited to, a daily or per batch demonstration that the unit is working as designed and may include the daily measurements of the parameters described in (b)(1)(ii) through (x) of this section. This demonstration shall be included in the Precompliance report, to be submitted 6 months prior to the compliance date of the standard.

(ii) *Scrubbers*. For affected sources using liquid scrubbers, the owner or operator shall establish a minimum scrubber liquid flow rate or pressure drop as a site-specific operating parameter which must be measured and recorded every 15 minutes during the period in which the scrubber is functioning in achieving the HAP removal required by this subpart. If the scrubber uses a caustic solution to remove acid emissions, the owner or operator shall establish a minimum pH of the effluent scrubber liquid as a site-specific operating parameter which must be monitored at least once a day. As an alternative to measuring pH, you may elect to continuously monitor the caustic strength of the scrubber effluent. The minimum scrubber flowrate or pressure drop shall be based on the conditions anticipated under worst-case conditions, as defined in §63.1257(b)(8)(i).

(A) The monitoring device used to determine the pressure drop shall be certified by the manufacturer to be accurate to within a gage pressure of ± 10 percent of the maximum pressure drop measured.

(B) The monitoring device used for measurement of scrubber liquid flowrate shall be certified by the manufacturer to be accurate within ± 10 percent of the design scrubber liquid flowrate.

(C) The monitoring device shall be calibrated annually.

(iii) *Condensers*. For each condenser, the owner or operator shall establish the maximum condenser outlet gas temperature or product side temperature as a site specific operating parameter which must be measured and recorded at least every 15 minutes during the period in which the condenser is functioning in achieving the HAP removal required by this subpart.

(A) The temperature monitoring device must be accurate to within ± 2 percent of the temperature measured in degrees Celsius or ± 2.5 °C, whichever is greater.

(B) The temperature monitoring device must be calibrated annually.

(iv) *Regenerative carbon adsorbers*. For each regenerative carbon adsorber, the owner or operator shall comply with the provisions in paragraphs (b)(1)(iv)(A) through (F) of this section.

(A) Establish the regeneration cycle characteristics specified in paragraphs (b)(1)(iv)(A)(1) through (4) of this section under worst-case conditions, as defined in §63.1257(b)(8)(i).

(1) Minimum regeneration frequency (i.e., operating time since last regeneration);

(2) Minimum temperature to which the bed is heated during regeneration;

(3) Maximum temperature to which the bed is cooled, measured within 15 minutes of completing the cooling phase; and

(4) Minimum regeneration stream flow.

(B) Monitor and record the regeneration cycle characteristics specified in paragraphs (b)(1)(iv)(B)(1) through (4) of this section for each regeneration cycle.

(1) Regeneration frequency (operating time since end of last regeneration);

(2) Temperature to which the bed is heated during regeneration;

(3) Temperature to which the bed is cooled, measured within 15 minutes of the completion of the cooling phase; and

(4) Regeneration stream flow.

(C) Use a temperature monitoring device that is accurate to within ± 2 percent of the temperature measured in degrees Celsius or ± 2.5 °C, whichever is greater.

(D) Use a regeneration stream flow monitoring device capable of recording the total regeneration stream flow to within ± 10 percent of the established value (i.e., accurate to within ± 10 percent of the reading).

(E) Calibrate the temperature and flow monitoring devices annually.

(F) Conduct an annual check for bed poisoning in accordance with manufacturer's specifications.

(v) *Nonregenerative carbon adsorbers*. For each nonregenerative carbon adsorber, the owner or operator shall establish and monitor the maximum time interval between replacement based on the conditions anticipated under worst-case, as defined in §63.1257(b)(8)(i).

(vi) *Flares*. For each flare, the presence of the pilot flame shall be monitored every 15 minutes during the period in which the flare is functioning in achieving the HAP removal required by this subpart.

(vii) *Thermal incinerators*. For each thermal incinerator, the owner or operator shall establish the minimum temperature of the gases exiting the combustion chamber as the site-specific operating parameter which must be measured and recorded at least once every 15 minutes during the period in which the combustion device is functioning in achieving the HAP removal required by this subpart.

(A) The temperature monitoring device must be accurate to within ± 0.75 percent of the temperature measured in degrees Celsius or ± 2.5 °C, whichever is greater.

(B) The monitoring device must be calibrated annually.

(viii) *Catalytic incinerators*. For each catalytic incinerator, the owner or operator shall monitor the temperature of the gas stream immediately before and after the catalyst bed. The owner or operator shall establish the minimum temperature of the gas stream immediately before the catalyst bed and the minimum temperature difference across the catalyst bed as the site-specific operating parameter which must be monitored and recorded at least once every 15 minutes during the period in which the catalytic incinerator is functioning in achieving the HAP removal required by this subpart.

(A) The temperature monitoring devices must be accurate to within ± 0.75 percent of the temperature measured in degrees Celsius or ± 2.5 °C, whichever is greater.

(B) The temperature monitoring devices must be calibrated annually.

(ix) *Process heaters and boilers*. (A) Except as specified in paragraph (b)(1)(ix)(B) of this section, for each boiler or process heater, the owner or operator shall establish the minimum temperature of the gases exiting the combustion chamber as the

site-specific operating parameter which must be monitored and recorded at least once every 15 minutes during the period in which the boiler or process heater is functioning in achieving the HAP removal required by this subpart.

(1) The temperature monitoring device must be accurate to within ± 0.75 percent of the temperature measured in degrees Celsius or ± 2.5 °C, whichever is greater.

(2) The temperature monitoring device must be calibrated annually.

(B) The owner or operator is exempt from the monitoring requirements specified in paragraph (b)(1)(ix)(A) of this section if either:

(1) All vent streams are introduced with primary fuel; or

(2) The design heat input capacity of the boiler or process heater is 44 megawatts or greater.

(x) *Continuous emission monitor.* As an alternative to the parameters specified in paragraphs (b)(1)(ii) through (ix) of this section, an owner or operator may monitor and record the outlet HAP concentration or both the outlet TOC concentration and outlet hydrogen halide and halogen concentration every 15 minutes during the period in which the control device is functioning in achieving the HAP removal required by this subpart. The owner or operator need not monitor the hydrogen halide and halogen concentration if, based on process knowledge, the owner or operator determines that the emission stream does not contain hydrogen halides or halogens. The HAP or TOC monitor must meet the requirements of Performance Specification 8 or 9 of appendix B of part 60 and must be installed, calibrated, and maintained, according to §63.8. As part of the QA/QC Plan, calibration of the device must include, at a minimum, quarterly cylinder gas audits.

(xi) *CVS visual inspections.* The owner or operator shall perform monthly visual inspections of each closed vent system as specified in §63.1252(b).

(2) *Averaging periods.* Averaging periods for parametric monitoring levels shall be established according to paragraphs (b)(2)(i) through (iii) of this section.

(i) Except as provided in paragraph (b)(2)(iii) of this section, a daily (24-hour) or block average shall be calculated as the average of all values for a monitored parameter level set according to the procedures in (b)(3)(iii) of this section recorded during the operating day or block.

(ii) The operating day or block shall be defined in the Notification of Compliance Status report. The daily average may be from midnight to midnight or another continuous 24-hour period. The block average is limited to a period of time that is, at a maximum, equal to the time from the beginning to end of a batch process.

(iii) Monitoring values taken during periods in which the control devices are not functioning in controlling emissions, as indicated by periods of no flow, shall not be considered in the averages. Where flow to the device could be intermittent, the owner or operator shall install, calibrate and operate a flow indicator at the inlet or outlet of the control device to identify periods of no flow.

(3) *Procedures for setting parameter levels for control devices used to control emissions* —(i) *Small control devices.* Except as provided in paragraph (b)(1)(i) of this section, for devices controlling less than 10 tons per year of HAP for which a performance test is not required, the parametric levels shall be set based on the design evaluation required in §63.1257(d)(3)(i). If a performance test is conducted, the monitoring parameter level shall be established according to the procedures in (b)(3)(ii) of this section.

(ii) *Large control devices.* For devices controlling greater than 10 tons per year of HAP for which a performance test is required, the parameter level must be established as follows:

(A) If the operating parameter level to be established is a maximum, it must be based on the average of the values from each of the three test runs.

(B) If the operating parameter level to be established is a minimum, it must be based on the average of the values from each of the three test runs.

(C) The owner or operator may establish the parametric monitoring level(s) based on the performance test supplemented by engineering assessments and manufacturer's recommendations. Performance testing is not required to be conducted over the entire range of expected parameter values. The rationale for the specific level for each parameter, including any data and calculations used to develop the level(s) and a description of why the level indicates proper operation of the control device shall be provided in the Precompliance report. The procedures specified in this section have not been approved by the Administrator and determination of the parametric monitoring level using these procedures is subject to review and approval by the Administrator.

(iii) *Parameters for control devices controlling batch process vents.* For devices controlling batch process vents alone or in combination with other streams, the parameter level(s) shall be established in accordance with paragraph (b)(3)(iii)(A) or (B) of this section.

(A) If more than one batch emission episode has been selected to be controlled, a single level for the batch process(es) shall be determined from the initial compliance demonstration.

(B) Instead of establishing a single level for the batch process(es), as described in paragraph (b)(3)(iii)(A) of this section, an owner or operator may establish separate levels for each batch emission episode, selected to be controlled. If separate monitoring levels are established, the owner or operator must provide a record indicating at what point in the daily schedule or log of processes required to be recorded per the requirements of §63.1259(b)(9) the parameter being monitored changes levels and must record at least one reading of the new parameter level, even if the duration of monitoring for the new parameter is less than 15-minutes.

(4) *Request approval to monitor alternative parameters.* An owner or operator may request approval to monitor parameters other than those required by paragraphs (b)(1)(ii) through (ix) of this section. The request shall be submitted according to the procedures specified in §63.8(f) or included in the Precompliance report.

(5) *Monitoring for the alternative standards.* (i) For control devices that are used to comply with the provisions of §63.1253(d) or §63.1254(c), the owner or operator shall monitor and record the outlet TOC concentration and the outlet hydrogen halide and halogen concentration every 15 minutes during the period in which the device is functioning in achieving the HAP removal required by this subpart using CEMS as specified in paragraphs (b)(5)(i)(A) through (D) of this section.

(A) A TOC monitor meeting the requirements of EPA Performance Specification 8, 9, or 15 of appendix B of 40 CFR Part 60 shall be installed, calibrated, and maintained according to §63.8.

(B) Except as specified in paragraphs (b)(5)(i)(C) and (D) of this section, the owner or operator must monitor HCl using either a FTIR CEMS that meets Performance Specification 15 of appendix B of part 60 or any other CEMS capable of measuring HCl for which a performance specification has been promulgated in appendix B of part 60. To monitor HCl with a CEMS for which a performance specification has not been promulgated, the owner or operator must prepare a monitoring plan and submit it for approval in accordance with the procedures specified in §63.8.

(C) As an alternative to using a CEMS as specified in paragraph (b)(5)(i)(B) of this section to monitor halogenated vent streams that are controlled by a combustion device followed by a scrubber, the owner or operator may elect to monitor scrubber operating parameters as specified in paragraph (b)(1)(ii) of this section that demonstrate the HCl emissions are reduced by at least 95 percent by weight.

(D) The owner or operator need not monitor the hydrogen halide and halogen concentration if, based on process knowledge, the owner or operator determines that the emission stream does not contain hydrogen halides or halogens.

(ii) An owner or operator complying with the alternative standard using control devices in which supplemental gases are added to the vents or manifolds must either correct for supplemental gases as specified in §63.1257(a)(3) or comply with the requirements of paragraph (b)(5)(ii)(A) or (B) of this section. If the owner or operator corrects for supplemental gases as specified in §63.1257(a)(3)(ii) for noncombustion control devices, the flow rates must be evaluated as specified in paragraph (b)(5)(ii)(C) of this section.

(A) *Provisions for combustion devices.* As an alternative to correcting for supplemental gases as specified in §63.1257(a)(3), the owner or operator may monitor residence time and firebox temperature according to the requirements of paragraphs (b)(5)(ii)(A)(1) and (2) of this section. Monitoring of residence time may be accomplished by monitoring flowrate into the combustion chamber.

(1) If complying with the alternative standard instead of achieving a control efficiency of 95 percent or less, the owner or operator must maintain a minimum residence time of 0.5 seconds and a minimum combustion chamber temperature of 760 °C.

(2) If complying with the alternative standard instead of achieving a control efficiency of 98 percent, the owner or operator must maintain a minimum residence time of 0.75 seconds and a minimum combustion chamber temperature of 816 °C.

(B) *Provisions for dense gas systems.* As an alternative to correcting for supplemental gases as specified in §63.1257(a)(3), for noncombustion devices used to control emissions from dense gas systems, as defined in §63.1251, the owner or operator shall monitor flowrate as specified in paragraphs (b)(5)(ii)(B)(1) through (4) of this section.

(1) Use Equation 63 of this subpart to calculate the system flowrate setpoint at which the average concentration is 5,000 ppmv TOC:

$$F_s = \frac{721 \times E_{an}}{5,000} \quad (\text{Eq. 63})$$

Where:

F_s = system flowrate setpoint, scfm

E_{an} = annual emissions entering the control device, lbmols/yr

(2) Annual emissions used in Equation 63 of this subpart must be based on the actual mass of organic compounds entering the control device, as calculated from the most representative emissions inventory data submitted within the 5 years before the Notification of Compliance Status report is due. The owner or operator must recalculate the system flowrate setpoint once every 5 years using the annual emissions from the most representative emissions inventory data submitted during the 5-year period after the previous calculation. Results of the initial calculation must be included in the Notification of Compliance Status report, and recalculated values must be included in the next Periodic report after each recalculation. For all calculations after the initial calculation, to use emissions inventory data calculated using procedures other than those specified in §63.1257(d), the owner or operator must submit the emissions inventory data calculations and rationale for their use in the Notification of Process Change report or an application for a part 70 permit renewal or revision.

(3) In the Notification of Compliance Status report, the owner or operator may elect to establish both a maximum daily average operating flowrate limit above the flowrate setpoint and a reduced outlet concentration limit corresponding to this flowrate limit. The owner or operator may also establish reduced outlet concentration limits for any daily average flowrates between the flowrate setpoint and the flowrate limit. The correlation between these elevated flowrates and the corresponding outlet concentration limits must be established using Equation 64 of this subpart:

$$C_a = \frac{F_s}{F_a} \times 50 \quad (\text{Eq. 64})$$

Where:

C_a = adjusted outlet concentration limit, dry basis, ppmv

50 = outlet concentration limit associated with the flowrate setpoint, dry basis, ppmv

F_s = system flowrate setpoint, scfm

F_a = actual system flowrate limit, scfm

(4) The owner or operator must install and operate a monitoring system for measuring system flowrate. The flowrate into the control device must be monitored and recorded at least once every hour. The system flowrate must be calculated as the average of all values measured during each 24-hour operating day. The flowrate monitoring device must be accurate to within 5 percent of the system flowrate setpoint, and the flowrate monitoring device must be calibrated annually.

(C) *Flow rate evaluation for noncombustion devices.* To demonstrate continuous compliance with the requirement to correct for supplemental gases as specified in §63.1257(a)(3)(ii) for noncombustion devices, the owner or operator must evaluate the volumetric flow rate of supplemental gases, V_s , and the volumetric flow rate of all gases, V_a , each time a new operating scenario is implemented based on process knowledge and representative operating data. The procedures used to evaluate the flow rates, and the resulting correction factor used in Equation 7B of this subpart, must be included in the Notification of Compliance Status report and in the next Periodic report submitted after an operating scenario change.

(6) *Exceedances of operating parameters.* An exceedance of an operating parameter is defined as one of the following:

(i) If the parameter, averaged over the operating day or block, is below a minimum value established during the initial compliance demonstration.

(ii) If the parameter, averaged over the operating day or block, is above the maximum value established during the initial compliance demonstration.

(iii) Each loss of all pilot flames for flares.

(7) *Excursions.* Excursions are defined by either of the two cases listed in paragraphs (b)(7)(i) or (ii) of this section.

(i) When the period of control device operation is 4 hours or greater in an operating day and monitoring data are insufficient to constitute a valid hour of data, as defined in paragraph (b)(7)(iii) of this section, for at least 75 percent of the operating hours.

(ii) When the period of control device operation is less than 4 hours in an operating day and more than one of the hours during the period of operation does not constitute a valid hour of data due to insufficient monitoring data.

(iii) Monitoring data are insufficient to constitute a valid hour of data, as used in paragraphs (b)(7)(i) and (ii) of this section, if measured values are unavailable for any of the required 15-minute periods within the hour.

(8) *Violations.* Exceedances of parameters monitored according to the provisions of paragraphs (b)(1)(ii), (iv) through (ix), and (b)(5)(ii)(A) and (B) of this section, or excursions as defined by paragraphs (b)(7)(i) through (iii) of this section, constitute violations of the operating limit according to paragraphs (b)(8)(i), (ii), and (iv) of this section. Exceedances of the temperature limit monitored according to the provisions of paragraph (b)(1)(iii) of this section or exceedances of the outlet

concentrations monitored according to the provisions of paragraph (b)(1)(x) of this section constitute violations of the emission limit according to paragraphs (b)(8)(i), (ii), and (iv) of this section. Exceedances of the outlet concentrations monitored according to the provisions of paragraph (b)(5) of this section constitute violations of the emission limit according to the provisions of paragraphs (b)(8)(iii) and (iv) of this section.

(i) Except as provided in paragraph (b)(8)(iv) of this section, for episodes occurring more than once per day, exceedances of established parameter limits or excursions will result in no more than one violation per operating day for each monitored item of equipment utilized in the process.

(ii) Except as provided in paragraph (b)(8)(iv) of this section, for control devices used for more than one process in the course of an operating day, exceedances or excursions will result in no more than one violation per operating day, per control device, for each process for which the control device is in service.

(iii) Except as provided in paragraph (b)(8)(iv) of this section, exceedances of the 20 or 50 ppmv TOC outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device. Except as provided in paragraph (b)(8)(iv) of this section, exceedances of the 20 or 50 ppmv hydrogen halide or halogen outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device.

(c) *Monitoring for emission limits.* The owner or operator of any affected source complying with the provisions of §63.1254(a)(2) shall demonstrate continuous compliance with the 900 and 1,800 kg/yr emission limits by calculating daily 365-day rolling summations of emissions. During periods of planned routine maintenance when emissions are controlled as specified in §63.1252(h), the owner or operator must calculate controlled emissions assuming the HAP emissions are reduced by 93 percent. For any owner or operator opting to switch compliance strategy from the 93 percent control requirement to the annual mass emission limit method, as described in §63.1254(a)(1)(i), the rolling summations, beginning with the first day after the switch, must include emissions from the past 365 days.

(d) *Monitoring for equipment leaks.* The owner or operator of any affected source complying with the requirements of §63.1255 of this subpart shall meet the monitoring requirements described §63.1255 of this subpart.

(e) *Pollution prevention.* The owner or operator of any affected source that chooses to comply with the requirements of §§63.1252(e)(2) and (3) shall calculate a yearly rolling average of kg HAP consumption per kg production and kg VOC consumption per kg production every month or every 10 batches. Each rolling average kg/kg factor that exceeds the value established in §63.1257(f)(1)(ii) will be considered a violation of the emission limit.

(f) *Emissions averaging.* The owner or operator of any affected source that chooses to comply with the requirements of §63.1252(d) shall meet all monitoring requirements specified in paragraphs (b)(1) and (3) of this section, as applicable, for all processes and storage tanks included in the emissions average.

(g) *Inspection and monitoring of waste management units and treatment processes.* (1) For each wastewater tank, surface impoundment, container, individual drain system, and oil-water separator that receives, manages, or treats wastewater, a residual removed from wastewater, a recycled wastewater, or a recycled residual removed from wastewater, the owner or operator shall comply with the inspection requirements specified in Table 7 of this subpart.

(2) For each biological treatment unit used to comply with §63.1256(g), the owner or operator shall monitor TSS, BOD, and the biomass concentration at a frequency approved by the permitting authority and using methods approved by the permitting authority. The owner or operator may request approval to monitor other parameters. The request shall be submitted in the Precompliance report according to the procedures specified in §63.1260(e), and shall include a description of planned reporting and recordkeeping procedures. The owner or operator shall include as part of the submittal the basis for the selected monitoring frequencies and the methods that will be used. The Administrator will specify appropriate reporting and recordkeeping requirements as part of the review of the permit application or by other appropriate means.

(3) For nonbiological treatment units, the owner or operator shall request approval to monitor appropriate parameters that demonstrate proper operation of the selected treatment process. The request shall be submitted in the Precompliance report

according to the procedures specified in §63.1260(e), and shall include a description of planned reporting and recordkeeping procedures. The Administrator will specify appropriate reporting and recordkeeping requirements as part of the review of the permit application or by other appropriate means.

(h) Leak inspection provisions for vapor suppression equipment. (1) Except as provided in paragraph (h)(9) and (10) of this section, for each vapor collection system, closed-vent system, fixed roof, cover, or enclosure required to comply with this section, the owner or operator shall comply with the requirements of paragraphs (h)(2) through (8) of this section.

(2) Except as provided in paragraphs (h)(6) and (7) of this section, each vapor collection system and closed-vent system shall be inspected according to the procedures and schedule specified in paragraphs (h)(2)(i) and (ii) of this section and each fixed roof, cover, and enclosure shall be inspected according to the procedures and schedule specified in paragraph (h)(2)(iii) of this section.

(i) If the vapor collection system or closed-vent system is constructed of hard-piping, the owner or operator shall:

(A) Conduct an initial inspection according to the procedures in paragraph (h)(3) of this section, and

(B) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.

(ii) If the vapor collection system or closed-vent system is constructed of ductwork, the owner or operator shall:

(A) Conduct an initial inspection according to the procedures in paragraph (h)(3) of this section, and

(B) Conduct annual inspections according to the procedures in paragraph (h)(3) of this section.

(C) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.

(iii) For each fixed roof, cover, and enclosure, the owner or operator shall:

(A) Conduct an initial inspection according to the procedures in paragraph (h)(3) of this section, and

(B) Conduct semiannual visual inspections for visible, audible, or olfactory indications of leaks.

(3) Each vapor collection system, closed-vent system, fixed roof, cover, and enclosure shall be inspected according to the procedures specified in paragraphs (h)(3)(i) through (v) of this section.

(i) Inspections shall be conducted in accordance with Method 21 of 40 CFR Part 60, appendix A.

(ii) Detection instrument performance criteria. (A) Except as provided in paragraph (h)(3)(ii)(B) of this section, the detection instrument shall meet the performance criteria of Method 21 of 40 CFR Part 60, appendix A, except the instrument response factor criteria in section 3.1.2(a) of Method 21 shall be for the average composition of the process fluid not each individual VOC in the stream. For process streams that contain nitrogen, air, or other inerts which are not organic HAP or VOC, the average stream response factor shall be calculated on an inert-free basis.

(B) If no instrument is available at the plant site that will meet the performance criteria specified in paragraph (h)(3)(ii)(A) of this section, the instrument readings may be adjusted by multiplying by the average response factor of the process fluid, calculated on an inert-free basis as described in paragraph (h)(3)(ii)(A) of this section.

(iii) The detection instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21 of 40 CFR Part 60, appendix A.

(iv) Calibration gases shall be as follows:

(A) Zero air (less than 10 parts per million hydrocarbon in air); and

(B) Mixtures of methane in air at a concentration less than 10,000 parts per million. A calibration gas other than methane in air may be used if the instrument does not respond to methane or if the instrument does not meet the performance criteria specified in paragraph (h)(2)(ii)(A) of this section. In such cases, the calibration gas may be a mixture of one or more of the compounds to be measured in air.

(v) An owner or operator may elect to adjust or not adjust instrument readings for background. If an owner or operator elects to not adjust readings for background, all such instrument readings shall be compared directly to the applicable leak definition to determine whether there is a leak. If an owner or operator elects to adjust instrument readings for background, the owner or operator shall measure background concentration using the procedures in §63.180(b) and (c). The owner or operator shall subtract background reading from the maximum concentration indicated by the instrument.

(vi) The background level shall be determined according to the procedures in Method 21 of 40 CFR Part 60 appendix A.

(vii) The arithmetic difference between the maximum concentration indicated by the instrument and the background level shall be compared with 500 parts per million for determining compliance.

(4) Leaks, as indicated by an instrument reading greater than 500 parts per million above background or by visual inspections, shall be repaired as soon as practicable, except as provided in paragraph (h)(5) of this section.

(i) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

(ii) Repair shall be completed no later than 15 calendar days after the leak is detected, except as provided in paragraph (h)(4)(iii) of this section.

(iii) For leaks found in vapor collection systems used for transfer operations, repairs shall be completed no later than 15 calendar days after the leak is detected or at the beginning of the next transfer loading operation, whichever is later.

(5) Delay of repair of a vapor collection system, closed-vent system, fixed roof, cover, or enclosure for which leaks have been detected is allowed if the repair is technically infeasible without a shutdown, as defined in §63.1251, or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next shutdown.

(6) Any parts of the vapor collection system, closed-vent system, fixed roof, cover, or enclosure that are designated, as described in paragraph (h)(8) of this section, as unsafe to inspect are exempt from the inspection requirements of paragraphs (h)(2)(i), (ii), and (iii) of this section if:

(i) The owner or operator determines that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with paragraphs (h)(2)(i), (ii), or (iii) of this section; and

(ii) The owner or operator has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times.

