



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:** OP2010-099  
**Expiration Date:** AUG 30 2015  
**Installation ID:** 163-0002  
**Project Number:** 2005-06-045

**Installation Name and Address**

Hercules, Inc., Missouri Chemical Works  
11083 Highway D  
Louisiana, MO 63353  
Pike County

**Parent Company's Name and Address**

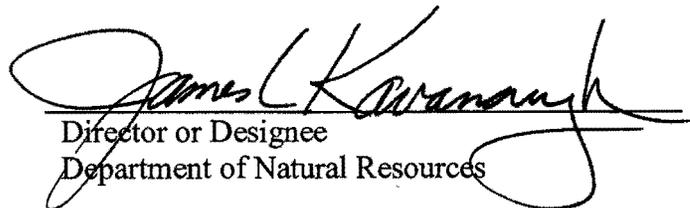
Ashland Inc.  
5200 Blazer Parkway  
Dublin, OH 43017

**Installation Description:**

The installation, Hercules, Inc., Missouri Chemical Works, operates four chemical manufacturing process units (CMPU) and a coal/oil fired power plant to produce process steam for operations, as well as provide for most of their electricity. The power plant will be permitted separately from the CMPUs. This permit addresses the chemical manufacturing at the installation. The four CMPUs located at the installation produce Formaldehyde, Pentaerythritol, Ureaform fertilizer, and Synthetic Lubricants. The HAPs associated with the CMPUs are Methanol, Formaldehyde, and Acetaldehyde.

AUG 31 2010

Effective Date

  
Director or Designee  
Department of Natural Resources

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## I. Installation Description and Equipment Listing

### INSTALLATION DESCRIPTION

The installation, Hercules, Inc., Missouri Chemical Works, operates four chemical manufacturing process units (CMPU) and a coal/oil fired power plant to produce process steam for operations, as well as provide for most of their electricity. The power plant will be permitted separately from the CMPUs. This permit addresses the chemical manufacturing at the installation. The four CMPUs located at the installation produce Formaldehyde, Pentaerythritol, Ureaform fertilizer, and Synthetic Lubricants. The HAPs associated with the CMPUs are Methanol, Formaldehyde, and Acetaldehyde.

Reported Air Pollutant Emissions, tons per year								
Year	Particulate Matter ≤ Ten Microns (PM <sub>10</sub> )	Particulate Matter ≤ 2.5 Microns (PM <sub>2.5</sub> )	Sulfur Oxides (SO <sub>x</sub> )	Nitrogen Oxides (NO <sub>x</sub> )	Volatile Organic Compounds (VOC)	Carbon Monoxide (CO)	Lead (Pb)	Hazardous Air Pollutants (HAPs)
2008	123.73	19.69	5,586.16	912.16	115.70	54.23	0.02	23.67
2007	128.00	18.42	5,940.56	1,006.81	99.19	57.35	0.02	58.92
2006	124.29	18.24	5,697.32	956.73	107.76	55.58	0.02	55.85
2005	123.65	18.14	6,881.18	971.76	106.18	56.66	0.02	25.45
2004	138.30	23.76	7,204.42	996.67	633.98	57.28	0.03	58.37

Note: Reported Air Pollutant Emissions were taken from the Emission Inventory Questionnaires for Installation ID 163-0002 which includes emissions for the chemical manufacturing processes and the installation's powerhouse.

### 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.

Formaldehyde (Fa) CMPU: Table 1 is a list of emission points affiliated with the Fa CMPU and subject to the Hazardous Organic NESHP (HON). The list also shows HON grouping, where applicable, and identifies control equipment.

Table 1. Formaldehyde Chemical Manufacturing Process Unit (Fa CMPU)

Emission Unit No.	Emission Unit Description	Control Device Code/Description	HON Group Classification
EP-13	Methanol Storage Tank #722	CD20/ Waste Heat Boiler	1
EP-14	Methanol Storage Tank #720		
EP-15	Methanol Storage Tank #721		
EP-16	Formaldehyde Absorber		
EP-17	Formaldehyde Feed/Reflux System (Drum Vent)		
EP-18	Formaldehyde Tank #1	CD20/ Waste Heat Boiler	2
EP-19	Formaldehyde Tank #2		
EP-20	Formaldehyde Tank #3		
EP-21	Formaldehyde Tank #4		
EP-22	Formaldehyde Tank #6		
EP-23	Formaldehyde Tank #7		
EP-24	Formaldehyde Tank #8		
EP-25	Formaldehyde Truck Loading Rack		

Pentaerythritol (PE) CMPU: Table 2 lists emission points affiliated with the PE CMPU and subject to the HON. The list also shows HON grouping, where applicable, and identifies control equipment. Batch process vents, including the PE reactor vent, are not subject to requirements for external control equipment under the HON. The installation has elected to use a wet scrubber (CD-8) to control emissions from the PE reactor.

Table 2. Pentaerythritol Chemical Manufacturing Process Unit

Emission Unit No.	Emission Unit Description	Control Device Code/Description	HON Group Classification
EP-31	Distillate Tank #221		N/A
EP-32	FA Prep Tank #105-1		N/A
EP-33	Tech PE Reactor R-101	CD8/Ejector Venturi With Motive Nozzle	N/A
EP-34	Precipitator Tank #102-1		N/A
EP-35	Precipitator Tank #102-2		N/A
EP-36	Knock Down Tank #104-1		N/A
EP-37	Knock Down Tank #104-2		N/A
EP-38	Hold Tank #133		N/A
EP-39	Evaporation Filter Feed Tank #105-2		N/A
EP-40	Evaporation Filter Feed Tank #107		N/A
EP-90	3 <sup>rd</sup> Effect Evaporator Wastewater Discharge	Pollution Prevention	1

Ureaform (UF) CMPU: Production of Ureaform, a nitrogen based fertilizer, occurs in a batch reactor. Raw materials are added to the reactor, and one of the ingredients includes formaldehyde. The UF CMPU is regulated by the Miscellaneous Organic NESHAP (MON) because of the formaldehyde used. An applicability determination concluded that the HAP emissions from the batch reactor are below the thresholds regulated by MON, however, the transfer piping and equipment that supplies formaldehyde to the reactor are regulated by the MON and require leak detection and repair provisions.

Emission Unit #	Description of Emission Unit
EP-48	Tech Dryer Baghouse Exhaust (Pentaerythritol)
EP-60	Mono PE Dryer Rotoclone Stack
EP-61	Di PE Dryer Vent Stack
EP-64	Dowtherm Boiler
EP-70	Fuller Dryer Dust Collector Discharge
EP-71	Ureaform Product Handling/Recovery
EP-72	Ureaform Bulk Loading Fugitive Emissions
EP-86	Waste Heat Boiler
EP-87	Methanol Vaporizers
EP-93	Mono Overs Grinder
EP-94	Mono PE Bagging
EP-96	Urea Silo
EP-100	305 hp Emergency Water Pump Diesel Engine
EP-113	Dowtherm Boiler

Powerhouse Emission Units:

Emission Unit No.	2008 EIQ Reference No.	Emission Unit Description	Control Device Code/Description
-	EP-01	Coal Storage and Handling	-
EU0270	EP-02	Powerhouse - Boiler #1	CD1/Multicyclone and CD2/ESP
EU0280	EP-03	Powerhouse - Boiler #2	CD3/Multicyclone and CD4/ESP
EU0290	EP-04	Powerhouse - Boiler #3	CD5/Multicyclone and CD6/ESP
	EP-81	Ash Pile	

Note: The Powerhouse is being permitted in a separate Part 70 Operating Permit. The emission units associated with the Powerhouse do have limitations, but they are not listed within this permit.

**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.

Description of Emission Source

- EP-26 Methanol Fugitive Emissions
- EP-27 Formaldehyde Fugitive Emissions
- EP-28 Acetaldehyde Fugitive Emissions
- EP-29 Formic Acid Storage Tank
- EP-41 Crude Vacuum Crystalizer Feed Tank No. 117
- EP-42 Crude Vacuum Crystalizer No. 118-1
- EP-43 Crude Vacuum Crystalizer No. 118-2
- EP-44 Crude Slurry Tank No. 119-1
- EP-45 Crude Slurry Tank No. 119-2
- EP-46 North Crude Belt Filter Vent
- EP-47 South Crude Belt Filter Vent
- EP-49 Tech Pe Elevator/Silo Fugitive
- EP-50 Tech Dryer Bagger Cyclone Separator
- EP-51 PE200 Grinder Dust Collector Discharge
- EP-52 CML Tank No. 201
- EP-53 Recovered PE Crystallizer #1
- EP-54 Recovered PE Crystallizer #2
- EP-55 PE Recovery Dissolver Tank #211
- EP-56 Waste Liquor Storage
- EP-57 Recovered PE Storage
- EP-58 Oslo Crystallizer Condenser
- EP-59 Sodium Formate Rotoclone
- EP-62.1 Ester Production And Separation Process
- EP-63 Synlube PE Charge System Baghouse
- EP-65 Dowtherm A Fugitive Emissions
- EP-66 Ureaform Reactor Vent
- EP-68 Sargent Dryer North Exhaust
- EP-69 Sargent Dryer South Exhaust
- EP-73 Ethylene Glycol Storage Tank
- EP-74 Ureaform Scrap Pile (Covered)
- EP-75 Chlorine Fugitive Emissions
- EP-76 Wastewater Treatment VOC Fugitives

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EP-79	Fluidized Polymer Suspension
EP-80	Imhoff Ozonation Unit
EP-82	Sodium Formate Product Bin
EP-83	Gasoline Storage Tank
EP-84	Diesel Storage Tank
EP-85	Methanol Barge Unloading
EP-88	Small Formic Acid Tank No. 1
EP-89	Small Formic Acid Tank No.2
EP-91	Tech PE Sweco-Enclosed
EP-92	Di PE Transfers (3)
EP-95	Sodium Formate Conveyor
EP-97	Urea Scale Tank
EP-98	Cooling Towers
EP-99	Filter Plant Gasoline Engines (3)
EP-101	Used Oil Storage Tanks
EP-102	Parts Washer
EP-103	Maintenance Welding
EP-104	PE Packaging
EP-105	Small Deisel Storage
EP-106	Used Oil Bulk Storage Tanks
EP-107	Ureaform Product Storage Tank A
EP-108	Ureaform Product Storage Tank B
EP-109	Ureaform Product Storage Tank C
EP-110	Ureaform Product Storage Tank D
EP-111	Ureaform Product Storage Tank E
EP-112	Ester Production And Separation Process (New Kettle And Filter Feed Tank)
EP-114	Premix Acid Tank #1
EP-115	Premix Acid Tank #2
EP-116	Fatty Acid Storage Tank #1
EP-117	Fatty Acid Storage Tank #2
EP-118	Product Tank
EP-119	Synlube Product Tanks
EP-120	Cooling Water Tower
EP-121	Synlube PE Charge System Baghouse

## 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.

### PERMIT CONDITION PW001

10 CSR 10-6.060 Construction Permits Required  
Construction Permit No. 1194-020A, Issued November 5, 1997

#### Special Condition:

Special Condition No. 1: If the presence of PM<sub>10</sub> in the ambient air exists in quantities and durations that directly or proximately cause or contribute to injury to human, plant, or animal life or health, or to property, or that unreasonably interferes with the enjoyment of life or the use of property, the Director may require the permittee to submit a corrective action plan within ten (10) days adequate to timely and significantly mitigate the emission of PM<sub>10</sub>. The permittee shall implement any such plan immediately upon its approval by the Director. Failure to either submit or implement such a plan shall be a violation of this permit.

### PERMIT CONDITION PW002

*General HON Requirements - Formaldehyde CMPU and Pentaerythritol CMPU*  
10 CSR 10-6.075 Maximum Achievable Control Technology Regulations  
40 CFR Part 63, Subpart F - National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry - Startup, Shutdown and Malfunction Plan  
40 CFR Part 63, Subpart A - General Provisions – Operation and Maintenance Requirements

#### Emission Limitation:

1. Operation and maintenance requirements established pursuant to section 112 of the Act are enforceable independent of emissions limitations or other requirements in relevant standards. [40 CFR 63.6(e)(1)(iii)]
2. During start-ups, shutdowns, and malfunctions when the requirements of this subpart F, subpart G, and/or subpart H of this part do not apply pursuant to paragraphs (a)(1) through (a)(3) of §63.102, the owner or operator shall implement, to the extent reasonably available, measures to prevent or minimize excess emissions to the extent practical. For purposes of this paragraph, the term "excess emissions" means emissions in excess of those that would have occurred if there were no start-up, shutdown, or malfunction and the owner or operator complied with the relevant provisions of this subpart F, subpart G, and/or subpart H of 40 CFR 63. The measures to be taken shall be identified in the applicable start-up, shutdown, and malfunction plan, and may include, but are not limited to, air pollution control technologies, recovery technologies, work practices, pollution prevention, monitoring, and/or changes in the manner of operation of the source. Back-up control devices are not required, but may be used if available. [40 CFR 63.102(a)(4)]
3. The permittee shall develop and implement a written Startup, Shutdown, and Malfunction Plan that describes, in detail, procedures for operating and maintaining the Formaldehyde CMPU and

Pentaerythritol CMPU including air pollution equipment during periods of startup, shutdown, and malfunction during which excess emissions as defined in 40 CFR 63.102(a)(4) are expected to occur. [40 CFR 63.6(e)(3)(i)]

4. During periods of startup, shutdown, and malfunction, the owner or operator of an affected source shall operate and maintain such source (including associated air pollution control equipment) in accordance with the procedures specified in the startup, shutdown, and malfunction plan developed under 40 CFR 63.6(e)(3)(i). [40 CFR 63.6(e)(3)(ii)]
5. To satisfy the requirement of a startup, shutdown, and malfunction plan, a standard operating procedure or OSHA plan may be used, provided that it meets all the startup, shutdown, and malfunction requirements and are made available for inspection when requested by the administrator. [40 CFR 63.6(e)(3)(vi)]
6. If the startup, shutdown, and malfunction plan fails to address or inadequately addresses an event during which excess emissions (as defined in §63.102(a)(4)) occurred that meets the characteristics of a malfunction but was not included in the plan, the permittee shall revise the plan within 45 days after the event to include detailed procedures for operating and maintaining the source during similar malfunction events and a program of corrective action for similar malfunctions. [40 CFR 63.6(3)(viii)]

**Monitoring:**

1. At all times, including periods of startup, shutdown, and malfunction, owners or operators shall operate and maintain any affected source, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required by all relevant standards. [40 CFR 63.6(e)(1)(i)]
2. Malfunctions shall be corrected as soon as practicable after their occurrence in accordance with the startup, shutdown, and malfunction plan required in §63.6(e)(3) of this section. [40 CFR 63.6(e)(1)(ii)]
3. Determination of whether acceptable 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 [including the startup, shutdown, and malfunction plan required in 40 CFR 63.6 (e)(3)], review of operation and maintenance records, and inspection of the source. [40 CRR 63.6(e)(2)]

**Recordkeeping:**

1. The permittee shall retain the written startup, shutdown, and malfunction plan for the life of the formaldehyde CMPU and pentaerythritol CMPU or until the CMPUs are no longer subject to 40 CFR 63 Subpart A, and shall keep the plan readily available for inspection. In addition, if the plan is revised the permittee shall retain previous (i.e., superseded) version of the plan for a period of 5 years after each revision of the plan. [40 CFR 63.6(e)(3)(v)]
2. The permittee shall record and retain records of the occurrence and duration of each startup, shutdown, or malfunction of operation of the CMPUs during which excess emissions (as defined in 40 CFR 63.102(a)(4)) occur. [40 CFR 63.6(e)(3)(iii) & 63.103(c)(2)(i)]
3. For each startup, shutdown, and malfunction of operation during which excess emissions (as defined in §63.102(a)(4)) occur, the permittee shall keep records that demonstrate that the procedures specified in the source's start-up, shutdown, and malfunction plan were followed, and documentation of actions taken that are not consistent with the plan. For example, if a start-up, shutdown, and malfunction plan includes procedures for routing a control device to a backup control device (e.g., the incinerator for a halogenated stream could be routed to a flare during periods when the primary

control device is out of service), records must be kept of whether the plan was followed. These records may take the form of a “checklist,” or other form of recordkeeping that confirms conformance with the start-up, shutdown, and malfunction plan for the event. [40 CFR 63.6(e)(3)(iii) & 63.103(c)(2)(ii)]

**Reporting:**

1. Pursuant to §63.10(d)(5)(i), if actions taken by an owner or operator during a startup, shutdown, or malfunction of an affected source (including actions taken to correct a malfunction) are consistent with the procedures specified in the source's startup, shutdown, and malfunction plan [see 40 CFR 63.6(e)(3)], the owner or operator shall state such information in a startup, shutdown, and malfunction report. Reports shall only be required if a startup, shutdown, or malfunction occurred during the reporting period. The startup, shutdown, and malfunction report shall consist of a letter, containing the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy, that shall be submitted to the Administrator semiannually. [40 CFR 63.10(d)(5)(i)]
2. The semi-annual start-up, shutdown and malfunction reports may be submitted semiannually no later than 60 calendar days after the end of each 6-month period instead of the schedule specified in § 63.10(d)(5)(i) of subpart A. [40 CFR 63.152(c)(1) & (d)(1)]
3. If actions taken during a SSM event are not consistent with the SSM plan, then an Immediate SSM report is due including phoning or faxing the Air Pollution Control Program within 2 days of the actions and a follow-up letter within 7 days, as specified by the reporting procedures listed in 40 CFR 63.10(d)(5)(ii).

**PERMIT CONDITION PW003**

*General HON Requirements - Formaldehyde CMPU and Pentaerythritol CMPU*

10 CSR 10-6.075 Maximum Achievable Control Technology Regulations

40 CFR Part 63, Subpart F – National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry - General Standards, General compliance, reporting, and recordkeeping provisions

**Emission Limitation:**

1. Owners and operators of sources subject to this subpart shall comply with the requirements of subparts G and H of this part. [§63.102(a)]
  - a) The provisions set forth in this subpart F and G of 40 CFR Part 63 shall apply at all times except during periods of start-up or shutdown (as defined in 40 CFR 63.101 of Subpart F), malfunction, or non-operation of the chemical manufacturing process unit (or specific portion thereof) resulting in cessation of the emissions to which this subpart F and subpart G of 40 CFR Part 63 apply. However, if a start-up, shutdown, malfunction or period of non-operation of one portion of a chemical manufacturing process unit does not affect the ability of a particular emission point to comply with the specific provisions to which it is subject, then that emission point shall still be required to comply with the applicable provisions of this subpart F and subpart G or 40 CFR Part 63 during the start-up, shutdown, malfunction or period of non-operation. For example, if there is an overpressure in the reactor area, a storage vessel in the chemical manufacturing process unit would still be required to be controlled in accordance with §63.119 of 40 CFR Part 63, Subpart G. Similarly, the degassing of a storage vessel would not affect the ability of a process vent to meet the requirements of §63.113 of subpart G of 40 CFR Part 63. [40 CFR 63.102(a)(1)]

- b) The provisions set forth in subpart H of 40 CFR Part 63 shall apply at all times except during periods of start-up or shutdown, as defined in §63.101(b) of this subpart, malfunction, process unit shutdown (as defined in §63.161 of subpart H of this part), or non-operation of the chemical manufacturing process unit (or specific portion thereof) in which the lines are drained and depressurized resulting in cessation of the emissions to which subpart H of this part applies. [40 CFR 63.102(a)(2)]
- c) The owner or operator shall not shut down items of equipment that are required or utilized for compliance with the provisions of this subpart F, subpart G or H of this part during times when emissions (or, where applicable, wastewater streams or residuals) are being routed to such items of equipment, if the shutdown would contravene requirements of this subpart F, subpart G or H of this part applicable to such items of equipment. This paragraph does not apply if the item of equipment is malfunctioning, or if the owner or operator must shut down the equipment to avoid damage due to a contemporaneous start-up, shutdown, or malfunction of the chemical manufacturing process unit or portion thereof. [40 CFR 63.102(a)(3)]
2. The requirements in subparts F, G, and H of 40 CFR Part 60 are Federally enforceable under Section 112 of the Act on and after the dates specified in 40 CFR 63.100(k) of this subpart. [40 CFR 63.102(d)]

**Monitoring/Recordkeeping:**

1. Each owner or operator of a source subject to subparts F, G, and H of 40 CFR Part 63 shall keep copies of all applicable reports and records required by subparts F, G, and H of 40 CFR Part 63 for at least 5 years; except that, if subparts G or H require records to be maintained for a time period different than 5 years, those records shall be maintained for the time specified in subpart G or H of this part. [40 CFR 63.103(c)]
2. All applicable records shall be maintained in such a manner that they can be readily accessed. The most recent 6 months of records shall be retained on site or shall be accessible from a central location by computer or other means that provides access within 2 hours after a request. The remaining four and one-half years of records may be retained offsite. Records may be maintained in hard copy or computer-readable form including, but not limited to, on paper, microfilm, computer, floppy disk, magnetic tape, or microfiche. [40 CFR 63.103(c)(1)]

**Reporting:**

1. All reports required under subparts F, G, and H of 40 CFR Part 63 shall be sent to the Air Pollution Control Program and a copy shall be sent to the U.S. EPA's Region VII office in Kansas City. [40 CFR 63.10(a)(ii)]
2. Requests for permission to use an alternative means of compliance as provided for in §63.102(b) of this subpart and application for approval of a nominal efficiency as provided for in §63.150(i)(1) through (i)(6) of subpart G of this part shall be submitted to the Director of the EPA Office of Air Quality Planning and Standards rather than to the Administrator or delegated authority. [40 CFR 63.103(d)]

**PERMIT CONDITION PW004**

*Maintenance Waste Water Requirements - Formaldehyde CMPU and Pentaerythritol CMPU*  
10 CSR 10-6.075 Maximum Achievable Control Technology Regulations  
40 CFR Part 63, Subpart F – National Emission Standards for Organic Hazardous Air Pollutants From  
the Synthetic Organic Chemical Manufacturing Industry - Maintenance Waste Water Requirements

**Emission Limitation:**

1. The following requirements apply to maintenance wastewaters containing those organic HAP's listed in table 9 of 40 CFR Part 63 Subpart G: [40 CFR 63.105(a)]
  - a) The permittee shall prepare a description of maintenance procedures for management of wastewaters 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: [40 CFR 63.105(b)]
    - i) Specify the process equipment or maintenance tasks that are anticipated to create wastewater during maintenance activities.
    - ii) Specify the procedures that will be followed to properly manage the wastewater and control organic HAP emissions to the atmosphere; and
    - iii) Specify the procedures to be followed when clearing materials from process equipment.
  - b) The Permittee shall modify and update the information required by §63.105(b) as needed following each maintenance procedure based on the actions taken and the wastewaters generated in the preceding maintenance procedure. [40 CFR 63.105(c)]
  - c) The permittee shall implement the procedures described in §63.105(b) and §63.105(c) as part of the start-up, shutdown, and malfunction plan required under §63.6(e)(3) of subpart A. [40 CFR 63.105(d)]

**Monitoring/Recordkeeping:**

The permittee shall maintain a record of the information required by 40 CFR 63.105(b) and 40 CFR 63.105(c) as part of the start-up, shutdown, and malfunction plan required under 40 CFR 63.6(e)(3) of subpart A. [40 CFR 63.105(e)]

**Reporting:**

The permittee shall report any deviations from the emission limitation, monitoring/recordkeeping, and reporting requirements of this permit condition in the semi-annual monitoring report and compliance certification required by Section V of this permit.

**PERMIT CONDITION PW005**

*General Standards for Equipment Leaks in the Formaldehyde CMPU, Pentaerythritol CMPU, and Ureaform CMPU*  
10 CSR 10-6.075 Maximum Achievable Control Technology Regulations  
40 CFR Part 63, Subpart H – National Emission Standards for Organic Hazardous Air Pollutants for  
Equipment Leaks - Standards: General

**General Standards:**

1. Compliance with this subpart will be determined by review of the records required by §63.181 of this subpart and the reports required by §63.182 of this subpart, review of performance test results, and by inspections. [§63.162(a)]

2. Each piece of equipment in a process unit to which this subpart applies shall be identified such that it can be distinguished readily from equipment that is not subject to this subpart. 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 unit boundaries by some form of weatherproof identification. [§63.162(c)]
3. When each leak is detected as specified in §§63.163 and 63.164; §§63.168 and 63.169; and §§63.172 through 63.174 of this subpart, the following requirements apply: [§63.162(f)]
  - a) Clearly identify the leaking equipment. [§63.162(f)(1)]
  - b) The identification on a valve may be removed after it has been monitored as specified in §§63.168(f)(3), and 63.175(e)(7)(i)(D) of this subpart, and no leak has been detected during the follow-up monitoring. If the owner or operator elects to comply using the provisions of §63.174(c)(1)(i) of this subpart, the identification on a connector may be removed after it is monitored as specified in §63.174(c)(1)(i) and no leak is detected during that monitoring. [§63.162(f)(2)]
  - c) The identification which has been placed on equipment determined to have a leak, except for a valve or for a connector that is subject to the provisions of §63.174(c)(1)(i), may be removed after it is repaired. [§63.162(f)(3)]
4. Except as provided in paragraph (g)(1) 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 subsection that imposes the requirement. [§63.162(g)]
  - a) 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. [§63.162(g)(4)]
5. 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 subpart 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 subpart. 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 subpart. [§63.162(h)]

**Delay of Repair Standards:**

1. Delay of repair of equipment for which leaks have been detected is allowed if repair within 15 days is technically infeasible without a process unit shutdown. Repair of this equipment shall occur by the end of the next process unit shutdown. [§63.171(a)]
2. Delay of repair of equipment for which leaks have been detected is allowed for equipment that is isolated from the process and that does not remain in organic HAP service. [§63.171(b)]
3. Delay of repair for valves, connectors, and agitators is also allowed if: [§63.171(c)]
  - a) The owner or operator determines that emissions of purged material resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair, and [§63.171(c)(1)]
  - b) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with §63.172 of this subpart. [§63.171(c)(2)]
4. Delay of repair for pumps is also allowed if: [§63.171(d)]

- a) Repair requires replacing the existing seal design with a new system that the owner or operator has determined under the provisions of §63.176(d) of this subpart will provide better performance or: [§63.171(d)(1)]
    - i) A dual mechanical seal system that meets the requirements of §63.163(e) of this subpart, [§63.171(d)(1)(i)]
    - ii) A pump that meets the requirements of §63.163(f) of this subpart, or [§63.171(d)(1)(ii)]
    - iii) A closed-vent system and control device that meets the requirements of §63.163(g) of this subpart; and [§63.171(d)(1)(iii)]
  - b) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected. [§63.171(d)(2)]
5. Delay of repair beyond a process unit shutdown will be allowed for a valve if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the second process unit shutdown will not be allowed unless the third process unit shutdown occurs sooner than 6 months after the first process unit shutdown. [§63.171(e)]

**Test Methods and Procedures:**

1. Each owner or operator subject to the provisions of this subpart shall comply with the test methods and procedures requirements provided in this section. [§63.180(a)]
2. Monitoring, as required under this subpart, shall comply with the following requirements: [§63.180(b)]
  - a) Monitoring shall comply with Method 21 of 40 CFR Part 60, appendix A. [§63.180(b)(1)]
    - i) Except as provided for in paragraph (b)(2)(ii) 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, water, air, or other inerts which are not organic HAP's or VOC's, the average stream response factor may be calculated on an inert-free basis. The response factor may be determined at any concentration for which monitoring for leaks will be conducted. [§63.180(b)(2)(i)]
    - ii) If no instrument is available at the plant site that will meet the performance criteria specified in paragraph (b)(2)(i) 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 (b)(2)(i) of this section. [§63.180(b)(2)(ii)]
  - b) The 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. [§63.180(b)(3)]
  - c) Calibration gases shall be: [§63.180(b)(4)]
    - i) Zero air (less than 10 parts per million of hydrocarbon in air); and [§63.180(b)(4)(i)]
    - ii) Mixtures of methane in air at the concentrations specified in paragraphs (b)(4)(ii)(A) through (b)(4)(ii)(C) of this section. 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 (b)(2)(i) 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. [§63.180(b)(4)(ii)]

- (1) For Phase I, a mixture of methane or other compounds, as applicable, in air at a concentration of approximately, but less than, 10,000 parts per million. [§63.180(b)(4)(ii)(A)]
  - (2) For Phase II, a mixture of methane or other compounds, as applicable, and air at a concentration of approximately, but less than, 10,000 parts per million for agitators, 5,000 parts per million for pumps, and 500 parts per million for all other equipment, except as provided in paragraph (b)(4)(iii) of this section. [§63.180(b)(4)(ii)(B)]
  - (3) For Phase III, a mixture of methane or other compounds, as applicable, 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 in food/medical service; 5,000 parts per million for pumps in polymerizing monomer service; 1,000 parts per million for all other pumps; and 500 parts per million for all other equipment, except as provided in paragraph (b)(4)(iii) of this section. [§63.180(b)(4)(ii)(C)]
- iii) The instrument may be calibrated at a higher methane concentration than the concentration specified for that piece of equipment. The concentration of the calibration gas may exceed the concentration specified as a leak by no more than 2,000 parts per million. If the monitoring instrument's design allows for multiple calibration scales, then the lower scale shall be calibrated with a calibration gas that is no higher than 2,000 parts per million above the concentration specified as a leak and the highest scale shall be calibrated with a calibration gas that is approximately equal to 10,000 parts per million. If only one scale on an instrument will be used during monitoring, the owner or operator need not calibrate the scales that will not be used during that day's monitoring. [§63.180(b)(4)(iii)]
  - d) Monitoring shall be performed when the equipment is in organic HAP service, in use with an acceptable surrogate volatile organic compound which is not an organic HAP, or is in use with any other detectable gas or vapor. [§63.180(b)(5)]
  - e) Monitoring data that do not meet the criteria specified in paragraphs (b)(1) through (b)(5) of this section may be used to qualify for less frequent monitoring under the provisions in §63.168(d)(2) and (d)(3) or §63.174(b)(3)(ii) or (b)(3)(iii) of this subpart provided the data meet the conditions specified in paragraphs (b)(6)(i) and (b)(6)(ii) of this section. [§63.180(b)(6)]
    - i) The data were obtained before April 22, 1994. [§63.180(b)(6)(i)]
    - ii) The departures from the criteria specified in paragraphs (b)(1) through (b)(5) of this section or from the specified monitoring frequency of §63.168(c) are minor and do not significantly affect the quality of the data. Examples of minor departures are monitoring at a slightly different frequency (such as every six weeks instead of monthly or quarterly), following the performance criteria of Section 3.1.2(a) of Method 21 of appendix A of 40 CFR Part 60 instead of paragraph (b)(2) of this section, or monitoring at a different leak definition if the data would indicate the presence or absence of a leak at the concentration specified in this subpart. Failure to use a calibrated instrument is not considered a minor departure. [§63.180(b)(6)(ii)]
3. When equipment is monitored for compliance as required in §§63.164(i), 63.165(a), and 63.172(f) or when equipment subject to a leak definition of 500 ppm is monitored for leaks as required by this subpart, the owner or operator may elect to adjust or not to adjust the instrument readings for background. If an owner or operator elects to not adjust instrument readings for background, the owner or operator shall monitor the equipment according to the procedures specified in paragraphs (b)(1) through (b)(4) of this section. In such case, all 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 monitor the equipment according to the procedures specified in paragraphs (c)(1) through (c)(4) of this section. [§63.180(c)]
- a) The requirements of paragraphs (b) (1) through (4) of this section shall apply. [§63.180(c)(1)]
  - b) The background level shall be determined, using the same procedures that will be used to determine whether the equipment is leaking. [§63.180(c)(2)]
  - c) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Method 21 of 40 CFR Part 60, appendix A. [§63.180(c)(3)]
  - d) The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 parts per million for determining compliance. [§63.180(c)(4)]
4. Each piece of equipment within a process unit that can reasonably be expected to contain equipment in organic HAP service is presumed to be in organic HAP service unless an owner or operator demonstrates that the piece of equipment is not in organic HAP service. For a piece of equipment to be considered not in organic HAP service, it must be determined that the percent organic HAP content can be reasonably expected not to exceed 5 percent by weight on an annual average basis. For purposes of determining the percent organic HAP content of the process fluid that is contained in or contacts equipment, Method 18 of 40 CFR Part 60, appendix A shall be used. [§63.180(d)(1)]
- a) An owner or operator may use good engineering judgment rather than the procedures in paragraph (d)(1) of this section to determine that the percent organic HAP content does not exceed 5 percent by weight. When an owner or operator and the Administrator do not agree on whether a piece of equipment is not in organic HAP service, however, the procedures in paragraph (d)(1) of this section shall be used to resolve the disagreement. [§63.180(d)(2)(i)]
  - b) Conversely, the owner or operator may determine that the organic HAP content of the process fluid does not exceed 5 percent by weight by, for example, accounting for 98 percent of the content and showing that organic HAP is less than 3 percent. [§63.180(d)(2)(ii)]
    - i) If an owner or operator determines that a piece of equipment is in organic HAP service, the determination can be revised after following the procedures in paragraph (d)(1) of this section, or by documenting that a change in the process or raw materials no longer causes the equipment to be in organic HAP service. [§63.180(d)(3)]
    - ii) Samples used in determining the percent organic HAP content shall be representative of the process fluid that is contained in or contacts the equipment. [§63.180(d)(4)]

**General Recordkeeping:**

1. An owner or operator of more than one process unit subject to the provisions of this subpart may comply with the recordkeeping requirements for these process units in one recordkeeping system if the system identifies each record by process unit and the program being implemented (e.g., quarterly monitoring, quality improvement) 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. [§63.181(a)]
2. The permittee shall comply with the equipment specific recordkeeping requirements found within Permit Conditions PW006 – PW012.

**General Reporting:**

1. The owner or operator of a source subject to this subpart shall submit Periodic Reports. [§63.182(d)]
2. The content and frequency of the periodic reports are provided within the equipment specific Permit Conditions PW006 – PW012.

**PERMIT CONDITION PW006**

*Equipment Leaks from Pumps in Light Liquid Service in the Formaldehyde CMPU, and  
Pentaerythritol CMPU*

10 CSR 10-6.075 Maximum Achievable Control Technology Regulations  
40 CFR Part 63, Subpart H – National Emission Standards for Organic Hazardous Air Pollutants for  
Equipment Leaks - Standards: Pumps in Light Liquid Services

**Standards: Pumps in Light Liquid Service:**

1. The provisions of this section apply to each pump that is in light liquid service. [§63.163(a)]
  - a) The provisions are to be implemented on the dates specified in the specific subpart in 40 CFR Part 63 that references this subpart in the phases specified below: [§63.163(a)(1)]
    - i) For new sources subject to the provisions of subparts F or I of this part, the applicable phases of the standard are: [§63.163(a)(1)(ii)]
      - (1) After initial start-up, comply with the Phase II requirements; and [§63.163(a)(1)(ii)(A)]
      - (2) Beginning no later than 1 year after initial start-up, comply with the Phase III requirements. [§63.163(a)(1)(ii)(B)]
2. The owner or operator of a process unit subject to this subpart shall monitor each pump monthly to detect leaks by the method specified in §63.180(b) of this subpart and shall comply with the requirements of paragraphs (a) through (d) of this section, except as provided in §63.162(b) of this subpart and paragraphs (e) through (j) of this section. [§63.163(b)(1)]
  - a) The instrument reading, as determined by the method as specified in §63.180(b) of this subpart, that defines a leak in each phase of the standard is: [§63.163(b)(2)]
    - i) For Phase II, an instrument reading of 5,000 parts per million or greater. [§63.163(b)(2)(ii)]
    - ii) For Phase III, an instrument reading of: [§63.163(b)(2)(iii)]
      - (1) 5,000 parts per million or greater for pumps handling polymerizing monomers; [§63.163(b)(2)(iii)(A)]
      - (2) 2,000 parts per million or greater for pumps in food/medical service; and [§63.163(b)(2)(iii)(B)]
      - (3) 1,000 parts per million or greater for all other pumps. [§63.163(b)(2)(iii)(C)]
  - b) Each pump shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal. If there are indications of liquids dripping from the pump seal, a leak is detected. [§63.163(b)(3)]
3. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in paragraph (c)(3) of this section or §63.171 of this subpart. [§63.163(c)(1)]
  - a) 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: [§63.163(c)(2)]
    - i) Tightening of packing gland nuts. [§63.163(c)(2)(i)]
    - ii) Ensuring that the seal flush is operating at design pressure and temperature. [§63.163(c)(2)(ii)]
  - b) For pumps in Phase III to which a 1,000 parts per million leak definition applies, repair is not required unless an instrument reading of 2,000 parts per million or greater is detected. [§63.163(c)(3)]
4. The owner or operator shall decide no later than the first monitoring period whether to calculate percent leaking pumps on a process unit basis or on a source-wide basis. Once the owner or operator has decided, all subsequent percent calculations shall be made on the same basis. [§63.163(d)(1)]

- a) If, in Phase III, calculated on a 6-month rolling average, the greater of either 10 percent of the pumps in a process unit or three pumps in a process unit leak, the owner or operator shall implement a quality improvement program for pumps that complies with the requirements of §63.176 of this subpart. [§63.163(d)(2)]
- b) The number of pumps at a process unit shall be the sum of all the pumps in organic HAP service, except that pumps found leaking in a continuous process unit within 1 month after start-up of the pump shall not count in the percent leaking pumps calculation for that one monitoring period only. [§63.163(d)(3)]
- c) Percent leaking pumps shall be determined by the following equation:

$$\%P_L = \frac{P_L - P_S}{P_T - P_S} \times 100$$

where:

$\%P_L$ =Percent leaking pumps

$P_L$ =Number of pumps found leaking as determined through monthly monitoring as required in paragraphs (b)(1) and (b)(2) of this section.

$P_T$ =Total pumps in organic HAP service, including those meeting the criteria in paragraphs (e) and (f) of this section.

$P_S$ =Number of pumps leaking within 1 month of start-up during the current monitoring period. [§63.163(d)(4)]

5. Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraphs (a) through (d) of this section, provided the following requirements are met: [§63.163(e)]
  - a) Each dual mechanical seal system is: [§63.163(e)(1)]
    - i) Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure; or [§63.163(e)(1)(i)]
    - ii) Equipped with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed-vent system to a control device that complies with the requirements of §63.172 of this subpart; or [§63.163(e)(1)(ii)]
    - iii) Equipped with a closed-loop system that purges the barrier fluid into a process stream. [§63.163(e)(1)(iii)]
  - b) The barrier fluid is not in light liquid service. [§63.163(e)(2)]
  - c) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both. [§63.163(e)(3)]
  - d) Each pump is checked by visual inspection each calendar week for indications of liquids dripping from the pump seal. [§63.163(e)(4)]
    - i) If there are indications of liquids dripping from the pump seal at the time of the weekly inspection, the pump shall be monitored as specified in §63.180(b) of this subpart to determine if there is a leak of organic HAP in the barrier fluid. [§63.163(e)(4)(i)]
    - ii) If an instrument reading of 1,000 parts per million or greater is measured, a leak is detected. [§63.163(e)(4)(ii)]
  - e) Each sensor as described in paragraph (e)(3) 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. [§63.163(e)(5)]
  - f) 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 indicates failure of the seal system, the barrier fluid system, or both. [§63.163(e)(6)(i)]

- i) If indications of liquids dripping from the pump seal exceed the criteria established in paragraph (e)(6)(i) of this section, or if, based on the criteria established in paragraph (e)(6)(i) of this section, the sensor indicates failure of the seal system, the barrier fluid system, or both, a leak is detected. [§63.163(e)(6)(ii)]
  - ii) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §63.171 of this subpart. [§63.163(e)(6)(iii)]
  - iii) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. [§63.163(e)(6)(iv)]
6. Delay of repair of equipment for which leaks have been detected is allowed if repair within 15 days is technically infeasible without a process unit shutdown. Repair of this equipment shall occur by the end of the next process unit shutdown. [§63.171(a)]
  7. Delay of repair of equipment for which leaks have been detected is allowed for equipment that is isolated from the process and that does not remain in organic HAP service. [§63.171(b)]
  8. Delay of repair for valves, connectors, and agitators is also allowed if: [§63.171(c)]
    - a) The owner or operator determines that emissions of purged material resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair, and [§63.171(c)(1)]
    - b) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with §63.172 of this subpart. [§63.171(c)(2)]
  9. Delay of repair for pumps is also allowed if: [§63.171(d)]
    - a) Repair requires replacing the existing seal design with a new system that the owner or operator has determined under the provisions of §63.176(d) of this subpart will provide better performance or: [§63.171(d)(1)]
      - i) A dual mechanical seal system that meets the requirements of §63.163(e) of this subpart, [§63.171(d)(1)(i)]
      - ii) A pump that meets the requirements of §63.163(f) of this subpart, or [§63.171(d)(1)(ii)]
      - iii) A closed-vent system and control device that meets the requirements of §63.163(g) of this subpart; and [§63.171(d)(1)(iii)]
    - b) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected. [§63.171(d)(2)]

**Quality Improvement Program for Pumps:**

1. In Phase III, if, on a 6-month rolling average, the greater of either 10 percent of the pumps in a process unit (or plant site) or three pumps in a process unit (or plant site) leak, the owner or operator shall comply with the requirements of §63.176 as specified below: [§63.176(a)]
  - a) Pumps that are in food/medical service or in polymerizing monomer service shall comply with all requirements except for those specified in paragraph §63.176(d)(8). [§63.176(a)(1)]
  - b) Pumps that are not in food/medical or polymerizing monomer service shall comply with all requirements of this section. [§63.176(a)(2)]

**Recordkeeping:**

1. An owner or operator of more than one process unit subject to the provisions of this subpart may comply with the recordkeeping requirements for these process units in one recordkeeping system if the system identifies each record by process unit and the program being implemented (e.g., quarterly monitoring, quality improvement) 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. [§63.181(a)]
2. The following information pertaining to all equipment in each process unit subject to the requirements in §§63.162 through 63.174 of this subpart shall be recorded: [§63.181(b)]
  - a) A list of identification numbers for equipment subject to the requirements of this subpart. [§63.181(b)(1)(i)]
    - i) Physical tagging of the equipment to indicate that it is in organic HAP service is not required. Equipment subject to the provisions of this subpart may be identified on a plant site plan, in log entries, or by other appropriate methods. [§63.181(b)(1)(iii)]
  - b) The following information shall be recorded for each dual mechanical seal system: [§63.181(b)(6)]
    - i) Design criteria required in §§63.163(e)(6)(i), 63.164(e)(2), and 63.173(d)(6)(i) of this subpart and an explanation of the design criteria; and [§63.181(b)(6)(i)]
    - ii) Any changes to these criteria and the reasons for the changes. [§63.181(b)(6)(ii)]
  - c) The following information pertaining to all pumps subject to the provisions of §63.163(j) of this subpart shall be recorded: [§63.181(b)(7)]
    - i) Identification of equipment designated as unsafe to monitor, difficult to monitor, or unsafe to inspect and the plan for monitoring or inspecting this equipment. [§63.181(b)(7)(i)]
    - ii) A list of identification numbers for the equipment that is designated as difficult to monitor, an explanation of why the equipment is difficult to monitor, and the planned schedule for monitoring this equipment. [§63.181(b)(7)(ii)]
  - d) For any leaks detected as specified in §§63.163 and 63.164; §§63.168 and 63.169; and §§63.172 through 63.174 of this subpart, a weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment. [§63.181(b)(10)]
3. For visual inspections of equipment subject to the provisions of this subpart (e.g., §63.163(b)(3), §63.163(e)(4)(i)), 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 (d) of this section for leaking equipment identified in this inspection, except as provided in paragraph (e) of this section. These records shall be retained for 2 years. [§63.181(c)]
4. When each leak is detected as specified in §§63.163 and 63.164; §§63.168 and 63.169; and §§63.172 through 63.174 of this subpart, the following information shall be recorded and kept for 2 years: [§63.181(d)]
  - a) The instrument and the equipment identification number and the operator name, initials, or identification number. [§63.181(d)(1)]
  - b) The date the leak was detected and the date of first attempt to repair the leak. [§63.181(d)(2)]
  - c) The date of successful repair of the leak. [§63.181(d)(3)]
  - d) Maximum instrument reading measured by Method 21 of 40 CFR Part 60, appendix A after it is successfully repaired or determined to be nonrepairable. [§63.181(d)(4)]
  - e) “Repair delayed” and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak. [§63.181(d)(5)]

- i) The owner or operator may develop a written procedure that identifies the conditions that justify a delay of repair. The written procedures may be included as part of the startup/shutdown/malfunction plan, required by §63.6(e)(3), for the source or may be part of a separate document that is maintained at the plant site. In such cases, reasons for delay of repair may be documented by citing the relevant sections of the written procedure. [§63.181(d)(5)(i)]
  - ii) If delay of repair was caused by depletion of stocked parts, there must be documentation that the spare parts were sufficiently stocked on-site before depletion and the reason for depletion. [§63.181(d)(5)(ii)]
  - f) Dates of process unit shutdowns that occur while the equipment is unrepaired. [§63.181(d)(6)]
  - g) Copies of the periodic reports as specified in §63.182(d) of this subpart, if records are not maintained on a computerized database capable of generating summary reports from the records. [§63.181(d)(9)]
5. Each owner or operator of a process unit subject to the requirements of § 63.176 of this subpart shall maintain the records specified in paragraphs (h)(1) through (h)(9) of this section for the period of the quality improvement program for the process unit. [§63.181(h)]
- a) If a leak is not repaired within 15 calendar days after discovery of the leak, the reason for the delay and the expected date of successful repair. [§63.181(h)(4)]
  - b) All records documenting the quality assurance program for pumps as specified in § 63.176(d)(7) of this subpart. [§63.181(h)(6)]
  - c) Records indicating that all valves or pumps replaced or modified during the period of the quality improvement program are in compliance with the quality assurance requirements in §63.176(d)(7) of this subpart. [§63.181(h)(7)]
  - d) Records documenting compliance with the 20 percent or greater annual replacement rate for pumps as specified in §63.176(d)(8) of this subpart. [§63.181(h)(8)]

**Reporting:**

1. The owner or operator of a source subject to this subpart shall submit Periodic Reports. [§63.182(d)]
- a) For each process unit complying with the provisions of §63.163 through §63.174 of this subpart, the summary information listed in paragraphs (i) through (xvi) of this paragraph for each monitoring period during the 6-month period. [§63.182(d)(2)]
    - i) The number of pumps for which leaks were detected as described in §63.163(b) of this subpart, the percent leakers, and the total number of pumps monitored; [§63.182(d)(2)(iii)]
    - ii) The number of pumps for which leaks were not repaired as required in §63.163(c) of this subpart; [§63.182(d)(2)(iv)]
    - iii) The facts that explain any delay of repairs and, where appropriate, why a process unit shutdown was technically infeasible. [§63.182(d)(2)(xiii)]
    - iv) The results of all monitoring to show compliance with §§63.164(i), 63.165(a), and 63.172(f) of this subpart conducted within the semiannual reporting period. [§63.182(d)(2)(xiv)]
    - v) If applicable, the initiation of a monthly monitoring program under §63.168(d)(1)(i) of this subpart, or a quality improvement program under either § 63.176 of this subpart. [§63.182(d)(2)(xv)]
  - b) Any revisions to items reported in earlier Notification of Compliance Status, if the method of compliance has changed since the last report. [§63.182(d)(4)]

**PERMIT CONDITION PW007**

*Equipment Leaks from Pressure Relief Devices in Gas/Vapor Services in the Formaldehyde CMPU,  
and Pentaerythritol CMPU*

10 CSR 10-6.075 Maximum Achievable Control Technology Regulations  
40 CFR Part 63, Subpart H – National Emission Standards for Organic Hazardous Air Pollutants for  
Equipment Leaks - Standards: Pressure Relief Devices in Gas/Vapor Service

**Standards: Pressure Relief Devices in Gas/Vapor Service:**

1. Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with an instrument reading of less than 500 parts per million above background except as provided in paragraph (b) of this section, as measured by the method specified in §63.180(c) of this subpart. [§63.165(a)]
2. After each pressure release, the pressure relief device shall be returned to a condition indicated by an instrument reading of less than 500 parts per million above background, as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in §63.171 of this subpart. [§63.165(b)(1)]
  - a) No later than 5 calendar days after the pressure release and being returned to organic HAP service, the pressure relief device shall be monitored to confirm the condition indicated by an instrument reading of less than 500 parts per million above background, as measured by the method specified in §63.180(c) of this subpart. [§63.165(b)(2)]
3. Any pressure relief device that is routed to a process or fuel gas system or equipped with a closed-vent system capable of capturing and transporting leakage from the pressure relief device to a control device as described in §63.172 of this subpart is exempt from the requirements of paragraphs (a) and (b) of this section. [§63.165(c)]
4. Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the requirements of paragraphs (a) and (b) of this section, provided the owner or operator complies with the requirements in paragraph (d)(2) of this section. [§63.165(d)(1)]
  - a) After each pressure release, a rupture disk shall be installed upstream of the pressure relief device as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in §63.171 of this subpart. [§63.165(d)(2)]
5. Delay of repair of equipment for which leaks have been detected is allowed if repair within 15 days is technically infeasible without a process unit shutdown. Repair of this equipment shall occur by the end of the next process unit shutdown. [§63.171(a)]
6. Delay of repair of equipment for which leaks have been detected is allowed for equipment that is isolated from the process and that does not remain in organic HAP service. [§63.171(b)]

**Recordkeeping:**

1. Except as provided in paragraph (e) of this section, the following information pertaining to all equipment in each process unit subject to the requirements in §§63.162 through 63.174 of this subpart shall be recorded: [§63.181(b)]
  - a) A list of identification numbers for equipment subject to the requirements of this subpart. [§63.181(b)(1)(i)]
    - i) Physical tagging of the equipment to indicate that it is in organic HAP service is not required. Equipment subject to the provisions of this subpart may be identified on a plant site plan, in log entries, or by other appropriate methods. [§63.181(b)(1)(iii)]