(7) Any parts of the vapor collection system, closed-vent system, fixed roof, cover, or enclosure that are designated, as described in paragraph (h)(8) of this section, as difficult to inspect are exempt from the inspection requirements of paragraphs (h)(2)(i), (ii), and (iii)(A) of this section if:

(i) The owner or operator determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface; and

(ii) The owner or operator has a written plan that requires inspection of the equipment at least once every 5 years.

(8) Records shall be maintained as specified in §63.1259(i) (4) through (9).

(9) If a closed-vent system subject to this section is also subject to the equipment leak provisions of §63.1255, the owner or operator shall comply with the provisions of §63.1255 and is exempt from the requirements of this section.

(10) Instead of complying with the provisions of paragraphs (h)(2) through (8) of this section, an owner or operator may design a closed-vent system to operate at a pressure below atmospheric pressure. The system shall be equipped with at least one pressure gauge or other pressure measurement device that can be read from a readily accessible location to verify that negative pressure is being maintained in the closed-vent system when the associated control device is operating.

(i) *Planned routine maintenance.* During periods of planned routine maintenance when organic HAP emissions are controlled as specified in §63.1252(h)(2), the owner or operator must monitor the condenser outlet gas temperature according to the procedures specified in paragraph (b)(1)(iii) of this section. During periods of planned routine maintenance when HCl emissions are controlled as specified in §63.1252(h)(3), the owner or operator must monitor the pH of the scrubber effluent once per day.

[63 FR 50326, Sept. 21, 1998, as amended at 65 FR 52612, Aug. 29, 2000; 66 FR 40134, Aug. 2, 2001; 70 FR 25670, May 13, 2005; 71 FR 20459, Apr. 20, 2006; 76 FR 22601, Apr. 21, 2011]

§ 63.1259 Recordkeeping requirements.

(a) *Requirements of subpart A of this part.* The owner or operator of an affected source shall comply with the recordkeeping requirements in subpart A of this part as specified in Table 1 of this subpart and in paragraphs (a)(1) through (5) of this section.

(1) *Data retention.* Each owner or operator of an affected source shall keep copies of all records and reports required by this subpart for at least 5 years, as specified in §63.10(b)(1).

(2) *Records of applicability determinations.* The owner or operator of a stationary source that is not subject to this subpart shall keep a record of the applicability determination, as specified in §63.10(b)(3).

(3) *Malfunction records.* Each owner or operator of an affected source subject to this subpart shall maintain records of the occurrence and duration of each malfunction of operation (*i.e.*, process equipment), air pollution control equipment, or monitoring equipment. Each owner or operator shall maintain records of actions taken during periods of malfunction to minimize emissions in accordance with §63.1250(g)(3), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

(4) *Recordkeeping requirements for sources with continuous monitoring systems.* The owner or operator of an affected source who elects to install a continuous monitoring system shall maintain records specified in §63.10(c)(1) through (14).

(5) *Application for approval of construction or reconstruction.* For new affected sources, each owner or operator shall comply with the provisions in §63.5 regarding construction and reconstruction, excluding the provisions specified in §63.5(d)(1)(ii)(H), (d)(2), and (d)(3)(ii).

(b) *Records of equipment operation.* The owner or operator must keep the following records up-to-date and readily accessible:

(1) Each measurement of a control device operating parameter monitored in accordance with §63.1258 and each measurement of a treatment process parameter monitored in accordance with §63.1258(g)(2) and (3).

(2) For processes subject to §63.1252(e), records of consumption, production, and the rolling average values of the production-indexed HAP and VOC consumption factors.

(3) For each continuous monitoring system used to comply with this subpart, records documenting the completion of calibration checks and maintenance of continuous monitoring systems.

(4) For purposes of compliance with the annual mass limits of §63.1254(a)(2) and (b)(2), daily records of the rolling annual total emissions.

(5) Records of the following, as appropriate:

(i) For processes that are in compliance with the percent reduction requirements of §63.1254(a)(1) or (b)(1) and that contain vents controlled to less than the percent reduction requirement, the records specified in paragraphs (b)(5)(i)(A) through (C) of this section are required.

(A) Standard batch uncontrolled and controlled emissions for each process;

(B) Actual uncontrolled and controlled emissions for each nonstandard batch; and

(C) A record whether each batch operated was considered a standard batch.

(ii) For processes in compliance with the annual mass limits of §63.1254(a)(2) or (b)(2), the following records are required:

(A) The number of batches per year for each batch process;

(B) The operating hours per year for continuous processes;

(C) Standard batch uncontrolled and controlled emissions for each process;

(D) Actual controlled emissions for each batch operated during periods of planned routine maintenance of a CCCD, calculated according to §63.1258(c).

(E) Actual uncontrolled and controlled emissions for each nonstandard batch;

(F) A record whether each batch operated was considered a standard batch.

(6) Wastewater concentration per POD or process, except as provided in §63.1256(a)(1)(ii).

(7) Number of storage tank turnovers per year, if used in an emissions average.

(8) A schedule or log of each operating scenario updated daily or, at a minimum, each time a different operating scenario is put into operation.

(9) Description of worst-case operating conditions as required in §63.1257(b)(8).

(10) Periods of planned routine maintenance as described in §§63.1252(h) and 63.1257(c)(5).

(11) If the owner or operator elects to comply with §63.1253(b) or (c) by installing a floating roof, the owner or operator must keep records of each inspection and seal gap measurement in accordance with §63.123(c) through (e) as applicable.

(12) If the owner or operator elects to comply with the vapor balancing alternative in §63.1253(f), the owner or operator must keep records of the DOT certification required by §63.1253(f)(2) and the pressure relief vent setting and the leak detection records specified in §63.1253(f)(5).

(13) All maintenance performed on the air pollution control equipment.

(c) *Records of operating scenarios.* The owner or operator of an affected source shall keep records of each operating scenario which demonstrates compliance with this subpart.

(d) *Records of equipment leak detection and repair programs.* The owner or operator of any affected source implementing the leak detection and repair (LDAR) program specified in §63.1255 of this subpart, shall implement the recordkeeping requirements in §63.1255 of this subpart.

(e) *Records of emissions averaging.* The owner or operator of any affected source that chooses to comply with the requirements of §63.1252(d) shall maintain up-to-date records of the following information:

(1) An Implementation Plan which shall include in the plan, for all process vents and storage tanks included in each of the averages, the information listed in paragraphs (e)(1)(i) through (v) of this section.

(i) The identification of all process vents and storage tanks in each emissions average.

(ii) The uncontrolled and controlled emissions of HAP and the overall percent reduction efficiency as determined in §§63.1257(g)(1) through (4) or 63.1257(h)(1) through (3) as applicable.

(iii) The calculations used to obtain the uncontrolled and controlled HAP emissions and the overall percent reduction efficiency.

(iv) The estimated values for all parameters required to be monitored under §63.1258(f) for each process and storage tank included in an average.

(v) A statement that the compliance demonstration, monitoring, inspection, recordkeeping and reporting provisions in §§63.1257(g) and (h), 63.1258(f), and 63.1260(k) that are applicable to each emission point in the emissions average will be implemented beginning on the date of compliance.

(2) The Implementation Plan must demonstrate that the emissions from the processes and storage tanks proposed to be included in the average will not result in greater hazard or, at the option of the operating permit authority, greater risk to human health or the environment than if the storage tanks and process vents were controlled according to the provisions in §§63.1253 and 63.1254, respectively.

(i) This demonstration of hazard or risk equivalency shall be made to the satisfaction of the operating permit authority.

(A) The Administrator may require owners and operators to use specific methodologies and procedures for making a hazard or risk determination.

(B) The demonstration and approval of hazard or risk equivalency shall be made according to any guidance that the Administrator makes available for use or any other technically sound information or methods.

(ii) An emissions averaging plan that does not demonstrate hazard or risk equivalency to the satisfaction of the Administrator shall not be approved. The Administrator may require such adjustments to the emissions averaging plan as are necessary in order to ensure that the average will not result in greater hazard or risk to human health or the environment than would result if the emission points were controlled according to §§63.1253 and 63.1254.

(iii) A hazard or risk equivalency demonstration must:

(A) Be a quantitative, comparative chemical hazard or risk assessment;

(B) Account for differences between averaging and non-averaging options in chemical hazard or risk to human health or the environment; and

(C) Meet any requirements set by the Administrator for such demonstrations.

(3) Records as specified in paragraphs (a), (b) and (d) of this section.

(4) A rolling quarterly calculation of the annual percent reduction efficiency as specified in §63.1257(g) and (h).

(f) *Records of delay of repair.* Documentation of a decision to use a delay of repair due to unavailability of parts, as specified in §63.1256(i), shall include a description of the failure, the reason additional time was necessary (including a statement of why replacement parts were not kept onsite and when delivery from the manufacturer is scheduled), and the date when the repair was completed.

(g) *Record of wastewater stream or residual transfer.* The owner or operator transferring an affected wastewater stream or residual removed from an affected wastewater stream in accordance with §63.1256(a)(5) shall keep a record of the notice sent to the treatment operator stating that the wastewater stream or residual contains organic HAP which are required to be managed and treated in accordance with the provisions of this subpart.

(h) *Records of extensions.* The owner or operator shall keep documentation of a decision to use an extension, as specified in §63.1256(b)(6)(ii) or (b)(9), in a readily accessible location. The documentation shall include a description of the failure, documentation that alternate storage capacity is unavailable, and specification of a schedule of actions that will ensure that the control equipment will be repaired and the tank will be emptied as soon as practical.

(i) *Records of inspections.* The owner or operator shall keep records specified in paragraphs (i)(1) through (9) of this section.

(1) A record that each waste management unit inspection required by §63.1256(b) through (f) was performed.

(2) A record that each inspection for control devices required by §63.1256(h) was performed.

(3) A record of the results of each seal gap measurement required by §63.1256(b)(5) and (f)(3). The records shall include the date of measurement, the raw data obtained in the measurement, and the calculations described in §63.120(b)(2) through (4).

(4) Records identifying all parts of the vapor collection system, closed-vent system, fixed roof, cover, or enclosure that are designated as unsafe to inspect in accordance with §63.1258(h)(6), an explanation of why the equipment is unsafe to inspect, and the plan for inspecting the equipment.

(5) Records identifying all parts of the vapor collection system, closed-vent system, fixed roof, cover, or enclosure that are designated as difficult to inspect in accordance with §63.1258(h)(7), an explanation of why the equipment is difficult to inspect, and the plan for inspecting the equipment.

(6) For each vapor collection system or closed-vent system that contains bypass lines that could divert a vent stream away from the control device and to the atmosphere, the owner or operator shall keep a record of the information specified in either paragraph (i)(6)(i) or (ii) of this section.

(i) Hourly records of whether the flow indicator specified under §63.1252(b)(1) was operating and whether a diversion was detected at any time during the hour, as well as records of the times and durations of all periods when the vent stream is diverted from the control device or the flow indicator is not operating.

(ii) Where a seal mechanism is used to comply with §63.1252(b)(2), hourly records of flow are not required. In such cases, the owner or operator shall record that the monthly visual inspection of the seals or closure mechanisms has been done, and

shall record the occurrence of all periods when the seal mechanism is broken, the bypass line valve position has changed, or the key for a lock-and-key type lock has been checked out, and records of any car-seal that has broken.

(7) For each inspection conducted in accordance with §63.1258(h)(2) and (3) during which a leak is detected, a record of the information specified in paragraphs (i)(7)(i) through (ix) of this section.

(i) Identification of the leaking equipment.

(ii) The instrument identification numbers and operator name or initials, if the leak was detected using the procedures described in §63.1258(h)(3); or a record that the leak was detected by sensory observations.

(iii) The date the leak was detected and the date of the first attempt to repair the leak.

(iv) Maximum instrument reading measured by the method specified in §63.1258(h)(4) after the leak is successfully repaired or determined to be nonrepairable.

(v) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(vi) The name, initials, or other form of identification of the owner or operator (or designee) whose decision it was that repair could not be effected without a shutdown.

(vii) The expected date of successful repair of the leak if a leak is not repaired within 15 calendar days.

(viii) Dates of shutdowns that occur while the equipment is unrepaired.

(ix) The date of successful repair of the leak.

(8) For each inspection conducted in accordance with §63.1258(h)(3) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(9) For each visual inspection conducted in accordance with §63.1258(h)(2)(i)(B) or (h)(2)(iii)(B) of this section during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

[63 FR 50326, Sept. 21, 1998, as amended at 65 FR 52613, Aug. 29, 2000; 66 FR 40135, Aug. 2, 2001; 70 FR 25670, May 13, 2005; 71 FR 20459, Apr. 20, 2006; 76 FR 22601, Apr. 21, 2011]

§ 63.1260 Reporting requirements.

(a) The owner or operator of an affected source shall comply with the reporting requirements of paragraphs (b) through (n) of this section. Applicable reporting requirements of §§63.9 and 63.10 are also summarized in Table 1 of this subpart.

(b) *Initial notification.* The owner or operator shall submit the applicable initial notification in accordance with §63.9(b) or (d).

(c) *Application for approval of construction or reconstruction.* An owner or operator who is subject to §63.5(b)(3) shall submit to the Administrator an application for approval of the construction of a new major affected source, the reconstruction of a major affected source, or the reconstruction of a major source such that the source becomes a major affected source subject to the standards. The application shall be prepared in accordance with §63.5(d).

(d) *Notification of CMS performance evaluation.* An owner or operator who is required by the Administrator to conduct a performance evaluation for a continuous monitoring system shall notify the Administrator of the date of the performance evaluation as specified in §63.8(e)(2).

(e) *Precompliance report.* The Precompliance report shall be submitted at least 6 months prior to the compliance date of the standard. For new sources, the Precompliance report shall be submitted to the Administrator with the application for approval of construction or reconstruction. The Administrator shall have 90 days to approve or disapprove the plan. The plan shall be considered approved if the Administrator either approves the plan in writing, or fails to disapprove the plan in writing. The 90 day period shall begin when the Administrator receives the request. If the request is denied, the owner or operator must still be in compliance with the standard by the compliance date. To change any of the information submitted in the report, the owner or operator shall notify the Administrator 90 days before the planned change is to be implemented; the change shall be considered approved if the Administrator either approves the change in writing, or fails to disapprove the change in writing. The Precompliance report shall include:

(1) Requests for approval to use alternative monitoring parameters or requests to set monitoring parameters according to §63.1258(b)(4).

(2) Descriptions of the daily or per batch demonstrations to verify that control devices subject to §63.1258(b)(1)(i) are operating as designed.

(3) A description of test conditions, and the corresponding monitoring parameter values for parameters that are set according to §63.1258(b)(3)(ii)(C).

(4) For owners and operators complying with the requirements of §63.1252(e), the P2 demonstration summary required in §63.1257(f).

(5) Data and rationale used to support an engineering assessment to calculate uncontrolled emissions from process vents as required in §63.1257(d)(2)(ii).

(6) Data and other information supporting the determination of annual average concentrations by process simulation as required in §63.1257(e)(1)(ii).

(7) Bench scale or pilot-scale test data and rationale used to determine annual average concentrations as required in §63.1257(e)(1)(ii)(C).

(f) *Notification of Compliance Status report.* The Notification of Compliance Status report required under §63.9 shall be submitted no later than 150 days after the compliance date and shall include:

(1) The results of any applicability determinations, emission calculations, or analyses used to identify and quantify HAP emissions from the affected source.

(2) The results of emissions profiles, performance tests, engineering analyses, design evaluations, or calculations used to demonstrate compliance. For performance tests, results should include descriptions of sampling and analysis procedures and quality assurance procedures.

(3) Descriptions of monitoring devices, monitoring frequencies, and the values of monitored parameters established during the initial compliance determinations, including data and calculations to support the levels established.

(4) Listing of all operating scenarios.

(5) Descriptions of worst-case operating and/or testing conditions for control devices.

(6) Identification of emission points subject to overlapping requirements described in §63.1250(h) and the authority under which the owner or operator will comply.

(7) Anticipated periods of planned routine maintenance of a CCCD subject to §63.1252(h) during the period between the compliance date and the end of the period covered by the first Periodic report, and if applicable, the rationale for why the planned routine maintenance must be performed while a process with a vent subject to §63.1254(a)(3) will be operating.

(g) *Periodic reports.* An owner or operator shall prepare Periodic reports in accordance with paragraphs (g)(1) and (2) of this section and submit them to the Administrator.

(1) *Submittal schedule.* Except as provided in paragraphs (g)(1)(i), (ii), and (iii) of this section, an owner or operator shall submit Periodic reports semiannually. The first report shall be submitted no later than 240 days after the Notification of Compliance Status is due and shall cover the 6-month period beginning on the date the Notification of Compliance Status is due. Each subsequent Periodic report shall cover the 6-month period following the preceding period.

(i) When the Administrator determines on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status of the affected source; or

(ii) Quarterly reports shall be submitted when the source experiences an exceedance of a temperature limit monitored according to the provisions of §63.1258(b)(1)(iii) or an exceedance of the outlet concentration monitored according to the provisions of §63.1258(b)(1)(x) or (b)(5). Once an affected source reports quarterly, the affected source shall follow a quarterly reporting format until a request to reduce reporting frequency is approved. If an owner or operator submits a request to reduce the frequency of reporting, the provisions in §63.10(e)(3)(ii) and (iii) shall apply, except that the phrase “excess emissions and continuous monitoring system performance report and/or summary report” shall mean “Periodic report” for the purposes of this section.

(iii) When a new operating scenario has been operated since the last report, in which case quarterly reports shall be submitted.

(2) *Content of Periodic report.* The owner or operator shall include the information in paragraphs (g)(2)(i) through (vii) of this section, as applicable.

(i) Each Periodic report must include the information in §63.10(e)(3)(vi)(A) through (I) and (K) through (M). For each continuous monitoring system, the Periodic report must also include the information in §63.10(e)(3)(vi)(J).

(ii) If the total duration of excess emissions, parameter exceedances, or excursions for the reporting period is 1 percent or greater of the total operating time for the reporting period, or the total continuous monitoring system downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the Periodic report must include the information in paragraphs (g)(2)(ii)(A) through (D) of this section.

(A) Monitoring data, including 15-minute monitoring values as well as daily average values of monitored parameters, for all operating days when the average values were outside the ranges established in the Notification of Compliance Status report or operating permit.

(B) Duration of excursions, as defined in §63.1258(b)(7).

(C) Operating logs and operating scenarios for all operating scenarios for all operating days when the values are outside the levels established in the Notification of Compliance Status report or operating permit.

(D) When a continuous monitoring system is used, the information required in §63.10(c)(5) through (13).

(iii) For each inspection conducted in accordance with §63.1258(h)(2) or (3) during which a leak is detected, the records specified in §63.1259(i)(7) must be included in the next Periodic report.

(iv) For each vapor collection system or closed vent system with a bypass line subject to §63.1252(b)(1), records required under §63.1259(i)(6)(i) of all periods when the vent stream is diverted from the control device through a bypass line. For each vapor collection system or closed vent system with a bypass line subject to §63.1252(b)(2), records required under §63.1259(i)(6)(ii) of all periods in which the seal mechanism is broken, the bypass valve position has changed, or the key to unlock the bypass line valve was checked out.

(v) The information in paragraphs (g)(2)(v)(A) through (D) of this section shall be stated in the Periodic report, when applicable.

(A) No excess emissions.

(B) No exceedances of a parameter.

(C) No excursions.

(D) No continuous monitoring system has been inoperative, out of control, repaired, or adjusted.

(vi) The information specified in paragraphs (g)(2)(vi)(A) through (C) for periods of planned routine maintenance.

(A) For each storage tank subject to control requirements, periods of planned routine maintenance during which the control device does not meet the specifications of §63.1253(b) through (d).

(B) For a CCCD subject to §63.1252(h), periods of planned routine maintenance during the current reporting period and anticipated periods of planned routine maintenance during the next reporting period.

(C) Rationale for why planned routine maintenance of a CCCD subject to §63.1252(h) must be performed while a process with a vent subject to §63.1254(a)(3) will be operating, if applicable. This requirement applies only if the rationale is not in, or differs from that in, the Notification of Compliance Status report.

(vii) Each new operating scenario which has been operated since the time period covered by the last Periodic report. For each new operating scenario, the owner or operator shall provide verification that the operating conditions for any associated control or treatment device have not been exceeded, and that any required calculations and engineering analyses have been performed. For the initial Periodic report, each operating scenario for each process operated since the due date of the Notification of Compliance Status Report shall be submitted.

(viii) If the owner or operator elects to comply with the provisions of §63.1253(b) or (c) by installing a floating roof, the owner or operator shall submit the information specified in §63.122(d) through (f) as applicable. References to §63.152 from §63.122 shall not apply for the purposes of this subpart.

(h) *Notification of process change.* (1) Except as specified in paragraph (h)(2) of this section, whenever a process change is made, or a change in any of the information submitted in the Notification of Compliance Status Report, the owner or operator shall submit the information specified in paragraphs (h)(1)(i) through (iv) of this section with the next Periodic report required under paragraph (g) of this section.

(i) A brief description of the process change.

(ii) A description of any modifications to standard procedures or quality assurance procedures.

- (iii) Revisions to any of the information reported in the original Notification of Compliance Status Report under paragraph (f) of this section.
- (iv) Information required by the Notification of Compliance Status Report under paragraph (f) of this section for changes involving the addition of processes or equipment.
- (2) An owner or operator must submit a report 60 days before the scheduled implementation date of either of the following:
- (i) Any change in the activity covered by the Precompliance report.
- (ii) A change in the status of a control device from small to large.
- (i) The owner or operator shall submit a report of the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with §63.1250(g)(3), including actions taken to correct a malfunction. The report shall be submitted on the same schedule as the periodic reports required under paragraph (g) of this section.
- (j) *Reports of LDAR programs.* The owner or operator of any affected source implementing the LDAR program specified in §63.1255 of this subpart shall implement the reporting requirements in §63.1255 of this subpart. Copies of all reports shall be retained as records for a period of 5 years, in accordance with the requirements of §63.10(b)(1).
- (k) *Reports of emissions averaging.* The owner or operator of any affected source that chooses to comply with the requirements of §63.1252(d) shall submit the implementation plan described in §63.1259(e) 6 months prior to the compliance date of the standard and the following information in the periodic reports:
- (1) The records specified in §63.1259(e) for each process or storage tank included in the emissions average;
- (2) All information as specified in paragraph (g) of this section for each process or storage tank included in the emissions average;
- (3) Any changes of the processes or storage tanks included in the average.
- (4) The calculation of the overall percent reduction efficiency for the reporting period.
- (5) Changes to the Implementation Plan which affect the calculation methodology of uncontrolled or controlled emissions or the hazard or risk equivalency determination.
- (6) Every second semiannual or fourth quarterly report, as appropriate, shall include the results according to §63.1259(e)(4) to demonstrate the emissions averaging provisions of §§63.1252(d), 63.1257(g) and (h), 63.1258(f), and 63.1259(f) are satisfied.
- (l) *Notification of performance test and test plan.* The owner or operator of an affected source shall notify the Administrator of the planned date of a performance test at least 60 days before the test in accordance with §63.7(b). The owner or operator also must submit the test plan required by §63.7(c) and the emission profile required by 63.1257(b)(8)(ii) with the notification of the performance test.
- (m) *Request for extension of compliance.* An owner or operator may submit to the Administrator a request for an extension of compliance in accordance with §63.1250(f)(4).
- (n)(1) As of January 1, 2012, and within 60 days after the date of completing each performance test, as defined in §63.2 and as required in this subpart, you must submit performance test data, except opacity data, electronically to EPA's Central Data

Exchange by using the ERT (see http://www.epa.gov/ttn/chief/ert/ert_tool.html/) or other compatible electronic spreadsheet. Only data collected using test methods compatible with ERT are subject to this requirement to be submitted electronically into EPA's WebFIRE database.

(2) All reports required by this subpart not subject to the requirements in paragraphs (n)(1) of this section must be sent to the Administrator at the appropriate address listed in §63.13. If acceptable to both the Administrator and the owner or operator of a source, these reports may be submitted on electronic media. The Administrator retains the right to require submittal of reports subject to paragraph (n)(1) of this section in paper format.

[63 FR 50326, Sept. 21, 1998, as amended at 65 FR 52614, Aug. 29, 2000; 66 FR 40135, Aug. 2, 2001; 76 FR 22601, Apr. 21, 2011]

§ 63.1261 Implementation and enforcement.

(a) This subpart can be implemented and enforced by the U.S. EPA, or a delegated authority such as the applicable State, local, or Tribal agency. If the U.S. EPA Administrator has delegated authority to a State, local, or Tribal agency, then that agency, in addition to the U.S. EPA, has the authority to implement and enforce this subpart. Contact the applicable U.S. EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to a State, local, or Tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or Tribal agency under subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the Administrator of U.S. EPA and cannot be transferred to the State, local, or Tribal agency.

(c) The authorities that cannot be delegated to State, local, or Tribal agencies are as specified in paragraphs (c)(1) through (4) of this section.