- b) 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 §63.163(g), §63.164(h), §63.165(c), or §63.173(f) of this subpart. [§63.181(b)(2)(i)]
  - c) A list of identification numbers for pressure relief devices subject to the provisions in §63.165(a) of this subpart. [§63.181(b)(3)(i)]
    - i) A list of identification numbers for pressure relief devices equipped with rupture disks, under the provisions of §63.165(d) of this subpart. [§63.181(b)(3)(ii)]
2. 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) of this subpart. The results shall include: [§63.181(f)]
- a) The background level measured during each compliance test. [§63.181(f)(1)]
  - b) The maximum instrument reading measured at each piece of equipment during each compliance test. [§63.181(f)(2)]

**Reporting:**

1. The owner or operator of a source subject to this subpart shall submit Periodic Reports. [§63.182(d)]
  - a) A report containing the information in paragraphs (d)(2) and (d)(4) of this section shall be submitted semiannually starting 6 months after the Notification of Compliance Status, as required in paragraph (c) of this section. [§63.182(d)(1)]
  - b) For each process unit complying with the provisions of §63.163 through §63.174 of this subpart, the summary information listed in paragraphs (i) through (xvi) of this paragraph for each monitoring period during the 6-month period. [§63.182(d)(2)]
    - i) The facts that explain any delay of repairs and, where appropriate, why a process unit shutdown was technically infeasible. [§63.182(d)(2)(xiii)]
    - ii) The results of all monitoring to show compliance with 63.165(a) of this subpart conducted within the semiannual reporting period. [§63.182(d)(2)(xiv)]
  - c) Any revisions to items reported in earlier Notification of Compliance Status, if the method of compliance has changed since the last report. [§63.182(d)(4)]

**PERMIT CONDITION PW008**

*Equipment Leaks from Sampling Connection Systems in the Formaldehyde CMPU, Pentaerythritol CMPU, and Ureaform CMPU*

10 CSR 10-6.075 Maximum Achievable Control Technology Regulations  
40 CFR Part 63, Subpart H – National Emission Standards for Organic Hazardous Air Pollutants for  
Equipment Leaks - Standards: Sampling Connection Systems

**Standards: Sampling Connection Systems:**

1. Each sampling connection system shall be equipped with a closed-purge, closed-loop, or closed-vent system, except as provided in §63.162(b) of this subpart. Gases displaced during filling of the sample container are not required to be collected or captured. [§63.166(a)]
2. Each closed-purge, closed-loop, or closed-vent system as required in paragraph (a) of this section shall: [§63.166(b)]
  - a) Return the purged process fluid directly to the process line; or [§63.166(b)(1)]
  - b) Collect and recycle the purged process fluid to a process; or [§63.166(b)(2)]
  - c) Be designed and operated to capture and transport the purged process fluid to a control device that complies with the requirements of §63.172 of this subpart; or [§63.166(b)(3)]

- d) Collect, store, and transport the purged process fluid to a system or facility identified in paragraph (b)(4)(i), (ii), or (iii) of this section. [§63.166(b)(4)]
  - i) A waste management unit as defined in §63.111 of subpart G of this part, if the waste management unit is subject to, and operated in compliance with the provisions of subpart G of this part applicable to group 1 wastewater streams. If the purged process fluid does not contain any organic HAP listed in Table 9 of subpart G of part 63, the waste management unit need not be subject to, and operated in compliance with the requirements of 40 CFR Part 63, subpart G applicable to group 1 wastewater streams provided the facility has an NPDES permit or sends the wastewater to an NPDES permitted facility. [§63.166(b)(4)(i)]
  - ii) A treatment, storage, or disposal facility subject to regulation under 40 CFR Part 262, 264, 265, or 266; or [§63.166(b)(4)(ii)]
  - iii) A facility permitted, licensed, or registered by a State to manage municipal or industrial solid waste, if the process fluids are not hazardous waste as defined in 40 CFR Part 261. [§63.166(b)(4)(iii)]
3. *In-situ* sampling systems and sampling systems without purges are exempt from the requirements of paragraphs (a) and (b) of this section. [§63.166(c)]

**Recordkeeping:**

1. Except as provided in paragraph (e) of this section, the following information pertaining to all equipment in each process unit subject to the requirements in §§63.162 through 63.174 of this subpart shall be recorded: [§63.181(b)]
  - a) A list of identification numbers for equipment subject to the requirements of this subpart. [§63.181(b)(1)(i)]
    - i) Physical tagging of the equipment to indicate that it is in organic HAP service is not required. Equipment subject to the provisions of this subpart may be identified on a plant site plan, in log entries, or by other appropriate methods. [§63.181(b)(1)(iii)]

**Reporting:**

1. The owner or operator of a source subject to this subpart shall submit Periodic Reports. [§63.182(d)]
  - a) A report containing the information in paragraphs (d)(2) and (d)(4) of this section shall be submitted semiannually starting 6 months after the Notification of Compliance Status, as required in paragraph (c) of this section. [§63.182(d)(1)]
  - b) For each process unit complying with the provisions of §63.163 through §63.174 of this subpart, the summary information listed in paragraphs (i) through (xvi) of this paragraph for each monitoring period during the 6-month period. [§63.182(d)(2)]
    - i) The facts that explain any delay of repairs and, where appropriate, why a process unit shutdown was technically infeasible. [§63.182(d)(2)(xiii)]
  - c) Any revisions to items reported in earlier Notification of Compliance Status, if the method of compliance has changed since the last report. [§63.182(d)(4)]

**PERMIT CONDITION PW009**

*Equipment Leaks from Open-ended Valves or Lines in the Formaldehyde CMPU, Pentaerythritol  
CMPU, and Ureaform CMPU*

10 CSR 10-6.075 Maximum Achievable Control Technology Regulations  
40 CFR Part 63, Subpart H – National Emission Standards for Organic Hazardous Air Pollutants for  
Equipment Leaks - Standards: Open-ended Valves or Lines

**Standards: Open-ended Valves or Lines:**

1. Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in §63.162(b) of this subpart and paragraphs (d) and (e) of this section. [§63.167(a)(1)]
  - a) 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. [§63.167(a)(2)]
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. [§63.167(b)]
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 (a) of this section at all other times. [§63.167(c)]
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 (a), (b) and (c) of this section. [§63.167(d)]
5. Open-ended valves or lines containing materials which would autocatalytically polymerize or, would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in paragraphs (a) through (c) of this section are exempt from the requirements of paragraph (a) through (c) of this section. [§63.167(e)]

**Recordkeeping:**

1. Except as provided in paragraph (e) of this section, the following information pertaining to all equipment in each process unit subject to the requirements in §§63.162 through 63.174 of this subpart shall be recorded: [§63.181(b)]
  - a) A list of identification numbers for equipment subject to the requirements of this subpart. [§63.181(b)(1)(i)]
    - i) Physical tagging of the equipment to indicate that it is in organic HAP service is not required. Equipment subject to the provisions of this subpart may be identified on a plant site plan, in log entries, or by other appropriate methods. [§63.181(b)(1)(iii)]

**Reporting:**

1. The owner or operator of a source subject to this subpart shall submit Periodic Reports. [§63.182(d)]
  - a) A report containing the information in paragraphs (d)(2) and (d)(4) of this section shall be submitted semiannually starting 6 months after the Notification of Compliance Status, as required in paragraph (c) of this section. [§63.182(d)(1)]
  - b) For each process unit complying with the provisions of §63.163 through §63.174 of this subpart, the summary information listed in paragraphs (i) through (xvi) of this paragraph for each monitoring period during the 6-month period. [§63.182(d)(2)]
    - i) The facts that explain any delay of repairs and, where appropriate, why a process unit shutdown was technically infeasible. [§63.182(d)(2)(xiii)]
  - c) Any revisions to items reported in earlier Notification of Compliance Status, if the method of compliance has changed since the last report. [§63.182(d)(4)]

**PERMIT CONDITION PW010**

*Equipment Leaks from Valves in Gas/Vapor Service and Light Liquid Service in the Formaldehyde  
CMPU and Pentaerythritol CMPU*

10 CSR 10-6.075 Maximum Achievable Control Technology Regulations  
40 CFR Part 63, Subpart H – National Emission Standards for Organic Hazardous Air Pollutants for  
Equipment Leaks - Standards: Valves in Gas/Vapor Service and Light Liquid Service

**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 service or in light liquid service. [§63.168(a)]
  - a) The provisions are to be implemented on the dates set forth in the specific subpart in 40 CFR Part 63 that references this subpart as specified in paragraph (a)(1)(i), (a)(1)(ii), or (a)(1)(iii) of this section. [§63.168(a)(1)]
    - i) For new sources subject to the provisions of subpart F or I of this part, the applicable phases of the standard are: [§63.168(a)(1)(ii)]
      - (1) After initial start-up, comply with the Phase II requirements; and [§63.168(a)(1)(ii)(A)]
      - (2) Beginning no later than 1 year after initial start-up, comply with the Phase III requirements. [§63.168(a)(1)(ii)(B)]
2. The owner or operator of a source subject to this subpart shall monitor all valves, except as provided in §63.162(b) of this subpart and paragraphs (h) and (i) of this section, at the intervals specified in paragraphs (c) and (d) of this section and shall comply with all other provisions of this section, except as provided in §63.171, §63.177, §63.178, and §63.179 of this subpart. [§63.168(b)]
  - a) The valves shall be monitored to detect leaks by the method specified in §63.180(b) of this subpart. [§63.168(b)(1)]
  - b) The instrument reading that defines a leak in each phase of the standard is: [§63.168(b)(2)]
    - i) For Phase II, an instrument reading of 500 parts per million or greater. [§63.168(b)(2)(ii)]
    - ii) For Phase III, an instrument reading of 500 parts per million or greater. [§63.168(b)(2)(iii)]
3. In Phases I and II, each valve shall be monitored quarterly. [§63.168(c)]
4. In Phase III, the owner or operator shall monitor valves for leaks at the intervals specified below: [§63.168(d)]
  - a) At process units with 2 percent or greater leaking valves, calculated according to paragraph (e) of this section, the owner or operator shall either: [§63.168(d)(1)]
    - i) Monitor each valve once per month; or [§63.168(d)(1)(i)]
    - ii) Within the first year after the onset of Phase III, implement a quality improvement program for valves that complies with the requirements of §63.175 (d) or (e) of this subpart and monitor quarterly. [§63.168(d)(1)(ii)]
  - b) At process units with less than 2 percent leaking valves, the owner or operator shall monitor each valve once each quarter, except as provided in paragraphs (d)(3) and (d)(4) of this section. [§63.168(d)(2)]
  - c) At process units with less than 1 percent leaking valves, the owner or operator may elect to monitor each valve once every 2 quarters. [§63.168(d)(3)]
  - d) At process units with less than 0.5 percent leaking valves, the owner or operator may elect to monitor each valve once every 4 quarters. [§63.168(d)(4)]
5. [§63.168(e)]
  - a) Percent leaking valves at a process unit shall be determined by the following equation:

$$\% V_L = \frac{V_L}{V_T + V_C} \times 100$$

where:

$%V_L$ =Percent leaking valves as determined through periodic monitoring required in paragraphs (b) through (d) of this section.

$V_L$ =Number of valves found leaking excluding nonrepairables as provided in paragraph (e)(3)(i) of this section.

$V_T$ =Total valves monitored, in a monitoring period excluding valves monitored as required by (f)(3) of this section.

$V_C$ =Optional credit for removed valves= $0.67 \times$  net number (i.e., total removed–total added) of valves in organic HAP service removed from process unit after the date set forth in §63.100(k) of subpart F for existing process units, and after the date of initial start-up for new sources. If credits are not taken, then  $V_C=0$ . [§63.168(e)(1)]

- b) For use in determining monitoring frequency, as specified in paragraph (d) of this section, the percent leaking valves shall be calculated as a rolling average of two consecutive monitoring periods for monthly, quarterly, or semiannual monitoring programs; and as an average of any three out of four consecutive monitoring periods for annual monitoring programs. [§63.168(e)(2)]
  - c) 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)(3)(ii) 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 unit may be excluded from calculation of percent leaking valves for subsequent monitoring periods. [§63.168(e)(3)(i)]
    - i) If the number of nonrepairable valves exceeds 1 percent of the total number of valves in organic HAP service at a process unit, 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. [§63.168(e)(3)(ii)]
6. 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 §63.171 of this subpart. [§63.168(f)(1)]
- a) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. [§63.168(f)(2)]
  - b) When a leak has been repaired, the valve shall be monitored at least once within the first 3 months after its repair. [§63.168(f)(3)]
    - i) The monitoring shall be conducted as specified in §63.180 (b) and (c), as appropriate, to determine whether the valve has resumed leaking. [§63.168(f)(3)(i)]
    - ii) Periodic monitoring required by paragraphs (b) through (d) of this section may be used to satisfy the requirements of this paragraph (f)(3), if the timing of the monitoring period coincides with the time specified in this paragraph (f)(3). Alternatively, other monitoring may be performed to satisfy the requirements of this paragraph (f)(3), regardless of whether the timing of the monitoring period for periodic monitoring coincides with the time specified in this paragraph (f)(3). [§63.168(f)(3)(ii)]
    - iii) If a leak is detected by monitoring that is conducted pursuant to paragraph (f)(3) of this section, the owner or operator shall follow the provisions of paragraphs (f)(3)(iii)(A) and (f)(3)(iii)(B) of this section, to determine whether that valve must be counted as a leaking valve for purposes of §63.168(e) of this subpart. [§63.168(f)(3)(iii)]
- (1) If the owner or operator elected to use periodic monitoring required by paragraphs (b) through (d) of this section to satisfy the requirements of paragraph (f)(3) of this section, then the valve shall be counted as a leaking valve. [§63.168(f)(3)(iii)(A)]

- (2) If the owner or operator elected to use other monitoring, prior to the periodic monitoring required by paragraphs (b) through (d) of this section, to satisfy the requirements of paragraph (f)(3) 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. [§63.168(f)(3)(iii)(B)]
7. First attempts at repair include, but are not limited to, the following practices where practicable: [§63.168(g)]
    - a) Tightening of bonnet bolts, [§63.168(g)(1)]
    - b) Replacement of bonnet bolts, [§63.168(g)(2)]
    - c) Tightening of packing gland nuts, and [§63.168(g)(3)]
    - d) Injection of lubricant into lubricated packing. [§63.168(g)(4)]
  8. Any valve that is designated, as described in §63.181(b)(7)(i) of this subpart, as an unsafe-to-monitor valve is exempt from the requirements of paragraphs (b) through (f) of this section if: [§63.168(h)]
    - a) The owner or operator of the valve determines that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraphs (b) through (d) of this section; and [§63.168(h)(1)]
    - b) The owner or operator of the valve has a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times, but not more frequently than the periodic monitoring schedule otherwise applicable. [§63.168(h)(2)]
  9. Any valve that is designated, as described in §63.181(b)(7)(ii) of this subpart, as a difficult-to-monitor valve is exempt from the requirements of paragraphs (b) through (d) of this section if: [§63.168(i)]
    - a) The owner or operator of the valve determines that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface or it is not accessible at anytime in a safe manner; [§63.168(i)(1)]
    - b) The process unit within which the valve is located is an existing source or the owner or operator designates less than 3 percent of the total number of valves in a new source as difficult-to-monitor; and [§63.168(i)(2)]
    - c) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year. [§63.168(i)(3)]
  10. Delay of repair of equipment for which leaks have been detected is allowed if repair within 15 days is technically infeasible without a process unit shutdown. Repair of this equipment shall occur by the end of the next process unit shutdown. [§63.171(a)]
  11. Delay of repair of equipment for which leaks have been detected is allowed for equipment that is isolated from the process and that does not remain in organic HAP service. [§63.171(b)]
  12. Delay of repair for valves is also allowed if: [§63.171(c)]
    - a) The owner or operator determines that emissions of purged material resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair, and [§63.171(c)(1)]
    - b) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with §63.172 of this subpart. [§63.171(c)(2)]
  13. Delay of repair beyond a process unit shutdown will be allowed for a valve if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the second process unit shutdown will not be allowed unless the third process unit shutdown occurs sooner than 6 months after the first process unit shutdown. [§63.171(e)]

**Recordkeeping:**

1. Except as provided in paragraph (e) of this section, the following information pertaining to all equipment in each process unit subject to the requirements in §§63.162 through 63.174 of this subpart shall be recorded: [§63.181(b)]
  - a) A list of identification numbers for equipment subject to the requirements of this subpart. [§63.181(b)(1)(i)]
    - i) A schedule by process unit for monitoring connectors subject to the provisions of §63.174(a) of this subpart and valves subject to the provisions of §63.168(d) of this subpart. [§63.181(b)(1)(ii)]
    - ii) Physical tagging of the equipment to indicate that it is in organic HAP service is not required. Equipment subject to the provisions of this subpart may be identified on a plant site plan, in log entries, or by other appropriate methods. [§63.181(b)(1)(iii)]
  - b) The following information pertaining to all valves subject to the provisions of §63.168(h) and (i) of this subpart shall be recorded: [§63.181(b)(7)]
    - i) Identification of equipment designated as unsafe to monitor, difficult to monitor, or unsafe to inspect and the plan for monitoring or inspecting this equipment. [§63.181(b)(7)(i)]
    - ii) A list of identification numbers for the equipment that is designated as difficult to monitor, an explanation of why the equipment is difficult to monitor, and the planned schedule for monitoring this equipment. [§63.181(b)(7)(ii)]
  - c) A list of valves removed from and added to the process unit, as described in §63.168(e)(1) of this subpart, if the net credits for removed valves is expected to be used. [§63.181(b)(8)(i)]
  - d) For any leaks detected as specified in §§63.163 and 63.164; §§63.168 and 63.169; and §§63.172 through 63.174 of this subpart, a weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment. [§63.181(b)(10)]
2. For visual inspections of equipment subject to the provisions of this subpart (e.g., §63.163(b)(3), §63.163(e)(4)(i)), 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 (d) of this section for leaking equipment identified in this inspection, except as provided in paragraph (e) of this section. These records shall be retained for 2 years. [§63.181(c)]
3. When each leak is detected as specified in §§63.163 and 63.164; §§63.168 and 63.169; and §§63.172 through 63.174 of this subpart, the following information shall be recorded and kept for 2 years: [§63.181(d)]
  - a) The instrument and the equipment identification number and the operator name, initials, or identification number. [§63.181(d)(1)]
  - b) The date the leak was detected and the date of first attempt to repair the leak. [§63.181(d)(2)]
  - c) The date of successful repair of the leak. [§63.181(d)(3)]
  - d) Maximum instrument reading measured by Method 21 of 40 CFR Part 60, appendix A after it is successfully repaired or determined to be nonrepairable. [§63.181(d)(4)]
  - e) “Repair delayed” and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak. [§63.181(d)(5)]
    - i) The owner or operator may develop a written procedure that identifies the conditions that justify a delay of repair. The written procedures may be included as part of the startup/shutdown/malfunction plan, required by §63.6(e)(3), for the source or may be part of a separate document that is maintained at the plant site. In such cases, reasons for delay of repair may be documented by citing the relevant sections of the written procedure. [§63.181(d)(5)(i)]

- ii) If delay of repair was caused by depletion of stocked parts, there must be documentation that the spare parts were sufficiently stocked on-site before depletion and the reason for depletion. [§63.181(d)(5)(ii)]
- f) Dates of process unit shutdowns that occur while the equipment is unrepaired. [§63.181(d)(6)]
- g) Copies of the periodic reports as specified in §63.182(d) of this subpart, if records are not maintained on a computerized database capable of generating summary reports from the records. [§63.181(d)(9)]

**Reporting:**

1. The owner or operator of a source subject to this subpart shall submit Periodic Reports. [§63.182(d)]
  - a) For each process unit complying with the provisions of §63.163 through §63.174 of this subpart, the summary information listed in paragraphs (i) through (xvi) of this paragraph for each monitoring period during the 6-month period. [§63.182(d)(2)]
    - i) The number of valves for which leaks were detected as described in §63.168(b) of this subpart, the percent leakers, and the total number of valves monitored; [§63.182(d)(2)(i)]
    - ii) The number of valves for which leaks were not repaired as required in §63.168(f) of this subpart, identifying the number of those that are determined nonrepairable; [§63.182(d)(2)(ii)]
    - iii) The facts that explain any delay of repairs and, where appropriate, why a process unit shutdown was technically infeasible. [§63.182(d)(2)(xiii)]
    - iv) If applicable, the initiation of a monthly monitoring program under §63.168(d)(1)(i) of this subpart, or a quality improvement program under either §63.175 of this subpart. [§63.182(d)(2)(xv)]
  - b) The information listed in paragraph (c) of this section for the Notification of Compliance Status for process units with later compliance dates. Any revisions to items reported in earlier Notification of Compliance Status, if the method of compliance has changed since the last report. [§63.182(d)(4)]

**PERMIT CONDITION PW011**

*Equipment Leaks from Pumps, Valves, Connectors and Agitators in Heavy Liquid Service; Instrumentation Systems; and Pressure Relief Devices in Liquid Service in the Formaldehyde CMPU, Pentaerythritol CMPU, and Ureaform CMPU*

10 CSR 10-6.075 Maximum Achievable Control Technology Regulations  
40 CFR Part 63, Subpart H – National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks - Standards: Pumps, Valves, Connectors and Agitators in Heavy Liquid Service; Instrumentation Systems; and Pressure Relief Devices in Liquid Service

**Standards: Pumps, Valves, Connectors, and Agitators in Heavy Liquid Service; Instrumentation Systems; and Pressure Relief Devices in Liquid Service:**

1. Pumps, valves, connectors, and agitators in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and instrumentation systems shall be monitored within 5 calendar days by the method specified in §63.180(b) of this subpart if evidence of a potential leak to the atmosphere is found by visual, audible, olfactory, or any other detection method. If such a potential leak is repaired as required in paragraphs (c) and (d) of this section, it is not necessary to monitor the system for leaks by the method specified in §63.180(b) of this subpart. [§63.169(a)]

2. If an instrument reading of 10,000 parts per million or greater for agitators, 5,000 parts per million or greater for pumps handling polymerizing monomers, 2,000 parts per million or greater for all other pumps (including pumps in food/medical service), or 500 parts per million or greater for valves, connectors, instrumentation systems, and pressure relief devices is measured, a leak is detected. [§63.169(b)]
3. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §63.171 of this subpart. [§63.169(c)(1)]
  - a) The first attempt at repair shall be made no later than 5 calendar days after each leak is detected. [§63.169(c)(2)]
  - b) For equipment identified in paragraph (a) of this section that is not monitored by the method specified in §63.180(b), repaired shall mean that the visual, audible, olfactory, or other indications of a leak to the atmosphere have been eliminated; that no bubbles are observed at potential leak sites during a leak check using soap solution; or that the system will hold a test pressure. [§63.169(c)(3)]
4. First attempts at repair include, but are not limited to, the practices described under §§63.163(c)(2) and 63.168(g) of this subpart, for pumps and valves, respectively. [§63.169(d)]

**Recordkeeping:**

1. Except as provided in paragraph (e) of this section, the following information pertaining to all equipment in each process unit subject to the requirements in §§63.162 through 63.174 of this subpart shall be recorded: [§63.181(b)]
  - a) A list of identification numbers for equipment subject to the requirements of this subpart. [§63.181(b)(1)(i)]
    - i) Physical tagging of the equipment to indicate that it is in organic HAP service is not required. Equipment subject to the provisions of this subpart may be identified on a plant site plan, in log entries, or by other appropriate methods. [§63.181(b)(1)(iii)]
  - b) Identification of instrumentation systems subject to the provisions of this subpart. Individual components in an instrumentation system need not be identified. [§63.181(b)(4)]
  - c) For any leaks detected as specified in §§63.163 and 63.164; §§63.168 and 63.169; and §§63.172 through 63.174 of this subpart, a weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment. [§63.181(b)(10)]
2. When each leak is detected as specified in §§63.163 and 63.164; §§63.168 and 63.169; and §§63.172 through 63.174 of this subpart, the following information shall be recorded and kept for 2 years: [§63.181(d)]
  - a) The instrument and the equipment identification number and the operator name, initials, or identification number. [§63.181(d)(1)]
  - b) The date the leak was detected and the date of first attempt to repair the leak. [§63.181(d)(2)]
  - c) The date of successful repair of the leak. [§63.181(d)(3)]
  - d) Maximum instrument reading measured by Method 21 of 40 CFR Part 60, appendix A after it is successfully repaired or determined to be nonrepairable. [§63.181(d)(4)]
  - e) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak. [§63.181(d)(5)]
    - i) The owner or operator may develop a written procedure that identifies the conditions that justify a delay of repair. The written procedures may be included as part of the startup/shutdown/malfunction plan, required by §63.6(e)(3), for the source or may be part of a separate document that is maintained at the plant site. In such cases, reasons for delay of

repair may be documented by citing the relevant sections of the written procedure.