(1) Approval of alternatives to the requirements in §§63.1250 and 63.1252 through 63.1256. Where these standards reference another subpart, the cited provisions will be delegated according to the delegation provisions of the referenced subpart.

(2) Approval of major alternatives to test methods under §63.7(e)(2)(ii) and (f), as defined in §63.90, and as required in this subpart.

(3) Approval of major alternatives to monitoring under §63.8(f), as defined in §63.90, and as required in this subpart.

(4) Approval of major alternatives to recordkeeping and reporting under §63.10(f), as defined in §63.90, and as required in this subpart.

[68 FR 37356, June 23, 2003]

Table 1 to Subpart GGG of Part 63—General Provisions Applicability to Subpart GGG

General provisions reference	Summary of requirements	Applies to subpart GGG	Comments
63.1(a)(1)	General applicability of the General Provisions	Yes	Additional terms defined in §63.1251; when overlap between subparts A and GGG of this part, subpart GGG takes precedence.

General provisions reference	Summary of requirements	Applies to subpart GGG	Comments
63.1(a)(2–7)		Yes	
63.1(a)(8)		No	Discusses state programs.
63.1(a)(9–14)		Yes	
63.1(b)(1)	Initial applicability determination	Yes	Subpart GGG clarifies the applicability in §63.1250.
63.1(b)(2)	Title V operating permit—see part 70	Yes	All major affected sources are required to obtain a title V permit.
63.1(b)(3)	Record of the applicability determination	Yes	All affected sources are subject to subpart GGG according to the applicability definition of subpart GGG.
63.1(c)(1)	Applicability after standards are set	Yes	Subpart GGG clarifies the applicability of each paragraph of subpart A to sources subject to subpart GGG.
63.1(c)(2)	Title V permit requirement	No	All major affected sources are required to obtain a title V permit. Area sources are not subject to subpart GGG.
63.1(c)(3)	Reserved		
63.1(c)(4)	Requirements for existing source that obtains an extension of compliance	Yes	
§63.1(c)(5)	Notification requirements for an area source that increases HAP emissions to major source levels	Yes	
63.1(d)	[Reserved]	NA	
63.1(e)	Applicability of permit program before a relevant standard has been set	Yes	
63.2	Definitions.	Yes	Additional terms defined in §63.1251; when overlap between subparts A and GGG of this part occurs, subpart GGG takes precedence.

General provisions reference	Summary of requirements	Applies to subpart GGG	Comments
63.3	Units and abbreviations.	Yes	Other units used in subpart GGG are defined in that subpart.
63.4	Prohibited activities.	Yes	
63.5(a)	Construction and reconstruction—applicability	Yes	Except replace the terms “source” and “stationary source” with “affected source”.
63.5(b)(1)	Upon construction, relevant standards for new sources	Yes	
63.5(b)(2)	[Reserved]	NA	
63.5(b)(3)	New construction/reconstruction	Yes	Except for changes and additions authorized under §52.2454 of this title. However, the requirement to submit the Precompliance report at least 90 days before the compliance date still applies.
63.5(b)(4)	Construction/reconstruction notification	Yes	
63.5(b)(5)	Construction/reconstruction compliance	Yes	
63.5(b)(6)	Equipment addition or process change	Yes	
63.5(c)	[Reserved]	NA	
63.5(d)	Application for approval of construction/reconstruction	Yes	Except for certain provisions identified in 63.1259(a)(5)
§63.5(e)	Construction/reconstruction approval	Yes	
63.5(f)	Construction/reconstruction approval based on prior State review.	Yes	Except replace “source” with “affected source”.
63.6(a)(1)	Compliance with standards and maintenance requirements	Yes	
63.6(a)(2)	Requirements for area source that increases emissions to become major	Yes	
63.6(b)(1–2)	Compliance dates for new and reconstructed sources	No	Subpart GGG specifies compliance dates.

General provisions reference	Summary of requirements	Applies to subpart GGG	Comments
63.6(b)(3–6)	Compliance dates for area sources that become major sources	Yes	
63.6 (b)(7)	Compliance dates for new sources resulting from new unaffected area sources becoming subject to standards	No	Subpart GGG specifies NS applicability and compliance dates
63.6(c)	Compliance dates for existing sources	Yes	Except replace “source” with “affected source”. Subpart GGG specifies compliance dates.
§63.6(e)(1)(i)	Requirements during periods of startup, shutdown, and malfunction	No	See 63.1250(g)(3) for general duty requirement. Any cross-reference to 63.6(e)(1)(i) in any other general provision incorporated by reference shall be treated as a cross-reference to 63.1250(g)(3).
§63.6(e)(1)(ii)	Malfunction correction requirements	No.	
§63.6(e)(1)(iii)	Enforceability of operation and maintenance requirements	Yes.	
§63.6(e)(2)	Reserved	No	Section reserved.
§63.6(e)(3)	Startup, shutdown, and malfunction plan requirements	No.	
63.6(f)(1)	Applicability of nonopacity emission standards	No.	
63.6(f)(2)–(3)	Methods of determining compliance and findings compliance	Yes.	
63.6(g)	Use of an alternative nonopacity emission standard	Yes.	
63.6(h)	Opacity and visible emission standards	No	Subpart GGG does not contain any opacity or visible emission standards.
§63.6(i)(1) through (7)	Requests for compliance extensions	No	§63.1250(f)(6) specifies provisions for compliance extensions.
§63.6(i)(8) through (14)	Approval of compliance extensions	Yes	Except references to §63.6(i)(4) through (6) mean §63.1250(f)(6).

General provisions reference	Summary of requirements	Applies to subpart GGG	Comments
63.6(j)	Exemption from compliance with emission standards	Yes	
63.7(a)(1)	Performance testing requirements	Yes	Subpart GGG also specifies required testing and compliance procedures.
63.7(a)(2)(i)–(ix)		Yes	Except substitute “150 days” instead of “180 days.”
63.7(a)(3)		Yes	
63.7(b)(1)	Notification of performance test	Yes	
63.7(b)(2)	Notification of delay in conducting a scheduled performance test	Yes	
63.7(c)	Quality assurance program	Yes	Except that the test plan must be submitted with the notification of the performance test.
63.7(d)	Performance testing facilities.	Yes	Except replace “source” with “affected source”.
63.7(e)(1)	Conduct of performance tests	No	See 63.1257(a) text. Any cross-reference to 63.7(e)(1) in any other general provision incorporated by reference shall be treated as a cross-reference to 63.1257(a).
63.7(e)(2)–(4)	Performance tests requirements	Yes.	
63.7(f)	Use of alternative test method	Yes	
63.7(g)	Data analysis, recordkeeping, and reporting	Yes	
63.7(h)	Waiver of performance tests	Yes	
63.8(a)	Monitoring requirements	Yes	See §63.1258.
63.8(b)(1)	Conduct of monitoring	Yes	
63.8(b)(2)	CMS and combined effluents	No	§63.1258 of subpart GGG provides specific CMS requirements.
63.8(b)(3)–(c)(4)	CMS requirements	Yes	§63.1259 also specifies recordkeeping for CMS.
63.8(c)(5)	COMS operation requirements	No	

General provisions reference	Summary of requirements	Applies to subpart GGG	Comments
63.8(c)(6)–(8)	CMS calibration and malfunction provisions	No	Calibration procedures are provided in §63.1258.
63.8(d)(1)–(2)	CMS quality control program requirements	Yes.	
63.8(d)(3)	CMS quality control program recordkeeping requirements	Yes, except for last sentence	
63.8(e)(1)	Performance evaluations of CMS	Yes	
63.8(e)(2)	Notification of performance evaluation	Yes	
63.8(e)(3–4)	CMS requirements/alternatives	Yes	
§63.8(e)(5)(i)	Reporting performance evaluation results	Yes	See §63.1260(a).
63.1260 (a).			
63.8(e)(5)(ii)	Results of COMS performance evaluation	No	Subpart GGG does not contain any opacity or visible emission standards.
63.8(f)–(g)	Alternative monitoring method/reduction of monitoring data	Yes	
63.9(a)–(d)	Notification requirements— Applicability and general information	Yes	§63.1260 (b) also specifies initial notification requirement.
63.9(e)	Notification of performance test	Yes	§63.1260 (l) also specifies notification requirement for performance test.
63.9(f)	Notification of opacity and visible emissions observations	No	Subpart GGG does not contain any opacity or visible emission standards.
63.9(g)(1)	Additional notification requirements for sources with CMS	Yes	§63.1260 (d) also specifies notification requirement for performance evaluation.
63.9(g)(2)	Notification of compliance with opacity emission standard	No	Subpart GGG does not contain any opacity or visible emission standards.
63.9(g)(3)	Notification that criterion to continue use of alternative to relative accuracy testing has been exceeded	Yes	§63.1260 (d) also specifies notification requirement for performance evaluation.

General provisions reference	Summary of requirements	Applies to subpart GGG	Comments
63.9(h)	Notification of compliance status	Yes	Specified in §63.1260(f). Due 150 days after compliance date.
63.9(i)	Adjustment to time periods or postmark deadlines for submittal and review of required communications	Yes	
63.9(j)	Change in information provided	No	Subpart GGG specifies procedures for notification of changes.
63.10(a)	Recordkeeping requirements	Yes	
63.1259.			
63.10(b)(1)	Records retention	Yes	Also stated in §63.1259.
63.10(b)(2)	Information and documentation to support notifications	No	Subpart GGG specifies recordkeeping requirements.
63.10(b)(3)	Records retention for sources not subject to relevant standard	Yes	Also stated in §63.1259 (a)(2).
63.10(c)(1)–(9)	Additional recordkeeping requirements for sources with continuous monitoring systems	Yes.	
63.10(c)(10)	Malfunction recordkeeping requirement	No	Subpart GGG specifies recordkeeping requirements.
63.10(c)(11)	Malfunction corrective action recordkeeping requirement	No	Subpart GGG specifies recordkeeping requirements.
63.10(c)(12)–(14)	Additional recordkeeping requirements for sources with continuous monitoring systems	Yes.	
63.10(c)(15)	Additional SSM recordkeeping requirements	No.	
63.10(d)(1)–(2)	General reporting requirements	Yes.	
63.10(d)(3)	Reporting results of opacity or visible emissions observations	No	Subpart GGG does not include any opacity or visible emission standards.
63.10(d)(4)	Progress report requirements	Yes.	
63.10(d)(5)	Startup, shutdown, and malfunction report requirements	No	Subpart GGG specifies reporting requirements.

General provisions reference	Summary of requirements	Applies to subpart GGG	Comments
63.10(e)	Additional CMS reporting requirements	Yes	
63.10(f)	Waiver of recordkeeping or reporting requirements.	Yes	
63.11	Control device and equipment leak work practice requirements	Yes	
63.13	Addresses of State air pollution control agencies	Yes	
63.14	Incorporations by reference	Yes	
63.15	Availability of information and confidentiality	Yes	

[63 FR 50326, Sept. 21, 1998, as amended at 65 FR 52614, Aug. 29, 2000; 66 FR 40136, Aug. 2, 2001; 73 FR 78213, Dec. 22, 2008; 76 FR 22601, Apr. 21, 2011]

Table 2 to Subpart GGG of Part 63—Partially Soluble HAP

1,1,1-Trichloroethane (methyl chloroform)	Chloroform
1,1,2,2-Tetrachloroethane	Chloromethane
1,1,2-Trichloroethane	Chloroprene
1,1-Dichloroethylene (vinylidene chloride)	Cumene
1,2-Dibromoethane	Dichloroethyl ether
1,2-Dichloroethane (ethylene dichloride)	Dinitrophenol
1,2-Dichloropropane	Epichlorohydrin
1,3-Dichloropropene	Ethyl acrylate
2,4,5-Trichlorophenol	Ethylbenzene
2-Butanone (mek)	Ethylene oxide
1,4-Dichlorobenzene	Hexachlorobenzene
2-Nitropropane	Hexachlorobutadiene
4-Methyl-2-pentanone (MIBK)	Hexachloroethane
Acetaldehyde	Methyl methacrylate
Acrolein	Methyl-t-butyl ether

Acrylonitrile	Methylene chloride
Allyl chloride	N,N-dimethylaniline
Benzene	Propionaldehyde
Benzyl chloride	Propylene oxide
Biphenyl	Styrene
Bromoform (tribromomethane)	Tetrachloroethene (perchloroethylene)
Bromomethane	Tetrachloromethane (carbon tetrachloride)
Butadiene	Toluene
Carbon disulfide	Trichlorobenzene (1,2,4-)
Chlorobenzene	Trichloroethylene
Chloroethane (ethyl chloride)	Trimethylpentane
Vinyl acetate	Xylene (p)
Vinyl chloride	N-hexane
Xylene (m)	
Xylene (o)	

[66 FR 40136, Aug. 2, 2001]

Table 3 to Subpart GGG of Part 63—Soluble HAP

Compound
1,1-Dimethylhydrazine.
1,4-Dioxane.
Acetonitrile.
Acetophenone.
Diethyl sulfate.
Dimethyl sulfate.
Dinitrotoluene.
Ethylene glycol dimethyl ether.
Ethylene glycol monobutyl ether acetate.
Ethylene glycol monomethyl ether acetate.
Isophorone.

Compound
Methanol (methyl alcohol).
Nitrobenzene.
Toluidene.
Triethylamine.

[66 FR 40137, Aug. 2, 2001]

Table 4 to Subpart GGG of Part 63—Monitoring Requirements for Control Devices

Control device	Monitoring equipment required	Parameters to be monitored	Frequency
All control devices	1. Flow indicator installed at all bypass lines to the atmosphere and equipped with continuous recorder <i>or</i>	1. Presence of flow diverted from the control device to the atmosphere <i>or</i>	Hourly records of whether the flow indicator was operating and whether a diversion was detected at any time during each hour.
	2. Valves sealed closed with car-seal or lock-and-key configuration	2. Monthly inspections of sealed valves	
Scrubber	Liquid flow rate or pressure drop mounting device. Also a pH monitor if the scrubber is used to control acid emissions	1. Liquid flow rate into or out of the scrubber or the pressure drop across the scrubber	1. Every 15 minutes.
		2. pH of effluent scrubber liquid	2. Once a day.
Thermal incinerator	Temperature monitoring device installed in firebox or in ductwork immediately downstream of firebox ^b	Firebox temperature	Every 15 minutes.
Catalytic incinerator	Temperature monitoring device installed in gas stream immediately before and after catalyst bed	Temperature difference across catalyst bed	Every 15 minutes.
Flare	Heat sensing device installed at the pilot light	Presence of a flame at the pilot light	Every 15 minutes.

Control device	Monitoring equipment required	Parameters to be monitored	Frequency
Boiler or process heater <44 mega watts and vent stream is not mixed with the primary fuel	Temperature monitoring device installed in firebox ^b	Combustion temperature	Every 15 minutes.
Condenser	Temperature monitoring device installed at condenser exit	Condenser exit (product side) temperature	Every 15 minutes.
Carbon adsorber (nonregenerative)	None	Operating time since last replacement	N/A.
Carbon adsorber (regenerative)	Stream flow monitoring device, <i>and</i>	1. Total regeneration stream mass or volumetric flow during carbon bed regeneration cycle(s)	1. For each regeneration cycle, record the total regeneration stream mass or volumetric flow.
	Carbon bed temperature monitoring device	2. Temperature of carbon bed after regeneration	2. For each regeneration cycle, record the maximum carbon bed-temperature.
		3. Temperature of carbon bed within 15 minutes of completing any cooling cycle(s)	3. Within 15 minutes of completing any cooling cycle, record the carbon bed temperature.
		4. Operating time since end of last regeneration	4. Operating time to be based on worst-case conditions.
		5. Check for bed poisoning	5. Yearly.

^aAs an alternative to the monitoring requirements specified in this table, the owner or operator may use a CEM meeting the requirements of Performance Specifications 8 or 9 of appendix B of part 60 to monitor TOC every 15 minutes.

^bMonitor may be installed in the firebox or in the ductwork immediately downstream of the firebox before any substantial heat exchange is encountered.

Table 5 to Subpart GGG of Part 63—Control Requirements for Items of Equipment That Meet the Criteria of §63.1252(f)

Item of equipment	Control requirement ^a
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Item of equipment	Control requirement ^a
Drain or drain hub	(a) Tightly fitting solid cover (TFSC); or
	(b) TFSC with a vent to either a process or to a control device meeting the requirements of §63.1256(h)(2); or
	(c) Water seal with submerged discharge or barrier to protect discharge from wind.
Manhole ^b	(a) TFSC; or
	(b) TSFC with a vent to either a process or to a control device meeting the requirements of §63.1256(h)(2); or
	(c) If the item is vented to the atmosphere, use a TFSC with a properly operating water seal at the entrance or exit to the item to restrict ventilation in the collection system. The vent pipe shall be at least 90 cm in length and not exceeding 10.2 cm in nominal inside diameter.
Lift station	(a) TFSC; or
	(b) TFSC with a vent to either a process or to a control device meeting the requirements of §63.1256(h)(2); or
	(c) If the lift station is vented to the atmosphere, use a TFSC with a properly operating water seal at the entrance or exit to the item to restrict ventilation in the collection system. The vent pipe shall be at least 90 cm in length and not exceeding 10.2 cm in nominal inside diameter. The lift station shall be level controlled to minimize changes in the liquid level.
Trench	(a) TFSC; or
	(b) TFSC with a vent to either a process or to a control device meeting the requirements of §63.1256(h)(2); or
	(c) If the item is vented to the atmosphere, use a TFSC with a properly operating water seal at the entrance or exit to the item to restrict ventilation in the collection system. The vent pipe shall be at least 90 cm in length and not exceeding 10.2 cm in nominal inside diameter.
Pipe	Each pipe shall have no visible gaps in joints, seals, or other emission interfaces.
Oil/Water separator	(a) Equip with a fixed roof and route vapors to a process or equip with a closed-vent system that routes vapors to a control device meeting the requirements of §63.1256(h)(2); or
	(b) Equip with a floating roof that meets the equipment specifications of §60.693(a)(1)(i), (a)(1)(ii), (a)(2), (a)(3), and (a)(4).
Tank	Maintain a fixed roof and consider vents as process vents. ^c

^aWhere a tightly fitting solid cover is required, it shall be maintained with no visible gaps or openings, except during periods of sampling, inspection, or maintenance.

^bManhole includes sumps and other points of access to a conveyance system.

^cA fixed roof may have openings necessary for proper venting of the tank, such as pressure/vacuum vent, j-pipe vent.

[65 FR 52616, Aug. 29, 2000]

Table 6 to Subpart GGG of Part 63—Wastewater—Compliance Options for Wastewater Tanks

Capacity, m ³	Maximum true vapor pressure, kPa	Control requirements
<75		§63.1256(b)(1).
>75 and <151	<13.1	§63.1256(b)(1).
	>13.1	§63.1256(b)(2).
>151	<5.2	§63.1256(b)(1).
	>5.2	§63.1256(b)(2).

Table 7 to Subpart GGG of Part 63—Wastewater—Inspection and Monitoring Requirements for Waste Management Units

To comply with	Inspection or monitoring requirement	Frequency of inspection or monitoring	Method
TANKS:			
63.1256(b)(3)(i)	Inspect fixed roof and all openings for leaks	Initially Semiannually	Visual.
63.1256(b)(4)	Inspect floating roof in accordance with §§63.120(a)(2) and (a)(3)	See §§63.120(a)(2) and (a)(3)	Visual.
63.1256(b)(5)	Measure floating roof seal gaps in accordance with §§63.120(b)(2)(i) through (b)(4)		See §63.120(b)(2)(i) through (b)(4).
	—Primary seal gaps	Initially Once every 5 years (annually if no secondary seal).	
	—Secondary seal gaps	Initially Semiannually	

To comply with	Inspection or monitoring requirement	Frequency of inspection or monitoring	Method
63.1256(b)(7) 63.1256(b)(8)	Inspect wastewater tank for control equipment failures and improper work practices	Initially Semiannually	Visual.
SURFACE IMPOUNDMENTS:			
63.1256(c)(1)(i)	Inspect cover and all openings for leaks	Initially Semiannually	Visual.
63.1256(c)(2)	Inspect surface impoundment for control equipment failures and improper work practices	Initially Semiannually	Visual.
CONTAINERS:			
63.1256(d)(1)(i) 63.1256(d)(1)(ii)	Inspect cover and all openings for leaks	Initially Semiannually	Visual.
63.1256(d)(3)(i)	Inspect enclosure and all openings for leaks	Initially Semiannually	Visual.
63.1256(d)(4)	Inspect container for control equipment failures and improper work practices	Initially Semiannually	Visual.
INDIVIDUAL DRAIN SYSTEMS^a:			
63.1256(e)(1)(i)	Inspect cover and all openings to ensure there are no gaps, cracks, or holes	Initially Semiannually	Visual.
63.1256(e)(2)	Inspect individual drain system for control equipment failures and improper work practices	Initially Semiannually	Visual.
63.1256(e)(4)(i)	Verify that sufficient water is present to properly maintain integrity of water seals	Initially Semiannually	Visual.
63.1256(e)(4)(ii) 63.1256(e)(5)(i)	Inspect all drains using tightly-fitted caps or plugs to ensure caps and plugs are in place and properly installed	Initially Semiannually	Visual.

To comply with	Inspection or monitoring requirement	Frequency of inspection or monitoring	Method
63.1256(e)(5)(ii)	Inspect all junction boxes to ensure covers are in place and have no visible gaps, cracks, or holes	Initially Semiannually	Visual or smoke test or other means as specified.
63.1256(e)(5)(iii)	Inspect unburied portion of all sewer lines for cracks and gaps	Initially Semiannually	Visual.
OIL-WATER SEPARATORS:			
63.1256(f)(2)(i)	Inspect fixed roof and all openings for leaks	Initially Semiannually	Visual.
63.1256(f)(3)	Measure floating roof seal gaps in accordance with 40 CFR 60.696(d)(1)	Initially ^b	See 40 CFR 60.696(d)(1).
	—Primary seal gaps	Once every 5 years.	
63.1256(f)(3)	—Secondary seal gaps	Initially ^b Annually.	
63.1256(f)(4)	Inspect oil-water separator for control equipment failures and improper work practices	Initially Semiannually	Visual.

^aAs specified in §63.1256(e), the owner or operator shall comply with either the requirements of §63.1256(e)(1) and (2) or §63.1256(e)(4) and (5).

^bWithin 60 days of installation as specified in §63.1256(f)(3).

Table 8 to Subpart GGG of Part 63—Fraction Measured (F_m) for HAP Compounds in Wastewater Streams

Chemical name	CAS No. ^a	F _m
Acetaldehyde	75070	1.00
Acetonitrile	75058	0.99
Acetophenone	98862	0.31
Acrolein	107028	1.00
Acrylonitrile	107131	1.00
Allyl chloride	107051	1.00
Benzene	71432	1.00

Chemical name	CAS No. ^a	F _m
Benzyl chloride	100447	1.00
Biphenyl	92524	0.86
Bromoform	75252	1.00
Butadiene (1,3-)	106990	1.00
Carbon disulfide	75150	1.00
Carbon tetrachloride	56235	1.00
Chlorobenzene	108907	0.96
Chloroform	67663	1.00
Chloroprene (2-Chloro-1,3-butadiene)	126998	1.00
Cumene	98828	1.00
Dichlorobenzene (p-1,4-)	106467	1.00
Dichloroethane (1,2-) (Ethylene dichloride)	107062	1.00
Dichloroethylether (Bis(2-Chloroethyl ether))	111444	0.76
Dichloropropene (1,3-)	542756	1.00
Diethyl sulfate	64675	0.0025
Dimethyl sulfate	77781	0.086
Dimethylaniline (N,N-)	121697	0.00080
Dimethylhydrazine (1,1-)	57147	0.38
Dinitrophenol (2,4-)	51285	0.0077
Dinitrotoluene (2,4-)	121142	0.085
Dioxane (1,4-) (1,4-Diethyleneoxide)	123911	0.87
Epichlorohydrin(1-Chloro-2,3-epoxypropane)	106898	0.94
Ethyl acrylate	140885	1.00
Ethylbenzene	100414	1.00
Ethyl chloride (Chloroethane)	75003	1.00
Ethylene dibromide (Dibromomethane)	106934	1.00
Ethylene glycol dimethyl ether	110714	0.86
Ethylene glycol monobutyl ether acetate	112072	0.043
Ethylene glycol monomethyl ether acetate	110496	0.093

Chemical name	CAS No.^a	F_m
Ethylene oxide	75218	1.00
Ethylidene dichloride (1,1-Dichloroethane)	75343	1.00
Hexachlorobenzene	118741	0.97
Hexachlorobutadiene	87683	0.88
Hexachloroethane	67721	0.50
Hexane	110543	1.00
Isophorone	78591	0.47
Methanol	67561	0.85
Methyl bromide (Bromomethane)	74839	1.00
Methyl chloride (Chloromethane)	74873	1.00
Methyl ethyl ketone (2-Butanone)	78933	0.99
Methyl isobutyl ketone (Hexone)	108101	0.98
Methyl methacrylate	80626	1.00
Methyl tert-butyl ether	1634044	1.00
Methylene chloride (Dichloromethane)	75092	1.00
Naphthalene	91203	0.99
Nitrobenzene	98953	0.39
Nitropropane (2-)	79469	0.99
Phosgene	75445	1.00
Propionaldehyde	123386	1.00
Propylene dichloride (1,2-Dichloropropane)	78875	1.00
Propylene oxide	75569	1.00
Styrene	100425	1.00
Tetrachloroethane (1,1,2,2-)	79345	1.00
Tetrachloroethylene (Perchloroethylene)	127184	1.00
Toluene	108883	1.00
Toluidine (o-)	95534	0.15
Trichlorobenzene (1,2,4-)	120821	1.00
Trichloroethane (1,1,1-) (Methyl chloroform)	71556	1.00

Chemical name	CAS No. ^a	F _m
Trichloroethane (1,1,2-) (Vinyl Trichloride)	79005	0.98
Trichloroethylene	79016	1.00
Trichlorophenol (2,4,5-)	95954	1.00
Triethylamine	121448	1.00
Trimethylpentane (2,2,4-)	540841	1.00
Vinyl acetate	108054	1.00
Vinyl chloride (Chloroethylene)	75014	1.00
Vinylidene chloride (1,1-Dichloroethylene)	75354	1.00
Xylene (m-)	108383	1.00
Xylene (o-)	95476	1.00
Xylene (p-)	106423	1.00

^aCAS numbers refer to the Chemical Abstracts Service registry number assigned to specific compounds, isomers, or mixtures of compounds.

Table 9 to Subpart GGG of Part 63—Default Biorates for Soluble HAP

Compound name	Biorate (K1), L/g MLVSS-hr
Acetonitrile	0.100
Acetophenone	0.538
Diethyl sulfate	0.105
Dimethyl hydrazine(1,1)	0.227
Dimethyl sulfate	0.178
Dinitrotoluene(2,4)	0.784
Dioxane(1,4)	0.393
Ethylene glycol dimethyl ether	0.364
Ethylene glycol monobutyl ether acetate	0.496
Ethylene glycol monomethyl ether acetate	0.159
Isophorone	0.598
Methanol	^a
Nitrobenzene	2.300

Compound name	Biorate (K1), L/g MLVSS-hr
Toluidine (-0)	0.859
Triethylamine	1.064

^aFor direct dischargers, the default biorate for methanol is 3.5 L/g MLVSS-hr; for indirect dischargers, the default biorate for methanol is 0.2 L/g MLVSS-hr.

[66 FR 40137, Aug. 2, 2001]

10 CSR 10-5.540 Control of Emissions From Batch Process Operations

PURPOSE: This rule limits the volatile organic compound (VOC) emissions from batch process operations by incorporating reasonably available control technology (RACT) as required by the Clean Air Act Amendments (CAAA) of 1990.

PUBLISHER’S NOTE: The secretary of state has determined that the publication of the entire text of the material which is incorporated by reference as a portion of this rule would be unduly cumbersome or expensive. Therefore, the material which is so incorporated is on file with the agency who filed this rule, and with the Office of the Secretary of State. Any interested person may view this material at either agency’s headquarters or the same will be made available at the Office of the Secretary of State at a cost not to exceed actual cost of copy reproduction. The entire text of the rule is printed here. This note refers only to the incorporated by reference material.

(1) Applicability.

(A) This rule shall apply throughout the City of St. Louis and St. Charles, St. Louis, Jefferson and Franklin Counties.

(B) This rule is applicable to all batch process operations that have the potential to emit equal to or greater than one hundred (100) tons per year of volatile organic compounds (VOC) at sources identified by any of the following four (4)-digit standard industrial classification (SIC) codes, as defined in the 1987 edition of the Federal Standard Industrial Classification Manual: SIC 2821, 2833, 2834, 2861, 2865, 2869, and 2879.

(C) The following single unit operations and batch process trains are subject to this rule but are considered to be de minimis and are, therefore, exempt from the control requirements of section (3) of this rule. However, the recordkeeping and reporting requirements in section (4) of this rule shall apply to such de minimis single unit operations and batch process trains:

1. Within a batch process operation, any single unit operation with uncontrolled total annual mass emissions of less than or equal to five hundred (500) pounds per year (lb/yr) of VOC. Such single unit operations are also excluded from the calculation of the total annual mass emissions for a batch process train. If the uncontrolled total annual mass emissions from such exempt single unit operation exceed five hundred (500) lb/yr of VOC in any subsequent year, the source shall calculate applicability in accordance with subsection (1)(E) of this rule for both the individual single unit operation and the batch process train containing the single unit operation; and

2. Any batch process train containing process vents that have, in the aggregate, uncontrolled total annual mass emissions, as determined in accordance with paragraph (3)(E)1. of this rule, of less than thirty thousand (30,000) lb/yr of VOC for all products manufactured in such batch process train.

(D) The applicability equations in subsection (1)(E) of this rule, which require the calculation of uncontrolled total annual mass emissions and flow rate value, shall be used to determine whether a single unit operation or a batch process train is subject to the control requirements in section (3) of this rule. The applicability equation shall be applied to the following:

1. Any single unit operation with uncontrolled total annual mass emissions that exceed five hundred (500) lb/yr and with a VOC concentration greater than five hundred (500) parts per million by volume (ppmv). In this individual determination, no applicability analysis shall be performed for any single unit operation with a VOC concentration of less than or equal to five hundred (500) ppmv; and
2. Any batch process train containing process vents which, in the aggregate, have uncontrolled total annual mass emissions of thirty thousand (30,000) lb/yr or more of VOC from all products manufactured in the batch process train. Any single unit operation with uncontrolled total annual mass emissions exceeding five hundred (500) lb/yr, regardless of VOC concentration, shall be included in the aggregate applicability analysis.

(E) Applicability Equations. The applicability equations in this rule subsection are specific to volatility.

1. Weighted average volatility (WAV) shall be calculated as follows:

$$WAV = \frac{\sum_{i=1}^n \frac{[(VP_i) \times (MVOC_i)]}{[(MWVOC_i)]}}{\sum_{i=1}^n \frac{[(MVOC_i)]}{[(MWVOC_i)]}}$$

where:

- WAV = weighted average volatility;
MVOC_i = mass of VOC component i;
MWVOC_i = molecular weight of VOC component i; and
VP_i = vapor pressure of VOC component i.

2. For purposes of determining applicability, flow rate values shall be calculated as follows:

A. Low WAV has a vapor pressure less than or equal to seventy-five (75) millimeters of Mercury (mmHg) at twenty degrees Celsius (20 °C), and shall use the following equation:

$$FR = [0.07 (UTAME)] - 1,821$$

Where:

FR = Vent stream flow rate, expressed as standard cubic feet per minute (scfm);
UTAME = Uncontrolled total annual mass emissions of VOC, expressed as lb/yr;

B. Moderate WAV has a vapor pressure greater than seventy-five (75) mmHg but less than or equal to one hundred fifty (150) mmHg at twenty degrees Celsius (20 °C), and shall use the following equation:

$$FR = [0.031 (UTAME)] - 494$$

C. High WAV has a vapor pressure greater than one hundred fifty (150) mmHg at twenty degrees Celsius (20 °C), and shall use the following equation:

$$FR = [0.013 (UTAME)] - 301$$

3. To determine the vapor pressure of VOC, the applicable methods and procedures in section (5) of this rule shall apply.

(F) In the event that other rules in Title 10 Division 10 of the Code of State Regulations are also applicable to batch process operations, the more stringent rule shall apply.

(2) Definitions.

(A) Batch—A discontinuous process involving the bulk movement of material through sequential manufacturing steps, typically characterized as non-steady-state.

(B) Batch cycle—A manufacturing event of an intermediate or product from start to finish in a batch process.

(C) Batch process operation—A discontinuous operation in which a discrete quantity or batch of feed is charged into a chemical manufacturing process unit and distilled or reacted, or otherwise used at one time, and may include, but is not limited to, reactors, filters, dryers, distillation columns, extractors, crystallizers, blend tanks, neutralizer tanks, digesters, surge tanks and product separators. After each batch process operation, the equipment is generally emptied before a fresh batch is started.

(D) Batch process train—The collection of equipment (e.g., reactors, filters, dryers, distillation columns, extractors, crystallizers, blend tanks, neutralizer tanks, digesters, surge tanks and product separators) configured to produce a product or intermediate by a batch process operation. A batch process train terminates at the point of storage of the product or intermediate being produced in the batch process train. Irrespective of the product being produced, a batch process train which is independent of other processes shall be considered a single batch process train for purposes of this rule.

(E) Control devices—Air pollution abatement devices. For purposes of this rule, condensers operating under reflux conditions are not considered control devices.

(F) Emission events—Discrete venting episodes that may be associated with a single unit of operation.

(G) Processes—Any equipment within a contiguous area that are connected together during the course of a year where connected is defined as a link between equipment, whether it is physical, such as a pipe, or whether it is next in a series of steps from which material is transferred from one unit operation to another.

(H) Unit operations—Discrete processing steps that occur within distinct equipment that are used to prepare reactants, facilitate reactions, separate and purify products, and recycle materials.

(I) Vent—A point of emission from a unit operation. Typical process vents from batch processes include condenser vents, vacuum pumps, steam ejectors, and atmospheric vents from reactors and other process vessels. Vents also include relief valve discharges. Equipment exhaust systems that discharge from unit operations also would be considered process vents.

(J) Volatility—For purposes of this rule, low volatility materials are defined as those which have a vapor pressure less than or equal to seventy-five (75) mmHg at twenty degrees Celsius (20 °C), moderate volatility materials have a vapor pressure greater than seventy-five (75) and less than or equal to one hundred fifty (150) mmHg at twenty degrees Celsius (20 °C), and high volatility materials have a vapor pressure greater than one hundred fifty (150) mmHg at twenty degrees Celsius (20 °C). To evaluate VOC volatility for single unit operations that service numerous VOCs or for processes handling multiple VOCs, the weighted average volatility can be calculated from knowing the total amount of each VOC used in a year, and the individual component vapor pressure, per the equation in paragraph (1)(E)1. of this rule.

(K) Definitions of certain terms, other than those specified in this rule, may be found in 10 CSR 10-6.020.

(3) General Provisions.

(A) Every owner or operator of a single unit operation with an average flow rate, as determined in accordance with paragraph (3)(E)2. of this rule, below the flow rate value calculated by the applicability equations contained in subsection (1)(E) of this rule, shall reduce uncontrolled VOC emissions from such single unit operation by an overall efficiency, on an annual average, of at least ninety percent (90%), or twenty (20) ppmv, per batch cycle.

(B) Every owner or operator of a batch process train with an average flow rate, as determined in accordance with subparagraph (3)(E)2.B. of this rule, below the flow rate value calculated by the applicability equations contained in subsection (1)(E) of this rule, shall reduce uncontrolled VOC emissions from such batch process train by an overall efficiency, on an annual average, of at least ninety percent (90%), or twenty (20) ppmv, per batch cycle. For purposes of demonstrating compliance with the emission limitations in this rule section, any control device meeting the criteria in subsection (3)(D) of this rule shall be deemed to achieve a control efficiency of ninety percent (90%), or twenty (20) ppmv, per batch cycle, as applicable.

(C) Notwithstanding subsection (3)(A) or (3)(B) of this rule, any source that has installed on or before December 15, 1999, any control device which is demonstrated to the department's satisfaction to be unable to meet the applicable control requirements of this rule section, a scrubber, or shell and tube condenser using a non-refrigerated cooling media, and such device achieves at least eighty-one percent (81%) control efficiency of VOC emissions, is required to meet the ninety percent (90%) emission limitation or twenty (20) ppmv VOC concentration in subsection (3)(A) or (3)(B) of this rule, as applicable, upon the earlier to occur of the date the device is replaced for any reason, including, but not limited to, normal maintenance, malfunction, accident, and obsolescence, or May 1, 2002. Control

devices installed on or before December 15, 1999, that do not achieve at least eighty-one percent (81%) control efficiency of VOC emissions shall comply with the control requirements of subsection (3)(A) or (3)(B) on or before May 1, 2001. A scrubber, shell and tube condenser using a non-refrigerated cooling media, or other control device meeting the criteria of this rule subsection, is considered replaced when:

1. The entire device is replaced; or
2. When either the cost to repair the device or the cost to replace part of the device exceeds fifty percent (50%) of the cost of replacing the entire device with a control device that complies with the ninety percent (90%) emission limitation or twenty (20) ppmv VOC concentration level in subsection (3)(A) of this rule, as applicable.

(D) Control Equipment Specifications.

1. If a boiler or process heater is used to comply with this rule section, the vent stream shall be introduced into the flame zone of the boiler or process heater. The boiler or process heater shall meet the control device requirements for boilers and process heaters included in 40 CFR 60.703, 60.704, and 60.705.
2. If a flare is used to comply with this rule section, it shall comply with the requirements of 40 CFR 60.18, which are hereby incorporated by reference. The flare operation requirements of 40 CFR 60.18 do not apply if a process, not subject to this rule, vents an emergency relief discharge into a common flare header and causes the flare servicing the process subject to this rule to not comply with one or more of the provisions of 40 CFR 60.18. This exemption from flare specification requirements is a temporary exemption lasting only for the period of time during the emergency relief venting discharge.
3. If an afterburner, scrubber, absorber, condenser or adsorber is used to comply with this rule section, such equipment shall meet the control device requirements for this equipment included in 40 CFR 60.703, 60.704, and 60.705.
4. If an incinerator is used to comply with this rule section, the incinerator shall meet the control device requirements for incinerators included in 40 CFR 60.703, 60.704, and 60.705.

(E) Determination of uncontrolled total annual mass emissions and actual weighted average flow rate values for batch process operations.

1. Uncontrolled total annual mass emissions shall be determined by the following methods:
 - A. Direct process vent emissions measurements taken prior to any release to the atmosphere, following any recovery device and prior to any control device, provided such measurements conform with the requirements of measuring the mass flow rate of VOC incoming to the control device as in paragraph (5)(F)2. and subparagraphs (5)(F)3.A. and (5)(F)3.B. of this rule; or
 - B. Engineering estimates of the uncontrolled VOC emissions from a process vent or process vents, in the aggregate, within a batch process train, using either the potential or permitted number of batch cycles per year or total production as represented in the source's operating permit.

(I) Engineering estimates of the uncontrolled VOC emissions shall be based upon accepted chemical engineering principles, measurable process parameters, or physical or chemical laws and their properties. Examples of methods include, but are not limited to, the following:

- (a) Use of material balances based on process stoichiometry to estimate maximum VOC concentrations;

(b) Estimation of maximum flow rate based on physical equipment design such as pump or blower capacities; and

(c) Estimation of VOC concentrations based on saturation conditions.

(II) All data, assumptions and procedures used in any engineering estimate shall be documented.

2. Average flow rate shall be determined by any of the following methods:

A. Direct process vent flow rate measurements taken prior to any release to the atmosphere, following any recovery device and prior to any control device, provided such measurements conform with the requirements of measuring incoming volumetric flow rate in paragraph (5)(F)2. of this rule;

B. Average flow rate for a single unit operation having multiple emission events or batch process trains shall be the weighted average flow rate, calculated as follows:

$$\text{WAF} = \frac{\sum_{i=1}^n (\text{AFR}_i \times \text{ADE}_i)}{\sum_{i=1}^n (\text{ADE}_i)}$$

where:

WAF = Actual weighted average flow rate for a single unit operation or batch process train;

AFR_i = Average flow rate per emission event;

ADE_i = Annual duration of emission event;

and

n = Number of emission events.

For purposes of this formula, the term “emission event” shall be defined as a discrete period of venting that is associated with a single unit operation. For example, a displacement of vapor resulting from the charging of a single unit operation with VOC will result in a discrete emission event that will last through the duration of the charge and will have an average flow rate equal to the rate of the charge. The expulsion of expanded vapor space when the single unit operation is heated is also an emission event. Both of these examples of emission events and others may occur in the same single unit operation during the course of the batch cycle. If the flow rate measurement for any emission event is zero, according to paragraph (5)(F)2. of this rule, then such event is not an emission event for purposes of this rule section; or

C. Engineering estimates calculated in accordance with the requirements in sub-paragraph (3)(E)1.B. of this rule.

3. For purposes of determining the average flow rate for steam vacuuming systems, the steam flow shall be included in the average flow rate calculation.

4. In cases where two (2) or more single unit operations share a process vent and where flow measurement for such single unit operations is difficult, alternate methods of flow measurement may be used only when approved by the department.

(4) Reporting and Recordkeeping.

(A) Every owner or operator of a de minimis single unit operation or batch process train exempt under paragraph (1)(C)1. or (1)(C)2. of this rule shall keep records of the uncontrolled total annual mass emissions for any de minimis single unit operation or batch process train, as applicable, and documentation verifying these values or measurements. The documentation shall include the engineering calculations, any measurements made in accordance with section (5) of this rule, and the potential or permitted number of batch cycles per year, or, in the alternative, total production as represented in the source's operating permit.

(B) Every owner or operator of a single unit operation exempt under subsection (1)(D) of this rule shall keep the following records:

1. The uncontrolled total annual mass emissions and documentation verifying these values or measurements. The documentation shall include any engineering calculations, any measurements made in accordance with section (5) of this rule, and the potential or permitted number of batch cycles per year or, in the alternative, total production as represented in the source's operating permit; and
2. The average flow rate in standard cubic feet per minute (scfm) and documentation verifying this value.

(C) Every owner or operator of a batch process operation subject to the control requirements of section (3) of this rule shall keep records of the following parameters required to be monitored under subsection (4)(I) of this rule:

1. If using a thermal or catalytic after-burner to comply with section (3) of this rule, records indicating the average combustion chamber temperature of the afterburner or the average temperature upstream and downstream of the catalyst bed for a catalytic afterburner, measured continuously and averaged over the same time period as the performance test;
2. If using a flare to comply with section (3) of this rule, continuous records of the flare pilot flame monitoring and records of all periods of operations during which the pilot flame is absent; or
3. If using any of the following as a control device, the following records:
 - A. Where a scrubber is used, the exit specific gravity or alternative parameter which is a measure of the degree of absorbing liquid saturation, if approved by the department, and the average exit temperature of the absorbing liquid, measured continuously and averaged over the same time period as the performance test both measured while the vent stream is routed normally;
 - B. Where a condenser is used, the average exit or product side temperature measured continuously and averaged over the same time period as the performance test while the vent stream is routed normally;
 - C. Where a carbon adsorber is used, the total steam mass flow measured continuously and averaged over the same time period as the performance test full carbon bed cycle, temperature of the carbon bed after regeneration and within fifteen (15) minutes after completion of any cooling cycle(s), and duration of the carbon bed steaming cycle all measured while the vent stream is routed normally; or
 - D. As an alternative to subparagraphs (4)(C)3.A., (4)(C)3.B. or (4)(C)3.C. of this rule, at a minimum, records indicating the concentration level or reading indicated by the VOC monitoring device at the

outlet of the scrubber, condenser or carbon adsorber, measured continuously and averaged over the same time period as the performance test while the vent stream is routed normally.

(D) Every owner or operator of a single unit operation claiming a vent stream concentration exemption level shall maintain records to indicate the vent stream concentration is less than or equal to five hundred (500) ppmv, and shall notify the department in writing if the vent stream concentration at any time equals or exceeds five hundred (500) ppmv, within sixty (60) days after such event. Such notification shall include a copy of all records of such event.

(E) An owner or operator of a batch process operation subject to the control requirements of section (3) of this rule may maintain alternative records other than those listed in subsection (4)(C) of this rule. Any alternative recordkeeping shall be approved by the department and shall be contained in the source's operating permit as federally enforceable permit conditions.

(F) Notwithstanding subsections (4)(A) through (4)(E) of this rule, any owner or operator of a batch process operation which uses either a scrubber, shell and tube condenser using nonrefrigerated cooling media, or other control device meeting the criteria of subsection (3)(D) of this rule, is required to monitor compliance with the requirements on and after the earlier to occur of the date such device is replaced for any reason or May 1, 2002.

(G) The owner or operator of a de minimis single unit operation or batch process train exempt from the control requirements of section (3) of this rule shall notify the department in writing if the uncontrolled total annual mass emissions from such de minimis single unit operation or batch process train exceed the threshold in paragraph (1)(C)1. or (1)(C)2. of this rule, respectively, within sixty (60) days after the event occurs. Such notification shall include a copy of all records of such event.

(H) Every owner or operator of a batch process operation required to keep records under this rule section shall maintain such records on-site for at least five (5) years and shall make all such records available to the department immediately upon request.

(I) Monitoring Requirements.

1. Every owner or operator using an afterburner to comply with section (3) of this rule shall install, calibrate, maintain and operate, according to manufacturer's specifications, temperature monitoring devices with an accuracy of plus or minus one percent ($\pm 1\%$) of the temperature being measured expressed in degrees Celsius, equipped with continuous recorders.

A. Where a catalytic afterburner is used, temperature monitoring devices shall be installed in the gas stream immediately before and after the catalyst bed.

B. Where an afterburner other than a catalytic afterburner is used, a temperature monitoring device shall be installed in the combustion chamber.

2. Every owner or operator using a flare to comply with section (3) of this rule, shall install, calibrate, maintain and operate, according to manufacturer's specifications, a heat sensing device, such as an ultraviolet beam sensor or thermocouple, at the pilot light to indicate continuous presence of a flame.

3. Every owner or operator using a scrubber to comply with section (3) of this rule shall install, calibrate, maintain, and operate, according to manufacturer's specifications, the following:

A. A temperature monitoring device for scrubbant liquid having an accuracy of plus or minus one percent ($\pm 1\%$) of the temperature being monitored expressed in degrees Celsius and a specific gravity device for scrubbant liquid, each equipped with a continuous recorder; or

B. A VOC monitoring device used to indicate the concentration of VOC exiting the control device based on a detection principle such as infrared, photoionization or thermal conductivity, each equipped with a continuous recorder.

4. Every owner or operator using a condenser to comply with section (3) of this rule shall install, calibrate, maintain, and operate, according to manufacturer's specifications, the following:

A. A condenser exit temperature monitoring device equipped with a continuous recorder and having an accuracy of plus or minus one percent ($\pm 1\%$) of the temperature being monitored expressed in degrees Celsius; or

B. A VOC monitoring device used to indicate the concentration of VOC such as infrared, photoionization or thermal conductivity, each equipped with a continuous recorder.

5. Every owner or operator using a carbon adsorber to comply with this rule shall install, calibrate, maintain, and operate, according to the manufacturer's specifications, the following equipment:

A. An integrating regeneration stream flow monitoring device having an accuracy of plus or minus ten percent ($\pm 10\%$), and a carbon bed temperature monitoring device having an accuracy of plus or minus one percent ($\pm 1\%$) of the temperature being monitored expressed in degrees Celsius, both equipped with a continuous recorder; or

B. A VOC monitoring device used to indicate the concentration level of VOC exiting such device based on a detection principle such as infrared, photoionization or thermal conductivity, each equipped with a continuous recorder.

6. Every owner or operator using a boiler or process heater with a design heat input capacity less than forty-four (44) megawatts to comply with section (3) of this rule shall install, calibrate, maintain, and operate, according to the manufacturer's specifications, a temperature monitoring device in the firebox with an accuracy of plus or minus one percent ($\pm 1\%$) of the temperature being measured expressed in degrees Celsius, equipped with a continuous recorder. Any boiler or process heater in which all process vent streams are introduced with primary fuel is exempt from this requirement.

7. The owner or operator of a process vent shall be permitted to monitor by an alternative method or may monitor parameters other than those listed in paragraphs (4)(I)1. through (4)(I)6. of this rule, if approved by the department. Such alternative method or parameters shall be contained in the source's operating permit as federally enforceable permit conditions.

8. Notwithstanding paragraphs (4)(I)1. through (4)(I)7. of this rule, sources using a scrubber, shell and tube condenser using a nonrefrigerated cooling media, or other control device meeting the criteria of subsection (3)(D) of this rule, are required to monitor compliance with the requirements of this rule on and after the earlier to occur of the date such device is replaced for any reason or May 1, 2002.

(5) Test Methods.

(A) Upon the department's request, the owner or operator of a batch process operation shall conduct testing to demonstrate compliance with section (3) of this rule. The owner or operator shall, at its own expense, conduct such tests in accordance with the applicable test methods and procedures specified in subsections (5)(D), (5)(E), and (5)(F) of this rule.

(B) Notwithstanding subsection (5)(A) of this rule, flares and process boilers used to comply with control requirements of section (3) of this rule shall be exempt from performance testing requirements.

(C) When a flare is used to comply with the control requirements of section (3) of this rule, the flare shall comply with the requirements of 40 CFR 60.18.

(D) The owner or operator of a batch process operation that is exempt from the control requirements of section (3) of this rule shall demonstrate, upon the department's request, the absence of oversized gas moving equipment in any manifold. Gas moving equipment shall be considered oversized if it exceeds the maximum requirements of the exhaust flow rate by more than thirty percent (30%).

(E) For the purpose of demonstrating compliance with the control requirements in section (3) of this rule, the batch process operation shall be run at representative operating conditions and flow rates during any performance test.