[§63.181(d)(5)(i)]

- ii) If delay of repair was caused by depletion of stocked parts, there must be documentation that the spare parts were sufficiently stocked on-site before depletion and the reason for depletion. [§63.181(d)(5)(ii)]
  - f) Dates of process unit shutdowns that occur while the equipment is unrepaired. [§63.181(d)(6)]
  - g) Copies of the periodic reports as specified in §63.182(d) of this subpart, if records are not maintained on a computerized database capable of generating summary reports from the records. [§63.181(d)(9)]
3. The owner or operator of equipment in heavy liquid service shall comply with the requirements of either paragraph (i)(1) or (i)(2) of this section, as provided in paragraph (i)(3) of this section. [§63.181(i)]
- a) Retain information, data, and analyses used to determine that a piece of equipment is in heavy liquid service. [§63.181(i)(1)]
  - b) When requested by the Administrator, demonstrate that the piece of equipment or process is in heavy liquid service. [§63.181(i)(2)]
  - c) A determination or demonstration that a piece of equipment or process is in heavy liquid service shall include an analysis or demonstration that the process fluids do not meet the definition of “in light liquid 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. [§63.181(i)(3)]

**Reporting:**

1. The owner or operator of a source subject to this subpart shall submit Periodic Reports. [§63.182(d)]
- a) A report containing the information in paragraphs (d)(2) and (d)(4) of this section shall be submitted semiannually starting 6 months after the Notification of Compliance Status, as required in paragraph (c) of this section. [§63.182(d)(1)]
  - b) For each process unit complying with the provisions of §63.163 through §63.174 of this subpart, the summary information listed in paragraphs (i) through (xvi) of this paragraph for each monitoring period during the 6-month period. [§63.182(d)(2)]
    - i) The facts that explain any delay of repairs and, where appropriate, why a process unit shutdown was technically infeasible. [§63.182(d)(2)(xiii)]
  - c) Any revisions to items reported in earlier Notification of Compliance Status, if the method of compliance has changed since the last report. [§63.182(d)(4)]

**PERMIT CONDITION PW012**

*Equipment Leaks from Connectors in Gas/Vapor Service and in Light Liquid Service in the Formaldehyde CMPU, and Pentaerythritol CMPU*

10 CSR 10-6.075 Maximum Achievable Control Technology Regulations

40 CFR Part 63, Subpart H – National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks - Standards: Connectors in Gas/Vapor Service and in Light Liquid Service

**Standards: Connectors in Gas/Vapor Service and in Light Liquid Service:**

1. The owner or operator of a process unit subject to this subpart shall monitor all connectors in gas/vapor and light liquid service, except as provided in §63.162(b) of this subpart, and in paragraphs (f) through (h) of this section, at the intervals specified in paragraph (b) of this section. [§63.174(a)]

- a) The connectors shall be monitored to detect leaks by the method specified in §63.180(b) of this subpart. [§63.174(a)(1)]
- b) If an instrument reading greater than or equal to 500 parts per million is measured, a leak is detected. [§63.174(a)(2)]
2. The owner or operator shall monitor for leaks at the intervals specified in either paragraph (b)(1) or (b)(2) of this section and in paragraph (b)(3) of this section. [§63.174(b)]
  - a) For each group of existing process units within an existing source, by no later than 12 months after the compliance date, the owner or operator shall monitor all connectors, except as provided in paragraphs (f) through (h) of this section. [§63.174(b)(1)]
  - b) For new sources, within the first 12 months after initial start-up or by no later than 12 months after the date of promulgation of a specific subpart that references this subpart, whichever is later, the owner or operator shall monitor all connectors, except as provided in paragraphs (f) through (h) of this section. [§63.174(b)(2)]
  - c) After conducting the initial survey required in paragraph (b)(1) or (b)(2) of this section, the owner or operator shall perform all subsequent monitoring of connectors at the frequencies specified in paragraphs (b)(3)(i) through (b)(3)(v) of this section, except as provided in paragraph (c)(2) of this section: [§63.174(b)(3)]
    - i) Once per year (i.e., 12-month period), if the percent leaking connectors in the process unit was 0.5 percent or greater during the last required annual or biennial monitoring period. [§63.174(b)(3)(i)]
    - ii) Once every 2 years, if the percent leaking connectors was less than 0.5 percent during the last required monitoring period. An owner or operator may comply with this paragraph by monitoring at least 40 percent of the connectors in the first year and the remainder of the connectors in the second year. The percent leaking connectors will be calculated for the total of all monitoring performed during the 2-year period. [§63.174(b)(3)(ii)]
    - iii) If the owner or operator of a process unit in a biennial leak detection and repair program calculates less than 0.5 percent leaking connectors from the 2-year monitoring period, the owner or operator may monitor the connectors one time every 4 years. An owner or operator may comply with the requirements of this paragraph by monitoring at least 20 percent of the connectors each year until all connectors have been monitored within 4 years. [§63.174(b)(3)(iii)]
    - iv) If a process unit complying with the requirements of paragraph (b) of this section using a 4-year monitoring interval program has greater than or equal to 0.5 percent but less than 1 percent leaking connectors, the owner or operator shall increase the monitoring frequency to one time every 2 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 year and the remainder of the connectors in the second year. The owner or operator may again elect to use the provisions of paragraph (b)(3)(iii) of this section when the percent leaking connectors decreases to less than 0.5 percent. [§63.174(b)(3)(iv)]
    - v) If a process unit complying with requirements of paragraph (b)(3)(iii) of this section using a 4-year monitoring interval program has 1 percent or greater leaking connectors, the owner or operator shall increase the monitoring frequency to one time per year. The owner or operator may again elect to use the provisions of paragraph (b)(3)(iii) of this section when the percent leaking connectors decreases to less than 0.5 percent. [§63.174(b)(3)(v)]
  - d) The use of monitoring data generated before April 22, 1994 to qualify for less frequent monitoring is governed by the provisions of §63.180(b)(6). [§63.174(b)(4)]

3. Except as provided in paragraph (c)(1)(ii) of this section, each connector that has been opened or has otherwise had the seal broken shall be monitored for leaks when it is reconnected or within the first 3 months after being returned to organic hazardous air pollutants service. If the monitoring detects a leak, it shall be repaired according to the provisions of paragraph (d) of this section, unless it is determined to be nonrepairable, in which case it is counted as a nonrepairable connector for the purposes of paragraph (i)(2) of this section. [§63.174(c)(1)(i)]
  - a) As an alternative to the requirements in paragraph (c)(1)(i) of this section, an owner or operator may choose not to monitor connectors that have been opened or otherwise had the seal broken. In this case, the owner or operator may not count nonrepairable connectors for the purposes of paragraph (i)(2) of this section. The owner or operator shall calculate the percent leaking connectors for the monitoring periods described in paragraph (b) of this section, by setting the nonrepairable component,  $C_{AN}$ , in the equation in paragraph (i)(2) of this section to zero for all monitoring periods. [§63.174(c)(1)(ii)]
  - b) An owner or operator may switch alternatives described in paragraphs (c)(1) (i) and (ii) of this section at the end of the current monitoring period he is in, provided that it is reported as required in §63.182 of this subpart and begin the new alternative in annual monitoring. The initial monitoring in the new alternative shall be completed no later than 12 months after reporting the switch. [§63.174(c)(1)(iii)]
  - c) As an alternative to the requirements of paragraph (b)(3) of this section, each screwed connector 2 inches or less in nominal inside diameter installed in a process unit before the dates specified in paragraph (c)(2)(iii) or (c)(2)(iv) of this section may: [§63.174(c)(2)]
    - i) Comply with the requirements of §63.169 of this subpart, and [§63.174(c)(2)(i)]
    - ii) Be monitored for leaks within the first 3 months after being returned to organic hazardous air pollutants service after having been opened or otherwise had the seal broken. If that monitoring detects a leak, it shall be repaired according to the provisions of paragraph (d) of this section. [§63.174(c)(2)(ii)]
    - iii) For sources subject to subparts F and I of this part, the provisions of paragraph (c)(2) of this section apply to screwed connectors installed before December 31, 1992. [§63.174(c)(2)(iii)]
    - iv) For sources not identified in paragraph (c)(2)(iii) of this section, the provisions of paragraph (c)(2) of this section apply to screwed connectors installed before the date of proposal of the applicable subpart of this part that references this subpart. [§63.174(c)(2)(iv)]
4. 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 (g) of this section and in §63.171 of this subpart. A first attempt at repair shall be made no later than 5 calendar days after the leak is detected. [§63.174(d)]
5. Any connector that is designated, as described in §63.181(b)(7)(i) of this subpart, as an unsafe-to-monitor connector is exempt from the requirements of paragraph (a) of this section if: [§63.174(f)]
  - a) The owner or operator determines that the connector is unsafe to monitor because personnel would be exposed to an immediate danger as a result of complying with paragraphs (a) through (e) of this section; and [§63.174(f)(1)]
  - b) The owner or operator has a written plan that requires monitoring of the connector as frequently as practicable during safe to monitor periods, but not more frequently than the periodic schedule otherwise applicable. [§63.174(f)(2)]
6. Any connector that is designated, as described in §63.181(b)(7)(iii) of this subpart, as an unsafe-to-repair connector is exempt from the requirements of paragraphs (a), (d), and (e) of this section if: [§63.174(g)]

- a) The owner or operator determines that repair personnel would be exposed to an immediate danger as a consequence of complying with paragraph (d) of this section; and [§63.174(g)(1)]
  - b) The connector will be repaired before the end of the next scheduled process unit shutdown. [§63.174(g)(2)]
7. Any connector that is inaccessible or is ceramic or ceramic-lined (e.g., porcelain, glass, or glass-lined), is exempt from the monitoring requirements of paragraphs (a) and (c) of this section and from the recordkeeping and reporting requirements of §63.181 and §63.182 of this subpart. An inaccessible connector is one that is: [§63.174(h)(1)]
- a) Buried; [§63.174(h)(1)(i)]
  - b) Insulated in a manner that prevents access to the connector by a monitor probe; [§63.174(h)(1)(ii)]
  - c) Obstructed by equipment or piping that prevents access to the connector by a monitor probe; [§63.174(h)(1)(iii)]
  - d) Unable to be reached from a wheeled scissor-lift or hydraulic-type scaffold which would allow access to connectors up to 7.6 meters (25 feet) above the ground; [§63.174(h)(1)(iv)]
  - e) Inaccessible because it would require elevating the monitoring personnel more than 2 meters above a permanent support surface or would require the erection of scaffold; or [§63.174(h)(1)(v)]
  - f) 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. [§63.174(h)(1)(vi)]
  - g) If any inaccessible or 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 §63.171 of this subpart and paragraph (g) of this section. [§63.174(h)(2)]
  - h) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected. [§63.174(h)(3)]
8. For use in determining the monitoring frequency, as specified in paragraph (b) of this section, the percent leaking connectors shall be calculated as specified in paragraphs (i)(1) and (i)(2) of this section. [§63.174(i)]
- a) For the first monitoring period, use the following equation:

$$\%C_L = \frac{C_L}{C_T + C_C} \times 100$$

where:

$\% C_L$  = Percent leaking connectors as determined through periodic monitoring required in paragraphs (a) and (b) of this section.

$C_L$  = Number of connectors measured at 500 parts per million or greater, by the method specified in §63.180(b) of this subpart.

$C_T$  = Total number of monitored connectors in the process unit.

$C_C$  = Optional credit for removed connectors =  $0.67 \times$  net (i.e., total removed—total added) number of connectors in organic hazardous air pollutants service removed from the process unit after the compliance date set forth in the applicable subpart for existing process units, and after the date of initial start-up for new process units. If credits are not taken, then  $C_C = 0$ .

[§63.174(i)(1)]

- b) For subsequent monitoring periods, use the following equation:

$$\%C_L = \frac{C_L - C_{AN}}{C_t + C_C} \times 100$$

where:

$\% C_L$  = Percent leaking connectors as determined through periodic monitoring required in paragraphs (a) and (b) of this section.

$C_L$  = Number of connectors, including nonrepairables, measured at 500 parts per million or greater, by the method specified in §63.180(b) of this subpart.

$C_{AN}$  = Number of allowable nonrepairable connectors, as determined by monitoring required in paragraphs (b)(3) and (c) of this section, not to exceed 2 percent of the total connector population,  $C_t$ .

$C_t$  = Total number of monitored connectors, including nonrepairables, in the process unit.

$C_C$  = Optional credit for removed connectors =  $0.67 \times$  net number (i.e., total removed—total added) of connectors in organic hazardous air pollutants service removed from the process unit after the compliance date set forth in the applicable subpart for existing process units, and after the date of initial start-up for new process units. If credits are not taken, then  $C_C = 0$ .

[§63.174(i)(2)]

9. Optional credit for removed connectors. If an owner or operator eliminates a connector subject to monitoring under paragraph (b) of this section, the owner or operator may receive credit for elimination of the connector, as described in paragraph (i) of this section, provided the requirements in paragraphs (j)(1) through (j)(4) are met. [§63.174(j)]
- The connector was welded after the date of proposal of the specific subpart that references this subpart. [§63.174(j)(1)]
  - The integrity of the weld is demonstrated by monitoring it according to the procedures in §63.180(b) of this subpart or by testing using X-ray, acoustic monitoring, hydrotesting, or other applicable method. [§63.174(j)(2)]
  - Welds created after the date of proposal but before the date of promulgation of a specific subpart that references this subpart are monitored or tested by 3 months after the compliance date specified in the applicable subpart. [§63.174(j)(3)]
  - Welds created after promulgation of the subpart that references this subpart are monitored or tested within 3 months after being welded. [§63.174(j)(4)]
  - If an inadequate weld is found or the connector is not welded completely around the circumference, the connector is not considered a welded connector and is therefore not exempt from the provisions of this subpart. [§63.174(j)(5)]

**Recordkeeping:**

- Except as provided in paragraph (e) of this section, the following information pertaining to all equipment in each process unit subject to the requirements in §§63.162 through 63.174 of this subpart shall be recorded: [§63.181(b)]
  - A list of identification numbers for equipment (except connectors exempt from monitoring and recordkeeping identified in §63.174 of this subpart and instrumentation systems) subject to the requirements of this subpart. Connectors need not be individually identified if all connectors in a designated area or length of pipe subject to the provisions of this subpart are identified as a group, and the number of connectors subject is indicated. With respect to connectors, the list shall be complete no later than the completion of the initial survey required by §63.174 (b)(1) or (b)(2) of this subpart. [§63.181(b)(1)(i)]

- i) A schedule by process unit for monitoring connectors subject to the provisions of §63.174(a) of this subpart. [§63.181(b)(1)(ii)]
    - ii) Physical tagging of the equipment to indicate that it is in organic HAP service is not required. Equipment subject to the provisions of this subpart may be identified on a plant site plan, in log entries, or by other appropriate methods. [§63.181(b)(1)(iii)]
  - b) Identification of screwed connectors subject to the requirements of §63.174(c)(2) of this subpart. Identification can be by area or grouping as long as the total number within each group or area is recorded. [§63.181(b)(5)]
  - c) The following information pertaining to all connectors subject to the provisions of §63.174(f) and (g) of this subpart shall be recorded: [§63.181(b)(7)]
    - i) Identification of equipment designated as unsafe to monitor, difficult to monitor, or unsafe to inspect and the plan for monitoring or inspecting this equipment. [§63.181(b)(7)(i)]
    - ii) A list of identification numbers for the equipment that is designated as difficult to monitor, an explanation of why the equipment is difficult to monitor, and the planned schedule for monitoring this equipment. [§63.181(b)(7)(ii)]
    - iii) A list of identification numbers for connectors that are designated as unsafe to repair and an explanation why the connector is unsafe to repair. [§63.181(b)(7)(iii)]
  - d) A list of connectors removed from and added to the process unit, as described in §63.174(i)(1) of this subpart, and documentation of the integrity of the weld for any removed connectors, as required in §63.174(j) of this subpart. This is not required unless the net credits for removed connectors is expected to be used. [§63.181(b)(8)(ii)]
  - e) For any leaks detected as specified in §§63.163 and 63.164; §§63.168 and 63.169; and §§63.172 through 63.174 of this subpart, a weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment. [§63.181(b)(10)]
2. When each leak is detected as specified in §§63.163 and 63.164; §§63.168 and 63.169; and §§63.172 through 63.174 of this subpart, the following information shall be recorded and kept for 2 years: [§63.181(d)]
  - a) The instrument and the equipment identification number and the operator name, initials, or identification number. [§63.181(d)(1)]
  - b) The date the leak was detected and the date of first attempt to repair the leak. [§63.181(d)(2)]
  - c) The date of successful repair of the leak. [§63.181(d)(3)]
  - d) Maximum instrument reading measured by Method 21 of 40 CFR Part 60, appendix A after it is successfully repaired or determined to be nonrepairable. [§63.181(d)(4)]
  - e) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak. [§63.181(d)(5)]
    - i) The owner or operator may develop a written procedure that identifies the conditions that justify a delay of repair. The written procedures may be included as part of the startup/shutdown/malfunction plan, required by §63.6(e)(3), for the source or may be part of a separate document that is maintained at the plant site. In such cases, reasons for delay of repair may be documented by citing the relevant sections of the written procedure. [§63.181(d)(5)(i)]
    - ii) If delay of repair was caused by depletion of stocked parts, there must be documentation that the spare parts were sufficiently stocked on-site before depletion and the reason for depletion. [§63.181(d)(5)(ii)]
  - f) Dates of process unit shutdowns that occur while the equipment is unrepaired. [§63.181(d)(6)]
  - g) [§63.181(d)(7)]

- i) Identification, either by list, location (area or grouping), or tagging of connectors that have been opened or otherwise had the seal broken since the last monitoring period required in §63.174(b) of this subpart, as described in §63.174(c)(1) of this subpart, unless the owner or operator elects to comply with the provisions of §63.174(c)(1)(ii) of this subpart. [§63.181(d)(7)(i)]
- ii) The date and results of monitoring as required in §63.174(c) of this subpart. If identification of connectors that have been opened or otherwise had the seal broken is made by location under paragraph (d)(7)(i) of this section, then all connectors within the designated location shall be monitored. [§63.181(d)(7)(ii)]
- h) Copies of the periodic reports as specified in §63.182(d) of this subpart, if records are not maintained on a computerized database capable of generating summary reports from the records. [§63.181(d)(9)]

**Reporting:**

- 1. The owner or operator of a source subject to this subpart shall submit Periodic Reports. [§63.182(d)]
  - a) For each process unit complying with the provisions of §63.163 through §63.174 of this subpart, the summary information listed in paragraphs (i) through (xvi) of this paragraph for each monitoring period during the 6-month period. [§63.182(d)(2)]
    - i) The number of connectors for which leaks were detected as described in §63.174(a) of this subpart, the percent of connectors leaking, and the total number of connectors monitored; [§63.182(d)(2)(ix)]
    - ii) The number of connectors for which leaks were not repaired as required in §63.174(d) of this subpart, identifying the number of those that are determined nonreparable; [§63.182(d)(2)(xi)]
    - iii) The facts that explain any delay of repairs and, where appropriate, why a process unit shutdown was technically infeasible. [§63.182(d)(2)(xiii)]
    - iv) If applicable, notification of a change in connector monitoring alternatives as described in §63.174(c)(1) of this subpart. [§63.182(d)(2)(xvi)]
  - b) The information listed in paragraph (c) of 40 CFR 63.182 for the Notification of Compliance Status for process units with later compliance dates. Any revisions to items reported in earlier Notification of Compliance Status, if the method of compliance has changed since the last report. [§63.182(d)(4)]

**PERMIT CONDITION PW013**

*MON Requirements*

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 Limitations:**

- 1. 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. [§63.2460(a)]
  - 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. [§63.2460(b)]

- i) 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). [§63.2460(b)(1)]
- ii) 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). [§63.2460(b)(2)]
- iii) 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:  
 $P_{\text{system}}$  = 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;  
 $MW_{\text{HAP}}$  = 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. [§63.2460(b)(3)]
- iv) 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. [§63.2460(b)(4)]
  - (1) You must determine the flowrate of gas (or volume of gas), partial pressures of condensables, temperature (T), and HAP molecular weight ( $MW_{\text{HAP}}$ ) at the exit temperature and exit pressure conditions of the condenser or at the conditions of the dedicated receiver. [§63.2460(b)(4)(i)]
  - (2) 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). [§63.2460(b)(4)(ii)]
  - (3) You must perform a material balance for each component. [§63.2460(b)(4)(iii)]
  - (4) For the emissions from gas evolution, the term for time, t, must be used in Equation 12 to 40 CFR Part 63, subpart GGG. [§63.2460(b)(4)(iv)]
  - (5) 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. [§63.2460(b)(4)(v)]
  - (6) 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. [§63.2460(b)(4)(vi)]
  - (7) 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. [§63.2460(b)(4)(vii)]
- v) 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. [§63.2460(b)(6)]
  - (1) 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). [§63.2460(b)(6)(i)]

(2) 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. [§63.2460(b)(6)(ii)]

vi) 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). [§63.2460(b)(7)]

## 2. 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. [§63.2480(a)]

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. [§63.2480(b)]

i) The requirements for pressure testing in §63.179(b) or §63.1036(b) may be applied to all processes, not just batch processes. [§63.2480(b)(1)]

ii) 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. [§63.2480(b)(2)]

iii) 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). [§63.2480(b)(3)]

iv) 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. [§63.2480(b)(4)]

v) 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). [§63.2480(b)(5)]

## **Compliance Options:**

1. 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). [§63.2535]

a) *Compliance with other subparts of this part 63.* [§63.2535(a)]

i) 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. [§63.2535(a)(1)]

**Recordkeeping:**

1. You must keep the records specified in paragraphs (a) through (k) of this section. [§63.2525]
  - a) Each applicable record required by subpart A of this part 63 and in referenced subparts F, G, and H of this part 63 [§63.2525(a)]
  - b) Records of each operating scenario as specified in paragraphs (b)(1) through (8) of this section. [§63.2525(b)]
    - i) A description of the process and the type of process equipment used. [§63.2525(b)(1)]
    - ii) 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. [§63.2525(b)(2)]
    - iii) Calculations and engineering analyses required to demonstrate compliance. [§63.2525(b)(7)]
    - iv) 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. [§63.2525(b)(8)]
  - 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. [§63.2525(c)]
  - d) 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. [§63.2525(e)]
    - i) 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. [§63.2525(e)(4)]
      - (1) 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. [§63.2525(e)(4)(i)]
      - (2) A record of whether each batch operated was considered a standard batch. [§63.2525(e)(4)(ii)]
      - (3) The estimated uncontrolled and controlled emissions for each batch that is considered to be a nonstandard batch. [§63.2525(e)(4)(iii)]
      - (4) 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. [§63.2525(e)(4)(iv)]
  - e) A record of each time a safety device is opened to avoid unsafe conditions in accordance with §63.2450(s). [§63.2525(f)]
  - f) 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. [§63.2525(j)]
2. All records shall be retained for at least five (5) years from the date of record.
3. All records shall be made available to any Missouri Department of Natural Resources' personnel upon request

**Reporting:**

1. You must submit each report in Table 11 to this subpart that applies to you. [§63.2520(a)]

2. 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. [§63.2520(b)]
  - a) Each 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. [§63.2520(b)(3)]
  - b) 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. [§63.2520(b)(4)]
  - c) 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 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. [§63.2520(b)(5)]
3. *Compliance report.* The compliance report must contain the information specified in paragraphs (e)(1) through (10) of this section. [§63.2520(e)]
  - a) Company name and address. [§63.2520(e)(1)]
  - b) Statement by a responsible official with that official's name, title, and signature, certifying the accuracy of the content of the report. [§63.2520(e)(2)]
  - c) Date of report and beginning and ending dates of the reporting period. [§63.2520(e)(3)]
  - d) 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. [§63.2520(e)(4)]
  - e) 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. [§63.2520(e)(5)]
    - 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. [§63.2520(e)(5)(i)]
    - ii) 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. [§63.2520(e)(7)]
  - f) Applicable records and information for periodic reports as specified in referenced subparts F, G, and H of this part. [§63.2520(e)(9)]
  - g) *Notification of process change.* [§63.2520(e)(10)]
    - 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. [§63.2520(e)(10)(i)]
      - (1) A description of the process change. [§63.2520(e)(10)(i)(A)]

- (2) Revisions to any of the information reported in the original notification of compliance status report under paragraph (d) of this section. [§63.2520(e)(10)(i)(B)]
- (3) 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. [§63.2520(e)(10)(i)(C)]
- 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. [§63.2520(e)(10)(ii)]
  - (1) Any change to the information contained in the precompliance report. [§63.2520(e)(10)(ii)(A)]
  - (2) A change in the status of a control device from small to large. [§63.2520(e)(10)(ii)(B)]
  - (3) 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). [§63.2520(e)(10)(ii)(C)]

**PERMIT CONDITION PW014**

*Pentaerythritol CMPU – Process Modification*  
10 CSR 10-6.060 Construction Permits Required  
Construction Permit No. 1298-003, Issued November 30, 1998  
Construction Permit No. 1298-003A, Issued March 31, 1999

**Emission Limitation:**

Special Condition No. 1: The permittee shall emit into the atmosphere due to the PE modification less than 11.56 tons of volatile organic compounds (VOCs) in any consecutive 12-month period.