(F) The following methods in 40 CFR 60, Appendix A, which are hereby incorporated by reference, shall be used to demonstrate compliance with the reduction efficiency requirement in section (3) of this rule:

1. Method 1 or 1A, as appropriate, for selection of the sampling sites if the flow measuring device is not a rotameter. The control device inlet sampling site for determination of vent stream VOC composition reduction efficiency shall be prior to the control device and after the control device;

2. Method 2, 2A, 2C, 2D, 2F, 2G or 2H as appropriate, for determination of gas stream volumetric flow rate flow measurements, which shall be taken continuously. No traverse is necessary when the flow measuring device is an ultrasonic probe; and

3. Method 25A or Method 18, if applicable, to determine the concentration of VOC in the control device inlet and outlet, where—

A. The sampling time for each run shall be as follows:

(I) For batch cycles less than eight (8) hours in length, appropriate operating parameters shall be recorded at a minimum of fifteen (15)-minute intervals during the batched period;

(II) For batch cycles of eight (8) hours and greater in length, the owner or operator may either test in accordance with the test procedures defined in part (5)(F)3.A.(I) of this rule or the owner or operator may elect to perform tests, pursuant to either Method 25A or Method 18, only during those portions of each emission event which profiles a representative sample occurring within the batch cycle. For each emission event of less than four (4) hours in duration, the owner or operator shall test continuously over the entire emission event as in part (5)(F)3.A.(I) of this rule. For each emission event of greater than four (4) hours in duration, the owner or operator shall elect either to perform a minimum of three (3) one-hour test runs during the emission event or shall test continuously over the entire emission event within each single unit operation in the batch process train. The owner or operator shall define the total batch process by all its intrinsic emission events. To demonstrate that the portion of the emission event to be tested profiles a representative sample occurring within the batch cycle, the owner or operator electing to rely on this option shall develop an emission profile for each entire emission event. Such emission profile shall be based upon either process knowledge or test data collected. Examples of information that could constitute process knowledge include, but are not limited to, calculations based on material balances, duration, emission levels, constituents, reactants, byproducts and process stoichiometry. Previous test results may be used provided such results are still relevant to the current process vent stream conditions; or

(III) For purposes of paragraph (5)(F)3. of this rule, the term "emission event" shall be defined as a discrete period of venting that is associated with a single unit operation. For example, a displacement of

vapor resulting from the charging of a single unit operation with VOC will result in a discrete emission event that will last through the duration of the charge and will have an average flow rate equal to the rate of the charge. The expulsion of expanded single unit operation vapor space when the vessel is heated is also an emission event. Both of these examples of emission events and others may occur in the same single unit operation during the course of the batch cycle. If the flow rate measurement for any emission event is zero (0), in accordance with paragraph (5)(F)2. of this rule, then such event is not an emission event for purposes of this rule section;

B. Calculate the mass emission rate (MER_i) into the control device as follows:

$$MER_i = C_i Q_i$$

where:

C_i = concentration into the control device; and
Q_i = flow rate into the control device;

C. Calculate the mass emission rate (MER_o) out of the control device as follows:

$$MER_o = C_o Q_o$$

where:

C_o = concentration out of the control device; and
Q_o = flow rate out of the control device;

and

D. Calculate the total overall control device efficiency (η) as follows:

$$\eta = (MER_i - MER_o) / MER_i$$

(G) Upon request by the department to conduct testing, an owner or operator of a batch process operation which has installed a scrubber, a shell and tube condenser using a nonrefrigerated cooling media, or any other control device which meets the criteria of subsection (3)(D) of this rule, shall demonstrate that such device achieves the control efficiency applicable within section (3) of this rule upon the earlier to occur of the date the device is replaced or May 1, 2002.

(H) The owner or operator of a batch process operation may propose an alternative test method or procedures to demonstrate compliance with the control requirements in section (3) of this rule. Such method or procedures shall be approved by the department.

(I) In the absence of a request by the department to conduct performance testing in accordance with the provisions of this rule section, a source may demonstrate compliance by the use of engineering estimates or process stoichiometry.

AUTHORITY: section 643.050, RSMo Supp. 1998.* Original rule filed July 15, 1999, effective Feb. 29, 2000.

*Original authority: 643.050, RSMo 1965, amended 1972, 1992, 1993, 1995.

V. Core Permit Requirements

The installation shall comply with each of the following regulations or codes. Consult the appropriate sections in the Code of Federal Regulations (CFR), the Code of State Regulations (CSR), and local ordinances for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued. The following is only an excerpt from the regulation or code, and is provided for summary purposes only.

10 CSR 10-6.045 Open Burning Requirements

- (1) General Provisions. The open burning of tires, petroleum-based products, asbestos containing materials, and trade waste is prohibited, except as allowed below. Nothing in this rule may be construed as to allow open burning which causes or constitutes a public health hazard, nuisance, a hazard to vehicular or air traffic, nor which violates any other rule or statute.
- (2) Refer to the regulation for a complete list of allowances. The following is a listing of exceptions to the allowances:
 - (A) Burning of household or domestic refuse. Burning of household or domestic refuse is limited to open burning on a residential premises having not more than four dwelling units, provided that the refuse originates on the same premises, with the following exceptions:
 1. Kansas City metropolitan area. The open burning of household refuse must take place in an area zoned for agricultural purposes and outside that portion of the metropolitan area surrounded by the corporate limits of Kansas City and every contiguous municipality;
 2. Springfield-Greene County area. The open burning of household refuse must take place outside the corporate limits of Springfield and only within areas zoned A-1, Agricultural District;
 3. St. Joseph area. The open burning of household refuse must take place within an area zoned for agricultural purposes and outside that portion of the metropolitan area surrounded by the corporate limits of St. Joseph; and
 4. St. Louis metropolitan area. The open burning of household refuse is prohibited;
 - (B) Yard waste, with the following exceptions:
 1. Kansas City metropolitan area. The open burning of trees, tree leaves, brush or any other type of vegetation shall require an open burning permit;
 2. Springfield-Greene County area. The City of Springfield requires an open burning permit for the open burning of trees, brush or any other type of vegetation. The City of Springfield prohibits the open burning of tree leaves;
 3. St. Joseph area. Within the corporate limits of St. Joseph, the open burning of trees, tree leaves, brush or any other type of vegetation grown on a residential property is allowed during the following calendar periods and time-of-day restrictions:
 - A. A three (3)-week period within the period commencing the first day of March through April 30 and continuing for twenty-one (21) consecutive calendar days;
 - B. A three (3)-week period within the period commencing the first day of October through November 30 and continuing for twenty-one (21) consecutive calendar days;
 - C. The burning shall take place only between the daytime hours of 10:00 a.m. and 3:30 p.m.; and
 - D. In each instance, the twenty-one (21)-day burning period shall be determined by the director of Public Health and Welfare of the City of St. Joseph for the region in which the

City of St. Joseph is located provided, however, the burning period first shall receive the approval of the department director; and

4. St. Louis metropolitan area. The open burning of trees, tree leaves, brush or any other type of vegetation is limited to the period beginning September 16 and ending April 14 of each calendar year and limited to a total base area not to exceed sixteen (16) square feet. Any open burning shall be conducted only between the hours of 10:00 a.m. and 4:00 p.m. and is limited to areas outside of incorporated municipalities;
- (3) Certain types of materials may be open burned provided an open burning permit is obtained from the director. The permit will specify the conditions and provisions of all open burning. The permit may be revoked if the owner or operator fails to comply with the conditions or any provisions of the permit.
- (4) Sigma-Aldrich may be issued an annually renewable open burning permit for open burning provided that an air curtain destructor or incinerator is utilized and only tree trunks, tree limbs, vegetation or untreated wood waste are burned. Open burning shall occur at least two hundred (200) yards from the nearest occupied structure unless the owner or operator of the occupied structure provides a written waiver of this requirement. Any waiver shall accompany the open burning permit application. The permit may be revoked if Sigma-Aldrich fails to comply with the provisions or any condition of the open burning permit.
 - (A) In a nonattainment area, as defined in 10 CSR 10-6.020, paragraph (2)(N)5., the director shall not issue a permit under this section unless the owner or operator can demonstrate to the satisfaction of the director that the emissions from the open burning of the specified material would be less than the emissions from any other waste management or disposal method.
- (5) Reporting and Recordkeeping. New Source Performance Standard (NSPS) 40 CFR Part 60 Subpart CCCC establishes certain requirements for air curtain destructors or incinerators that burn wood trade waste. These requirements are established in 40 CFR 60.2245-60.2260. The provisions of 40 CFR Part 60 Subpart CCCC promulgated as of September 22, 2005 shall apply and are hereby incorporated by reference in this rule, as published by the U.S. Government Printing Office, 732 N Capitol Street NW, Washington, DC 20401. To comply with NSPS 40 CFR 60.2245-60.2260, sources must conduct an annual Method 9 test. A copy of the annual Method 9 test results shall be submitted to the director.
- (6) Test Methods. The visible emissions from air pollution sources shall be evaluated as specified by 40 CFR Part 60, Appendix A–Test Methods, Method 9–Visual Determination of the Opacity of Emissions from Stationary Sources. The provisions of 40 CFR Part 60, Appendix A, Method 9 promulgated as of December 23, 1971 is incorporated by reference in this rule, as published by the U.S. Government Printing Office, 732 N Capitol Street NW, Washington, DC 20401.

10 CSR 10-6.050 Start-up, Shutdown and Malfunction Conditions

- 1) In the event of a malfunction, which results in excess emissions that exceed one hour, the permittee shall submit to the director within two business days, in writing, the following information:
 - a) Name and location of installation;
 - b) Name and telephone number of person responsible for the installation;
 - c) Name of the person who first discovered the malfunction and precise time and date that the malfunction was discovered.
 - d) Identity of the equipment causing the excess emissions;
 - e) Time and duration of the period of excess emissions;
 - f) Cause of the excess emissions;

- g) Air pollutants involved;
 - h) Best estimate of the magnitude of the excess emissions expressed in the units of the applicable requirement and the operating data and calculations used in estimating the magnitude;
 - i) Measures taken to mitigate the extent and duration of the excess emissions; and
 - j) Measures taken to remedy the situation that caused the excess emissions and the measures taken or planned to prevent the recurrence of these situations.
- 2) The permittee shall submit the paragraph 1 information list to the director in writing at least ten days prior to any maintenance, start-up or shutdown, which is expected to cause an excessive release of emissions that exceed one hour. If notice of the event cannot be given ten days prior to the planned occurrence, it shall be given as soon as practicable prior to the release. If an unplanned excess release of emissions exceeding one hour occurs during maintenance, start-up or shutdown, the director shall be notified verbally as soon as practical during normal working hours and no later than the close of business of the following working day. A written notice shall follow within ten working days.
 - 3) Upon receipt of a notice of excess emissions issued by an agency holding a certificate of authority under section 643.140, RSMo, the permittee may provide information showing that the excess emissions were the consequence of a malfunction, start-up or shutdown. The information, at a minimum, should be the paragraph 1 list and shall be submitted not later than 15 days after receipt of the notice of excess emissions. Based upon information submitted by the permittee or any other pertinent information available, the director or the commission shall make a determination whether the excess emissions constitute a malfunction, start-up or shutdown and whether the nature, extent and duration of the excess emissions warrant enforcement action under section 643.080 or 643.151, RSMo.
 - 4) Nothing in this rule shall be construed to limit the authority of the director or commission to take appropriate action, under sections 643.080, 643.090 and 643.151, RSMo to enforce the provisions of the Air Conservation Law and the corresponding rule.
 - 5) Compliance with this rule does not automatically absolve the permittee of liability for the excess emissions reported.

10 CSR 10-6.060 Construction Permits Required

The permittee shall not commence construction, modification, or major modification of any installation subject to this rule, begin operation after that construction, modification, or major modification, or begin operation of any installation which has been shut down longer than five years without first obtaining a permit from the permitting authority.

10 CSR 10-6.065 Operating Permits

The permittee shall file a complete application for renewal of this operating permit at least six months before the date of permit expiration. In no event shall this time be greater than eighteen months. [10 CSR 10-6.065(6)(B)1.A(V)] The permittee shall retain the most current operating permit issued to this installation on-site. [10 CSR 10-6.065(6)(C)1.C(II)] The permittee shall immediately make such permit available to any Missouri Department of Natural Resources personnel upon request. [10 CSR 10-6.065(6)(C)3.B]

10 CSR 10-6.080 Emission Standards for Hazardous Air Pollutants and 40 CFR Part 61 Subpart M National Emission Standard for Asbestos

- 1) The permittee shall follow the procedures and requirements of 40 CFR Part 61, Subpart M for any activities occurring at this installation which would be subject to provisions for 40 CFR Part 61, Subpart M, National Emission Standard for Asbestos.
- 2) The permittee shall conduct monitoring to demonstrate compliance with registration, certification, notification, and Abatement Procedures and Practices standards as specified in 40 CFR Part 61, Subpart M.

10 CSR 10-6.100 Alternate Emission Limits

Proposals for alternate emission limitations shall be submitted on Alternate Emission Limits Permit forms provided by the department. An installation owner or operator must obtain an Alternate Emission Limits Permit in accordance with 10 CSR 10-6.100 before alternate emission limits may become effective.

10 CSR 10-6.110 Submission of Emission Data, Emission Fees and Process Information

- 1) The permittee shall complete and submit an Emission Inventory Questionnaire (EIQ) in accordance with the requirements outlined in this rule.
- 2) The permittee may be required by the director to file additional reports.
- 3) Public Availability of Emission Data and Process Information. Any information obtained pursuant to the rule(s) of the Missouri Air Conservation Commission that would not be entitled to confidential treatment under 10 CSR 10-6.210 shall be made available to any member of the public upon request.
- 4) The permittee shall pay an annual emission fee per ton of regulated air pollutant emitted according to the schedule in the rule. This fee is an emission fee assessed under authority of RSMo. 643.079.
- 5) The fees shall be payable to the Department of Natural Resources and shall be accompanied by the Emissions Inventory Questionnaire (EIQ) form or equivalent approved by the director.
- 6) The permittee shall complete required reports on state supplied EIQ forms or in a form satisfactory to the director and the reports shall be submitted to the director by June 1 after the end of each reporting period.
- 7) The reporting period shall end on December 31 of each calendar year. Each report shall contain the required information for each emission unit for the twelve (12)-month period immediately preceding the end of the reporting period.
- 8) The permittee shall collect, record and maintain the information necessary to complete the required forms during each year of operation of the installation.

10 CSR 10-6.130 Controlling Emissions During Episodes of High Air Pollution Potential

This rule specifies the conditions that establish an air pollution alert (yellow/orange/red/purple), or emergency (maroon) and the associated procedures and emission reduction objectives for dealing with each. The permittee shall submit an appropriate emergency plan if required by the Director.

10 CSR 10-6.150 Circumvention

The permittee shall not cause or permit the installation or use of any device or any other means which, without resulting in reduction in the total amount of air contaminant emitted, conceals or dilutes an emission or air contaminant which violates a rule of the Missouri Air Conservation Commission.

10 CSR 10-6.170 Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin

Emission Limitation:

- 1) The permittee shall not cause or allow to occur any handling, transporting or storing of any material; construction, repair, cleaning or demolition of a building or its appurtenances; construction or use of a road, driveway or open area; or operation of a commercial or industrial installation without applying reasonable measures as may be required to prevent, or in a manner which allows or may allow, fugitive particulate matter emissions to go beyond the premises of origin in quantities that the particulate matter may be found on surfaces beyond the property line of origin. The nature or origin of the particulate matter shall be determined to a reasonable degree of certainty by a technique proven to be accurate and approved by the director.
- 2) The permittee shall not cause nor allow to occur any fugitive particulate matter emissions to remain visible in the ambient air beyond the property line of origin.
- 3) Should it be determined that noncompliance has occurred, the director may require reasonable control measures as may be necessary. These measures may include, but are not limited to, the following:
 - a) Revision of procedures involving construction, repair, cleaning and demolition of buildings and their appurtenances that produce particulate matter emissions;
 - b) Paving or frequent cleaning of roads, driveways and parking lots;
 - c) Application of dust-free surfaces;
 - d) Application of water; and
 - e) Planting and maintenance of vegetative ground cover.

Monitoring:

The permittee shall conduct inspections of its facilities sufficient to determine compliance with this regulation. If the permittee discovers a violation, the permittee shall undertake corrective action to eliminate the violation.

The permittee shall maintain the following monitoring schedule¹¹:

- 1) The permittee shall conduct weekly observations for a minimum of eight (8) consecutive weeks after permit issuance.
- 2) Should no violation of this regulation be observed during this period then-
 - a) The permittee may observe once every two (2) weeks for a period of eight (8) weeks.
 - b) If a violation is noted, monitoring reverts to weekly.
 - c) Should no violation of this regulation be observed during this period then-
 - i) The permittee may observe once per month.
 - ii) If a violation is noted, monitoring reverts to weekly.
- 3) If the permittee reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner to the initial monitoring frequency.

Recordkeeping:

The permittee shall document all readings on Attachment A, or its equivalent, noting the following:

- 1) Whether air emissions (except water vapor) remain visible in the ambient air beyond the property line of origin.

¹¹ The reissuance of this operating permit will not affect the frequency of monitoring. The permittee may continue their current monitoring schedule for all affected emission units.

- 2) Whether the visible emissions were normal for the installation.
- 3) Whether equipment malfunctions contributed to an exceedance.
- 4) Any violations and any corrective actions undertaken to correct the violation.

10 CSR 10-6.180 Measurement of Emissions of Air Contaminants

- 1) The director may require any person responsible for the source of emission of air contaminants to make or have made tests to determine the quantity or nature, or both, of emission of air contaminants from the source. The director may specify testing methods to be used in accordance with good professional practice. The director may observe the testing. All tests shall be performed by qualified personnel.
- 2) The director may conduct tests of emissions of air contaminants from any source. Upon request of the director, the person responsible for the source to be tested shall provide necessary ports in stacks or ducts and other safe and proper sampling and testing facilities, exclusive of instruments and sensing devices as may be necessary for proper determination of the emission of air contaminants.
- 3) The director shall be given a copy of the test results in writing and signed by the person responsible for the tests.

10 CSR 10-5.040 Use of Fuel in Hand-Fired Equipment Prohibited

It shall be unlawful to operate any hand-fired fuel-burning equipment in the St. Louis, Missouri metropolitan area. This regulation shall apply to all fuel-burning equipment including, but not limited to, furnaces, heating and cooking stoves and hot water furnaces. It shall not apply to wood-burning fireplaces and wood-burning stoves in dwellings, nor to fires used for recreational purpose, nor to fires used solely for the preparation of food by barbecuing. Hand-fired fuel-burning equipment is any stove, furnace, or other fuel-burning device in which fuel is manually introduced directly into the combustion chamber.

**10 CSR 10-5.060 Refuse Not to be Burned in Fuel Burning Installations
(Contained in State Implementation Plan)**

No person shall burn or cause or permit the burning of refuse in any installation which is designed for the primary purpose of burning fuel.

10 CSR 10-5.120 Information on Sales of Fuels to be Provided and Maintained

Every delivery of coal or residual fuel oil when first delivered to a consumer or wholesaler in the St. Louis metropolitan area must be accompanied by a ticket prepared in triplicate and containing at least the name and address of the seller and the buyer; the grade of fuel; ash content of coal, the source of the fuel, which must be an approved source, and such other information as the Air Conservation Commission may require. One copy of each ticket shall be kept by the person delivering the fuel and be retained for one year; one copy is to be given to the recipient of the fuel to be retained for one year; and, upon request, within 30 days after delivery of the fuel, the delivering party shall mail one copy to the Air Conservation Commission.

10 CSR 10-5.160 Control of Odors in the Ambient Air

This requirement is not federally enforceable.

No person shall emit odorous matter as to cause an objectionable odor on or adjacent to:

- 1) Residential, recreational, institutional, retail sales, hotel or educational premises.
- 2) Industrial premises when air containing odorous matter is diluted with 20 or more volumes of odor-free air; or
- 3) Premises other than those in 1. and 2 above when air containing odorous matter is diluted with four or more volumes of odor-free air.

The previously mentioned requirement shall apply only to objectionable odors. An odor will be deemed objectionable when 30% or more of a sample of the people exposed to it believe it to be objectionable in usual places of occupancy; the sample size to be at least 20 people or 75% of those exposed if fewer than 20 people are exposed.

10 CSR 10-5.240 Additional Air Quality Control Measures May be Required When Sources Are Clustered in a Small Land Area

The Air Conservation Commission may prescribe more restrictive air quality control requirements that are more restrictive and more extensive than provided in regulations of general application for:

- 1) Areas in which there are one or more existing sources and/or proposed new sources of particulate matter in any circular area with a diameter of two miles (including sources outside metropolitan area) from which the sum of particulate emissions allowed from these sources by regulations of general application are or would be greater than 2000 tons per year or 500 pounds per hour.
- 2) Areas in which there are one or more existing sources and/or proposed new sources of sulfur dioxide in any circular area with a diameter of two miles from which the sum of sulfur dioxide emissions from these sources allowed by regulations of general application are or would be greater than 1000 tons for any consecutive three months or 1000 pounds per hour.

10 CSR 10-6.220 Restriction of Emission of Visible Air Contaminants

Emission Limitation:

No owner or other person shall cause or permit to be discharged into the atmosphere from any source any visible emissions in excess of the limits specified by this rule. This permit will contain the opacity limits identified (10, 20 or 40 percent) for the specific emission units.

Monitoring:

- 1) The permittee should note the visible emissions performance of the plant according to the schedule outlined in 2) below. Specifically, the source would first conduct a quick survey of the entire plant. The permittee must maintain a daily log noting whether any air emissions (except for water vapor) were visible from the plant, all emission points from which visible emissions occurred, and whether the visible emissions were normal for the process. If the permittee observes no visible or other significant emissions then no further observations would be required.

For those emission points with visible emissions perceived or believed to exceed the applicable opacity standard, the permittee should attempt to record formal Method 9 readings for the emission points of concern. Whether recording “qualitative” visible emission characteristics or taking Method 9 readings, the permittee should also document the total duration of any visible emission incident as part of the log.

Where the permittee opts to record “qualitative” visible emissions data, rather than record official Method 9 readings on a daily basis, it may be prudent for the source to bring in a certified Method 9

observer to periodically “quantify” visible emissions. These periodic Method 9 readings along with the daily survey results would give the responsible official some reasonable assurance that the source is meeting its opacity obligations.

In all cases, the permittee shall insure that all persons responsible for making visible emission observations acquire basic training in the general principles and practices of “reading” opacity. At a minimum, the observers should be trained and knowledgeable about the effects on visibility of emissions caused by background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water. EPA’s Reference Method 22, found at 40 CFR Part 60, Appendix A, suggests two references in Section 7 that may be helpful.

The permittee is only required to take readings when the emission unit is operating and when the weather conditions allow. If the permittee observes no visible or other significant emissions using these procedures, then no further observations are required. For emission units with visible emissions perceived or believed to exceed the applicable opacity standard, the source representative would then conduct a Method 9 observation.

- 2) The permittee must maintain the following monitoring schedule¹²:
 - a) The permittee shall conduct weekly observations for a minimum of eight (8) consecutive weeks after permit issuance.
 - b) Should the permittee observe no violations of this regulation during this period then-
 - i) The permittee may observe once every two (2) weeks for a period of eight (8) weeks.
 - ii) If a violation is noted, monitoring reverts to weekly.
 - iii) Should no violation of this regulation be observed during this period then-
 - (1) The permittee may observe once per month.
 - (2) If a violation is noted, monitoring reverts to weekly.
- 3) If the source reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency.

Recordkeeping:

The permittee shall maintain records of all observation results using appropriately, Attachments B and/or C (or their equivalent), noting:

- 1) Whether any air emissions (except for water vapor) were visible from the emission units;
- 2) All emission units from which visible emissions occurred;
- 3) Whether the visible emissions were normal for the process;
- 4) The permittee shall maintain records of any equipment malfunctions, which may contribute to visible emissions; and,
- 5) The permittee shall maintain records of all USEPA Method 9 opacity tests performed.

10 CSR 10-6.250 Asbestos Abatement Projects – Certification, Accreditation, and Business Exemption Requirements

The permittee shall conduct all asbestos abatement projects within the procedures established for certification and accreditation by 10 CSR 10-6.250. This rule requires individuals who work in asbestos abatement projects to be certified by the Missouri Department of Natural Resources Air Pollution

¹² The reissuance of this operating permit will not affect the frequency of monitoring. The permittee may continue their current monitoring schedule for all affected emission units.

Control Program. This rule requires training providers who offer training for asbestos abatement occupations to be accredited by the Missouri Department of Natural Resources Air Pollution Control Program. This rule requires persons who hold exemption status from certain requirements of this rule to allow the department to monitor training provided to employees. Each individual who works in asbestos abatement projects must first obtain certification for the appropriate occupation from the department. Each person who offers training for asbestos abatement occupations must first obtain accreditation from the department. Certain business entities that meet the requirements for state-approved exemption status must allow the department to monitor training classes provided to employees who perform asbestos abatement.