Note: The PE modification increases the PE production from 23,104 tons to 23,555 tons. The PE modification consists of the replacement of the smaller condenser of the 3<sup>rd</sup> effect evaporator in the tech PE process with a larger condenser, replacing a thermocompressor of the 1<sup>st</sup> effect evaporator in the tech PE process with a larger unit, and replacing the Oslo condenser in the sodium formate process with a larger unit.

**Monitoring:**

Records of PE production and VOC emissions calculation.

**Recordkeeping:**

1. Special Condition No. 2: The permittee shall maintain the monthly and the sum of the most recent consecutive 12-month records of VOC emissions increase due to the PE modification. The records shall be maintained on site for 5 years and made available for inspection to the Missouri Department of Natural Resources' personnel upon request.
2. Compliance with the emission limitation shall be demonstrated through Attachment F, Monthly VOC Compliance Worksheet, or an equivalent form generated by the permittee.

**Reporting:**

1. Special Condition No. 3: The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after any exceedance of the VOC emission limit above.
2. The permittee shall report any deviations from the emission limitation, monitoring, recordkeeping, and reporting requirements of this permit condition in the semi-annual monitoring report and compliance certification required by Section V of this permit.

### 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.

<b>PERMIT CONDITION 001</b>					
10 CSR 10-3.060 Maximum Allowable Emissions of Particulate Matter From Fuel Burning Equipment Used for Indirect Heating					
Emission Unit	Description	Construction Date	MHDR (MMBtu/hr)	Fuel	Stack No.
EP-64	Dowtherm Boiler	-	4	Natural Gas	EP064
EP-113	Dowtherm Boiler	2007	5	Natural Gas	EP113

**Emission Limitation:**

The permittee shall not emit particulate matter in excess of 0.15 pounds per million BTU of heat input from the Dowtherm Boilers (EP-64 and EP-113).

**Operational Limitation:**

The permittee shall calibrate, maintain, and operate the emission units according to the manufacturer's specifications and recommendations.

**Monitoring/Recordkeeping:**

1. Maintain a maintenance log noting all inspections, malfunctions, and repairs using Attachment D or an equivalent form generated by the permittee.
2. Records may be kept in either written or electronic form.
3. These records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon request.
4. All records must be maintained for five (5) years.
5. Attachment E contains calculations which demonstrate that the Dowtherm Boilers (EP-64 and EP-113) will never exceed the emission limitation while burning natural gas.

**Reporting:**

1. The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after any exceedance of any of the terms imposed by this regulation, or any malfunction which could possibly cause an exceedance of this regulation.
2. The permittee shall report any deviations from the emission limitation, operational limitation, monitoring/recordkeeping, and reporting requirements of this permit condition in the annual monitoring report and compliance certification required by Section V of this permit.

<b>PERMIT CONDITION 002</b> 10 CSR 10-6.060 Construction Permits Required Construction Permit No. 0898-023, Issued July 31, 1998	
Emission Unit	Description
EP-60	Mono PE Dryer Rotoclone Stack
EP-61	Di PE Dryer Vent Stack

**Operational Limitation:**

Special Condition No. 1: The permittee shall use the rotoclone wet scrubber at all times whenever the Mono PE Dryer EP-60 and the Di PE Dryer EP-61 are in operation. The control device shall be properly maintained and operated in accordance with the existing standard operating practices (SOP) in place at the installation and manufacturer’s specifications. The control device shall operate, so as to achieve a minimum of 50 percent reduction in PM<sub>10</sub> emissions.

**Monitoring/Recordkeeping:**

1. Special Condition No. 1: The permittee shall maintain an operating log for the rotoclone wet scrubber in accordance with the existing SOP in place.
2. The permittee shall record all maintenance and inspection activities using Attachment D or an equivalent form generated by the permittee.

**Reporting:**

1. The permittee shall report to the Air Pollution Control Program’s Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days of any exception to the operational limitation specified above.
2. The permittee shall report any deviations from the operational limitation, monitoring/recordkeeping, and reporting requirements of this permit condition in the semi-annual monitoring report and compliance certification required by Section V of this permit.

<b>PERMIT CONDITION 003</b> 10 CSR 10-6.065(2)(C) and 10 CSR 10-6.065(5)(A) Voluntary Limitation(s) (Letter of Request Dated August 24, 2000)	
Emission Unit	Description
EP-87	Methanol Vaporizers

**Emission Limitation:**

On start-up, methanol emissions vented to atmosphere shall not exceed 2400 pounds per hour per vaporizer.

**Monitoring:**

The methanol emission rate from the vaporizer during start up is equivalent to the methanol feed rate to the vaporizer, since the vaporizer is vented to atmosphere during start up. The permittee will record the feed rate of methanol to each vaporizer during each start up event, and the duration the methanol vaporizer vents to atmosphere during start up.

**Recordkeeping:**

1. A record of the methanol emissions and methanol emission rate from each vaporizer for each start-up event shall be retained for at least five (5) years from the date of record.
2. All records shall be made available to any Missouri Department of Natural Resources' personnel upon request.

**Reporting:**

1. Reporting is required to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after the methanol emission rate into the atmosphere from any methanol vaporizer exceeds 2400 pounds per hour during start up.
2. The permittee shall report any deviations from the emission limitation, monitoring, recordkeeping, and reporting requirements of this permit condition in the semi-annual monitoring report and compliance certification required by Section V of this permit.

<b>PERMIT CONDITION 004</b>	
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 Unit	Description
EP-86	Waste Heat Boiler

**Monitoring:**

The amount of fuel combusted in the waste heat boiler shall be determined for each day. Natural gas daily usage shall be obtained from a difference in readings collected from the natural gas meter. The quantity of waste gases collected and combusted as fuel in the boiler shall be determined by calculation. The calculated waste fuel amount is approximated by an energy and mass balance instead of direct measurement. The energy provided by the waste fuel is approximately equal to the difference in the energy in the steam produced by the boiler less the amount of natural gas energy provided to the boiler.

**Recordkeeping:**

The permittee shall record and maintain records of the amounts of each fuel combusted during each day. The record shall be maintained for a period of five (5) years. [40 CFR 60.48c(g)]

**Reporting:**

The permittee shall report any deviations from the monitoring, recordkeeping, and reporting requirements of this permit condition in the semi-annual monitoring report and compliance certification required by Section V of this permit.

<b>PERMIT CONDITION 005</b>				
10 CSR 10-6.075 Maximum Achievable Control Technology Regulations 40 CFR Part 63, Subpart G - National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) for Process Vents, Storage Vessels, Transfer Operations, and Wastewater – Standards: Group 1 Storage Tanks				
Emission Unit	Description	Dimensions	Capacity (gallons)	Location
EP-13	Methanol Storage Tank #722	43'6" D X 40'6"	455,022	BPF-9013, shop drawing room
EP-14	Methanol Storage Tank #720	20'D X 12'	28,204	BPF-76, shop drawing room
EP-15	Methanol Storage Tank #721	20'D X 12'	28,204	BPF-76, shop drawing room

**Emission Limitation:**

1. For each Group 1 storage vessel (as defined in table 5 of this subpart for existing sources and table 6 of the subpart for new sources) storing a liquid for which the maximum true vapor pressure of the total organic hazardous air pollutants in the liquid is less than 76.6 kilopascals, the owner or operator shall reduce hazardous air pollutants emissions to the atmosphere either by operating and maintaining a fixed roof and internal floating roof, an external floating roof, an external floating roof converted to an internal floating roof, a closed vent system and control device, routing the emissions to a process or a fuel gas system, or vapor balancing in accordance with the requirements in paragraph (b), (c), (d), (e), (f), or (g) of this section, or equivalent as provided in § 63.121 of this subpart. [40 CFR 63.119(a)(1)]
2. The permittee shall operate the fuel gas system at all times when organic hazardous air pollutants emissions are routed to fuel gas system except start-ups/shutdowns/malfunctions as provided in § 63.102(a)(1) of subpart F or any time that the liquid level in the vessels is not increased while the gasses by-pass the fuel gas system. Whenever the owner or operator by-passes the fuel gas system, the owner or operator shall comply with the recordkeeping requirement in § 63.123(h) of this subpart. Bypassing is permitted if the permittee complies with one or more of the following: [40 CFR 63.102(a)(1), 63.119(f) & (f)(3)]
  - a) The liquid level in the storage vessel is not increased; or [40 CFR 63.119(f)(i)]
  - b) The total aggregate amount of time during which the emissions by-pass the fuel gas system or process during the calendar year without being routed to a control device, for all reasons (except start-ups/shutdowns/malfunctions or product changeovers of flexible operation units and periods when the storage vessel has been emptied and degassed), does not exceed 240 hours. [40 CFR 63.119(f)(iii)]

**Monitoring:**

The duration of time when gases by-pass the fuel gas system shall be monitored to ensure that the limit of 240 hours is not exceeded.

**Record keeping:**

1. The permittee shall keep readily accessible records showing the dimensions of the storage vessel and an analysis showing the capacity of the storage vessel. This record shall be kept as long as the storage vessel retains Group 1 status and is in operation. [40 CFR 63.123(a)]
2. The permittee shall keep the following records in a readily accessible location: [40 CFR 63.123(h)]

- a) The reason it was necessary to by-pass the process equipment or fuel gas system; [40 CFR 63.123(h)(1)]
- b) The duration of the period when the process equipment or fuel gas system was by-passed; [40 CFR 63.123(h)(2)]
- c) Documentation or certification of compliance that the total time gases by-passed the fuel gas system were not more than 240 hours in a calendar year (excluding start-ups/shutdowns/malfunctions or product changeovers of flexible operation units, periods when the storage vessel has been emptied and degassed, and periods when the liquid level in the storage vessels was not increased). [40 CFR 63.123(h)(3)]

**Reporting:**

The permittee shall report any deviations from the emission limitation, monitoring/recordkeeping, and reporting requirements of this permit condition in the semi-annual monitoring report and compliance certification required by Section V of this permit.

<b>PERMIT CONDITION 006</b>				
10 CSR 10-6.075 Maximum Achievable Control Technology Regulations 40 CFR Part 63, Subpart G - National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) for Process Vents, Storage Vessels, Transfer Operations, and Wastewater – Standards: Group 2 Storage Tanks				
Emission Unit	Description	Dimensions	Capacity (gallons)	Location
EP-18	Formaldehyde Tank #1	15'D X 11'	14,543	BPF-9013 - Shop Drawing Room
EP-19	Formaldehyde Tank #2	15'D X 11'	14,543	BPF-9013 - Shop Drawing Room
EP-20	Formaldehyde Tank #3	20'D X 12'	28,204	BPF-29068 - Shop Drawing Room
EP-21	Formaldehyde Tank #4	20'D X 12'	28,204	BPF-29068 - Shop Drawing Room
EP-22	Formaldehyde Tank #6	20'D X 12'	28,204	Drawing # W26424
EP-23	Formaldehyde Tank #7	20'D X 12'	28,204	Drawing # LM 468
EP-24	Formaldehyde Tank #8	30'D X 38'	200,952	BPF-24778 - Shop Drawing Room

**Emission Limitation:**

For each Group 2 storage vessel that is not part of an emissions average as described in 40 CFR 63.150 of Subpart G, the owner or operator shall comply with the recordkeeping requirement in § 63.123(a) of this subpart and is not required to comply with any other provisions in 40 CFR 63.119 through 63.123 of Subpart G. [40 CFR 63.119(a) & (a)(3)]

**Monitoring/Recordkeeping:**

For each Group 2 storage vessel, the permittee shall keep readily accessible records showing the dimensions of the storage vessel and an analysis showing the capacity of the storage vessel. This record shall be kept as long as the storage vessel retains Group 2 status and is in operation. [40 CFR 63.123(a)]

**Reporting:**

The permittee shall report any deviations from the monitoring/recordkeeping requirements of this permit condition in the semi-annual monitoring report and compliance certification required by Section V of this permit.

<b>PERMIT CONDITION 007</b>	
10 CSR 10-6.075 Maximum Achievable Control Technology Regulations 40 CFR Part 63, Subpart G - National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) for Process Vents, Storage Vessels, Transfer Operations, and Wastewater – Standards: Group 2 Transfer Racks	
Emission Unit	Description
EP-25	Formaldehyde Truck Loading Rack

**Emission Limitation:**

For each Group 2 transfer rack, the permittee shall maintain records as required in 40 CFR 63.130(f). No other provisions for transfer racks apply to the Group 2 transfer rack. [40 CFR 63.126(c)]

**Monitoring/Recordkeeping:**

1. The permittee shall record, update annually, and maintain the information specified below in a readily accessible location on site: [40 CFR 63.130(f)]
  - a) An analysis demonstrating the design and actual annual throughput of the transfer rack; [40 CFR 63.130(f)(1)]
  - b) An analysis documenting the weight-percent organic HAPs in the liquid loaded. Examples of acceptable documentation include but are not limited to analyses of the material and engineering calculations. [40 CFR 63.130(f)(2)]
  - c) An analysis documenting the annual rack weighted average HAP partial pressure of the transfer rack. [40 CFR 63.130(f)(3)]
    - i) For Group 2 transfer racks that are limited to transfer of organic HAPs with partial pressures less than 10.3 kilopascals, documentation is required of the organic HAPs (by compound) that are transferred. The rack weighted average partial pressure does not need to be calculated. [40 CFR 63.130(f)(3)(i)]
    - ii) For racks transferring one or more organic HAPs with partial pressures greater than 10.3 kilopascals, as well as one or more organic HAPs with partial pressures less than 10.3 kilopascals, a rack weighted partial pressure shall be documented. The rack weighted average HAP partial pressure shall be weighted by the annual through-put of each chemical transferred. [40 CFR 63.130(f)(3)(ii)]

**Reporting:**

The permittee shall report any deviations from the monitoring/recordkeeping requirements of this permit condition in the semi-annual monitoring report and compliance certification required by Section V of this permit.

<b>PERMIT CONDITION 008</b>	
10 CSR 10-6.075 Maximum Achievable Control Technology Regulations 40 CFR Part 63, Subpart G - National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) for Process Vents, Storage Vessels, Transfer Operations, and Wastewater	
Emission Unit	Description
EP-31	Distillate Tank #221
EP-32	FA Prep Tank #105-1
EP-33	Tech PE Reactor R-101
EP-34	Precipitator Tank #102-1
EP-35	Precipitator Tank #102-2
EP-36	Knock Down Tank #104-1
EP-37	Knock Down Tank #104-2
EP-38	Hold Tank #133
EP-39	Evaporation Filter Feed Tank #105-2
EP-40	Evaporation Filter Feed Tank #107
EP-90	3 <sup>rd</sup> Effect Evaporator Wastewater Discharge

**Emission Limitation:**

1. Piping that conveys third effect distillate to the pentaerythritol reactor scrubber and the piping that conveys pentaerythritol scrubber blowdown to the sodium formate pit must contain no visible gaps in the joints, seals or other emission interfaces. The pipes shall meet the control requirements for at least as stringent as stated above for equipment (piping) meeting all the criteria specified in 40 CFR 63.149(b) through (d) and 40 CFR 63.149(e)(1) of Subpart G, as applicable. Applicable items of equipment either conveys water with a total annual average concentration greater than or equal to 10,000 parts per million by weight of methanol at any flowrate or a total annual concentration greater than or equal to 1,000 parts per million by weight of methanol at an annual average flow rate greater than or equal to 10 liters per minute. [40 CFR 63.149(a), (b), (c), (d), (e)(1) and Table 35 of Subpart G]
2. The permittee shall use pollution prevention measures that reduce HAP emissions by 31% as specified in Table 9 of 40 CFR Part 63, Subpart G. Calculate the difference in monthly organic HAP emissions for each emission point in an emissions average after the pollution prevention measure has been implemented for the most recent month versus the monthly emissions from the same emission points before the pollution prevention measure adjusted to the volume of product produced. Use the equation in 40 CFR 63.150(j)(2)(ii)(B) for emissions before the pollution prevention measure. The monthly emissions after the pollution prevention measure may be determined from a performance test or documented with engineering calculations as specified in 40 CFR 63.150(j)(2)(ii)(D). Use equation in 40 CFR 63.150(j)(2)(ii) to determine the percent reduction of the pollution prevention measure. Once the emissions-to-production ratio has been established, the ratio can be used to estimate monthly emissions from monthly production records. [40 CFR 63.112(f); 63.150(a), (c)(3), (h)(1)(iii), (j)(2)(i), (j)(2)(ii), (j)(2)(ii)(D), (j)(2)(v), & (m)(6)]
3. To demonstrate compliance with the 31% HAP emissions (methanol discharge) limit, the permittee shall maintain an average monthly pH of the discharge stream of the T-102 tanks (EP-34 and EP-35) at or below 7.5. [EPA's Letter of Approval, Dated August 8, 1996]
4. The permittee shall maintain the monthly average of the pH of the common discharge pipe from T-102 (EP-34 and EP-35) holding tanks at or below 7.5 pH units. [EPA's Letter of Approval, Dated August 8, 1996]

**Monitoring:**

1. Continuous monitoring of the pH at the common discharge of holding tanks T-102-1 (EP-34) and T-102-2 (EP-35) shall be performed. Continuous pH data shall be converted to monthly averages of pH. The source shall maintain the monthly pH of this stream at or below 7.5. Samples shall be collected and analyzed for methanol concentration at least once per month from the 3<sup>rd</sup> effect distillate in accordance with the procedures described in the Response Letter to EPA, Dated April 19, 1999. [40 CFR 63.151(f)]
2. Pursuant to 40 CFR 63.8(a)(1)(ii) of Subpart A, the permittee shall continuously monitor the pH value of the common discharge pipe from T-102 (EP-34 and EP-35) holding tanks. The monthly pH value shall be calculated from valid readings.
3. Pursuant to 40 CFR 63(8)(c)(3) of Subpart A, the pH continuous monitoring system (CMS) shall be installed, operated, and data verified as specified by the manufacturer's written specifications or recommendations for installation, operation, and calibration of the system.
4. The permittee shall operate the pH CMS in a manner consistent with good air pollution control practices and shall ensure the immediate repair or replacement of CMS parts to correct "routine" or otherwise predictable CMS malfunctions as defined in the source's startup, shutdown, and malfunction plan required by 40 CFR 63.6(e)(3) of Subpart A. The permittee shall keep the necessary parts for routine repairs of the affected equipment readily available. [40 CFR 63(8)(c)(1) & (1)(i)]
5. Manual hourly readings of pH values of the process stream is allowed during equipment malfunction.

**Recordkeeping:**

1. All equations, calculations, test procedures, test results, and other information used to determine the percent reduction achieved by a pollution prevention measure for each emission point in an emission averaging shall be fully documented. [40 CFR 63.150(j)(2)(iii)]
2. Continuous pH data for each operating day shall be summarized into a monthly average pH value. Methanol sample monitoring results of the 3<sup>rd</sup> effect distillate shall be kept in a log, and made available upon request. [40 CFR 63.152(f)]
3. For CMS used to comply with Subpart G, the permittee shall keep records documenting the completion of calibration checks and maintenance of the CMS as specified by the manufacturer or other written procedures that assure reasonably accurate monitoring.
4. Records of the dates and duration during which CMS is inoperative shall be provided.

**Reporting:**

1. The permittee shall submit quarterly reports beginning no later than 5 months after the compliance date of April 22, 1999, and no later than 60 days after the end of each quarter. The report will include the monthly average pH values of the stream leaving the holding tanks, T-102. Monthly methanol emissions from the 3<sup>rd</sup> effect distillate will be calculated based on the emissions-to-production ratio and included in the quarterly reports. [40 CFR 63.152(c)(5)(i)]
2. Every fourth quarterly report shall have a certification of compliance for the emissions averaging. [40 CFR 63.152(c)(5)(iv)(B)]
3. Reports of start-up, shutdown, and malfunction required by 40 CFR 63.10(d)(5) of Subpart A. The semi-annual start-up, shutdown and malfunction reports may be submitted on the same schedule as the Periodic Reports required under 40 CFR 63.152(c) of Subpart G instead of the schedule specified in 40 CFR 63.10(d)(5)(i) of Subpart A. [40 CFR 63.152(d)(1)]

4. Pursuant to 40 CFR 10(d)(5)(i) of Subpart A, if a CMS repair is made immediately and the startup, shutdown, or malfunction plan is followed, the permittee shall state such information in a startup, shutdown, and malfunction (SSM) semi-annual report. SSM reports shall only be required if a startup, shutdown, or malfunction occurred during the reporting period.
5. The permittee shall submit quarterly reports of the monthly average pH values. [40 CFR 63.152(c)(5)]

<b>PERMIT CONDITION 009</b>	
10 CSR 10-6.220 Restriction of Emission of Visible Air Contaminants	
Emission Unit	Description
EP-48	Tech Dryer Baghouse Exhaust (Pentaerythritol)
EP-60	Mono PE Dryer Rotoclone Stack
EP-61	Di PE Dryer Vent Stack
EP-70	Fuller Dryer Dust Collector Discharge
EP-71	Ureaform Product Handling/Recovery
EP-72	Ureaform Bulk Loading Fugitive Emissions
EP-79	Fluidized Polymer Suspension
EP-93	Mono Overs Grinder
EP-94	Mono PE Bagging
EP-96	Urea Silo

**Emission Limitation:**

1. No owner or other person shall cause or permit to be discharged into the atmosphere from these emission units any visible emissions with an opacity greater than 20%.
2. Exception: A person may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six (6) minutes in any sixty (60) minutes air contaminants with an opacity up to 60%.

**Monitoring:**

1. The permittee shall conduct opacity readings on these emission units using the procedures contained in U.S. EPA Test Method 22. Readings are only required when the emission unit is operating and when the weather conditions allow. If no visible or other significant emissions are observed using these procedures, then no further observations would be 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 following monitoring schedule must be maintained:
  - a) Weekly observations shall be conducted for a minimum of eight (8) consecutive weeks after permit issuance. Should no violation of this regulation be observed during this period then
  - b) Observations must be made once every two weeks for a period of eight (8) weeks. If a violation is noted, monitoring reverts to weekly. Should no violation of this regulation be observed during this period then
  - c) Observations must be made once per month. If a violation is noted, monitoring reverts to weekly.
3. If the source reverts to daily monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency.

**Record Keeping:**

1. The permittee shall maintain records of all observation results (see Attachments B & C, or equivalent forms generated by the permittee), noting:
  - a) Whether any air emissions (except for water vapor) were visible from the emission units,
  - b) All emission units from which visible emissions occurred, and
  - c) Whether the visible emissions were normal for the process.
2. The permittee shall maintain records of any equipment malfunctions and maintenance using Attachment D.
3. The permittee shall maintain records of any U.S. EPA Method 9 opacity test performed in accordance with this permit condition.
4. These records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon request.
5. All records must be maintained for five (5) years.

**Reporting:**

1. The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after any exceedance of any of the terms imposed by this regulation, or any malfunction which could possibly cause an exceedance of this regulation.
2. The permittee shall report any deviations from the emission limitation, monitoring, recordkeeping, and reporting requirements of this permit condition in the annual monitoring report and compliance certification required by Section V of this permit.

<b>PERMIT CONDITION 010</b>		
10 CSR 10-6.400 Restriction of Emission of Particulate Matter From Industrial Processes		
<b>Emission Unit</b>	<b>Description</b>	<b>Control Device No.</b>
EP-60	Mono PE Dryer Rotoclone Stack	CD13 Rotoclone Wet Scrubber
EP-61	Di PE Dryer Vent Stack	CD14 Rotoclone Wet Scrubber
EP-70	Fuller Dryer Dust Collector Discharge	CD16 Baghouse
EP-71	Ureaform Product Handling/Recovery	CD16 Baghouse
EP-93	Mono Overs Grinder	CD19 Enclosed Transfer
EP-94	Mono PE Bagging	CD19 Enclosed Transfer

**Emission Limitation:**

1. The permittee shall not emit particulate matter in excess of the limits given in the following table:

<b>Emission Unit</b>	<b>Description</b>	<b>PM Emission Limit (lb/h)</b>
EP-60	Mono PE Dryer Rotoclone Stack	5.97
EP-61	Di PE Dryer Vent Stack	2.47
EP-70	Fuller Dryer Dust Collector Discharge	10.72
EP-71	Ureaform Product Handling/Recovery	43.84
EP-93	Mono Overs Grinder	5.97
EP-94	Mono PE Bagging	5.97

2. No person shall cause, allow or permit the emission of particulate matter from any source in a concentration in excess of 0.30 grain per standard cubic foot of exhaust gases.

**Operational Limitation:**

1. The permittee shall calibrate, maintain, and operate the emission units according to the manufacturer's specifications and recommendations.
2. CD14 Rotoclone Wet Scrubber and CD16 Draco Baghouse shall be properly maintained and operated according to the manufacturer's specifications and recommendations.
  - a) The permittee shall not operate EP-61 Di PE Dryer Vent Stack unless CD14 Rotoclone Wet Scrubber is in operation.
  - b) The permittee shall not operate EP-70 Fuller Dryer Dust Collector Discharge unless CD16 Draco Baghouse is in operation.

**Monitoring/Record Keeping:**

1. The permittee shall retain the potential to emit calculations in Attachment G which demonstrate that the above emission limitation will never be exceeded. No further record keeping shall be required to demonstrate compliance with the emission limitations.
2. The calculation shall be made available immediately for inspection to the Department of Natural Resources' personnel upon request.
3. All records shall be kept for a period of five (5) years.

**Reporting:**

1. The permittee shall report to the Air Pollution Control Program’s Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after any exceedance of any of the terms imposed by this regulation, or any malfunction which could possibly cause an exceedance of this regulation.
2. The permittee shall report any deviations from the emission limitations, operational limitation, monitoring/recordkeeping, and reporting requirements of this permit condition in the annual monitoring report and compliance certification required by Section V of this permit.

<b>PERMIT CONDITION 011</b>	
10 CSR 10-6.410 Emissions Banking and Trading	
10 CSR 10-6.065(2)(C) and 10 CSR 10-6.065(5)(A) Voluntary Limitation(s)	
(Letters Dated March 30, 1999, April 29, 1999, and September 18, 1998)	
Emission Unit	Description
EP-13	Methanol Storage Tank #722
EP-14	Methanol Storage Tank #720
EP-15	Methanol Storage Tank #721
EP-16	Formaldehyde Absorber
EP-17	Formaldehyde Feed/Reflux System (Drum Vent)
EP-18	Formaldehyde Tank #1
EP-19	Formaldehyde Tank #2
EP-20	Formaldehyde Tank #3
EP-21	Formaldehyde Tank #4
EP-22	Formaldehyde Tank #6
EP-23	Formaldehyde Tank #7
EP-24	Formaldehyde Tank #8
EP-25	Formaldehyde Truck Loading Rack
EP-86	Waste Heat Boiler

**Operational Limitation:**

In order to maintain the 2.04 ton Methanol and 1.01 ton Formaldehyde emission reduction credits, the emissions from Formaldehyde Loading (EP-25), Formaldehyde Absorber Vent (EP-16), Formaldehyde Feed Vent (EP-17), Methanol Storage Tanks (EP-13, EP-14, and EP-15) and Formaldehyde Storage Tanks (EP-18, EP-19, EP-20, EP-21, EP-22, EP-23, and EP-24) must be controlled by the Waste Heat Boiler (EP-86). The Waste Heat Boiler destruction efficiency must be maintained at 99.5%, except during start-up, shutdown or malfunction (SSM) periods, other periods allowed by the HON or other times agreed to by the Air Pollution Control Program.

**Monitoring:**

1. Documentation and monitoring of the uncontrolled periods of the Waste Heat Boiler are required by 40 CFR 63.119 (f)(3)(i) or (f)(3)(iii) of Subpart G. Additional monitoring is not required for compliance with the hazardous organic NESHAPs
2. The Waste Heat Boiler combustion zone temperature must be maintained between 1350°F and 2100°F at all times when the boiler is in operation and waste gases are routed from tanker

transferring, process vents, and storage tank vents to the boiler. Continuous monitoring of the Waste Heat Boiler combustion zone temperature is required as an indicator that the control efficiency of the boiler is maintained when waste gases are routed to the boiler.

**Recordkeeping:**

1. The records required by 40 CFR 63.119 of Subpart G (stated in Emission Unit Specific Permit Conditions 005 through 007) are sufficient for compliance with the hazardous organic NESHAPs.
2. The source must maintain a record of the Waste Heat Boiler combustion zone temperature during all times the boiler is receiving waste gases from tanker loading, storage vessels, and process vents. The source may summarize the continuous readings into hourly averages and daily averages.

**Reporting:**

Reporting to the Air Pollution Control Program’s Enforcement Section shall be made within 15 days of discovering the destruction efficiency of the Waste Heat Boiler has been operated below 99.5%, or if the boiler is not operating in compliance with 40 CFR Part 63.

<b>PERMIT CONDITION 012</b>	
10 CSR 10-6.075 Maximum Achievable Control Technology Regulations 40 CFR Part 63, Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines	
Emission Unit	Description
EP-100	305 hp Emergency Water Pump Diesel Engine

Note: An existing stationary CI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions must comply with the applicable emission limitations and operating limitations no later than May 3, 2013. [§63.6595(a)(1)]

*Emergency stationary RICE* means any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary ICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary ICE used to pump water in the case of fire or flood, etc. Stationary CI ICE used for peak shaving are not considered emergency stationary ICE. Stationary CI ICE used to supply power to an electric grid or that supply non-emergency power as part of a financial arrangement with another entity are not considered to be emergency engines, except as permitted under §63.6640(f). Emergency stationary RICE with a site-rating of more than 500 brake HP located at a major source of HAP emissions that were installed prior to June 12, 2006, may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by the manufacturer, the vendor, or the insurance company associated with the engine. Required testing of such units should be minimized, but there is no time limit on the use of emergency stationary RICE in emergency situations and for routine testing and maintenance. Emergency stationary RICE with a site-rating of more than 500 brake HP located at a major source of HAP emissions that were installed prior to June 12, 2006, may also operate an additional 50 hours per year in non-emergency situations. All other emergency stationary RICE must comply with the requirements specified in §63.6640(f). [§63.6675]

**Operational Limitations:**

1. Owners or operators of an existing stationary CI RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions must comply with the operational limitations in Table 2c to this subpart which apply. [§63.6602]
2. The permittee must be in compliance with the emission limitations and operating limitations in this subpart that apply at all times. [§63.6605(a)]
3. At all times the permittee must operate and maintain any affected source, including associated air pollution control 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 permittee 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. [§63.6605(b)]
4. Owners or operators of an existing stationary emergency RICE must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop their own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. [§63.6625(e)]
5. Owners or operators of an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions must install a non-resettable hour meter if one is not already installed. [§63.6625(f)]
6. Owners or operators of a stationary engine that is subject to the work, operation or management practices in item 1 of Table 2c to this subpart have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Table 2c to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil before continuing to use the engine. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [§63.6625(i)]
7. The permittee must demonstrate continuous compliance with each operating limitation in Table 2c to this subpart that apply according to methods specified in Table 6 to this subpart. [§63.6640(a)]
8. Owners or operators of an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions must operate the engine according to the conditions described in paragraphs (f)(1) through (4) of this section. [§63.6640(f)]
  - a) For owners and operators of emergency engines, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as permitted in this section, is prohibited. [§63.6640(f)(1)]
  - b) There is no time limit on the use of emergency stationary RICE in emergency situations. [§63.6640(f)(2)]

- c) The permittee may operate the emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year. [§63.6640(f)(3)]
- d) The permittee may operate the emergency stationary RICE up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity; except that owners and operators may operate the emergency engine for a maximum of 15 hours per year as part of a demand response program if the regional transmission organization or equivalent balancing authority and transmission operator has determined there are emergency conditions that could lead to a potential electrical blackout, such as unusually low frequency, equipment overload, capacity or energy deficiency, or unacceptable voltage level. The engine may not be operated for more than 30 minutes prior to the time when the emergency condition is expected to occur, and the engine operation must be terminated immediately after the facility is notified that the emergency condition is no longer imminent. The 15 hours per year of demand response operation are counted as part of the 50 hours of operation per year provided for non-emergency situations. The supply of emergency power to another entity or entities pursuant to financial arrangement is not limited by this paragraph (f)(4), as long as the power provided by the financial arrangement is limited to emergency power. [§63.6640(f)(4)]

**Table 2c to Subpart ZZZZ of Part 63. Requirements for Existing Compression Ignition Stationary Rice Located at Major Sources of HAP Emissions**

As stated in §§63.6600 and 63.6640, the permittee must comply with the following requirements for existing compression ignition stationary RICE:

For each . . .	The permittee must meet the following requirement, except during periods of startup . . .	During periods of startup the permittee must . . .
1. Emergency CI <sup>1</sup>	a. Change oil and filter every 500 hours of operation or annually, whichever comes first; <sup>2</sup> b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. <sup>3</sup>	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. <sup>3</sup>

<sup>1</sup>If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the schedule required in Table 2c of this subpart, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable.

<sup>2</sup>Sources have the option to utilize an oil analysis program as described in §63.6625(i) in order to extend the specified oil change requirement in Table 2c of this subpart.

<sup>3</sup>Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

**Table 6 to Subpart ZZZZ of Part 63. Continuous Compliance With Emission Limitations and Operating Limitations**

As stated in §63.6640, you must continuously comply with the emissions and operating limitations as required by the following:

For each . . .	Complying with. . .	The permittee must demonstrate continuous compliance by . . .
9. Existing stationary CI RICE not subject to any numerical emission limitations	a. Work or Management practices	i. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or
		ii. Develop and follow their own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

**Initial Notification:**

The permittee must submit all of the notifications in §§63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) that apply by the dates specified if they own or operate any of the following; [§63.6645(a)]

1. This requirement does not apply if the permittee owns or operates an existing stationary emergency CI RICE that is not subject to any numerical emission standards. [§63.6645(a)(5)]

**Recordkeeping:**

1. If the permittee must comply with the operating limitations, the permittee must keep the records described in paragraphs (a)(1) through (a)(5), (b)(1) through (b)(3) and (c) of this section. [§63.6655(a)]
  - a) Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment. [§63.6655(a)(2)]
  - b) Records of all required maintenance performed on the air pollution control and monitoring equipment. [§63.6655(a)(4)]
  - c) Records of actions taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. [§63.6655(a)(5)]
2. The permittee must keep the records required in Table 6 of this subpart to show continuous compliance with each operating limitation that applies. [§63.6655(d)]
3. The permittee must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that the permittee operated and maintained the stationary RICE and after-treatment control device (if any) according to their own maintenance plan if they own or operate any of the following stationary RICE; [§63.6655(e)]
  - a) An existing stationary emergency CI RICE. [§63.6655(e)(2)]

4. The owner or operator any of the stationary RICE in paragraphs (f)(1) or (2) of this section must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engines are used for demand response operation, the owner or operator must keep records of the notification of the emergency situation, and the time the engine was operated as part of demand response. [§63.6655(f)]
  - a) An existing emergency stationary CI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions that does not meet the standards applicable to non-emergency engines. [§63.6655(f)(1)]
5. Records must be in a form suitable and readily available for expeditious review according to §63.10(b)(1). [§63.6660(a)]
6. As specified in §63.10(b)(1), the permittee must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. [§63.6660(b)]
7. The permittee must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1). [§63.6660(c)]

**Table 7 to Subpart ZZZZ of Part 63. Requirements for Reports**

As stated in §63.6650, you must comply with the following requirements for reports:

The permittee must submit a . . .	The report must contain . . .	You must submit the report . . .
1. Compliance report	a. If there are no deviations from any operating limitations that apply, a statement that there were no deviations from the operating limitations during the reporting period.	ii. Annually according to the requirements in §63.6650(b)(6)–(9) for engines that are limited use stationary CI RICE.
	b. If you had a deviation from any operating limitation during the reporting period, the information in §63.6650(d).	i. Semiannually according to the requirements in §63.6650(b).
	c. If you had a malfunction during the reporting period, the information in §63.6650(c)(4).	i. Semiannually according to the requirements in §63.6650(b).
2. Report	b. The operating limits provided in your Federally enforceable permit, and any deviations from these limits; and	i. Annually, according to the requirements in §63.6650.
	c. Any problems or errors suspected with the meters	

**Reporting:**

1. The permittee must report each instance in which the permittee did not meet each operating limitation in Table 2c to this subpart that apply. These instances are deviations from the operating limitations in this subpart. These deviations must be reported according to the requirements in §63.6650. [§63.6640(b)]

2. The permittee shall submit each report in Table 7 of this subpart that applies. [§63.6650(a)]
3. Unless the Administrator has approved a different schedule for submission of reports under §63.10(a), the permittee must submit each report by the date in Table 7 of this subpart and according to the requirements in paragraphs (b)(1) through (b)(9) of this section. [§63.6650(b)]
  - a) For semiannual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for the affected source in §63.6595 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for the source in §63.6595. [§63.6650(b)(1)]
  - b) For semiannual Compliance reports, the first Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for the affected source in §63.6595. [§63.6650(b)(2)]
  - c) For semiannual Compliance reports, 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. [§63.6650(b)(3)]
  - d) For semiannual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period. [§63.6650(b)(4)]
  - e) For each stationary RICE that is subject to permitting regulations pursuant to 40 CFR Part 70 or 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), the permittee 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 (b)(4) of this section. [§63.6650(b)(5)]
  - f) For annual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for the affected source in §63.6595 and ending on December 31. [§63.6650(b)(6)]
  - g) For annual Compliance reports, the first Compliance report must be postmarked or delivered no later than January 31 following the end of the first calendar year after the compliance date that is specified for the affected source in §63.6595. [§63.6650(b)(7)]
  - h) For annual Compliance reports, each subsequent Compliance report must cover the annual reporting period from January 1 through December 31. [§63.6650(b)(8)]
  - i) For annual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than January 31. [§63.6650(b)(9)]
4. The Compliance report must contain the information in paragraphs (c)(1) through (6) of this section. [§63.6650(c)]
  - a) Company name and address. [§63.6650(c)(1)]
  - b) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report. [§63.6650(c)(2)]
  - c) Date of report and beginning and ending dates of the reporting period. [§63.6650(c)(3)]
  - d) If the affected source had a malfunction during the reporting period, the compliance report must include 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 §63.6605(b), including actions taken to correct a malfunction. [§63.6650(c)(4)]

- e) If there are no deviations from any emission or operating limitations that apply to you, a statement that there were no deviations from the emission or operating limitations during the reporting period. [§63.6650(c)(5)]
- 5. For each deviation from an emission or operating limitation that occurs for a stationary RICE where you are not using a CMS to comply with the operating limitations in this subpart, the Compliance report must contain the information in paragraphs (c)(1) through (4) of this section and the information in paragraphs (d)(1) and (2) of this section. [§63.6650(d)]
  - a) The total operating time of the stationary RICE at which the deviation occurred during the reporting period. [§63.6650(d)(1)]
  - b) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken. [§63.6650(d)(2)]
- 6. Each affected source that has obtained a title V operating permit pursuant to 40 CFR Part 70 or 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6 (a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a Compliance report pursuant to Table 7 of this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the Compliance report includes all required information concerning deviations from any emission or operating limitation in this subpart, submission of the Compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority. [§63.6650(f)]

## IV. 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) 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 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.
  - (B) Yard waste.
- (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) Ashland Inc. 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 Ashland Inc. 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 Record Keeping. 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 10-6.110 Submission of Emission Data, Emission Fees and Process Information**

- 1) The permittee shall complete and submit an Emission Inventory Questionnaire (EIQ) annually.
- 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 to satisfy the requirements of the Federal Clean Air Act, Title V.
- 5) 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.
- 6) 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.
- 7) 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 schedule:

- 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.
- 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 10-3.090 Restriction of Emission of Odors**

**This requirement is not federally enforceable.**

No person may cause, permit or allow the emission of odorous matter in concentrations and frequencies or for durations that odor can be perceived when one volume of odorous air is diluted with seven volumes of odor-free air for two separate trials not less than 15 minutes apart within the period of one hour.

**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 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 record keeping 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.

## V. 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 Record Keeping and Reporting Requirements**

- 1) Record Keeping
  - 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's 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, record keeping, 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 EPA Region VII, 901 North 5th Street, Kansas City, KS 66101, as well as the Air Pollution Control Program's 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's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as EPA Region VII, 901 North 5th Street, Kansas City, KS 66101, 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), record keeping, 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's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as EPA Region VII, 901 North 5th Street, Kansas City, KS 66101, 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 Air Pollution Control Program shall place a copy with the permit in the public file. Written notice shall be provided to the EPA and the Air Pollution Control Program 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 Air Pollution Control Program 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's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as EPA Region VII, 901 North 5th Street, Kansas City, KS 66101, 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 Mr. Robert Malnight, Plant Manager. On July 5, 2007, the Air Pollution Control Program was informed that Mr. Walter Crenshaw, Plant Manager, is now the responsible official. 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) The Missouri Department of Natural Resources 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) The Missouri Department of Natural Resources 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.

## **VI. Attachments**

Attachments follow.





**Attachment C**  
 Method 9 Opacity 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**  
 10 CSR 10-3.060 Compliance Demonstration

This attachment may be used to demonstrate that the listed emission units are in compliance with 10 CSR 10-3.060, *Maximum Allowable Emission of Particulate Matter From Fuel Burning Equipment Used for Indirect Heating*. Installation's Total Heat Input (Q) in MMBtu/hr:

Emission Unit	Description	MHDR (MMBtu/hr)
EP-02	Powerhouse – Boiler No. 1 - Coal	184
EP-03	Powerhouse – Boiler No. 2 - Coal	184
EP-04	Powerhouse – Boiler No. 3 - Coal	184
EP-64	Downtherm Boiler	4
EP-86	Waste Heat Boiler	33.28
EP-113	Downtherm Boiler	5
<b>Total Q</b>		594.28

The allowable PM emission limit for new indirect heating sources having an intermediate capacity between 10 MMBtu/hr and 2,000 MMBtu/hr is calculated by:

$$E = 1.31(Q)^{-0.338}$$

$$E = 1.31(177.76)^{-0.338} = 0.15 \text{ lb/MMBtu}$$

Emission Unit	Description	Emission Factor	Emission Factor (lb/MMBtu)	Emission Limit (lb/MMBtu)
EP-64	Downtherm Boiler	7.6 lbs/MMscf	0.007	0.15
EP-113	Downtherm Boiler	7.6 lbs/MMscf	0.007	0.15

Emission factors were taken from FIRE and AP-42. All of the indirect heating sources meet the emission limits without the aid of a control device, therefore CAM is not applicable.



**ATTACHMENT G**  
 10 CSR 10-6.400 Compliance Demonstration

This attachment may be used to demonstrate that the listed emission units are in compliance with 10 CSR 10-6.400, *Restriction of Emission of Particulate Matter From Industrial Processes*.

Allowable PM Emission Rate (E) for Process Weights (P) of less than or equal to 30 tons/hr is calculated by:  

$$E \text{ (lb/hr)} = 4.1(P)^{0.67}$$

Allowable PM Emission Rate (E) for Process Weights (P) greater than 30 tons/hr is calculated by:  

$$E \text{ (lb/hr)} = 55(P)^{0.11} - 40$$

Potential PM Emission Rate = MHDR (tons/hr) x Emission Factor (lb/ton)

Potential PM Concentration = 
$$\frac{\text{Potential PM Emission Rate (lb/hr)} \times 7000 \text{ (gr/lb)}}{\text{Stack Flowrate (scf/min)} \times 60 \text{ (min/hr)}}$$

Emission Unit	Description	MHDR (tons/hr)	PM Emission Factor (lb/ton)	Control Device Efficiency	Potential PM Emission Rate (lb/h)	PM Emission Limit (lb/h)	Potential PM Conc. (gr/scf)	PM Conc. Limit (gr/scf)
EP-60	Mono PE Dryer Rotoclone Stack	1.75	0.5	-	0.88	5.97	0.2	0.3
EP-61	Di PE Dryer Vent Stack	0.47	10.1	50	2.37	2.47	0.1	0.3
EP-70	Fuller Dryer Dust Collector Discharge	4.2	3.75	99	0.16	10.72	0.003	0.3
EP-71	Ureaform Product Handling/Recovery	46.2	0.017	-	0.79	43.84	-	0.3
EP-93	Mono Overs Grinder	1.75	0.5	-	0.88	5.97	-	0.3
EP-94	Mono PE Bagging	1.75	0.5	-	0.88	5.97	-	0.3

EP-60 Mono PE Dryer Rotoclone Stack, EP-71 Ureaform Product Handling/Recovery, EP-93 Mono Overs Grinder, and EP-94 Mono PE Bagging meet the particulate matter emission and concentration limits without the aid of a control device, therefore CAM is not applicable.

EP-61 Di PE Dryer Vent Stack has an uncontrolled potential to emit particulate matter of 4.75 tons/year which is below the applicability threshold of CAM. EP-61 Di PE Dryer Vent Stack is not in compliance with this regulation without the overall control and capture efficiency of 50% from CD14 Rotoclone Wet Scrubber. CD14 Rotoclone Wet Scrubber must be utilized at all times EP-61 Di PE Dryer Vent Stack is in operation.

EP-70 Fuller Dryer Dust Collector Discharge has an uncontrolled potential to emit particulate matter of 15.75 tons/year which is below the applicability threshold of CAM. EP-70 Fuller Dryer Dust Collector Discharge is not in compliance with this regulation without the overall control and capture efficiency of 99% from CD16 Draco Baghouse. CD16 Draco Baghouse must be utilized at all times EP-70 Fuller Dryer Dust Collector Discharge is in operation.

## 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 June 14, 2005;
- 2) 2008 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.
- 4) Final rule amendments to the HON Rules, dated Dec 23, 2004 and December 21, 2006.
- 5) Construction permit no. 1194 - 020A (amendment to modify PE process)
- 6) Construction permit no. 0196 - 005 (add waste heat boiler)
- 7) Construction permit no. 0898 - 023 (modify PE process)
- 8) Construction permit no. 1298 - 003 (modify PE process)
- 9) Construction permit no. 042007 – 015 (increased production of synthetic lubricants)
- 10) Letter of approval dated March 30, 1999 (banking request for loading and process vents)
- 11) Letter of approval dated September 18, 1998 (banking request for storage tanks)
- 12) Letter of approval dated April 29, 1999 (clarification to condition 3 of 9/18/98 letter)
- 13) Letter of agreement dated August 8, 1996 (modifying process using pH control)
- 14) Letter of request dated August 24, 2000 (Voluntary limit methanol emissions during startup of the vaporizers at the formaldehyde plant)
- 15) November 25, 2008 letter to Missouri Department of Natural Resources confirming sale of Hercules to Ashland Inc., but the facility will continue to be known as Hercules, Inc., Missouri Chemical Works. Hercules, Inc. is a completely owned subsidiary of Ashland, Inc. and retains its original federal tax identification number which is separate from Ashland, Inc.

### 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.

10 CSR 10-6.100, *Alternate Emission Limits* is not applicable because the installation is in an ozone attainment area.

10 CSR 10-6.260, *Restriction of Emission of Sulfur Compounds* limits the amount of sulfur emissions from indirect heating sources. This regulation is not applicable to the CMPU portion of the installation because all of the SO<sub>x</sub> emission sources come from the burning of natural gas which is an exempted fuel within the regulation.

### **Construction Permit Revisions**

Construction Permit No. 042007-015, Issued April 18, 2007:

In April 2007, Hercules, Inc., Missouri Chemical Works received a construction permit (042007-015) to increase the synlube line's production capacity. This construction permit referenced 10 CSR 10-6.260 – Restriction of Emission of Sulfur Compounds, and 10 CSR 10-6.070 – New Source Performance *Standards for Equipment Leaks of VOC in Synthetic Organic Chemicals Manufacturing Industry*, 40 CFR Part 60, Subpart VV. It has been determined that the above two referenced regulations are not applicable since only natural gas is fired in the Downtherm boiler and the products manufactured during the synlube process are not included in the list of chemicals produced by the affected facilities pursuant to 40 CFR 60.489, respectively. Consequently all the emission units permitted under the construction permit 042007-015 are listed as emission units with no limitations.

It should also be noted here that even if the construction permit 042007-015 has no special conditions listed in the permit, the construction permit and the details contained in it, which are based on the construction permit application, will serve as the operational basis for the units being covered by that construction permit. It is Missouri Department of Natural Resources' position that while an installation must adhere to their Construction Permit application, it is not necessary for the installation to certify and monitor each application parameter to show compliance. The installation is only required to monitor those parameters defined in specific State or Federal requirements or identified as Special Conditions in the Construction Permit. When construction permits are placed in Plant-wide and Emission Unit permit conditions in the Operating Permit, the installation is required to certify compliance with the parameters (monitoring, performance testing, record keeping and reporting) identified in the Plant-wide and Emission Unit permit conditions of the Operating Permit. However, the various parameters detailed in the Construction Permit application are still applicable to the installation, even though the criteria are not specifically listed in the Operating Permit. Since the entire Construction Permit is not integrated into the Operating Permit, it is necessary to establish that the installation is to operate according to the entire issued Construction Permit and Construction Permit application. To accomplish this action, it is essential for the agency to incorporate the documents by reference. When incorporating documents by reference, the agency does not intend for the installation to monitor each criteria, but rather for the installation to realize they are required to construct and operate within the boundaries submitted in the Construction Permit application as well as the issued Construction Permit.

If Hercules, Inc., Missouri Chemical Works wishes to produce a product that is not listed in Table 4 of the construction permit 042007-015, Ashland will need to recalculate the potential emissions of VOCs from that new product. If the potential emissions are greater than the worst emitting product in Table 4 of the construction permit, which is RL7H, a new construction permit will be required. Hercules, Inc., Missouri Chemical Works shall make these calculations available to Missouri Department of Natural Resources' personnel upon request. Hercules, Inc., Missouri Chemical Works based its emission calculations for the construction permit on a maximum annual design rate of approximately 30,000,000 pounds of synlube per year for the new kettle based on a 6.66-hour per batch maximum hourly design rate. Production capacity for existing line was also estimated to increase to 22,000,000 pounds of synlube per year total. If

Ashland is able to achieve production rates greater than those listed above, a new construction permit will be required.