Title VI – 40 CFR Part 82 Protection of Stratospheric Ozone

- 1) The permittee shall comply with the standards for labeling of products using ozone-depleting substances pursuant to 40 CFR Part 82, Subpart E:
 - a) All containers in which a class I or class II substance is stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced into interstate commerce pursuant to §82.106.
 - b) The placement of the required warning statement must comply with the requirements pursuant to §82.108.
 - c) The form of the label bearing the required warning statement must comply with the requirements pursuant to §82.110.
 - d) No person may modify, remove, or interfere with the required warning statement except as described in §82.112.
- 2) The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR 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 required practices pursuant to §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 §82.158.
 - c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to §82.161.
 - d) Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with recordkeeping requirements pursuant to §82.166. ("MVAC-like" appliance as defined at §82.152).
 - e) Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to §82.156.
 - f) Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to §82.166.
- 3) If the permittee manufactures, transforms, imports, or exports a class I or class II substance, the permittee is subject to all the requirements as specified in 40 CFR Part 82, Subpart A, Production and Consumption Controls.
- 4) If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR Part 82, Subpart B, Servicing of Motor Vehicle Air conditioners. The term "motor vehicle" as

used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or system used on passenger buses using HCFC-22 refrigerant.

- 5) The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR Part 82, Subpart G, Significant New Alternatives Policy Program. *Federal Only - 40 CFR Part 82*

10 CSR 10-6.280 Compliance Monitoring Usage

- 1) The permittee is not prohibited from using the following in addition to any specified compliance methods for the purpose of submission of compliance certificates:
 - a) Monitoring methods outlined in 40 CFR Part 64;
 - b) Monitoring method(s) approved for the permittee pursuant to 10 CSR 10-6.065, "Operating Permits", and incorporated into an operating permit; and
 - c) Any other monitoring methods approved by the director.
- 2) Any credible evidence may be used for the purpose of establishing whether a permittee has violated or is in violation of any such plan or other applicable requirement. Information from the use of the following methods is presumptively credible evidence of whether a violation has occurred by a permittee:
 - a) Monitoring methods outlined in 40 CFR Part 64;
 - b) A monitoring method approved for the permittee pursuant to 10 CSR 10-6.065, "Operating Permits", and incorporated into an operating permit; and
 - c) Compliance test methods specified in the rule cited as the authority for the emission limitations.
- 3) The following testing, monitoring or information gathering methods are presumptively credible testing, monitoring, or information gathering methods:
 - a) Applicable monitoring or testing methods, cited in:
 - i) 10 CSR 10-6.030, "Sampling Methods for Air Pollution Sources";
 - ii) 10 CSR 10-6.040, "Reference Methods";
 - iii) 10 CSR 10-6.070, "New Source Performance Standards";
 - iv) 10 CSR 10-6.080, "Emission Standards for Hazardous Air Pollutants"; or
 - b) Other testing, monitoring, or information gathering methods, if approved by the director, that produce information comparable to that produced by any method listed above.

VI. General Permit Requirements

The installation shall comply with each of the following requirements. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued,

10 CSR 10-6.065(6)(C)1.B Permit Duration

This permit is issued for a term of five years, commencing on the date of issuance. This permit will expire at the end of this period unless renewed.

10 CSR 10-6.065(6)(C)1.C General Recordkeeping and Reporting Requirements

- 1) Recordkeeping
 - a) All required monitoring data and support information shall be retained for a period of at least five years from the date of the monitoring sample, measurement, report or application.
 - b) Copies of all current operating and construction permits issued to this installation shall be kept on-site for as long as the permits are in effect. Copies of these permits shall be made immediately available to any Missouri Department of Natural Resources' personnel upon request.
- 2) Reporting
 - a) All reports shall be submitted to the Air Pollution Control Program, Enforcement Section, P. O. Box 176, Jefferson City, MO 65102.
 - b) The permittee shall submit a report of all required monitoring by:
 - i) October 1st for monitoring which covers the January through June time period, and
 - ii) April 1st for monitoring which covers the July through December time period.
 - iii) Exception. Monitoring requirements which require reporting more frequently than semi annually shall report no later than 30 days after the end of the calendar quarter in which the measurements were taken.
 - c) Each report shall identify any deviations from emission limitations, monitoring, recordkeeping, reporting, or any other requirements of the permit, this includes deviations or Part 64 exceedances.
 - d) Submit supplemental reports as required or as needed. Supplemental reports are required no later than ten days after any exceedance of any applicable rule, regulation or other restriction. All reports of deviations shall identify the cause or probable cause of the deviations and any corrective actions or preventative measures taken.
 - i) Notice of any deviation resulting from an emergency (or upset) condition as defined in paragraph (6)(C)7.A of 10 CSR 10-6.065 (Emergency Provisions) shall be submitted to the permitting authority either verbally or in writing within two working days after the date on which the emission limitation is exceeded due to the emergency, if the permittee wishes to assert an affirmative defense. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that indicate an emergency occurred and the permittee can identify the cause(s) of the emergency. The permitted installation must show that it was operated properly at the time and that during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or requirements in the permit. The notice must contain a description of the emergency, the steps taken to mitigate emissions, and the corrective actions taken.

- ii) Any deviation that poses an imminent and substantial danger to public health, safety or the environment shall be reported as soon as practicable.
- iii) Any other deviations identified in the permit as requiring more frequent reporting than the permittee's semiannual report shall be reported on the schedule specified in this permit, and no later than ten days after any exceedance of any applicable rule, regulation, or other restriction.
- e) Every report submitted shall be certified by the responsible official, except that, if a report of a deviation must be submitted within ten days after the deviation, the report may be submitted without a certification if the report is resubmitted with an appropriate certification within ten days after that, together with any corrected or supplemental information required concerning the deviation.
- f) The permittee may request confidential treatment of information submitted in any report of deviation.

10 CSR 10-6.065(6)(C)1.D Risk Management Plan Under Section 112(r)

The permittee shall comply with the requirements of 40 CFR Part 68, Accidental Release Prevention Requirements. If the permittee has more than a threshold quantity of a regulated substance in process, as determined by 40 CFR Section 68.115, the permittee shall submit a Risk Management Plan in accordance with 40 CFR Part 68 no later than the latest of the following dates:

- 1) June 21, 1999;
- 2) Three years after the date on which a regulated substance is first listed under 40 CFR Section 68.130; or
- 3) The date on which a regulated substance is first present above a threshold quantity in a process.

10 CSR 10-6.065(6)(C)1.F Severability Clause

In the event of a successful challenge to any part of this permit, all uncontested permit conditions shall continue to be in force. All terms and conditions of this permit remain in effect pending any administrative or judicial challenge to any portion of the permit. If any provision of this permit is invalidated, the permittee shall comply with all other provisions of the permit.

10 CSR 10-6.065(6)(C)1.G General Requirements

- 1) The permittee must comply with all of the terms and conditions of this permit. Any noncompliance with a permit condition constitutes a violation and is grounds for enforcement action, permit termination, permit revocation and re-issuance, permit modification or denial of a permit renewal application.
- 2) The permittee may not use as a defense in an enforcement action that it would have been necessary for the permittee to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit
- 3) The permit may be modified, revoked, reopened, reissued or terminated for cause. Except as provided for minor permit modifications, the filing of an application or request for a permit modification, revocation and reissuance, or termination, or the filing of a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
- 4) This permit does not convey any property rights of any sort, nor grant any exclusive privilege.
- 5) The permittee shall furnish to the Air Pollution Control Program, upon receipt of a written request and within a reasonable time, any information that the Air Pollution Control Program reasonably may require to determine whether cause exists for modifying, reopening, reissuing or revoking the

permit or to determine compliance with the permit. Upon request, the permittee also shall furnish to the Air Pollution Control Program copies of records required to be kept by the permittee. The permittee may make a claim of confidentiality for any information or records submitted pursuant to 10 CSR 10-6.065(6)(C)1.

10 CSR 10-6.065(6)(C)1.H Incentive Programs Not Requiring Permit Revisions

No permit revision will be required for any installation changes made under any approved economic incentive, marketable permit, emissions trading, or other similar programs or processes provided for in this permit.

10 CSR 10-6.065(6)(C)1.I Reasonably Anticipated Operating Scenarios

None

10 CSR 10-6.065(6)(C)3 Compliance Requirements

- 1) Any document (including reports) required to be submitted under this permit shall contain a certification signed by the responsible official.
- 2) Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized officials of the Missouri Department of Natural Resources, or their authorized agents, to perform the following (subject to the installation's right to seek confidential treatment of information submitted to, or obtained by, the Air Pollution Control Program):
 - a) Enter upon the premises where a permitted installation is located or an 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 and using reasonable safety practices, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
 - d) As authorized by the Missouri Air Conservation Law, Chapter 643, RSMo or the Act, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the terms of this permit, and all applicable requirements as outlined in this permit.
- 3) All progress reports required under an applicable schedule of compliance shall be submitted semiannually (or more frequently if specified in the applicable requirement). These progress reports shall contain the following:
 - a) Dates for achieving the activities, milestones or compliance required in the schedule of compliance, and dates when these 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 measures adopted.
- 4) The permittee shall submit an annual certification that it is in compliance with all of the federally enforceable terms and conditions contained in this permit, including emissions limitations, standards, or work practices. These certifications shall be submitted annually by April 1st, unless the applicable requirement specifies more frequent submission. These certifications shall be submitted to Environmental Protection Agency, Region 7, 11201 Renner Boulevard, Lenexa, Kansas 66219, as well as the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102. All deviations and Part 64 exceedances and excursions must be included in the compliance certifications. The compliance certification shall include the following:
 - a) The identification of each term or condition of the permit that is the basis of the certification;

- b) The current compliance status, as shown by monitoring data and other information reasonably available to the installation;
- c) Whether compliance was continuous or intermittent;
- d) The method(s) used for determining the compliance status of the installation, both currently and over the reporting period; and
- e) Such other facts as the Air Pollution Control Program will require in order to determine the compliance status of this installation.

10 CSR 10-6.065(6)(C)6 Permit Shield

- 1) Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements as of the date that this permit is issued, provided that:
 - a) The application requirements are included and specifically identified in this permit, or
 - b) The permitting authority, in acting on the permit revision or permit application, determines in writing that other requirements, as specifically identified in the permit, are not applicable to the installation, and this permit expressly includes that determination or a concise summary of it.
- 2) Be aware that there are exceptions to this permit protection. The permit shield does not affect the following:
 - a) The provisions of section 303 of the Act or section 643.090, RSMo concerning emergency orders,
 - b) Liability for any violation of an applicable requirement which occurred prior to, or was existing at, the time of permit issuance,
 - c) The applicable requirements of the acid rain program,
 - d) The authority of the Environmental Protection Agency and the Air Pollution Control Program of the Missouri Department of Natural Resources to obtain information, or
 - e) Any other permit or extra-permit provisions, terms or conditions expressly excluded from the permit shield provisions.

10 CSR 10-6.065(6)(C)7 Emergency Provisions

- 1) An emergency or upset as defined in 10 CSR 10-6.065(6)(C)7.A shall constitute an affirmative defense to an enforcement action brought for noncompliance with technology-based emissions limitations. To establish an emergency- or upset-based defense, the permittee must demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence, the following:
 - a) That an emergency or upset occurred and that the permittee can identify the source of the emergency or upset,
 - b) That the installation was being operated properly,
 - c) That the permittee took all reasonable steps to minimize emissions that exceeded technology-based emissions limitations or requirements in this permit, and
 - d) That the permittee submitted notice of the emergency to the Air Pollution Control Program within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and any corrective actions taken.
- 2) Be aware that an emergency or upset shall not include noncompliance caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

10 CSR 10-6.065(6)(C)8 Operational Flexibility

An installation that has been issued a Part 70 operating permit is not required to apply for or obtain a permit revision in order to make any of the changes to the permitted installation described below if the changes are not Title I modifications, the changes do not cause emissions to exceed emissions allowable under the permit, and the changes do not result in the emission of any air contaminant not previously emitted. The permittee shall notify the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as Environmental Protection Agency, Region 7, 11201 Renner Boulevard, Lenexa, Kansas 66219, at least seven days in advance of these changes, except as allowed for emergency or upset conditions. Emissions allowable under the permit means a federally enforceable permit term or condition determined at issuance to be required by an applicable requirement that establishes an emissions limit (including a work practice standard) or a federally enforceable emissions cap that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject.

- 1) Section 502(b)(10) changes. Changes that, under section 502(b)(10) of the Act, contravene an express permit term may be made without a permit revision, except for changes that would violate applicable requirements of the Act or contravene federally enforceable monitoring (including test methods), recordkeeping, reporting or compliance requirements of the permit.
 - a) Before making a change under this provision, The permittee shall provide advance written notice to the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as Environmental Protection Agency, Region 7, 11201 Renner Boulevard, Lenexa, Kansas 66219, describing the changes to be made, the date on which the change will occur, and any changes in emission and any permit terms and conditions that are affected. The permittee shall maintain a copy of the notice with the permit, and the APCP shall place a copy with the permit in the public file. Written notice shall be provided to the EPA and the APCP as above at least seven days before the change is to be made. If less than seven days notice is provided because of a need to respond more quickly to these unanticipated conditions, the permittee shall provide notice to the EPA and the APCP as soon as possible after learning of the need to make the change.
 - b) The permit shield shall not apply to these changes.

10 CSR 10-6.065(6)(C)9 Off-Permit Changes

- 1) Except as noted below, the permittee may make any change in its permitted operations, activities or emissions that is not addressed in, constrained by or prohibited by this permit without obtaining a permit revision. Insignificant activities listed in the application, but not otherwise addressed in or prohibited by this permit, shall not be considered to be constrained by this permit for purposes of the off-permit provisions of this section. Off-permit changes shall be subject to the following requirements and restrictions:
 - a) The change must meet all applicable requirements of the Act and may not violate any existing permit term or condition; the permittee may not change a permitted installation without a permit revision if this change is subject to any requirements under Title IV of the Act or is a Title I modification;
 - b) The permittee must provide written notice of the change to the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as Environmental Protection Agency, Region 7, 11201 Renner Boulevard, Lenexa, Kansas 66219, no later than the next annual emissions report. This notice shall not be required for changes that are insignificant activities under 10 CSR 10-6.065(6)(B)3. This written notice shall describe each 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 permittee shall keep a record describing all changes made at the installation that result in emissions of a regulated air pollutant subject to an applicable requirement and the emissions resulting from these changes; and
- d) The permit shield shall not apply to these changes.

10 CSR 10-6.020(2)(R)12 Responsible Official

The application utilized in the preparation of this permit was signed by Larry Hummel, Vice President of US Operations. If this person terminates employment, or is reassigned different duties such that a different person becomes the responsible person to represent and bind the installation in environmental permitting affairs, the owner or operator of this air contaminant source shall notify the Director of the Air Pollution Control Program of the change. Said notification shall be in writing and shall be submitted within 30 days of the change. The notification shall include the name and title of the new person assigned by the source owner or operator to represent and bind the installation in environmental permitting affairs. All representations, agreement to terms and conditions and covenants made by the former responsible person that were used in the establishment of limiting permit conditions on this permit will continue to be binding on the installation until such time that a revision to this permit is obtained that would change said representations, agreements and covenants.

10 CSR 10-6.065(6)(E)6 Reopening-Permit for Cause

This permit may be reopened for cause if:

- 1) The Missouri Department of Natural Resources (MDNR) receives notice from the Environmental Protection Agency (EPA) that a petition for disapproval of a permit pursuant to 40 CFR § 70.8(d) has been granted, provided that the reopening may be stayed pending judicial review of that determination,
- 2) MDNR or EPA determines that the permit contains a material mistake or that inaccurate statements were made which resulted in establishing the emissions limitation standards or other terms of the permit,
- 3) Additional applicable requirements under the Act become applicable to the installation; however, reopening on this ground is not required if—:
 - a) The permit has a remaining term of less than three years;
 - b) The effective date of the requirement is later than the date on which the permit is due to expire;or
 - c) The additional applicable requirements are implemented in a general permit that is applicable to the installation and the installation receives authorization for coverage under that general permit,
- 4) The installation is an affected source under the acid rain program and additional requirements (including excess emissions requirements), become applicable to that source, provided that, upon approval by EPA, excess emissions offset plans shall be deemed to be incorporated into the permit; or
- 5) MDNR or EPA determines that the permit must be reopened and revised to assure compliance with applicable requirements.

10 CSR 10-6.065(6)(E)1.C Statement of Basis

This permit is accompanied by a statement setting forth the legal and factual basis for the permit conditions (including references to applicable statutory or regulatory provisions). This Statement of Basis, while referenced by the permit, is not an actual part of the permit.

VII. Attachments

Attachments follow.

Attachment C

Method 9 Opacity Emissions Observations								
Company					Observer			
Location					Observer Certification Date			
Date					Emission Unit			
Time					Control Device			
Hour	Minute	Seconds				Steam Plume (check if applicable)		Comments
		0	15	30	45	Attached	Detached	
	0							
	1							
	2							
	3							
	4							
	5							
	6							
	7							
	8							
	9							
	10							
	11							
	12							
	13							
	14							
	15							
	16							
	17							
	18							
SUMMARY OF AVERAGE OPACITY								
Set Number	Time				Opacity			
	Start	End		Sum	Average			

Readings ranged from _____ to _____ % opacity.

Was the emission unit in compliance at the time of evaluation? _____
 YES NO Signature of Observer

Attachment E

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Attachment F

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Attachment H
Sample of Batch Recordkeeping

			<i>Emissions</i> →														
Product No	Solvent	Emissions/ batch (lb)															
			Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun 20	Jul 20	Aug 20	Sep 20	Oct 20	Nov 20	Dec 20	Jan 20	Feb 20	
A2939	methanol	28.5970	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
A6659	methanol	199.2039	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	199.2039
A9758	methanol	49.9130	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	99.8261	0.0000
A9883	AAA																
	ethanol	4.3148	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	methanol	1.5971	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	MIBK	0.0171	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
B3876	diethanolamine	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	methanol	22.7534	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	22.7534	0.0000
B6032	AAA																
	ethanol	26.6043	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	methanol	9.8656	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	MIBK	0.1057	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
B6755	AAA																
	ethanol	0.4205	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	methanol	594.6288	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	MIBK	0.0019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	bromochloropropane	0.1163	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
B9879	AAA																
	ethanol	1.7463	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	methanol	23.0667	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	MIBK	0.0075	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	diethanolamine	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
C2154	AAA																
	ethanol	157.2004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	157.2004	0.0000
	methanol	58.1584	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	58.1584	0.0000
	MIBK	0.6238	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.6238	0.0000
	cyclohexylamine	0.0257	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0257	0.0000	0.0000

Attachment I
Recordkeeping for 01-03-007

T-West 5,000-gal Reactor System

[including 5000-gal reactor, 1000-gal receiver, centrifuge]

3300 S. 2nd Street

Construction Permit Required Recordkeeping - Production Hours

indicates input cells

MOPS = 48 hrs

TAPS = 49 hrs

Permit Limits:

TAPS Production - 6,570 hrs production in consecutive 12-month period

MOPS Production - 6,570 hrs production in consecutive 12-month period

Month	TAPS (hrs)	12-mo total: TAPS (hrs)	MOPS (hrs)	12-mo total: MOPS (hrs)	VOC Emissions* (lbs)	MeOH Emissions* (lbs)	VOC Emissions* (tons)	12-mo total VOCs (tons)	MeOH Emissions* (tons)	12-mo total MeOH (tons)
January 2010	0	0	0	0	0	0	0	0	0	0
February 2010	0	0	0	0	0	0	0	0	0	0.000
March 2010	49	49	0	0	118	42	0.059	0.059	0.021	0.021
April 2010	0	49	0	0	0	0	0	0.059	0	0.021
May 2010	0	49	0	0	0	0	0	0.059	0	0.021
June 2010	49	98	0	0	118	42	0.059	0.118	0.021	0.042
July 2010	0	98	0	0	0	0	0	0.118	0	0.042
August 2010	0	98	0	0	0	0	0	0.118	0	0.042
September 2010	49	147	0	0	118	42	0.059	0.177	0.021	0.063
October 2010	0	147	0	0	0	0	0	0.177	0	0.063
November 2010	49	196	0	0	118	42	0.059	0.236	0.021	0.084
December 2010	0	196	0	0	0	0	0	0.236	0	0.084
January 2011	0	196	0	0	0	0	0	0.236	0	0.084
February 2011	0	196	0	0	0	0	0	0.236	0	0.084
March 2011	0	147	0	0	0	0	0	0.177	0	0.063
April 2011	49	196	0	0	118	42	0.059	0.236	0.021	0.084
May 2011	0	196	0	0	0	0	0	0.236	0	0.084
June 2011	0	147	0	0	0	0	0	0.177	0	0.063
July 2011	0	147	0	0	0	0	0	0.177	0	0.063
August 2011	0	147	0	0	0	0	0	0.177	0	0.063
September 2011	0	98	0	0	0	0	0	0.118	0	0.042
October 2011	0	98	0	0	0	0	0	0.118	0	0.042
November 2011	0	49	0	0	0	0	0	0.059	0	0.021

* VOC emissions per standard batch of MOPS = 277 lbs, TAPS = 118 lbs

* MeOH emissions per standard batch of MOPS = 168 lbs, TAPS = 42 lbs

Attachment I (continued)

T-West 5,000-gal Reactor System				
[including 5000-gal reactor, 1000-gal receiver, centrifuge]				
3300 S. 2nd Street				
Construction Permit Required Recordkeeping - Production Hours				
indicates input cells				
Permit Conditions:				
(1) Operate process only when rotary dryer condenser is in operation.				
(2) If abnormal conditions are detected, measures to remediate problems will be implemented within 8 hrs.				
(3) Any upset condition that causes operation of the rotary dryer without the condenser will be reported in writing by the next business day.				
Month	Any processing w/o condenser?	If "yes", City Air notified?	Abnormal conditions?	IN COMPLIANCE FOR MONTH?
January 2010	NO	N/A	NO	YES
February 2010	NO	N/A	NO	YES
March 2010	NO	N/A	NO	YES
April 2010	NO	N/A	NO	YES
May 2010	NO	N/A	NO	YES
June 2010	NO	N/A	NO	YES
July 2010	NO	N/A	NO	YES
August 2010	NO	N/A	NO	YES
September 2010	NO	N/A	NO	YES
October 2010	NO	N/A	NO	YES
November 2010	NO	N/A	NO	YES
December 2010	NO	N/A	NO	YES
January 2011	NO	N/A	NO	YES
February 2011	NO	N/A	NO	YES
March 2011	NO	N/A	NO	YES
April 2011	NO	N/A	NO	YES
May 2011	NO	N/A	NO	YES
June 2011	NO	N/A	NO	YES
July 2011	NO	N/A	NO	YES
August 2011	NO	N/A	NO	YES
September 2011	NO	N/A	NO	YES
October 2011	NO	N/A	NO	YES
November 2011	NO	N/A	NO	YES
December 2011	NO	N/A	NO	YES

Attachment J
Leak Testing Form

Sigma-Aldrich LDAR Testing 2011 Building K-5								
Equipment Name	Drawing No.	Type of Test	Initial Date Tested	First Attempt to Repair Date	Date Passed	Delay of Repair Reason	Estimated Repair Date	Comments
1RT-0011/ 1T-0032	1678-P20	Pressure	6/8/2011		6/8/2011			
	Max Operating Pressure: 1 psi Rupture Disk Set at: 25 psi							
1RT-0013	1655-P1		N/A		N/A			Not tested, used <300 hour/year so testing is not required
	Max Operating Pressure: N/A Rupture Disk Set at: N/A							
1RT-0015/ 1RT-0015-T01	1678-P25	Pressure	6/8/2011		6/8/2011			
	Max Operating Pressure: 1 psi Rupture Disk Set at: 26 psi							
1RT-0025	00-237-P01	Pressure	6/8/2011		6/8/2011			
	Max Operating Pressure: Atmospheric Rupture Disk Set at: 100 psi							
1RT-0026	00-237-P01	Pressure	2/18/2011		2/18/2011			
	Max Operating Pressure: Atmospheric Rupture Disk Set at: 100 psi							
1HEX-0005	1678-P45	Liquid	12/5/2011	12/6/2011	12/7/2011			
	Max Operating Pressure: N/A Rupture Disk Set at: N/A							

Attachment L
Example Paint Booth Recordkeeping

Cherokee Paint Booth Records										PERMIT LIMITS:
Month	Total Paint Usage (gal)	Paint 12-month total (gal)	Paint 12 Month Total VOC (ton)	Total Thinner Usage (gal)	Thinner 12-month total (gal)	Thinner 12-Month Total VOC (ton)	Hood Hrs of Operation	12-month Hrs of Operation	Worst Case VOC Emissions (tons)	
Jul-11	0.14	19.39	0.10	0.00	0.00	0.00	1:30	96:58	0.10	
Aug-11	0.96	19.51	0.10	0.00	0.00	0.00	11:25	92:83	0.10	
Sep-11	1.26	20.63	0.11	0.00	0.00	0.00	5:00	97:33	0.11	
Oct-11	0.92	19.83	0.10	0.00	0.00	0.00	3:30	91:83	0.10	
Nov-11	1.84	21.30	0.11	0.00	0.00	0.00	26:55	116:91	0.11	
Dec-11	4.56	17.83	0.09	0.00	0.00	0.00	15:25	114:05	0.09	
Jan-12	0.00	17.30	0.09	0.00	0.00	0.00	0:00	110:20	0.09	
Feb-12	0.00	17.04	0.09	0.00	0.00	0.00	0:00	109:30	0.09	
Mar-12	0.00	13.34	0.07	0.00	0.00	0.00	0:00	92:15	0.07	
Apr-12	0.00	13.29	0.07	0.00	0.00	0.00	0:00	92:05	0.07	
May-12	0.00	12.29	0.06	0.00	0.00	0.00	0:00	88:50	0.06	
Jun-12	0.00	9.69	0.05	0.00	0.00	0.00	0:00	63:45	0.05	
Jul-12	0.00	9.55	0.05	0.00	0.00	0.00	0:00	62:15	0.05	
Aug-12	0.00	8.59	0.04	0.00	0.00	0.00	0:00	50:50	0.04	
Sep-12	0.00	7.33	0.04	0.00	0.00	0.00	0:00	45:50	0.04	
Oct-12	0.00	6.40	0.03	0.00	0.00	0.00	0:00	42:20	0.03	
Nov-12	0.00	4.56	0.02	0.00	0.00	0.00	0:00	15:25	0.02	
Dec-12	0.00	0.00	0.00	0.00	0.00	0.00	0:00	0:00	0.00	
128.6 oz/gal										
8 pts/gal										
18 oz/can										
4 quarts/gal										
Mineral Spirits S.G. = 0.78 (6.505 lb/gal)										
Spray Paint (Krylon) MSDS S.G. = 0.80 (6.66 lb/gal)										
Epoxy Paint = 10.2 lb/gal										