Construction Permit No. 1193-018, Issued November 16, 1993:

This construction permit was withdrawn by the permittee in a letter dated November 19, 1998; therefore, the special conditions listed with the construction permit are no longer applicable to the installation.

#### **New Source Performance Standards (NSPS) Applicability**

40 CFR Part 60, Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units* applies to the waste heat boiler (EP-86) that was installed in 1997, and has been applied within this permit (see Permit Condition 005).

40 CFR Part 60, Subpart Kb, *Standards of Performance for Volatile Liquid Storage Vessels* applies to storage tanks that store volatile organic liquids with a capacity that exceed 40 cubic meters (10,566 gallons) that were constructed after July, 1984. This NSPS does not apply to any of the storage tanks at this installation, since all of the storage tanks on site that exceed this capacity were constructed prior to 1984.

40 CFR Part 60, Subpart VV, *Standards for Equipment Leaks of VOC in Synthetic Organic Chemicals Manufacturing Industry* is not applicable to the synlube process. The products manufactured by the synlube process are not included in the list of chemicals produced by the affected facilities pursuant to 40 CFR 60.489.

#### **Maximum Available Control Technology (MACT) Applicability**

40 CFR Part 63, Subpart A, *General Provisions* applies to the formaldehyde chemical manufacturing process unit and the pentaerythritol chemical manufacturing process unit and has been applied within this permit (see Plantwide Permit Condition PW002).

40 CFR Part 63, Subpart F, *National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry* applies to the formaldehyde chemical manufacturing process unit and the pentaerythritol chemical manufacturing process unit and has been applied within this permit (see Plantwide Permit Conditions PW002 through PW004).

On December 21, 2006, the U.S. EPA amended this Subpart to remove references to methyl-ethyl-ketone (MEK) in Table 2 and 4 of the subpart.

40 CFR Part 63, Subpart G, *National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations and Wastewater* applies to the formaldehyde chemical manufacturing process unit and the pentaerythritol chemical manufacturing process unit and has been applied within this permit (see Emission Unit Specific Permit Conditions 006 through 009).

On December 23, 2004, the U.S. EPA amended Subpart G to allow vapor balancing in conjunction with the use of a pressure setting to comply with the storage tank control requirements of the standards.

On December 21, 2006, the U.S. EPA amended this subpart. While no changes to the control requirements in the existing standards were made, the U.S. EPA did make three technical amendments under CAA Section 112(d)(2) designed to clarify provisions of the existing rule and provide for effective implementation. These include:

1. **Group Status Changes for Wastewater:** The revised rule clarifies the requirement to redetermine Group status for wastewater streams if process or operational changes occur that could reasonably be expected to change the wastewater stream from a Group 2 to a Group 1 stream.
2. **Removal of Methyl Ethyl Ketone (MEK) from HON Tables**  
The U.S. EPA removed MEK from tables 9, 34, and 36 since MEK was removed from the HAP list on December 19, 2005 (70 FR 75047).
3. **Vapor Balancing for Storage Tanks**  
The U.S. EPA waived all notification and reporting requirements for owners or operators of facilities where railcars, tank trucks, or barges, which are part of the vapor balancing control option, are reloaded or cleaned. The U.S. EPA is also allowing off-site reloading and cleaning operations to comply with monitoring, recordkeeping, and reporting provisions of any other applicable 40 CFR Part 63 standards in lieu of the monitoring, recordkeeping, and reporting in the HON.

40 CFR Part 63, Subpart H, *National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks* applies to the formaldehyde chemical manufacturing process unit, the pentaerythritol chemical manufacturing process unit, and the Ureaform chemical manufacturing process unit and has been applied within this permit (see Plantwide Permit Conditions PW005 through PW012).

40 CFR Part 63, Subpart FFFF, *National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing* applies to the Ureaform chemical manufacturing process unit and has been applied within this permit (see Plantwide Permit Condition PW013).

40 CFR Part 63, Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines* applies to EP-100 305 hp emergency Water Pump Diesel Engine and has been applied within this permit (see Emission Unit Specific Permit Condition 012).

### **National Emission Standards for Hazardous Air Pollutants (NESHAP) Applicability**

None.

### **Compliance Assurance Monitoring (CAM) Applicability**

40 CFR Part 64, *Compliance Assurance Monitoring (CAM)*

The CAM rule applies to each pollutant specific emission unit (PSEU) 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.

In accordance with 40 CFR Part 64.2(b)(1)(i), the CAM Rule does not apply to emission units that are regulated by emission limitations or standards promulgated after November 15, 1990, pursuant to Section 111 or 112 of the Act. Therefore, although the formaldehyde CMPU and the PE CMPU meet the definition of a PSEU, they are exempt from CAM requirements because the HON Rule is a post-1990 MACT standard.

The power boilers are a PSEU and CAM is applicable. The CAM approach for the power boilers is addressed in the Title V Permit for the Power Boilers that is being issued as a separate document.

**Other Regulatory Determinations**

Methanol Storage Tanks 723 – 729 (EP-05 through EP-11) were retired in 1997.

EP-30 Formic Acid Tank was retired prior to 2010.

State of Missouri Requirements and Considerations

1. 10 CSR 10-6.220, *Restriction of Emission of Visible Air Contaminants* is applicable to the following PM emission units, however, the emission units have the potential to emit less than 0.5 lbs/hr and are assumed to always be in compliance with this regulation:

Emission Unit	Description
EP-49	Tech PE Elevator/Silo Fugitive
EP-50	Tech Dryer Bagger Cyclone Separator
EP-51	PE200 Grinder Dust Collector Discharge
EP-59	Sodium Formate Rotoclone
EP-63	Synlube PE Charge System Baghouse
EP-68	Sargent Dryer North Exhaust
EP-69	Sargent Dryer South Exhaust
EP-74	Ureaform Scrap Pile (Covered)
EP-82	Sodium Formate Product Bin
EP-92	Di PE Transfers (3)

Emission Unit	Description
EP-95	Sodium Formate Conveyor
EP-97	Urea Scale Tank
EP-103	Maintenance Welding
EP-104	PE Packaging
EP-107	Ureaform Product Storage Tank A
EP-109	Ureaform Product Storage Tank C
EP-110	Ureaform Product Storage Tank D
EP-111	Ureaform Product Storage Tank E
EP-113	Downtherm Boiler
EP-121	Synlube PE Charge System Baghouse

The regulation is applicable to the cooling towers, but was not applied within this permit. The cooling towers do have potential emissions larger than 0.5 lbs/hr, but during normal operations emit little or no visible emissions. The cooling towers can emit large amounts of water vapor which make it difficult to determine if/how much visible contaminant is being emitted. The Air Pollution Control Program is not requiring any monitoring, recordkeeping, or reporting for the cooling towers at this time, but should visible emissions become an issue, these requirements may be added in the future.

Emission Unit	Description
EP-98	Cooling Towers
EP-120	Cooling Water Tower

2. 10 CSR 10-6.400, *Restriction of Emission of Particulate Matter From Industrial Processes* is not applicable to the following PM emission units per 10 CSR 10-6.400(1)(B)12, because potential emissions from each unit were calculated to be below 0.5 lbs/hr:

Emission Unit	Description	Emission Unit	Description
EP-49	Tech PE Elevator/Silo Fugitive	EP-95	Sodium Formate Conveyor
EP-50	Tech Dryer Bagger Cyclone Separator	EP-97	Urea Scale Tank
EP-51	PE200 Grinder Dust Collector Discharge	EP-103	Maintenance Welding
EP-59	Sodium Formate Rotoclone	EP-104	PE Packaging
EP-63	Synlube PE Charge System Baghouse	EP-107	Ureaform Product Storage Tank A
EP-64	Dowtherm Boiler	EP-108	Ureaform Product Storage Tank B
EP-68	Sargent Dryer North Exhaust	EP-109	Ureaform Product Storage Tank C
EP-69	Sargent Dryer South Exhaust	EP-110	Ureaform Product Storage Tank D
EP-74	Ureaform Scrap Pile (Covered)	EP-111	Ureaform Product Storage Tank E
EP-82	Sodium Formate Product Bin	EP-113	Downtherm Boiler
EP-92	Di PE Transfers (3)	EP-121	Synlube PE Charge System Baghouse

3. *Letters of Agreement for Banking Emission Credits*. The source has received authority to bank emissions from HAP sources that are over-controlled. The banked emissions agreement is based on the source maintaining 99.5% destruction of formaldehyde and methanol HAPs vented to the waste heat boiler. The amount of HAPs that were credited for future use were based on a 99.5% destruction efficiency and historical operation. The agency specified that the banked emissions would be available for future use contingent on the waste heat boiler remaining in operation at all times, except for periods of SSM. However, the Hazardous Organic NESHAP (HON) allows for additional periods of operation without controls other than SSM periods. This correction was made to the permit terms in Emission Unit Specific Permit Condition 012. To demonstrate 99.5% destruction efficiency, continuous monitoring of the boiler combustion zone temperature will occur as an indicator that the destruction efficiency is achieved. The boiler combustion zone temperature must be maintained between 1350 and 2100 °F at all times when the boiler is in operation and waste gases are routed from tanker transferring, process vents and storage tank vents to the boiler.

Previous emission testing demonstrated the boiler efficiency was in excess of 99.85% for formaldehyde and methanol.

4. *Voluntary Permit Condition (Letters of Request to Limit Methanol Emissions During Startup of the Vaporizers at the Formaldehyde Plant)*. A voluntary limit was established in the initial Title V permit for methanol emissions that occur during start up of the methanol vaporizers (EP-87) at the formaldehyde plant. The limit has not been changed in this renewed permit. The limit is 2400 pounds of methanol emissions per hour per vaporizer during startup. The rate of methanol emissions to the atmosphere is normally less than this rate, and all emissions that are released are logged and included in the annual EIQ report. The purpose of the voluntary emission limit is to eliminate the need for reporting under 40 CFR 302, *Designation, Reportable Quantities and Notification*, and 40 CFR 355, *Designation, Reportable Quantities and Notification* should startup emissions exceed 5000 pounds of methanol per day.

#### Clarification of Core Permit Requirements

10 CSR 10-6.045, *Open Burning Restrictions*

Fire training is conducted at this facility, and is allowed according to 10 CSR 10-6.045 (A)(7), contingent upon a one week notification prior to training.

#### Clarification to General Permit Requirements

1. Record keeping specified in the Title V operating permit requires the source to retain all records of all required monitoring data and support information for 5 years. Leak inspection requirements of the HON allow for 2 years of records. Other provisions in the HON allow for 5 years of records, with 6 months retained on site and 4½ years available within a reasonable time after a request is made. To be in compliance with the HON and Title V record retention period, the source will keep the records for 5 years from the date of the monitoring sample, measurement, report, or application.
2. The Title V permit specifies semi-annual reporting of all required monitoring. The Title V semi-annual report specified is a summary report of the required monitoring, and does not specifically imply that a copy of all monitoring is required.
3. The facility prepared a Risk Management Plan as required by 40 CFR Part 68, Accidental Release Prevention Program. The plan was submitted to the RMP Reporting Center in Arlington, Virginia. The facility received acknowledgment that the plan was received June 9, 1999, prior to the compliance date of June 21, 1999. The facility's RMP was presented to the public in a countywide meeting sponsored by the Local Emergency Planning Commission on June 10, 1999. Subsequent 5-year renewals were performed on June 16, 2004, and June 12, 2009.

#### Federal Requirement & Considerations

1. The Powerhouse Emission Units (EP-01 Coal Pile/Truck Unloading, EP-02 Powerhouse - Boiler No. 1- Coal, EP-03 Powerhouse – Boiler No. 2 – Coal, EP-04 Powerhouse – Boiler No. 3 – Coal, and EP-81 Ash Pile) will be addressed in a separate Title V Permit. Although the Powerhouse Boilers appear on Attachment E 10 CSR 10-3.060 Compliance Demonstration, the boilers were not evaluated within this permit. The powerhouse boilers are listed on Attachment E because 10 CSR 10-3.060 requires the total heat input (Q) for the *entire* installation.

2. Hazardous Organic NESHAP (HON) Considerations:

2.1 Applicability:

40 CFR 63, the Hazardous Organic NESHAP (HON) for the synthetic organic chemical manufacturing industry (SOCMI), applies to two manufacturing plants at this installation. One is the manufacturing of Pentaerythritol and the other is the manufacturing of Formaldehyde. The HON regulates both of these chemical manufacturing process units (CMPU). All equipment that is part of the CMPU are subject to HON requirements, whereas equipment that is part of the process but not part of the CMPU are not regulated by the HON. The waste heat boiler is a combustion device regulated as a fuel gas system and part of the formaldehyde CMPU as specified in the definition of a control device in 40 CFR 63.101 (b).

2.2 Compliance Dates for Existing Sources:

40 CFR 63.6 (c)(5) applies to existing area sources. Since this source is an existing major source, the general provisions of 40 CFR 63.6 (c)(5) do not apply.

2.3 Operation and Maintenance:

40 CFR 63.6 (e), Subpart A, Operation and maintenance requirements, requires the source to operate at all times, including periods of startup, shutdown and maintenance (SSM), in a manner consistent with good air pollution control practices for minimizing emissions. Written SSM plans are required to be completed, upgraded as necessary and records maintained for each SSM event. The Ureaform CMPU as a Group 2 emission source is not required to write an SSMP per 40 CFR 63.2525(j). The facility has written SSM plans for the following items:

Fa CMPU:           Methanol System  
                      Formaldehyde System  
                      Waste Heat Boiler

PE CMPU:           Acetaldehyde System  
                      PE System

It should be noted here that on December 19, 2008, the D.C. Circuit Court of Appeals vacated the Startup, Shutdown, Malfunction (“SSM”) rules contained within the NESHAP General Provisions, 40 C.F.R. Part 63, Subpart A. *Sierra Club v. Environmental Protection Agency* (Docket Nos. 02-1135, 03-1219, 06-1215, 07-1201). Pursuant to these rules, sources subject to an air toxic Maximum Achievable Control Technology (MACT) standard were exempt from otherwise applicable emissions limits during SSM events. The courts decision vacated, in total, this exemption for affected facilities. The Court’s mandate was issued on October 16, 2009.

In a July 22, 2009 memorandum, (<http://www.epa.gov/oecaerth/civil/caa/ssm-memo080409.pdf>), the U.S. EPA points out that sources subject to 40 CFR Part 63, Subparts F, G, H and I (HON Rule) will not be immediately affected by the Court’s ruling on the SSM provisions. According to the U.S. EPA, these rules presently contain specific regulatory text that exempts or excuses compliance during SSM events, and such regulatory text is in

addition to, or in lieu of, a cross reference to the SSM provisions that have been vacated. The U.S. EPA further adds that although the provisions under the HON Rule will currently be in effect, it recognizes that the legality of such source category specific SSM provisions may now be called into question and the U.S. EPA intends to evaluate them in light of the Court's decision. Therefore, it is possible that some of the SSM provisions listed in this permit may eventually be revised at a later date, pending U.S. EPA's evaluation.

#### 2.4 General Provisions - Monitoring requirements:

40 CFR 63.8, Subpart A, Monitoring requirements, applies to sources that are not covered by a relevant standard for monitoring requirements. Most of the monitoring that is performed at the facility is specifically identified in the relevant standards. Examples of such include the monitoring required by Subpart H for equipment leaks, or monitoring of the duration of time in order to document periods when storage tank emissions are not treated by the waste heat boiler. Since there are specific monitoring requirements identified for each emission category that has an applicable monitoring requirement, the general monitoring provisions under subpart 63.8 do not apply. Specifically, 63.8 (a)(1)(i) applies to sources required to do monitoring, and 63.8(a)(1)(ii) applies to sources required to use continuous monitoring systems. Storage vessel emissions monitoring according to 63.119 (f) does not require a continuous monitoring system in order to comply with the recordkeeping provisions. In contrast, continuous pH monitoring was proposed and implemented for proper operation of the pollution prevention measure of the PE plant. The general monitoring requirements of 63.8 apply to the continuous pH monitoring system. A monthly pH average will be determined from record keeping and kept. Any monthly pH values above the 7.5 limit will be included in the quarterly report for emissions averaging. The emissions averaging plan was prepared in accordance with 63.150 (m)(6) and 63.151 (f). The rationale for the monitoring, recordkeeping and reporting system was provided in the emissions averaging plan.

#### 2.5 General Record Keeping And Additional Record Keeping for Continuous Monitoring Systems (CMS):

40 CFR 63.10 (a) specifies that sources that operate in states that have been delegated the authority for the record keeping and reporting requirements shall submit their reports to the state authority, and a copy shall be sent to the EPA regional office. As such, all reporting will be to the State of Missouri, Department of Natural Resources, Air Pollution Control Program with a copy sent to the regional office of EPA.

40 CFR 63.10(b) does not apply because 63.103 (c) specifies record retention requirements, according to table 3 in Subpart F.

40 CFR 63.10 ( c), also does not apply, according to table 3 of Subpart F.

40 CFR 63.10 (d)(5) requires SSM periodic reporting for actions consistent with the SSM plans and immediate SSM reporting when actions deviate from the SSM plans.

40 CFR 63.10 (e), also does not apply, according to table 3 of Subpart F.

For the Fa CMPU, monitoring of the by-pass valve position of the absorber duct is recorded to document the amount of time when absorber process gases from the formaldehyde plant are vented uncontrolled to atmosphere. Continuous monitoring or other monitoring of by-pass time is not required for a process vent routed to a fuel gas system. In contrast, the total amount of time that the methanol storage vessels are vented to atmosphere and by-pass the waste heat boiler is required. This is accomplished by monitoring the total downtime of the waste heat boiler.

The only required continuous monitoring system is present in the PE CMPU. Continuous pH monitoring occurs for the product stream as it leaves the holding tanks downstream of the PE reactor. The PE reactor batch is pumped to one of two holding tanks and neutralized to eliminate byproduct formation of methanol in the PE CMPU. The average, monthly pH value of the liquid from the tanks is maintained at or below 7.5 to verify that a reduction occurs in the amount of methanol generated from the process and eventually discharged to wastewater. This CMS is part of the pollution prevention plan that was implemented in 1999, and requires continuous monitoring of the pH, which is the control parameter that is used to achieve the methanol reduction. The pH values for operating the process to achieve the reduction in methanol were established from two 30-day monitoring periods of the process wastewater discharge. One 30-day monitoring period occurred to establish the flow and concentration of methanol in the flow before any changes to the process were made. The second 30-day period monitored the discharge flow rate, concentration of the methanol in the discharged stream and the pH value after formic acid is added to neutralize excess caustic to prevent methanol formation.

#### 2.6. Formaldehyde CMPU and Emission Control Equipment:

40 CFR 63.100, Subpart F, Applicability and designation of source, provides the provisions, definitions and other general provisions that are applicable to subparts G and H. The provisions of Subparts F, G and H apply to CMPUs that manufacture as a primary product one or more of the chemicals listed in Table 1 of Subpart F; use as a reactant or manufacture as a product one or more of the organic HAPs listed in Table 2 of Subpart F.

The formaldehyde CMPU includes the methanol transfer lines that carry methanol to the three methanol storage tanks, the formaldehyde production process, methanol and formaldehyde piping and pumping equipment, formaldehyde storage tanks and formaldehyde transferring to trucks for off-site shipment. The formaldehyde CMPU is represented by emission units EP-13 through EP-25 and fugitive emissions from emission unit EP-26 (methanol), EP-27 (formaldehyde), and the waste heat boiler, EP-86.

The “waste heat boiler” is part of the fuel gas system that converts the emissions from the process vents and storage vessel vents of the formaldehyde CMPU to non-hazardous air pollutants. The boiler is used to produce steam by burning the collected waste gases from the two “group 1” process vents (the formaldehyde absorber vent and reflux drum vent), and the methanol vapors that are collected from the three “group 1” methanol storage vessels (working and breathing losses). There are seven “group 2” formaldehyde storage vessels that

are voluntarily controlled by this same boiler, as well as the formaldehyde truck loading process (group 2 storage vessels and group 2 loading operations are not required by the HON to have external controls).

Since a boiler is used to burn the collected gases and qualifies as a fuel gas system, the HON exempts the source from the need to establish the boiler's control efficiency, and does not require 98% reduction for process vents or 95% for storage vessel vents.

#### 2.7. Formaldehyde Used in Ureaform, and Leak Inspection Applicability:

Formaldehyde used in the production of Ureaform is part of the UF CMPU, but is not part of the Fa CMPU or PE CMPU. The production of Ureaform is not a HON regulated process, but is a MON regulated process.

Common piping is used to convey formaldehyde from Tank 8 EP-24 to the PE plant building to be used in the PE reactor, and through the PE building to be used in Ureaform production. The piping that carries formaldehyde from the PE building over to the Ureaform reactor is regulated by MON for equipment leak inspection monitoring program, whereas the formaldehyde transfer system inside the PE building and back to the formaldehyde process are regulated by HON according to 40 CFR 63 Subpart H.

#### 2.8. Pentaerythritol CMPU:

The pentaerythritol (PE) CMPU begins with the acetaldehyde storage tanks, a HON regulated raw material. Acetaldehyde is added with formaldehyde, sodium hydroxide and water in a batch reactor that begins the production of PE. Once the reaction is completed, the batch is routed to holding tanks. PE is purified using successive steps of filtration, evaporation, stripping and vacuum crystallization to produce technical grade PE. The PE CMPU includes fugitive emissions for EP-27 (formaldehyde) and EP-28 (acetaldehyde) and emission units EP-31 through EP-40. After EP-40, HAPs are present in the process stream only as impurities. The third effect evaporator, EP-90, generates a wastewater stream that is also regulated by Subpart G.

Formic acid used in the process is not a HON regulated chemical as defined in Table 2 of Subpart F, even though the use of the formic acid is part of the PE CMPU. Since formic acid is not listed in Table 2, the tank vents from formic acid storage vessels (EP-29, EP-88, and EP-89) are also not regulated by the HON.

Manufactured pentaerythritol used in the synthetic lubricant process is not part of the PE CMPU. The use of pentaerythritol is not covered by the HON, only the portion of the pentaerythritol production process that was described above.

The piping that carries formaldehyde inside the PE building and back to formaldehyde storage in tank 8 (EP-24) are part of the PE CMPU and subject to the leak detection and repair requirements of 40 CFR 63 Subpart H.

2.9. Fa CMPU Process Vents and Gaseous Stream Collection System Leak Inspections:

40 CFR 63.101 of Subpart F, provides the definition of a process vent as a gas stream containing greater than 0.005 weight percent total organic HAPs that is continuously discharged during operation of an air oxidation reactor, other reactor or distillation unit within a CMPU. Process vents exclude relief valve discharges, gases routed to a fuel gas system and equipment leaks. There are two process vents within the Fa CMPU, the absorber off gas and the reflux drum vent. The methanol vaporizer vents of the Fa CMPU do not qualify as a process vent, since emissions only occur during start up, malfunction or shutdown.

40 CFR 63.111 of Subpart G, provided the definition of a group 1 process vent and group 2 process vent. A group 2 process vent would be a process vent that doesn't meet the criteria to be classified as group 1. If a source is subject to Subpart F, the requirements of Subpart F, G and H may apply. Subpart F excludes all process vents that are routed to a fuel gas system, so the provisions that apply to process vents listed under Subpart G do not apply because of the exclusion allowed under Subpart F. As such, provisions of 40 CFR 63.113 of Subpart F are not applicable to the absorber process vent or the reflux drum vent since 40 CFR 63.101(b) of Subpart F excludes process vents that are routed to a fuel gas system.

The Fa CMPU process vent gaseous stream collection system for the absorber duct is made of fiberglass and operates under slight pressure. The absorber off gas stream is not subject to the leak inspection provisions since this is a process vent that is routed to a fuel gas system, exempt from the process vent provisions of subpart F and G. Subpart H defines gases routed to a fuel gas system, and has no specific requirements.

The Fa CMPU process vent gaseous stream collection system for the methanol vent line transports the vapor losses from the three methanol storage tanks and the reflux drum. The vent collection piping is a made of steel, has welded seams and operates under negative pressure. There are no specific monitoring, reporting or leak detection requirements of this line since it routes gases to a fuel gas system.

2.10. PE CMPU Process Vents and Gaseous Stream Collection Control System Leak Inspections:

There are no process vents in the PE CMPU, since the process does not include any air oxidation reactors, other reactors (other than batch processes) or distillation units within the PE CMPU. EP-33 is the process vent identification for the Tech PE reactor (R-101). EP-32 is the process vent identification for the Formaldehyde prep 105-1 tank that feeds the PE reactor. Both of these stages of the process are batch operations that are specifically exempt from Subpart G process vent requirements, as defined by 40 CFR 63.101 (b) of Subpart F.

2.11. Fa and PE CMPU Storage Vessel Vents and Gaseous Stream Collection System Leak Inspections:

40 CFR 63.101 of Subpart F provided the definition of a storage vessel to be limited to storage of organic liquids that contain one or more of the organic HAPs listed in Table 2 of Subpart F. 40 CFR 63.111 of Subpart G provides the definition of group 1 and group 2 storage vessels, based on Table 5 of Subpart G criteria for vapor pressure for existing tanks.

Table 5 of Subpart G criteria are solely based on the size of the tank and the organic HAP vapor pressure of the liquid stored.