Since Cherokee uses a lot of epoxy paint, assume 100% is 10.2 lb/gal for 2011 and prior
Assume Emissions equals sum of Thinner & Paint usage

Attachment M

T-400 (AAA) & T-402 (Methanol) Monthly Throughput

Month	INPUT T-400 (gal)	Rolling 12- mo total (gal)	INPUT T-400 VOC Emissions (tons)	T-400 VOC Emissions 12-mo total (tons)	T-400 HAP Emissions (tons)	T-400 HAP Emissions 12-mo total (tons)	INPUT T-402 (gal)	Rolling 12- mo total (gal)	INPUT T-402 VOC Emissions (tons)	T-402 VOC Emissions 12-mo total (tons)	T-402 HAP Emissions (tons)	T-402 HAP Emissions 12-mo total (tons)	
Jan-10	0	33,601	0.002	0.123	0.001	0.031	0	3,500	0	0.049	0	0.032	
Feb-10	0	26,471	0.003	0.121	0.001	0.030	0	3,500	0	0.049	0	0.032	T-402
Mar-10	7145	33,616	0.008	0.124	0.002	0.031	0	3,500	0	0.049	0	0.032	T-402
Apr-10	7127	33,601	0.012	0.126	0.003	0.032	0	3,500	0	0.049	0	0.032	T-402
May-10	7121	33,568	0.014	0.127	0.004	0.032	0	1,000	0	0.038	0	0.029	T-402
Jun-10	0	33,568	0.012	0.127	0.003	0.032	0	1,000	0	0.026	0	0.026	T-402
Jul-10	7136	40,704	0.018	0.133	0.005	0.033	0	1,000	0	0.026	0	0.026	T-402
Aug-10	0	40,704	0.012	0.134	0.003	0.033	0	1,000	0	0.026	0	0.026	T-402
Sep-10	0	33,553	0.008	0.129	0.002	0.032	0	1,000	0	0.013	0	0.013	T-402
Oct-10	7133	40,686	0.010	0.126	0.003	0.032	0	1,000	0	0.013	0	0.013	T-402
Nov-10	7136	47,822	0.007	0.120	0.002	0.030	0	1,000	0	0.013	0	0.013	T-402
Dec-10	0	42,798	0.002	0.109	0.001	0.027	0	0	0	0.000	0	0.000	T-402
Jan-11	7124	49,922	0.004	0.111	0.001	0.028	0	0	0	0.000	0	0.000	T-402
Feb-11	0	49,922	0.003	0.111	0.001	0.028	0	0	0	0.000	0	0.000	T-402
Mar-11	0	42,777	0.005	0.108	0.001	0.027	0	0	0	0.000	0	0.000	T-402
Apr-11	7100	42,750	0.012	0.108	0.003	0.027	0	0	0	0.000	0	0.000	T-402
May-11	0	35,629	0.010	0.104	0.002	0.026	0	0	0	0.000	0	0.000	T-402
Jun-11	0	35,629	0.012	0.104	0.003	0.026	0	0	0	0.000	0	0.000	T-402
Jul-11	7133	35,626	0.018	0.104	0.005	0.026	0	0	0	0.000	0	0.000	T-402
Aug-11	7139	42,765	0.017	0.109	0.004	0.027	0	0	0	0.000	0	0.000	T-402
Sep-11	7133	49,898	0.012	0.113	0.003	0.028	0	0	0	0.000	0	0.000	T-402
Oct-11	0	42,765	0.007	0.109	0.002	0.027	0	0	0	0.000	0	0.000	T-402
Nov-11	0	35,629	0.004	0.107	0.001	0.027	0	0	0	0.000	0	0.000	T-402
Dec-11	7115	42,744	0.004	0.109	0.001	0.027	0	0	0	0.000	0	0.000	T-402

Notes: Updating by taking throughput from G:\Solvent\DeKalb Receiving Log and then enter throughput into Tanks 4.09. Copy monthly emissions into VOC column.

Attachment N
Compliance Determination for 05-06-004 II.B & C.

Potential to Emit Calculations

Material	lbs/batch	Batches Per Year	Total (lbs/yr)	Emission Factor (lb/lb)	Uncontrolled PTE (lbs)	Control Eff. of Fabric Filters* (%)	Controlled PTE (lbs/yr)
Hyflo	8,343	26	216,918	0.0217	4,707	90	470.7
Ammonium Sulfate	18,858	26	490,308	0.0217	10,640	90	1064

* The installation gave a range of 90 — 95% for the efficiency of the fabric filters. This Program used the lower end to calculate the potential to emit

10 CSR 10-6.400 Applicability Part 1

Emission Unit	PM Emission Factor	PM Emission Limit (lbs/hr)	Projected PM Emission Rate (lbs/hr)	Controlled PM Emission Rate (lbs/hr)*	Periodic Monitoring Required
Tank 1T-0425	0.0217	0.76	3.51	0.35	Yes
Tank 1T-0426	0.0217	0.76	3.51	0.35	Yes
Tank 1T-0427	0.0217	0.76	3.51	0.35	Yes
Tank 1T-0428	0.0217	0.76	3.51	0.35	Yes

* Reflects a 90% control efficiency for the fabric filters.

10 CSR 10-6.400 Applicability Part 2

The following calculation may be used to verify compliance with Section II.C:

Given: Exhaust Flow Rate = 1600 scfm
Emission Rate = 0.35 lbs/hr

$$\text{Emission Rate (gr/dscf)} = \frac{\text{Emission Rate (lb/hr)} \times 7000(\text{gr/lb})}{\text{Stack flow rate}(\text{scfm})/60(\text{min/hr})} = \frac{0.35 \text{ (lb/hr)} \times 7000 \text{ (gr/lb)}}{1600 \text{ (scfm)} / 60 \text{ (min/hr)}} = 0.026$$

The calculation above verifies that Sigma Aldrich is in compliance with Section (3)(A)4 of 10 CSR 10-6.400.

Attachment O
Maximum Potential HAP per Batch Calculations

Product	Maximum Potential HAP per batch (pounds per batch)	Batch Limit per rolling 365 days
1	3.87	511
2	17.44	113
3	0.018	110,000
4	12.72	155
5	0.10	19,800
6	0.14	14,142
7	0.65	3,046
8	0.54	3,666
9	0.013	152,307
10	2.61	758
11	0.84	2,357
12	1.31	1,511
13	0.07	28,285
14	0.093	21,290
15	13.18	150
16	0.08	24,750
17	0.00013	15,230,769
18	0.88	2,250

STATEMENT OF BASIS

Permit Reference Documents

These documents were relied upon in the preparation of the operating permit. Because they are not incorporated by reference, they are not an official part of the operating permit.

- 1) Part 70 Operating Permit Application, received December 23, 2010;
- 2) 2010 Emissions Inventory Questionnaire;
- 3) U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*; Volume I, Stationary Point and Area Sources, Fifth Edition; and
- 4) U.S. EPA Technology Transfer Network Clearinghouse for Inventories & Emissions Factors, WebFIRE.

Project History

Project ID	Start Date	Expires	Project Type	Status	Completion Date	Permit No	Description
200201062	01/17/02	06/20/11	Part 70 Operating Permit	Operating Permit Issued	06/20/06	OP2006-033	Combine Ops (510-0697 and 510-1396)
200202040	02/14/02		Local CP	Permit Issued	03/16/02	01-11-035	Crystallizers
200205272	05/20/02		Part 70 Operating Permit 112J Revision P1	Closed out, per policy	09/23/04		Chemical Manufacturing
200301103	01/29/03		Local CP	Permit Issued	03/27/03	02-12-027	New Centrifuge
199705020	05/13/97		Part 70 Operating Permit	OP Application Replaced by New Submittal	01/17/02		Chemical Manufacture
199809089	09/24/98		Local CP	Permit Issued	10/24/98	96-02-018A	Modify medicine & nutrient manufacture
199912080	12/22/99		Local CP	Permit Issued	01/21/00	99-10-071	Solvent Tanks
200510012	10/11/05		Local CP	Permit Issued	11/10/05	05-06-004	Coldroom Project
200711064	11/26/07		Part 70 Operating Permit Sign. Modification	Closed Out Inappropriate Request	05/27/09		Compliance Plant Modifications

Applicable Requirements Included in the Operating Permit but Not in the Application or Previous Operating Permits

In the operating permit application, the installation indicated they were not subject to the following regulation(s). However, in the review of the application, the agency has determined that the installation is subject to the following regulation(s) for the reasons stated.

None

Other Air Regulations Determined Not to Apply to the Operating Permit

The Air Pollution Control Program (APCP) has determined the following requirements to not be applicable to this installation at this time for the reasons stated.

Other Air Regulations Determined Not to Apply to the Operating Permit

The Air Pollution Control Program (APCP) has determined the following requirements to not be applicable to this installation at this time for the reasons stated.

10 CSR 10-5.090, *Restriction of Emission of Visible Air Contaminants*,

This rule was listed as applicable in the permit application, however, it has been rescinded on May 30, 2000 and is no longer applicable. Control of emission of visible air contaminants is addressed in 10 CSR 10-6.220, *Restriction of Emissions of Visible Air Contaminants*.

10 CSR 10-5.300, *Control of Emissions from Solvent Metal Cleaning*

The installation operates cold cleaners at Dekalb and Cherokee. The cold cleaners no longer use VOC/HAP containing solvents. Since the cold cleaners do not use VOC containing solvents, they are not subject to this rule.

10 CSR 10-5.330, *Control of Emissions from Industrial Surface Coating Operations*

Though the two paint booths (1501 at Dekalb installation and 3501 at Cherokee installation) at Sigma-Aldrich Company are individually limited to emit less than 2.5 tons per year of VOC (actual) by two separate source registration permits issued by the St. Louis City Air Pollution Control Program, the paint booths emit less than 200 pounds (0.1 ton) per year. Since the combined emissions from the booths are much less than the 2.5 tons per year, it has been determined that this rule does not apply to the paint booths.

10 CSR 10-5.430, *Control of Emissions from the Surface Coating of Chrome-Plated and Resist Plastic Parts*

Sigma does not perform coating of chrome-plated and resist plastic parts. Therefore, this rule does not apply.

10 CSR 10-5.500, *Control of Emissions from Volatile Organic Liquid Storage*

This rule is not applicable because Sigma-Aldrich Company does not store volatile organic liquid in tanks equal to or greater than 40,000 gallons in capacity.

10 CSR 10-5.520, *Control of Volatile Organic Compound Emissions from Existing Major Sources*

The rule does not apply because the installation is subject to 10 CSR 10-5.540, *Control of Emissions from Batch Process Operations*, the Pharmaceutical MACT (40 CFR Part 63, Subpart GGG) and 10 CSR 10-5.350, *Control of Emissions from Manufacture of Synthesized Pharmaceutical Products*.

10 CSR 10-5.550, *Control of Volatile Organic Compound Emissions from Reactor Processes and Distillation Operations Processes in the Synthetic Organic Chemical Manufacturing Industry*

This rule does not apply to Sigma-Aldrich Company because it does not operate any reactor or distillation units in a non-batch mode that has a design capacity of 1,100 tons or more per year.

10 CSR 10-6.240, *Asbestos Abatement Projects-Certification, Notification and Performance Requirements*

This rule has not been included in the operating permit because the rule was struck down in the Cole County Circuit Court.

10 CSR 10-6.350, *Emission Limitations and Emissions Trading of Oxides of Nitrogen*

This rule applies to any fossil fuel fired electric generating unit that serves a generator with a nameplate capacity of greater than twenty-five megawatts. There are no emission units at the installation that meet the applicability criteria of this rule.

10 CSR 10-6.260, *Restriction of Emission of Sulfur Compounds*

This rule is amended to update emission limits and references to regulations, changes the rule organization, and brings the rule up to date. The amended rule clarifies applicability of sources subject to New Source Performance Standards and this rule. The amended rule also includes an exemption for combustion equipment that uses exclusively pipeline grade natural gas as defined in 40 CFR 72.2 or liquefied petroleum gas as defined by American Society for Testing and Materials (ASTM), or any combination of these fuels. All combustion equipment at the installation uses pipeline grade natural and is exempt from the requirements of this rule

10 CSR 10-6.400, *Restriction of Emission of Particulate Matter From Industrial Processes*

This rule does not apply if the emission units at maximum design capacities have a potential to emit less than one-half (0.5) pounds per hour of particulate matter. The emission units to which this rule potentially applies are those process units and their associated emission points that produce powder products. Based on information obtained from the Title V application, correspondence with Sigma-Aldrich Company and Permit 96-02-018A, it appears that the powder products are manufactured only in the Broadway installation. The potential to emit particulate matter from each of the process units (52 Mill, 210 Mills, 350 Blender, 3500 Blender and Fitzpatrick Mill) associated with the manufacture of powder products is significantly less than 0.5 pounds per hour. Therefore, the emission units at Sigma-Aldrich Company meet this exemption criterion and this rule was not included in the operating permit. Further information regarding manufacture of powdered nutrients is listed in Permit 96-02-018A.

Construction Permit Revisions

The following revisions were made to construction permits for this installation:

- (1) Dekalb Installation - Source Registration Permits for Storage Tanks Approved on March 7, 1988
Dekalb Installation - Source Registration Permit for Cold Cleaner Dated October 14, 1992
Cherokee Installation - Source Registration Permit No. H343 for Boiler Approved on March 3, 1986
Cherokee Installation - Source Registration Permit No. H344 for Boiler Approved on March 3, 1986
Cherokee Installation - Source Registration Permits for Storage Tanks. Approved on August 8, 1986
Cherokee Installation - Source Registration Permit for Waste Solvent Storage Tanks Approved on October 17, 1986
Cherokee Installation - Source Registration Permits for SVS Tanks Approved on June 15, 1998.
A review of the permit files shows that the above permits (item nos. 1 through 7) have no special permit conditions. As such, applicable permit conditions were not listed for these construction permits in the operating permit.
- (2) Correction to Source Registration Permit No. 97-07-074 Issued on October 22, 1999.
- (3) Cherokee Installation – Permit No. 04-02-003 Issued on February 13, 2004 amends the information in Permit No. 98-03-020. Sigma Chemical Company constructed a boiler under Permit No. 98-03-020 issued on May 19, 1998. The application for the permit indicated the Maximum Heat Input of the boiler was 10.17 MMBtu per hour. This was actually the heat output; the actual heat input of the boiler of the unit is 12.55 MMBtu per hour.
- (4) Broadway Installation – Source Registration No. SR04.009 Issued on February 13, 2004.
This source registration is intended to amend information contained in Source Registration No. 01720. In the previous permit the heat input of the unit was listed as being 10.2 MMBtu per hour. It was found that the unit is 12.55 MMBtu per hour boiler.
- (5) Construction Permit No. 01-03-007
Removed the hours of operation limit, which is now represented by emission rate only. Removed:

The batch process shall not operate for more than 6,570 hours for the production of 3-(morpholino) propane sulfonic acid (MOPS) or 6,570 hours for the production of N-[Tris(hydroxymethyl)]-3-aminopropanesulfonic acid (TAPS) in any consecutive twelve-month period.

- (6) Source Registration Permit No. SR03.009 Issued on May 12, 2003.
This permit was for a grinder at Cherokee facility that has since been removed. The permit was not included in the operating permit.
- (7) Source Registration Permit – Permit No. 05-06-004 (Issued on October 5, 2005).
The four tank limit was based on the old process weight rule, and shown to always be in compliance. The new rule allows an exemption for 90% federally required control. The emission limit was removed and a requirement that equipment use the control devices and the control devices be monitored.
- (8) St. Louis City Permit issued October 16, 1992 on units 1501 & 3501
The operational hours and material limits were removed from the operating permit condition, based on the fact that they are redundant and not emission rate oriented. The City of St. Louis staff used the operational hours and material to calculate the emission rate limit. Since the emission rate incorporates the operational hours and material usage, they are not need. Also, removal of the operational hours and material usage limits provides the permittee with more flexibility, it is desirable to make this change. The VOC limitation (of 2.5 tons (actual) per year) was retained.
- (9) Construction Permit No. 01-03-007 (Issued on June 4, 2001)
The VOC and methanol limits were removed, because the process includes the condensers. Therefore, the emission rates represent the maximum emissions for the process and can never be exceeded.
- (10) Source Registration Permits Required – Permit No. 99-10-072 Issued on October 22, 1999, Correction to Source Registration Permit No. 97-07-074
The emission limits were removed, because the process includes the condensers. Therefore, the emission rates represent the maximum emissions for the process and can never be exceeded.
- (11) Permit No. 01-11-035, Issued on January 29, 2002
The emission limits were removed, because the process includes the condensers. Therefore, the emission rates represent the maximum emissions for the process and can never be exceeded.

New Source Performance Standards (NSPS) ¹³

- (1) 40 CFR Part 60, Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*
1BLR-0006, 1BLR-0003, 3BLR-0001 and 3BLR-0002 are not subject to Subpart Dc because the boilers were constructed prior to the applicability date of this rule. However, this rule applies to the boilers 3BLR-0700 and 5BLR-0901.
- (2) 40 CFR Part 60, Subpart K, *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*
The provisions of this subpart are applicable to liquid storage vessels with capacities of at least 40,000 gallons for which construction, reconstruction, or modification commenced after June 11, 1973 and prior to May 19, 1978. This regulation defines petroleum liquids in 40 CFR Part 60, Subpart K, 60.111(b) as “petroleum, condensate, and any finished or intermediate products manufactured in a petroleum refinery but does not mean Nos. 2 through 6 fuel oils as specified in

¹³ This section addresses issues that need clarification, and not necessarily all places in the permit where the NSPS is applicable.

ASTM D396-78.” There are no “petroleum liquid” storage tanks with the capacity greater than 40,000 gallons (Fuel oils nos. 2 through 6 and diesel fuel nos. 2-D and 4-D are exempt from the definition of “Petroleum Liquids”) that were installed after June 11, 1973 and Prior to July 23, 1984 at the installation. This rule does not apply.

(3) 40 CFR Part 60 Subpart Kb, *Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) after July 23, 1984*

According to the Federal Register, on February 24, 2003, EPA proposed to amend various provisions in 40 CFR Part 60, subpart Kb. The proposal also contained amendments to increase the vessel capacity applicability cutoff from 40 m³ (10,600 gallons) to 75 m³ (19,800 gallons). The proposed amendment for the vessel capacity cutoff from the February 24, 2003, Federal Register has been promulgated. Therefore, Dekalb Installation Raw Material Storage Tanks and Cherokee Installation Material Storage Tanks are not subject to this subpart because they have a capacity of 12,000 gallons each.

Maximum Achievable Control Technology (MACT)¹⁴

(1) 10 CSR 10-6.075, *Maximum Achievable Control Technology Regulations - 40 CFR Part 63 Subpart GGG, National Emissions Standards for Pharmaceuticals Production*

This rule applies only to the emission units located at Cherokee installations T-East Building. This rule does not apply to other parts of the installation since the manufacturing processes at other parts of the installation do not manufacture products that meet the definition of pharmaceutical product under MACT Subpart GGG. Based on the Precompliance Report (dated April 19, 2002 and approved by the St. Louis City Air Pollution Control Program on July 16, 2002), the Notification of Compliance Status Report (dated March 20, 2003 and not yet approved by the City of St. Louis or the USEPA) and responses to questions from the Department of Natural Resources, the following information was gathered:

- Sigma-Aldrich Company does not desire to use alternative monitoring parameters
- Sigma-Aldrich Company desires to use the pollution prevention (P2) option under the MACT Standard.
- For process vents, Sigma-Aldrich Company will demonstrate compliance with the process-based annual mass limit.
- Sigma-Aldrich Company will not use the emissions averaging option.
- Sigma-Aldrich Company will not discharge affected wastewater under the MACT Standard by voluntarily limiting the number of batches of various products.
- All applicable PMPUs are batch process operations.
- The boilers in the Cherokee installation will not burn HAPs from the PMPUs.
- The condensers that are currently in place (with the -50 F glycol system) are process condensers, and do not function as control devices. There are no applicable small or large control devices that control emissions from the PMPUs.

Therefore, the applicable standards under the MACT are the emission standards for process vents, emission standards for leaks and emission standards for the pollution prevention option.

Additionally the installation will have to meet the requirements of the start-up/shutdown/malfunction plans and liquid streams in open systems. The wastewater provisions of the MACT do not apply since Sigma-Aldrich Company is proposing to voluntarily limit the HAP

¹⁴ This section addresses issues that need clarification, and not necessarily all places in the permit where the MACT is applicable.

loading in wastewater streams so that the wastewater stream will not be an applicable wastewater stream under the MACT standard.

There are certain requirements under the MACT for control devices such as condensers and scrubbers. However, the precompliance report indicates that there are no control devices controlling vent streams from processes subject to MACT, therefore, requirements for condensers and scrubbers have not been included in this permit.

§63.1253 (Storage Tanks)

The standards under §63.1253 do not apply to any of the storage vessels at this facility. The permittee provided the rationale for this in the Pre-Compliance Report submitted in April 2002.

§63.1260(f)(2):

On-going recordkeeping and emissions calculations have shown that the process vent standard and wastewater standard do not apply to this facility. The permittee demonstrates continuous compliance with these standards showing emissions to be below applicability thresholds.

§63.1260(f)(3):

This paragraph does not apply. The permittee is not required to install monitoring devices under the MACT provisions.

§63.1260(f)(5):

This paragraph does not apply. The permittee is not required to install control devices under the MACT provisions.

§63.1260(f)(6):

There are no emission points at this facility that are subject to overlapping requirements.

§63.1260(f)(7):

This paragraph does not apply. The permittee does not operate any centralized combustion control devices.

Consistency with other regulations-Standards for Equipment Leaks: After the compliance date for a process, equipment subject to both §63.1255 and either of the following, will be required to comply only with the provisions of Subpart GGG: (§63.1255(a)(2))

(i) 40 CFR Part 60. (§63.1255(a)(2)(i))

(ii) 40 CFR Part 61. (§63.1255(a)(2)(ii))

The provisions in §63.1(a)(3) of 40 CFR Part 63, Subpart A do not alter the provisions in §63.1255(a)(2). (§63.1255(a)(4))

Lines and equipment not containing process fluids are not subject to these provisions. Utilities, and other non-process lines, such as heating and cooling systems which do not combine their materials with those in the processes they serve, are not considered to be part of a process. (§63.1255(a)(5))

The provisions of §63.1255 do not apply to bench-scale processes, regardless of whether the processes are located at the same plant site as a process subject to the provisions of Subpart GGG. (§63.1255(a)(6))

Equipment that is in vacuum service is excluded from the general equipment leak requirements. (§63.1255(a)(8))

Equipment that is in organic HAP service, but is in such service less than 300 hours per calendar year, is excluded from the requirements of §63.1255 if it is identified as required in §63.1255(g)(9). (§63.1255(a)(9))

- (2) 10 CSR 10-6.075, *Maximum Achievable Control Technology Regulations - 40 CFR Part 63, Subpart T, National Emission Standards for Halogenated Solvent Cleaning*
The provisions of this subpart apply to each individual batch vapor, in-line vapor, in-line cold, and batch cold solvent cleaning machine that uses any solvent containing methylene chloride, perchloroethylene, trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride or chloroform, or any combination of these halogenated HAP solvents, in a total concentration greater than 5 percent by weight, as a cleaning and/or drying agent. Wipe cleaning activities, such as using a rag containing halogenated solvent are not covered under the provisions of this subpart.
The permittee operates cold cleaners using aqueous solutions. These units do not use halogenated solvents as defined in 40 CFR 63.460, therefore the cold cleaners are not subject to the MACT standards for halogenated solvent cleaning.
- (3) 10 CSR 10-6.075, *Maximum Achievable Control Technology Regulations - 40 CFR Part 63, Subpart PPP, National Emission Standards for Polyether Polyols Production*
The permittee does not manufacture polyether polyols, therefore this MACT standard does not apply to the installation.
- (4) 10 CSR 10-6.075, *Maximum Achievable Control Technology Regulations - 40 CFR Part 63, Subpart MMM, National Emission Standards for Pesticide Active Ingredient Production*
The permittee does not manufacture pesticide active ingredients, therefore this MACT standard does not apply to the installation.
- (5) 40 CFR Part 63, Subpart B, *Requirements for Control Technology Determinations for Major Sources in Accordance with Clean Air Act Sections, Sections 112(g) and 112(j)*
On May 10, 2002, Sigma -Aldrich Co. submitted a 112(j) Part 1 Maximum Achievable Control Technology (MACT) application indicating that they may be subject to the MACT standards Subpart FFFF, National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing and Miscellaneous Coating Manufacturing and Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Industrial/Commercial/Institutional Boilers and Process Heaters.