The PE CMPU includes acetaldehyde, formaldehyde and methanol chemicals, but the methanol storage vessels are part of the Fa CMPU. Formic acid used in the PE CMPU is not a Table 2 of Subpart F chemical, and therefore not subject to the storage vessel vent control requirements. Acetaldehyde is stored in pressurized vessels designed to operate above 204.9 kilopascals (29.7 psi) and do not meet the definition of a storage vessel. There are no other storage vessels associated with the PE CMPU, based on an assessment the source completed for all of the equipment associated with the PE CMPU. There are a number of surge vessels, but none with organic HAP vapor pressures above the group 1 storage vessel applicability level. (Storage vessels do not include barges, railcars, trucks, vessels with capacities smaller than 10,038 gallons, vessels storing organic liquids that contain organic HAPs only as impurities, bottoms receiver tanks, surge control vessels and wastewater storage tanks.)

The chemicals that are included in Table 2 of Subpart F that are present in the Fa CMPU include methanol and formaldehyde. The Fa CMPU has three storage tanks that store methanol in vessels over 10,038 gallon capacity that require the vents from the tanks to qualify as group 1 storage vessel vents. The vapor pressure of the methanol in these three tanks is below 76.6 kilopascals (below 11.11 psi). The seven formaldehyde storage vessels (EP-18 through EP-23) were all determined by the source to qualify as group 2 storage vessels, based on the capacity of the tank and the maximum true vapor pressure of total organic HAPs of the liquid's storage temperature. Tank 8 (EP-24) qualifies for group 2 status as specified in Table 5 of Subpart G as long as the vapor pressure of the liquid is maintained below 5.2 kilopascals (0.75 psi) and the temperature is maintained at or below 70 °C.

40 CFR 63.119 (f)(1) of Subpart G allows routing the storage vessel emissions to a fuel gas system for group 1 storage vessel vents. Emission controls for group 2 storage vessel vents are not required per 40 CFR 63.119(a)(3) of Subpart G. Record keeping is required of group 2 storage vessels relative to their capacity and dimensions. The level of control for a boiler that is used to control group 1 emissions is not specified. Restrictions remain, however, on the amount of time that the storage vent emissions can by-pass the control equipment. By-pass duration is limited to 240 hours per year, unless provisions are made to empty and de-gas the tanks or not increase the liquid level in the tanks during the uncontrolled periods. Periodic reporting is not required of the time the vent by-passes. The only reporting required is the notification of compliance status as specified in 40 CFR 63.122(a)(3) of Subpart G.

The Fa CMPU group 1 (methanol) storage vessels vent to a fuel gas system that convert the HAPs to non-hazardous pollutants. The methanol vent line that routes the vapor losses from the three methanol storage tanks and the reflux drum process vent is a made of steel, has welded seams and operates under negative pressure. Sources that route gases to fuel gas system are recognized in Subparts F, G and H. By routing the gases to a fuel gas system, the requirements of closed vent system and control device do not apply, and the requirements of a vapor collection system do not apply. Since the piping that transfers the gases is part of the fuel gas system, leak detection inspections are also not required.

Fa CMPU group 2 (formaldehyde) storage vessel gas collection system includes all of the group 2 storage vessels (7 tanks that are used to store formaldehyde solutions) that were voluntarily controlled. There are no HON requirements that require the vents from these storage vessels to be controlled. The ducting that connects the vents to the waste heat boiler is also exempt from the leak inspection requirements. The source has an agreement to control the emissions from the formaldehyde storage tanks at all times, except during periods of SSM and at other times allowed by the HON or agreed to by the Air Pollution Control Program, in order to bank HAP emissions from voluntarily controlling these storage vessels.

The piping that carries formaldehyde from the PE building over to the Ureaform building is included in the LDAR monitoring program under the compliance options for 40 CFR Part 63, Subpart FFFF.

#### 2.12. Heat Exchanger System Requirements – PE and Fa CMPUs:

40 CFR 63.104 of Subpart F, Heat exchange system requirements, specifies leak monitoring of heat exchange systems that are used to cool process equipment in a CMPU. Exemption from monitoring is allowed if the heat exchange system is operated with a minimum pressure on the cooling water side at least 35 kilopascals (5.1 psi) greater than the maximum pressure on the process side.

Both the PE and Fa CMPUs use heat exchange systems that are subject to this requirement. A survey was completed of all the heat exchange systems used in the PE and Fa CMPUs. It was determined from the survey that the Fa CMPU cooling units maintained a coolant pressure more than the 35 kilopascals greater than the process fluid pressure, and therefore are exempt from leak monitoring requirements.

The PE reactor operates with less than 15% Fa present at the start of each batch. The PE reactor is at atmospheric pressure and is water-cooled, with approximately 40 psi pressure on the coolant side. As such, the PE reactor cooling is exempt from monitoring. Cooling operations downstream of the PE reactor use water cooled heat exchangers in the PE CMPU, and are exempt from monitoring since the concentration of HAPs is less than 5% and are not discharged to a cooling tower or NPDES system. Process equipment downstream of the PE reactor is operated at less than 5% total HAP concentration of Subpart F's Table 4 compounds (Fa and MeOH combined), and less than 5% total HAP concentration of Subpart G's Table 9 compounds (MeOH). These systems are exempt from the monitoring requirements as allowed by 40 CFR 63.104(a)(2), (5) or (6) of Subpart F.

#### 2.13. Maintenance Wastewaters – PE CMPU and Fa CMPU:

40 CFR 63.105, Subpart F, Maintenance wastewater requirements, specifies that maintenance procedures will be described for the management of wastewaters generated from emptying and purging of equipment in the process during temporary shutdowns for inspections, maintenance and repair, and for non-shutdown periods when routine maintenance is performed. These procedures apply to both the Fa and PE CMPUs, and are included in the SSM plan provisions.

2.14.Storage vessel loading racks – Fa CMPU and PE CMPU:

40 CFR 63.126, Subpart G, Transfer operation provisions, detail the requirements of group 1 and group 2 transfer racks. There are no group 1 transfer racks in operation at this facility and one group 2 transfer rack as a part of the Fa CMPU, used to load formaldehyde onto trucks to be shipped offsite. Group 2 transfer rack requirements are only limited to recordkeeping as specified in 40 CFR 63.130 (f) of Subpart G. The documentation of the weight-percent organic HAPs present in the liquid loaded is included in the annual EIQ reports. The source has an agreement to control the emissions from transferring formaldehyde to transport trucks at all times, except during periods of SSM and at other times allowed by the HON or agreed to by the Air Pollution Control Program, in order to bank HAP emissions from voluntarily controlling emissions from formaldehyde transfer operations.

2.15.Process Wastewater – Fa CMPU, UF CMPU, and PE CMPU:

40 CFR 63.132, Subpart G, Process wastewater provisions – general, specify which group 1 and group 2 existing wastewater streams that contain Table 9 components require control. Determinations are based on constituents listed in Table 9 with annual average concentrations greater than 10,000 ppm at any flow rate, or greater than or equal to 1000 ppm and annual average flow rate greater than 10 liters per minute.

This section does not apply to the Fa or UF CMPUs since there are no wastewaters generated from the process that qualify as a group 1 or group 2 wastewater stream. Formaldehyde is not listed in Table 9 of Subpart G, and the only other Table 9 component of concern from the Fa and UF CMPUs is methanol. There are no methanol wastewaters generated from the process that qualify as a group 1 or group 2 process wastewater.

A survey was completed for the liquid streams that are generated in the PE production process. The 3<sup>rd</sup> effect evaporator distillate qualifies as a group 1 wastewater since the annual average methanol concentration exceeds 1000 ppm and the annual average flow rate exceeds 10 liters per minute. This evaporator distillate wastewater stream is fed to the PE reactor scrubber to control the process vent of the reactor, and then is discharged to the sodium formate pit. The other wastewater discharges of the PE CMPU do not meet the group 1 or group 2 wastewater criteria listed in 40 CFR 63.132(c) of Subpart G. Process wastewater not included in the PE CMPU are not subject to Subpart G, and were not considered HON wastewater.

The source chose to implement a pollution prevention plan to reduce the concentration of methanol in the 3<sup>rd</sup> effect distillate wastewater stream by 31%, the fraction removed quantity reference from Table 9 of Subpart G for methanol. The pollution prevention modification was in operation by April 22, 1999. Because the pollution prevention steps were implemented, 40 CFR 63.132 of Subpart G is not required as specified in 40 CFR 63.150(a).

2.16.Process Wastewater Provisions – Surface Impoundments :

40 CFR 63.134 of Subpart G specifies that surface impoundments receiving Group 1 wastewaters are subject to the 40 CFR 63.134 of Subpart G requirements. However, sources that implement Group 1 pollution prevention measures are exempted from 40 CFR 63.113 to

63.148 of Subpart G provisions, as specified in 40 CFR 63.150 of Subpart G. The sodium formate pit receives Group 1 wastewater from the PE reactor scrubber blowdown. All of the 3<sup>rd</sup> effect distillate is pumped to the scrubber. There is a by-pass around the scrubber for any excess distillate. The by-pass then reconnects and a single, closed pipeline discharges to the sodium formate pit. The liquid routed to the PE scrubber incorporated pollution prevention measures to reduce the methanol concentration from the process by at least 31% prior to entering the scrubber. The sodium formate pit is the only surface impoundment that receives a Group 1 wastewater. Since the wastewater stream routed to the surface impoundment previously included pollution prevention, there are no other provisions required of the surface impoundment.

#### 2.17. Certain Liquid Streams – Fa CMPU, UF CMPU, and PE CMPU:

40 CFR 63.149 of Subpart G, Control requirements for certain liquid streams in open systems within a CMPU, direct sources to meet the minimum requirements listed in Table 35 of Subpart G for drains, drain hubs, manholes, lift stations, trenches, pipes, oil/water separators and tanks that convey water with a total annual average concentration greater than or equal to 10,000 ppm(wt) for Table 9 of Subpart G compounds at any flow rate, or a total annual average concentration greater than 1000 ppm(wt) and an annual flow rate greater than 10 liters per minute. The PE CMPU only includes piping as items from Table 35 that meets the concentration and flow requirements. The piping used to transport the 3<sup>rd</sup> effect evaporator distillate wastewater to the PE scrubber and the piping that conveys the blowdown from the scrubber to the sodium formate pit are considered to qualify as certain liquid streams. Both lines include hard-piping with no visible gaps in the joints and seals, and therefore, meets the requirements as specified in Table 35.

As part of the permit renewal process, Hercules, Inc., Missouri Chemical Works requested during the MDNR site visit on June 25, 2009, that the Emission Unit Specific Permit Condition 009 be revised to remove the requirement that piping that conveys pentaerythritol scrubber blowdown to the sodium formate pit must contain no visible gaps in the joints, seals or other emission interfaces. MDNR has made the determination that this permit condition can not be modified since the boundary of the regulated emission unit includes the sodium formate pit and thus the pipe that brings the wastewater to the pit. Consequently, the pipe that conveys the wastewater to the pit is also regulated even if that pipe is located downstream of the sampling location that is used to demonstrate compliance with the methanol reduction requirement.

The Fa and UF CMPUs does not have any items that meet the criteria for Certain Liquid Streams.

#### 2.18. Emissions Averaging:

40 CFR 63.150 of Subpart G, Emissions averaging provisions, applies to sources seeking to comply with the emission standard of 40 CFR 63.112 of Subpart G by using emission averaging according to 40 CFR 63.112(f) of Subpart G instead of the provisions of 40 CFR 63.113 through 63.148 of Subpart G.

The facility chose to make a process change as the best option for reducing emissions from the PE CMPU process wastewaters, in the location of the process where formic acid is added to the reactant stream following the PE reactor. The change allowed neutralization to occur sooner, thereby reducing the amount of excess caustic from reacting with any remaining formaldehyde that forms methanol as a byproduct. The change reduced the amount of methanol that remains in the process stream that eventually leaves the manufacturing process in a wastewater discharge of the 3<sup>rd</sup> effect evaporator condenser distillate.

The change required a reduction in methanol emissions of 31%. The monitoring results from two 30 day sampling periods indicated a 49% reduction. The facility proposed and subsequently received approval to continuously monitor the pH of the stream leaving the tanks where formic acid is added to neutralize the excess caustic. With the monitoring results, the facility established the pH value that is needed to achieve neutralization sufficient to reduce methanol emissions greater than the 31% level required. Continued compliance of the methanol reduction is established by monitoring the stream pH, as a surrogate to monitoring methanol concentration.

40 CFR 63.150(c)(3) of Subpart G addresses the requirements for pollution prevention measures, and specifies the percent reduction be determined as specified in 40 CFR 63.150(j) of Subpart G. The pollution prevention measure must reduce emissions more than the reference control technology would have achieved. This subpart provides the calculation procedures to calculate percent reduction and monthly emissions. Compliance with 40 CFR 63.112 of Subpart G reverts to 40 CFR 63.112 (f)(1) and (2) of Subpart G. There is no need to calculate debits and credits because pollution prevention measures are subject to the nominal efficiency requirements of 40 CFR 63.150(j)(2)(i) of Subpart G as stated in 40 CFR 63.150(h)(1)(iii) of Subpart G. The HAP emissions ratio is based on emissions calculations for one month prior to the implementation of the pollution prevention measure and one month following the pollution prevention measure adjusted by production. In 40 CFR 63.150(j)(2)(ii)(D) of Subpart G the monthly emissions after the pollution prevention measure may be determined using a performance test or by a design evaluation and documented engineering calculations. Once an emissions-to-production ratio has been established, the ratio can be used to estimate monthly emissions from monthly production records.

40 CFR 63.151 of Subpart G, Initial notification and 40 CFR 63.152 of Subpart G, General reporting and continuous records, are applicable to the pollution prevention strategy of the PE CMPU. And, as specified in 40 CFR 63.152(c)(5), quarterly reporting is required for all emission points included in an emissions average. Quarterly reports shall be submitted no later than 60 calendar days after the end of each quarter. The first report shall be submitted with the Notification of Compliance Status no later than 5 months after the compliance date. 40 CFR 63.152 (d)(1) allows SSM reporting to occur on the same schedule as emissions averaging reporting, if the source chooses this option.

#### 2.19. Leak Inspections – Fa CMPU and PE CMPU:

40 CFR 63.148 of Subpart G, Leak Inspection Provisions, requires leak inspections of vapor collection systems and closed vent systems that are required to comply with this section. The

leak inspection requirements do not apply to the Fa CMPU or the PE CMPU, since neither process uses a vapor collection or closed vent system that is required. By definition, a vapor collection system applies to loading of tank trucks or railcars. The formaldehyde loading system to trucks is group 2, and does not require the vapors to be controlled. The formaldehyde storage tanks are also voluntarily controlled since the storage vessels are group 2. The gas collection ducts are also an integral part of the fuel gas system that is exempt for the leak inspection requirements of 40 CFR 63 Subpart H.

The Fa CMPU absorber vapor collection system is defined as a process vent, which is routed to a fuel gas system. The definition of a process vent in 40 CFR 63.101(b) of Subpart F exempts process vents that are routed to a fuel gas system, as well as leaks from equipment regulated under Subpart H. Items exempted under Subpart F are not subject to Subpart G requirements, so the leak inspection requirement of the absorber vapor collection system is not required.

The Fa CMPU methanol gas collection system connects the reflux drum process vent and the methanol storage vessel vents to a common pipe, which are routed to the waste heat boiler. All of the piping that are used to convey the methanol gases collected from the methanol storage vessels and the reflux drum process vent is part of the fuel gas system. Subparts F, G and H recognize in each subpart the definition of a fuel gas system, which includes the piping that gathers gaseous streams generated by operations for use as a fuel gas in combustion devices. There are no leak inspection requirements in Subpart G and H for a fuel gas system, which includes the methanol gas collection system from the methanol storage vessels and the process vent of the methanol reflux drum.

#### 2.20.Subpart H – HON Equipment Leaks, 40 CFR 63.160 to 63.190:

40 CFR 63 Subpart H regulates CMPU equipment leaks for a variety of equipment types, including pumps, compressors, agitators, pressure relief devices, open ended valves or lines, valves, connectors, surge control vessels, bottoms receivers, instrumentation systems, and control devices or systems that are intended to operate in organic HAP service 300 or more hours during the calendar year. The facility contracts with a service to perform periodic monitoring, recordkeeping and reporting in order to demonstrate compliance with Subpart H requirements.

40 CFR 63.162 of Subpart H, Standards: General, applies to the Fa CMPU, PE CMPU, and the formaldehyde piping running from the PE CMPU to the Ureaform CMPU. The standard requires each piece of equipment to be identified in a site plan, logbook or other appropriate method. Inspections are required, with the date of the inspection noted. Dates of monitoring and monitoring results are required documenting if leaks were detected. Records are to be kept for 2 years, and a semi-annual monitoring summary report is also required.

40 CFR 63.163 of Subpart H, Standards: Pumps in light liquid service, applies to the Fa CMPU and PE CMPU. The pumps are equipped with dual mechanical seals and are visually inspected at least once a each week. The design criteria for the dual mechanical seals are maintained. Any pumps that are not equipped with dual mechanical seals are visually inspected weekly and monitored by Method 21 monthly.

40 CFR 63.164 of Subpart H, Standards: Compressors, does not apply to the Fa CMPU, UF CMPU, or PE CMPU. There are no compressors in the Fa CMPU, UF CMPU, or the PE CMPU.

40 CFR 63.165 of Subpart H, Standards: Pressure relief devices in gas/vapor service, applies to the Fa CMPU and PE CMPU pressure relief devices that are not connected to the fuel gas system. These devices must be monitored to show that the concentration remains below 500 ppm within 5 days after a release.

40 CFR 63.166 of Subpart H, Standards: Sampling connection systems, applies to the PE CMPU, the UF CMPU, and the Fa CMPU. The Fa CMPU uses a closed-purge sampling system and the purged process fluid is managed as a hazardous waste. In the PE CMPU and the UF CMPU, samples are dipped out of the process and excess fluid is returned to the process.

40 CFR 63.167 of Subpart H, Standards: Open-ended valves or lines, applies to the UF CMPU, the PE CMPU, and the Fa CMPU. The open-ended valves or lines are equipped with a cap, blind flange, plug or a second valve and are operated at all times except during process fluid flow or during any emergency shutdown.

40 CFR 63.168 of Subpart H, Standards: Valves in gas/vapor service and in light liquid service, applies to the PE CMPU and the Fa CMPU. The frequency for leak monitoring depends on the number of leaking valves, except for unsafe-to-monitor and difficult-to-monitor valves. Unsafe or difficult-to-monitor valves are monitored according to a written plan. Delay of repair and reporting requirements are also specified.

40 CFR 63.169 of Subpart H, Standards: Pumps, valves, connectors, and agitators in heavy liquid service; instrumentation systems; and pressure relief devices in liquid service, applies to the PE CMPU, the UF CMPU, and the Fa CMPU. Monitoring is performed by sensory method and Method 21 monitoring, if necessary. Monitoring, record keeping, and periodic reporting are required per 40 CFR 63.182 of Subpart H.

40 CFR 63.170 of Subpart H, Standards; Surge control vessels and bottoms receivers, does not apply to either the PE CMPU, the UF CMPU, or the Fa CMPU. The definition of a surge control vessel includes feed drums, recycle drums and intermediate vessels in a CMPU used for in-process storage, mixing or management of flow rates. The Fa and UF CMPUs have no vessels that meet the definition. The standards in 40 CFR 63.170 of Subpart H apply to vessels that meet the criteria of Tables 2 and 3 in Subpart H: Table 2 is for existing sources and refers to vessels with a capacity of between 75 cubic meters (19,812.9 gallons) up to but not including 151 cubic meters (39,889.9 gallons) with a vapor pressure of greater than or equal to 13.1 kilopascals (1.9 psi) or a capacity of 151 or greater cubic meters and a vapor pressure equal to or greater than 5.2 kilopascals (0.75 psi). The PE CMPU has vessels that serve as accumulation or surge control equipment, however they either have a capacity less than 75 cubic meters (19,812.9 gallons) or vapor pressures less than the Table 2 criteria. The following table summarizes the PE CMPU vessel capacities and vapor pressures:

<b>Emission Unit No.</b>	<b>Description</b>	<b>Capacity (gallons)</b>	<b>HAP Vapor Pressure in Kilopascals (psi) at Operating Temperature</b>
EP-31	Distillate 221 Tank	38,180	0.449 (0.065)
EP-34	Precipitator Tank 102-1	9,750	N/A
EP-35	Precipitator Tank 102-2	9,750	N/A
EP-36	Knock Down Tank 104-1	10,130	N/A
EP-37	Knock Down Tank 104-2	10,130	N/A
EP-38	Hold Tank 133	44,656	1.002 (0.145)
EP-39	Evap. Filter Feed Tank 105-2	10,150	N/A
EP-40	Evap. Filter Feed Tank 107	16,920	N/A

40 CFR 63.172 of Subpart H, Standards; Closed-vent systems and control devices does not apply to the Fa CMPU or the PE CMPU. All of the vent systems that connect to a control device qualify as part of the fuel gas system that is exempt from all of Subpart H requirements.

40 CFR 63.173 of Subpart H, Standards; Agitators in gas/vapor service and in light liquid service, does not apply to the PE CMPU, the UF CMPU, or the Fa CMPU. There are no agitators in gas/vapor or light liquid organic HAP service.

40 CFR 63.174 of Subpart H, Standards; Connectors in gas/vapor service and in light liquid service, applies to the PE CMPU and the Fa CMPU. Annual or less frequent monitoring is performed on connectors using Method 21 procedures, except for inaccessible or ceramic connectors. Provisions allow for unsafe-to-monitor and unsafe-to-repair connectors, and for delay in repairs. Semi-annual reporting is required, with an explanation if delay in repairs occur. Unsafe-to-monitor connectors are monitored according to a written plan with an explanation on why the connectors are unsafe to monitor. Notification of change in connector monitoring is also defined.

2.21. In a letter dated April 7, 2010, the installation requested to shift their HON reporting schedule. The facility was on custom reporting schedule requiring waste water emission averaging quarterly reports from October 22 to January 21, January 22 to April 21, April 22 to July 21, July 22 to October 21 and SSM semiannual reports from March 19 to September 18 and September 19 to March 18, and LDAR semiannual reports from April 1 to September 20 and October 1 to March 31. The facility will now be submitting their reports on calendar periods with quarterly reports for the periods: January 1 to March 31, April 1 to June 30 and July 1 to December 31, and semiannual reports for the periods: January 1 to June 30 and July 1 to December 31. During the transition from the old reporting schedule to the new reporting schedule there will be one shortened report submitted for each report.

3. Miscellaneous Organic NESHAP (MON) Considerations:

3.1 Applicability:

40 CFR 63, the Miscellaneous Organic NESHAP (MON) for the organic chemical manufacturing industry classified by SIC codes 282, 283, 284, 285, 286, 287 – Agricultural

Chemicals (2873 – Nitrogenous Fertilizers), 289, or 386 applies to the Ureaform CMPU located at this installation. The Fa CMPU and PE CMPU are not subject to the requirements of this subpart as they are in compliance with the requirements of HON. The Synthetic Lubricant CMPU does not meet the applicability requirements of this subpart as the CMPU does not process, use, or generate any HAPs.

### 3.2 Continuous Process Vents:

All continuous process vents at the installation are already subject to HON.

### 3.3 Batch Process Vents:

There is only one batch process vents at the installation, associated with the UF CMPU, which is classified as a Group 2 Batch Process vent because the source is an existing source with emissions less than 10,000 lb/yr. There are no emission limitations for Group 2 Batch Process Vents. The facility is required to keep the required records verifying their continuing Group 2 status (see Plantwide Permit Condition PW013).

None of the Batch Process Vents emit hydrogen halide, halogen HAP, or HAP metals.

### 3.4 Wastewater Streams:

The only HAP associated with the Ureaform CMPU is Formaldehyde which is not listed within Tables 8 and 9 as a soluble or partially soluble HAP subject to management and treatment requirements within the subpart. Methanol, a Table 9 component, is present in the formaldehyde raw material only in trace amounts as an impurity; however, there are no maintenance wastewaters generated in the Ureaform CMPU.

### 3.5 Storage Tanks:

All of the storage tanks currently associated with the Ureaform CMPU have a vapor pressure below 0.69 kPa classifying them as Group 2 Storage Tanks. There are no emission limitations for Group 2 Storage Tanks.

### 3.6 Equipment Leaks:

The 50% Formaldehyde piping connecting the PE CMPU to the Ureaform CMPU is subject to the equipment leak requirements. The piping is in organic HAP service and will meet the LDAR requirements of 40 CFR 63 Subpart H, except for §63.2480(c) and (d) as specified within Table 6 of this subpart (MACT H provisions are detailed in Plantwide Permit Conditions PW005 through PW012).

### 3.7 Transfer Racks:

All of the transfer racks have a HAP partial pressure below 1.5 psia classifying them as Group 2 Transfer Racks. There are no emission limitations for Group 2 Transfer Racks.

## **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 Air Pollution Control Program's satisfaction, the installation's 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 Air Pollution Control Program a schedule for achieving compliance for that regulation(s).

Prepared by:

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