National Emission Standards for Hazardous Air Pollutants (NESHAP) Applicability

10 CSR 10-6.080, *Emission Standards for Hazardous Air Pollutants, Subpart M, National Standards for Asbestos*

The requirements of this rule have been summarized and listed in the operating permit.

Compliance Assurance Monitoring (CAM) Applicability

40 CFR Part 64, *Compliance Assurance Monitoring (CAM)*

The CAM rule applies to each pollutant specific emission unit that:

- Is subject to an emission limitation or standard, and
- Uses a control device to achieve compliance, and
- Has pre-control emissions that exceed or are equivalent to the major source threshold.

40 CFR Part 64 is not applicable because none of the pollutant-specific emission units uses a control device to achieve compliance with a relevant standard.

Greenhouse Gas Emissions

This installation is not a major source for greenhouse gases. At the time of permit issuance, there were no applicable GHG requirements for this source.

This source is not subject to the Greenhouse Gas Reporting Rule.

Updated Potential to Emit for the Installation

Pollutant	Potential to Emit (tons per year) ¹⁵
CO	761.6
CO ₂ e	42,176
HAP	6.0
NO _x	468.7
PM ₁₀	68.7
PM _{2.5}	1.4
SO _x	5.4
VOC	64.6

Other Regulatory Determinations

- (1) The units listed in the “Emission Units Without Limitations” section of this permit either have no applicable regulations associated with them or are considered insignificant activities by the operating permit application. Those units include, but are not limited to, all natural gas/LPG units with a maximum heat input of less than 10 MMBtu per hour and those that burn other fuels and have a heat input of less than 1 MMBtu per hour, storage tanks containing non VOC solvents, and equipment that have been exempted under the construction permit rule.
- (2) The installation uses aqueous solutions for cleaning instead of solvents. Therefore the requirements of the source registration permits for the cold cleaners are not applicable. However, any switch from aqueous cleaners to solvent based cold cleaners could potentially trigger construction permit review.
- (3) 10 CSR 10-5.030, *Maximum Allowable Emission of Particulate Matter from Fuel Burning Equipment Used for Indirect Heating*
This rule applies to all indirect heating equipment at the installation irrespective of heat input rating. However, in this permit, particulate matter limits have been placed only for indirect heating equipment rated greater than 10 MMBtu/hour (heat input). Equipment that have heat input ratings less than 10 MMBtu/hour have been considered insignificant and not included as applicable units under this rule. However, their heat inputs have been included in calculating the emission limits for new and existing indirect heating equipment.
- (4) 10 CSR 10-5.170, *Control of Odors from Processing of Animal Matter*
This rule is applicable because Sigma-Aldrich Company manufactures some products that are extracted from animal matter such as horsemeat and pig livers. Sigma-Aldrich processes approximately thirty to sixty animal matter batches during a typical year. The batch processing involves the use of either solvents or aqueous solutions for extraction. Some of the processes require heating to achieve better extraction or to denature unwanted by-products. The exhaust (odor) is typically controlled by a condenser when solvents are used. Odors generated during aqueous batches are exhausted to ambient air without any controls. According to the Part 70 application, Sigma-

¹⁵ Each emission unit was evaluated at 8,760 hours of uncontrolled annual operation unless otherwise noted.

Aldrich Company has not received any odor complaints. This permit does not impose any additional controls other than the requirements of the above rule.

(5) 10 CSR 10-6.220, *Restriction of Emission of Visible Air Contaminants*

This rule potentially applies to (Broadway Installation – Medical Liquid and Powder Nutrient Manufacture), however, since the PM₁₀ potential emissions from the process units and their associated emission points that produce powder products is 0.01 tons per year, the affected units are considered inherently in compliance with the visible emission requirement. Therefore this rule was not included as a permit condition for 5101.

Other Regulations Not Cited in the Operating Permit or the Above Statement of Basis

Any regulation which is not specifically listed in either the Operating Permit or in the above Statement of Basis does not appear, based on this review, to be an applicable requirement for this installation for one or more of the following reasons:

- (1) The specific pollutant regulated by that rule is not emitted by the installation;
- (2) The installation is not in the source category regulated by that rule;
- (3) The installation is not in the county or specific area that is regulated under the authority of that rule;
- (4) The installation does not contain the type of emission unit which is regulated by that rule;
- (5) The rule is only for administrative purposes.

Should a later determination conclude that the installation is subject to one or more of the regulations cited in this Statement of Basis or other regulations which were not cited, the installation shall determine and demonstrate, to the APCPs satisfaction, the installations compliance with that regulation(s). If the installation is not in compliance with a regulation which was not previously cited, the installation shall submit to the APCP a schedule for achieving compliance for that regulation(s).

Prepared by:

Randy E. Raymond
Operating Permit Unit

Ms. Cheryl Stipsits
EHS Director
Sigma-Aldrich
3050 Spruce Street
St. Louis, MO 63103

RE: Part 70 Operating Permit, Project: 2010-12-049
Response to Comments

Dear Mr. Stipsits

The Missouri Air Pollution Control Program (APCP) has received comments submitted during the public comment period on the draft Part 70 Operating Permit for Sigma-Aldrich. The APCP has revised your draft operating permit in response to all comments received. Enclosed is the APCP's response to these comments and a copy of the revised operating permit which is being submitted to the Environmental Protection Agency (EPA) for their review.

The EPA has 45 days from the receipt of this operating permit to notify the Missouri APCP of any objections. If the EPA has no objections, your operating permit will be issued shortly after this period. If the EPA does have objections, additional changes or revisions may be required to the operating permit to respond to the EPA's comments.

If you have any questions or additional comments, please contact me at the departments' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or by telephone at (573) 751-4817. Thank you for your time and attention.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Randy E. Raymond
Environmental Technician

RER/kjc

Enclosure: Proposed Final Part 70/Title V Operating Permit
Response to Public Comments

c: PAMS File 2010-12-049
St. Louis Regional Office

MEMORANDUM

DATE: March 6, 2013

TO: 2010-12-049 File, Sigma-Aldrich

FROM: Randy E. Raymond, Environmental Technician

SUBJECT: Response to Public Comments

Twenty-four (24) comments were received. All the comments were from U.S. EPA Region VII staff. The comments are addressed in the order of which they appear within the letter(s).

Comment 1: The customary practice of MDNR is to include and specify the regulated air pollutants that make the source major and therefore subject to a Part 70 operating permit in the Installation Description on the permit cover sheet and the Installation Description and Equipment Listing section of the permit. However, the installation description on the cover page of the Sigma-Aldrich—St. Louis draft permit and installation description on page 6 does not indicate the pollutant(s) which create the need for a Part 70 /Title V operating permit. Therefore, EPA recommends MDNR consider listing the major air pollutant(s) in the installation description that makes the source subject to Title V.

Response to Comment: The permit has been changed as a result of this comment.

Comment 2: The Installation Description and Equipment Listing in the draft Part 70 permit for Sigma-Aldrich—St. Louis identifies three (3) separate contiguous properties which make up the St. Louis Production Campus. The sites are identified as "Cherokee Facility," "DeKalb Facility," and "Broadway Facility." However, in the final paragraph of the installation description on page 6, the word "Facility" does not follow the word "Cherokee." For consistency, EPA recommends that MDNR insert the word "Facility" after the word "Cherokee" in two (2) places.

Response to Comment: The permit has not been changed as a result of this comment. EPA did not state the reason for this comment. Generally, comments are reserved for items that affect the legal application of a rule or regulation. EPA did not cite any requirement that this change would affect (although there may be one). It is customary practice that once a descriptive phrase has been used the phrase may be abbreviated such that the original or abbreviated phrases are interchangeable. This is common practice in most documents.

Comment 3: The reporting requirements described within section II. Plant wide Emission Limitations require the permittee to submit an annual certification to EPA Region 7 at 901 North 5th Street, Kansas City, KS 66101. However, effective October 15, 2012, EPA has relocated to 11201 Renner Boulevard, Lenexa, KS 66219. Printed on Recycled Paper Therefore, EPA recommends MDNR modify the EPA address.

Response to Comment: The permit has been changed as a result of this comment.

Comment 4: The introduction to the Monitoring/Record keeping requirements within Visible Emission Sources Permit Condition 1 says: "The permittee will following the monitoring and record keeping requirements listed in 10 CSR 10-6.220 Restriction of Emission of Visible Air Contaminants, starting on page 258." It would appear that the word "following" should be "follow." Therefore, EPA recommends that MDNR change the word "following" to the word "follow."

Response to Comment: The permit has been changed as a result of this comment.

Comment 5: Permit Condition 3 under the Cherokee Facility Miscellaneous Organic Chemical Manufacturing (MON) Group, on pages 21 and 22, indicates that a condenser is used as the control device for the rotary dryer. However, the equipment table associated with the Cherokee Facility MON Group shows an Enclosed Ground Flare as the control device for the rotary dryer. Also, Permit Condition 3 under the Cherokee Facility Miscellaneous Organic Chemical Manufacturing (MON) Group, on page 21, does not include any monitoring requirements to show how the permittee will achieve meeting the emission limitations and collect the required information for completing the record keeping and reporting requirements. EPA recommends that MDNR review this permit condition to determine the actual control device and the applicability for monitoring requirements and modify accordingly.

Response to Comment: The permit has been changed as a result of this comment. The condensers are a part of the process equipment line and not add-on control. These conditions were changed to avoid further confusion.

Comment 6: Permit Conditions 1 and 2 under the Cherokee Facility GGG Group, on page 23, indicates that condensers and caustic scrubbers are used as control devices at all times that batch operations are taking place. However, the equipment table associated with the Cherokee Facility GGG Group shows no control devices associated with the equipment cited within these two (2) permit conditions. Additionally, Permit Condition 1, and Permit Condition 2, under the Cherokee Facility GGG Group do not include monitoring requirements to show how the emission limitations are being achieved and the how the permittee is collecting required information to achieve the reporting requirements. Therefore, EPA recommends MDNR modify the equipment table to match the emission limitation and record keeping requirements and determine the applicability of monitoring requirements and include them in these permit conditions accordingly.

Response to Comment: The permit has been changed as a result of this comment. The condensers are a part of the process equipment line and not add-on control. These conditions were changed to avoid further confusion. The scrubbers are used infrequently and not to comply with any particular emission limit.

Comment 7: Permit Condition 3 under the Cherokee Facility GGG Group, on page 24, sets an emission limit of no more than 0.21 tons of VOC and 0.21 tons of HAPs during any consecutive 12-month period of time. The record keeping requires the permittee to keep VOC and HAP records including a calculated total for any consecutive 12-month period of time. However, there is no requirement describing the monitoring necessary to show compliance with the emission limitations and for the development of records. Additionally, the record keeping requirement also says "If production in the future increases where more than 0.21 tons of VOC's or HAP's are being emitted in a 12-month period, then the permittee shall provide records to show VOC's or HAP's emissions in a 12-month period for 3FI-0100." This statement seems to allow the permittee to exceed their emission limit of 0.21 tons per 12-month consecutive period and the only consequence is to provide records. EPA finds that an exceedence of a permit condition without a compliance consequence out of the ordinary and recommends that MDNR revisit this permit condition and provide additional discussion as to its acceptability.

Response to Comment: The permit has been changed as a result of this comment. EPA is correct that the wording was not clear. The department is allowing the permittee to demonstrate compliance by showing that the whole group, that 3FI-0100 is a part of, is below the emission limit for 3FI-0100. However, should the whole group show non-compliance, then the permittee may show that 3FI-0100 alone is in compliance.

Comment 8: The Emission Limitation in Permit Condition 5 under the Cherokee Facility GGG Group on page 25 appears to have a mixed type font size and EPA recommends that MDNR use a consistent font size throughout.

Response to Comment: The permit has been changed as a result of this comment.

Comment 9: The Emission Limitation 1) in Permit Condition 1 under the General Equipment Throughout Cherokee Facility (excluding T Building) includes a regulatory reference that is confusing, as written. EPA recommends that MDNR consider revising the wording to say "If the permittee complies with either 40 CFR 63, subpart H or subpart UU, then permittee may elect to comply with the provisions of (a) through (e) as an alternative to the referenced provision in subpart H or subpart UU."

Response to Comment: The permit has been changed as a result of this comment.

Comment 10: Emission Limitation 1) in Permit Condition 1 under the Cherokee Facility Boilers (page 30) says the maximum allowable particulate matter emission rate is 0.21 pounds per MMBtu of heat input. However, Attachment F to the draft permit, which is a 10-CSR 10-6.405 compliance demonstration indicates the calculated limits for new sources of PM10 from indirect heating sources is 0.22 lbs/MMBtu. Also, Attachments E and F to the draft Part 70 permit which are used to demonstrate compliance with 10 CSR 10-6.405 and not referenced in this or any other permit condition. EPA recommends that MDNR should review and ensure that the permit condition and the attached demonstration include the same emission limitation. EPA also recommends that MDNR include a reference to Attachments E and F or remove the attachments, as necessary.

Response to Comment: The permit was changed as a result of this comment. Since all of the permittee's applicable units are limited to natural gas, the permittee is exempt from the requirements of the rule. The emission rate limitation has been removed along with Attachments E and F. However, non-referenced attachments need not be removed if the attachments provide additional, general information regarding the permit and the reviewer determines that they should remain. Also, there is no harm including non-referenced attachments, provided they do not cause confusion.

Comment 11: The Emission Limitation of Permit Condition 2 under the Cherokee Facility Boilers includes a citation to [II. A]. This permit limitation is the only one with a citation and the citation is the only included in the draft Part 70 permit. Additionally, it is confusing as to where the citation [II. A.] is being referenced. EPA recommends that MDNR either clarify the source of the citation [II.A.] or delete the citation.

Response to Comment: The citation has been removed.

Comment 12: Emission Limitation 2) of Permit Condition 1 under 3GEN-0015 on page 31 includes a reference which says "subject to this subpart," following the words stationary CI ICE. EPA contends that this reference is unnecessary and recommends that MDNR remove the words "subject to this subpart."

Response to Comment: The permit was changed as a result of this comment.

Comment 13: Emission Limitation 4) of Permit Condition 1 under 3GEN-0015 on page 32 includes a reference to "Paragraphs (a) and (b) of this section." This is confusing, as there are no paragraphs (a) and (b) shown. It appears that this reference might be better stated as "Emission Limitations 2) and 3) above." EPA recommends that MDNR review and clarify the reference in Emission Limitation 4).

Response to Comment: The permit was changed as a result of this comment.

Comment 14: The Monitoring/Record keeping requirement in Permit Condition 1 under Paint Spray Booth 3501 on page 32 references the "paint spray booths" at the Dekalb installation. However, Paint Spray Booth 3501 is located at the Cherokee Facility. Additionally, Attachment G is included with this draft Part 70 permit as an example of the record keeping sheet that may be used for the record keeping requirements for Permit Condition 1501 and 3501. However, there is no reference included in this permit condition to Attachment G. EPA recommends that MDNR correct the facility reference to show "Cherokee Facility" and not Dekalb installation and consider including a reference to Attachment G as an example of the record keeping required for this permit condition.

Response to Comment: The permit was changed as a result of this comment. The reference has been changed from Dekalb to Cherokee. Attachment G has been changed, but remains a non-referenced attachment. We believe that provide pertinent and valuable information whether it is referenced or not.

Comment 15: Permit Condition 2 under General Equipment Throughout Cherokee Facility T-West Building on page 35 appears to have been included pursuant to the same requirements as Permit Condition 2 under the Miscellaneous Organic Chemical Manufacturing (MON) Group included on page 21. However, the emission limitations and the monitoring/record keeping requirements in the two (2) permit conditions are not worded the same. Also, Permit Condition 2 under General Equipment Throughout Cherokee Facility T-West Building indicates that condensers are included as control devices, however, the equipment table for the General Equipment Throughout Cherokee Facility T-West Building indicates that Enclosed Ground Flare is the control device. EPA recommends that MDNR review these two (2) permit conditions; Permit Condition 2 on page 21; and Permit Condition 2 on page 35 for consistent wording and correct the control device reference in Permit Condition 2 on page 35.

Response to Comment: The permit was changed as a result of this comment. The control device references have not been changed, because they remain accurate. The reference in the emission limitation to condensers is not because the condensers are control devices, but because they are actually a part of the process line, and are inherent to the process.

Comment 16: Permit Condition 5 under the Dekalb Facility Miscellaneous Organic Chemical Manufacturing (MON) Group on page 40 indicates that condensers are used as control devices to meet the emission limitations. However, the equipment table included with the Dekalb Facility Miscellaneous Organic Chemical Manufacturing (MON) Group does not list a control device for either 1RT-0025 or 1RT-0026. Therefore, EPA recommends that MDNR add the control devices to the equipment table.

Response to Comment: The permit was not changed as a result of this comment. The reference in the emission limitation to condensers is not because the condensers are control devices, but because they are actually a part of the process line, and are inherent to the process.

Comment 17: Monitoring/Record keeping requirement 1) in Permit Condition 2 under the General Equipment Throughout K-Bldg. and BC Bldg. as shown on page 42 references an Attachment I; Sample of Batch Record keeping on page 276. However, Attachment I, Sample of Batch Record keeping is included as page 279. EPA recommends that MDNR correct the page reference.

Response to Comment: The permit was changed as a result of this comment.

Comment 18: Attachment G to the draft Part 70 permit is included as, an example of a record keeping sheet that may be used for the record keeping requirements for Permit Conditions 1501 and 3501. However, the Monitoring/Record keeping requirements in Permit Condition 3 under the Dekalb Facility Paint Spray Booths (1501) on page 43 does not include any reference to Attachment G. Therefore, EPA recommends that MDNR include a reference to Attachment G within this permit condition.

Response to Comment: The permit was not changed as a result of this comment. The reference has been changed from Dekalb to Cherokee. Attachment G has been changed, but remains a non-referenced attachment. We believe that provide pertinent and valuable information whether it is referenced or not.

Comment 19: The introduction to section III. Emission Unit Specific Emission Limitations says "The installation shall comply with each of the following emission limitations. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued." The recent customary practice of MDNR has been to provide the regulatory citation at the end of each specific permit requirement and to incorporate by reference (IBR) entire regulatory requirements where applicable. However, this draft Part 70 permit includes no references to the appropriate regulatory sections. Instead, the draft permit incorporates one hundred ninety-one (191) pages of the Code of Federal Regulations (CFR), included as Section IV. Endnotes; which addresses 40 CFR Part 63 Subpart FFFF and 40 CFR Part GGG. EPA recommends that MDNR reconsider this approach of including the Code of Federal Regulations within an operating permit in lieu of the incorporation of regulatory citations and appropriate incorporation by reference.

Response to Comment: The permit was not changed as a result of this comment. EPA has not cited any deficiencies with the permit in this comment. EPA, instead refers to their preferences as a justification for changing a permit that has taken several years to develop.

Comment 20: 10 CSR 10-6.065(6)(C)3 Compliance Requirements; 10 CSR 10-6.065(6)(C)8 Operational Flexibility; and 10 CSR 10-6.065(6)(C)9 Off-Permit Changes all require the permittee to submit information to the EPA. The draft Part 70 permit includes the EPA address as 901 North 5th Street, Kansas City, KS 66101. Effective October 15, 2021, EPA relocated to 11201 Renner Boulevard, Lenexa, KS 66219. Therefore, EPA recommends that MDNR change EPA's address.

Response to Comment: The permit was changed as a result of this comment. These references have been corrected.

Comment 21: 21) Draft Part 70 operating permit includes Attachments E, G, H, J, K, L, N and O which are not referenced in any of the permit conditions. Additionally, Attachment H includes a reference to "Cherokee Bio-Buffers" which are not mentioned in any of the "Cherokee Facility" equipment lists. It would appear that if these attachments are important enough to incorporate into the draft operating permit, they should be referenced where applicable. Therefore, EPA recommends that MDNR review the attachments and insert references in the appropriate permit conditions. Also, the reference to Cherokee Bio-Buffers should be tied to the Cherokee Facility equipment list.

Response to Comment: The permit was changed as a result of this comment. However, non-referenced attachments need not be removed if the attachments provide additional, general information regarding the permit and the reviewer determines that they should remain. Also, there is no harm including non-referenced attachments, provided they do not cause confusion.

Comment 22: The Statement of Basis, on page SB-4 includes a section titled New Source Performance Standards (NSPS) Applicability and the statement of basis indicates "none." Directly following in the statement of basis on page SB-4, is a section titled NSPS Applicability. In this NSPS Applicability section, the draft permit addresses the applicability of 40 CFR Part 60, Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units; 40 CFR Part 60, Subpart K, 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; and 40 CFR Part 60 Subpart Kb, Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) after July 23, 1984. Finally, the draft Part 70 operating permit includes Emission Unit Specific Emission Limitations for 3GEN-00115 and Dekalb Emergency Generator. Each of these equipment items have a Permit Condition 1 which cites its applicability to 40 CFR Part 60, Subpart IIII; Standards of 5 Performance for Stationary Compression Ignition Internal Combustion Engines. However, reference to 40 CFR Part 60, Subpart IIII; Standards of Performance for Stationary Compression Ignition Internal Combustion Engines is not included in the NSPS Applicability section nor is there any applicability discussion. EPA recommends that MDNR reconsider their presentation within the Statement of Basis as to why there are no New Source Performance Standards (NSPS) Applicability requirements yet there are NSPS Applicability requirements. Also, EPA recommends that MDNR include an applicability discussion regarding the Standards of Performance for Stationary Compression Ignition Internal Combustion Engines in either the New Source Performance Standards (NSPS) Applicability section or the NSPS Applicability section.

Response to Comment: The permit was changed as a result of this comment. The extraneous NSPS section was removed and a footnote was added.

Comment 23: The Statement of Basis, page SB-5 includes a section titled Maximum Achievable Control Technology (MACT) Applicability. MDNR identifies 40 CFR Part 63 Subpart GGG, National Emissions Standards for Pharmaceuticals Production; 40 CFR Part 63, Subpart T, National Emission Standards for Halogenated Solvent Cleaning; 40 CFR Part 63, Subpart PPP, National Emission Standards for Polyether Polyols Production; 40 CFR Part 63, Subpart MMM, National Emission Standards for Pesticide Active Ingredient Production and 40 CFR Part 63, Subpart B, Requirements for Control Technology Determinations for Major Sources in Accordance with Clean Air Act Sections, Sections 112(g) and 112(j). However, MDNR has not identified and has not provided an applicability discussion associated with 40 CFR Part 63, Subpart FFFF, National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing. Draft Part 70 permit for Sigma-Aldrich—St. Louis includes a group of emission points at the Cherokee Facility called "Miscellaneous Organic Chemical Manufacturing (MON) Group and a group of emission points at the Dekalb Facility also called Miscellaneous Chemical Manufacturing (MON) Group. The permit conditions presented in the draft permit for public comment within these two (2) MON Groups cite 40 CFR Part 63, subpart FFFF and are therefore applicable MACT requirements which should be included in the Statement of Basis. Therefore, EPA recommends that MDNR should add 40 CFR Part 63, Subpart FFFF, National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing; along with an applicability discussion, in the Statement of Basis.

Response to Comment: The permit was changed as a result of this comment. A footnote was added indicating that not all applicable standards are repeated in the statement of basis, but only issues that need clarification. For example, discussions would be included where a MACT appears to apply, but has not been included in the permit. But, on the other hand, where a MACT has been included in the permit and with considerable detail, then no discussion is necessary in the statement of basis.

Comment 24: In the Compliance Assurance Monitoring (CAM) Applicability section of the Statement of Basis, MDNR states that "40 CFR Part 64 is not applicable because none of the pollutant specific emission units use a control device to achieve compliance with a relevant standard." However, Permit Condition 3 for the Cherokee Facility MON Group requires the use of condensers or enclosed ground flare at all times to meet VOC emission limit of 16.36 tpy and methanol emission limit of 9.42 tpy. Also, Permit Conditions 1 and 2 under the Cherokee Facility GGG Group requires condensers and caustic scrubbers at all times to meet VOC emission limit of 17.9 tpy and 5.35 tpy of HAP's. Finally, Permit Condition 5 for the MON Group at the DeKalb Facility requires the use of condensers to meet emission limits of VOC's and HAP's. These examples of control device requirements to meet permit conditions appear to contradict the statement of basis. EPA recommends that MDNR reconsider the applicability determination in the CAM Applicability section of the Statement of Basis.

Response to Comment: The permit was changed as a result of this comment. The City of St. Louis made reference in their construction permits to condensers as "add-on" control, which they are not. The condensers are a part of the process and must be included in the potential to emit calculations. Therefore, control devices as not being used to comply and CAM does not apply.

RER/kjc